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Control and connection equipment

Reservation

Technical data subject to change without notice. No claims for damages arising from alterations, errors or misprints shall be allowed. Attention is drawn to the applicable standards and regulations on safety components and systems together with the relevant operating and installation instructions.

BARTEC Catalogue Control and connection equipment Edition 2014 Printed in Germany

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ComEx Control stations

ComEx Actuating elements

Features

- Easy installation
- Certified for Zone 1 and 21
- High IP degree of protection

Description

A large number of variants and versions of actuating elements are available for the ComEx control and indicator units. All actuating elements are made of high-quality thermoplastic and conform to the IP 66/ IP 67 type of protection.

To complete the actuating elements, there are useful accessories such as e. g. label holders, marking tags, metal shroud or nut wrench. Actuating elements for increased resistance to oil are available too.

The actuating elements are mounted quickly and easily onto the ComEx control and indicating devices. Use in Zone 1 and 21 is certified.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex e IIC Gb
Ⓔx II 2D Ex tb IIIC Db

Certification
CML 13 ATEX 3010 U

IECEx Ex e IIC Gb
Ex tb IIIC Db

Certification
IECEx CML 14.0005 U

Further approvals
UL, KTL, GOST, INMETRO, DNV, CSA

Other approvals and certificates,
see www.bartec-group.com

Ambient and operating temperature range
-55 °C to +70 °C

Technical data

Storage and transport temperature
-55 °C to +70 °C

Protection class
min. IP 66

Weight
see table

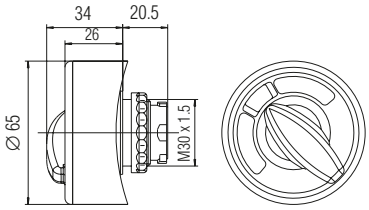
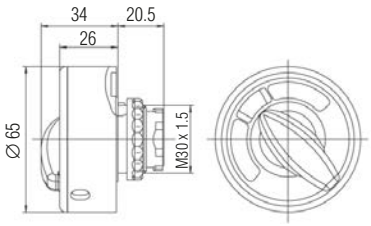
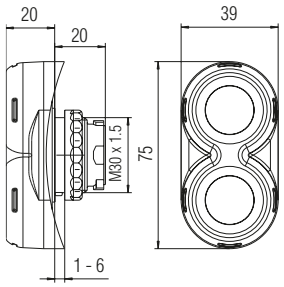
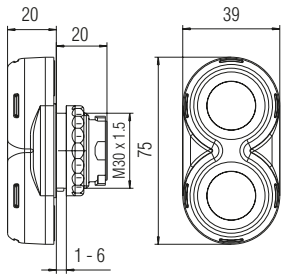
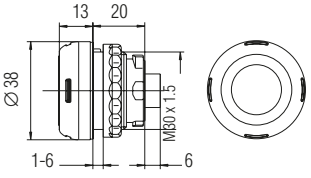
Impact resistance
7 Nm (Lamp actuators 4 Nm)

Material
Enclosure thermoplastic

Fastening
Installation in enclosures with wall thickness of 1 mm up to 6 mm (threading M30 x 1.5). Suitable for through-holes $30.3^{+0.3}$ mm

03-0330-0191/A-10/2014-BCS-200865/1

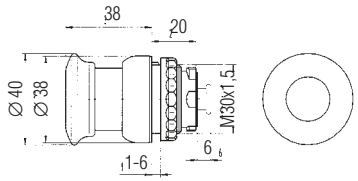
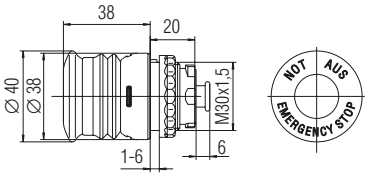
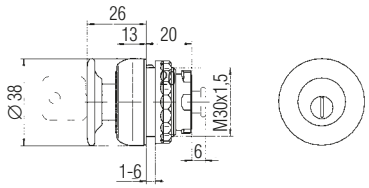
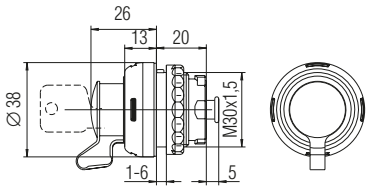
Selection chart

Illustration	Dimensions	Description	Order no.
	for ComEx enclosure  for Control unit/ComEx 316L 	**Position selector switch**** black, with 2 or 3 switch positions with protective collar, lockable[1] only for switch module (2-pole) 0 - I for control unit (flat) for ComEx enclosure I - II for control unit (flat) for ComEx enclosure I - 0 - II for control unit (flat) for ComEx enclosure HAND - 0 - AUTO for control unit (flat) for ComEx enclosure MAN - 0 - AUTO for control unit (flat) for ComEx enclosure Weight 74 g [1] 3 boreholes in the protective collar to fit padlocks the switch position 0 (I) or to customer specifications.	**05-0003-007001** **05-0003-007101** **05-0003-007002** **05-0003-007102** **05-0003-007203** **05-0003-007303** **05-0003-007224** **05-0003-007324** **05-0003-007225** **05-0003-007325**
	for ComEx enclosure  for Control unit/ComEx 316L 	**Double pushbutton actuator**** 5 labels red, green, yellow, white, black, supplied loose for ComEx enclosures for control units Weight 52 g	**05-0003-007500** 05-0003-007500BN* **05-0003-007400** 05-0003-007400BN*
		**Pushbutton**** 5 labels red, green, yellow, white, black, supplied loose Weight 24 g	**05-0003-000700** 05-0003-000700BN*

* with special sealing for increased resistance to oil

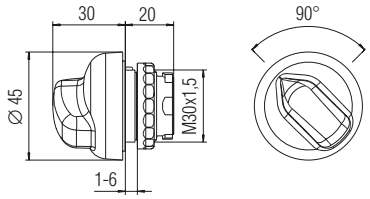
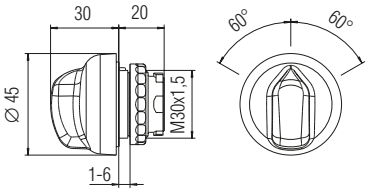
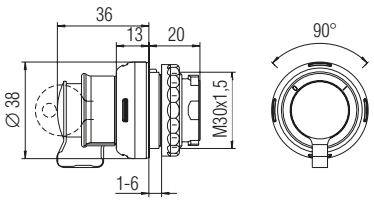
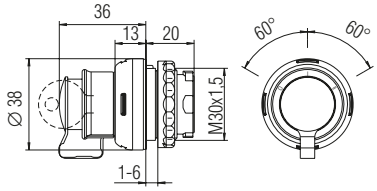
****** Product printing standard: ATEX and IECEx marking. Other markings on request. Please specify in plain text.

03-0330-0191/A-10/1024-BCS-200865/2

Illustration	Dimensions	Description	Order no.
		**Mushroom pushbutton**** black Weight 24 g	**05-0003-001800** 05-0003-001800BN*
		**EMERGENCY STOP** slam button** Pushbutton marked "NOT-AUS EMERGENCY STOP" "Pull to Release" DIN EN 60204-1: 2007 DIN EN 60947-5-1: 2005 (VDE 0660 Part 200) Weight 46 g	**05-0003-000800** 05-0003-000800BN*
		**Locking mushroom pushbutton**** push in without key, unlock with key, DOM lock 4 A 185 Weight 70 g	**05-0003-001203** 05-0003-001203BN*
		**Lock**** DOM lock 4 A 185 Lockable in both positions, Key retractable in both positions Lockable in the depressed position, Key retractable in the depressed position Tip lock lockable in the initial positions, Key retractable in the initial positions Weight 69 g	**05-0003-001200** 05-0003-001200BN* **05-0003-001201** 05-0003-001201BN* **05-0003-001202** 05-0003-001202BN*

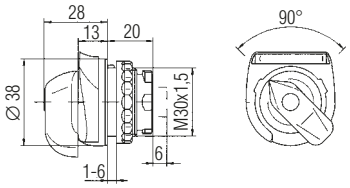
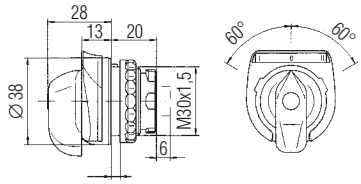
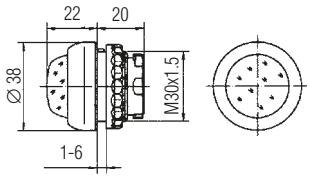
* with special sealing for increased resistance to oil

** Product printing standard: ATEX and IECEx marking. Other markings on request. Please specify in plain text.

Illustration	Dimensions	Description	Order no.
	2 switching positions  3 switching positions 	**Position selector switch BS**** black, with 2 or 3 switching positions, turned 90° for ComEx enclosures 0 - I — for control units / for ComEx enclosures I - 0 - II (I + II latching) — for control units / for ComEx enclosures I - 0 - II (I + II momentary contact) — for control units / for ComEx enclosures I - 0 - II (I latching, II momentary) — for control units / for ComEx enclosures I - 0 - II (I momentary, II latching) — for control units / for ComEx enclosures Weight — 33 g	**05-0003-000900BS** **05-0003-000901BS** **05-0003-001000BS** **05-0003-001100BS** **05-0003-001001BS** **05-0003-001101BS** **05-0003-001002BS** **05-0003-001102BS** **05-0003-001003BS** **05-0003-001103BS**
 	2 switching positions  3 switching positions 	**Key-operated switch**** RONIS lock 455, with 2 or 3 switching positions, turned 90° for ComEx enclosures 0 - I, latching, key retractable — for control units / for ComEx enclosures 0 - I, momentary contact, Position I key not retractable — for control units / for ComEx enclosures I - 0 - II (I + II latching) key retractable — for control units / for ComEx enclosures Weight — 49 g	**05-0003-007700** **05-0003-007800** **05-0003-007701** **05-0003-007801** **05-0003-007900** **05-0003-008000**

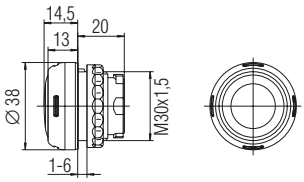
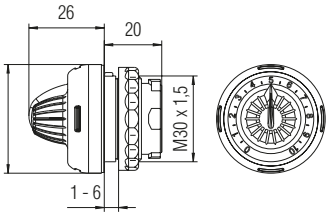
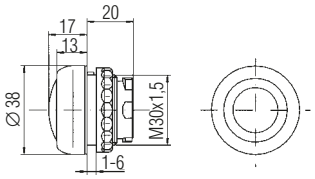
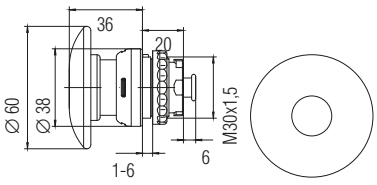
* with special sealing for increased resistance to oil

****** Product printing standard: ATEX and IECEx marking. Other markings on request. Please specify in plain text.

Illustration	Dimensions	Description	Order no.
	2 switching positions  3 switching positions  	**Position selector switch****, black, with 2 or 3 switching positions 0 - I (latching) **for control units** **turned 90° for ComEx enclosures** I - 0 - II (I + II latching) **for control units** **turned 90° for ComEx enclosures** I - 0 - II (I + II momentary) **for control units** **turned 90° for ComEx enclosures** I - 0 - II (I latching, II momentary contact) **for control units** **turned 90° for ComEx enclosures** I - 0 - II (I momentary contact, II latching) **for control units** **turned 90° for ComEx enclosures** 0 - I (momentary) **for control units** **turned 90° for ComEx enclosures** Weight 33 g	**05-0003-000900** 05-0003-000900BN* **05-0003-000901** 05-0003-000901BN* **05-0003-001000** 05-0003-001000BN* **05-0003-001100** 05-0003-001100BN* **05-0003-001001** 05-0003-001001BN* **05-0003-001101** 05-0003-001101BN* **05-0003-001002** 05-0003-001002BN* **05-0003-001102** 05-0003-001102BN* **05-0003-001003** 05-0003-001003BN* **05-0003-001103** 05-0003-001103BN* **05-0003-000902** 05-0003-001003BN* **05-0003-000903** 05-0003-001103BN*
	 	**Lamp module actuator**** red green yellow white blue Weight 19 g	**05-0003-001300** 05-0003-001300BN* **05-0003-001400** 05-0003-001400BN* **05-0003-001500** 05-0003-001500BN* **05-0003-001600** 05-0003-001600BN* **05-0003-001700** 05-0003-001700BN*

* with special sealing for increased resistance to oil

** Product printing standard: ATEX and IECEx marking. Other markings on request. Please specify in plain text.

Illustration	Dimensions	Description	Order no.
		**Illuminated button actuator**** red with EPDM sealing green with EPDM sealing yellow with EPDM sealing white with EPDM sealing blue with EPDM sealing Weight 19 g	**05-0003-006500** 05-0003-006500BN* **05-0003-006600** 05-0003-006600BN* **05-0003-006700** 05-0003-006700BN* **05-0003-006800** 05-0003-006800BN* **05-0003-006900** 05-0003-006900BN*
		**Potentiometer actuator****, black, durable and abrasion-resistant, Scale gradation from 0 to 10 with EPDM sealing Weight 28 g	**05-0003-007600** 05-0003-007600BN*
		**Blanking plug****, to cover unused holes in the cover with EPDM sealing Weight 20 g	**05-0003-001900** 05-0003-001900BN*
		**Mushroom pushbutton****, black with pushbutton label “START” Weight 24 g	**05-0003-008200** 05-0003-008201

* with special sealing for increased resistance to oil

** Product printing standard: ATEX and IECEx marking. Other markings on request. Please specify in plain text.

ComEx Switch module with terminals for rail-mounted installation

Features

- High flexibility
- Easy installation
- High IP protection type

Description

The ComEx switching module can be used in almost all potentially explosive areas where machine functions need to be triggered by a button or a switch.

ComEx switching modules are flexible in use and offer a range of actuator elements.

All contacts of the switching module are self-cleaning, and NC contacts have positive opening.

The conductor is connected using terminals with increased safety on the back of the module.

The simple installation of the actuator elements without tools guarantees the high IP protection type.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 99 ATEX 1043 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 07.0046U

Further approvals
UL, NEPSI, GOST, KTL, INMETRO, DNV, CSA

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Technical data

Protection class
determined by the actuating element and ComEx enclosure, min. IP 66, terminals IP 20

Rated insulation voltage
690 V

Rated voltage			
400 V	400 V	110 V	24 V
Utilization category			
AC-12	AC-15	DC-13	DC-13
Rated operating currents			
16 A	10 A	0,5 A	1 A

Conventional thermal current I_{the}
16 A/+40 °C, 11 A/+60 °C

Contact options
contacts with positive break operation (self-cleaning)
1 NC and 1 NO or
2 NC or 2 NO

Contact material
$AgSnO_2$

Enclosure material
Thermoplastic

Connection
Terminals 2.5 mm², fine stranded

Mechanical life
10^6 switching cycles

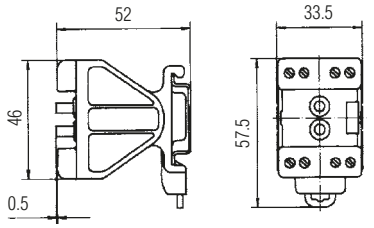
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 70 g

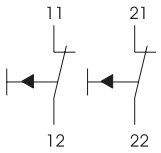
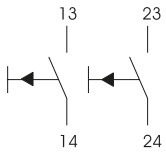
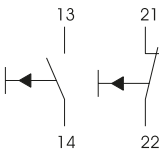
Mounting
on mounting rail TS 35 x 7.5

Shock resistance
DIN EN 60068-2-27: 30 g 18 ms

Dimensions



Selection chart

Type of contacts	Code no.	Actuating element	Code no.
2 NC 	1	Pushbutton	0700
		Double push button actuator	7400
		Emergency stop NOT-AUS	0800
		Selector switch 0 + I latching, 2 positions	0900
		Selector switch I + II latching, 3 positions	1000
2 NO 	2	Selector switch I + II momentary-contact, 3 positions	1001
		Selector switch I latching, II momentary-contact, 3 positions	1002
		Selector switch I momentary-contact, II latching, 3 positions	1003
		Mushroom pushbutton, black	1800
1 NC + 1 NO 	4	Lockable in both positions, DOM lock	1200
		Lockable in the depressed position, DOM lock	1201
		Lockable in the initial position, DOM lock	1202
		Locking-type mushroom pushbutton	1203
		Lockable in both positions, RONIS lock	6100

Complete order no.*

Switch module without actuating element **07-3321-1 ☐ 00**

Actuating element
Standard **05-0003-00 ☐☐☐☐**

Increased oil resistance **05-0003-00 ☐☐☐☐ BN**

Please enter code number. Other actuators available (see page 10 following).
Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking. Other markings on request. Please specify in plain text.

03-0330-0192/B-10/2014-BCS-200866/2

ComEx Lamp module with terminals for rail-mounted installation

Features

- One module for all fields of application
- Illumination 180°
- High flexibility thanks to the junction box
- Easy installation
- High IP protection type

Description

The ComEx lamp module signals command statuses by illuminating or extinguishing a light signal. It is suitable for use in almost all potentially explosive areas in which the functional status of machinery needs to be visibly displayed

The lamp modules are executed according to the requirements of type of protection “e increased safety” and “d flameproof enclosure”.

The lamp module can be combined with various lamp module actuators. A junction box is provided for the safe and convenient installation of the module in a control panel.

Conductors are connected using terminals with increased safety on the back of the module. The simple installation of the lamp module actuators without tools guarantees the high IP protection type.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 10.0014U

Further approvals
UL, NEPSI, GOST, KTL, INMETRO, DNV, CSA

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +50 °C
+60 °C (AC/DC 12 V to 24 V)

Technical data

Protection class
determined by the actuating element and ComEx enclosure, min. IP 66, terminals IP 20

Rated insulation voltage
300 V

Rated operating voltage
AC 12 V to 250 V ($T_a \leq +50$ °C)
DC 12 V to 60 V ($T_a \leq +50$ °C)
AC/DC 12 V to 24 V ($T_a \leq +60$ °C)

Power consumption
≤ 1 W

Lamp
LED
red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Enclosure material
Thermoplastic

Connection
Terminals 2.5 mm², fine stranded

Electrical life
>10^5 running hours

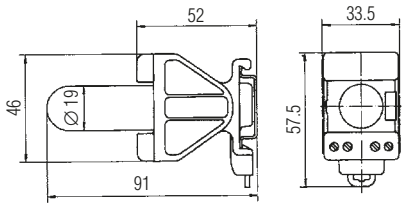
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 90 g

Mounting
on mounting rail TS 35 x 7.5

Shock resistance
DIN EN 60068-2-27: 30 g 18 ms

Dimensions



Selection chart

Wiring diagram	Colour LED	Code no.	Colour actuator	Code no.
	red	**1**	red	**3**
	green	**2**	green	**4**
	yellow	**3**	yellow	**5**
	white	**4**	white	**6**
	blue	**5**	blue	**7**

Complete order no.*

Lamp module without actuating element **07-3351-11 ☐ 0**

Actuating element
Standard **05-0003-001 ☐ 00**
Increased oil resistance **05-0003-001 ☐ 00BN**

Please enter code number.
Technical data subject to change without notice.

***** Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

ComEx Ex i Lamp module with terminals for rail-mounted installation

Features

- One module for all intrinsically safe application areas
- Long service life
- Excellent luminosity

Description

The ComEx Ex i lamp module indicates command modes by means of a light signal lighting up or going out. It is suitable for use in almost all hazardous (potentially explosive) areas in which a visual indication of a machine's functional status is required.

The lamp modules are designed to conform to the requirements of the "e increased safety", "d flameproof enclosure" and "i intrinsic safety types of protection". They may be activated by intrinsically safe circuits.

The lamp module can be combined with various lamp module actuators. Each lamp module actuator is fitted into a mounting hole in a control console or a control panel. The respective lamp module is intended for fitting onto a mounting rail.

Conductors are connected using terminals with increased safety on the back of the module. The lamp module actuators can be fitted easily without tools, which ensures conformance to the high IP degree of protection.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de ia IIC Gb
Ⓔx I M2 Ex de ia I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de ia IIC Gb
Ex de ia I Mb

Certification
IECEx PTB 10.0014U

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Intrinsically safe parameters	
Input voltage (U_i)	30 V
Input current (I_i)	150 mA
Input power (P_i)	1 W
Indcutance (L_i)	negligible
Capacitance (C_i)	negligible

Technical data

Protection class
determined by the actuating element and control unit enclosure, min. IP 66, terminals IP 20

Rated insulation voltage
300 V

Rated operating voltage (U_e)
AC/DC 10 to 30 V

Frequency range
with AC supply 30 to 100 Hz

Power consumption
≤ 0,5 W

Lamp
LED, red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Enclosure material
thermoplastic

Type of connection
terminals 2.5 mm², fine-stranded

Service life
>10^5 running hours

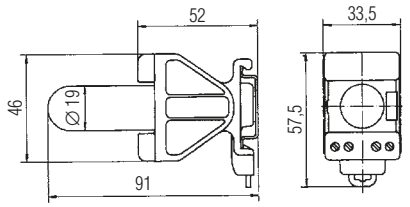
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 90 g

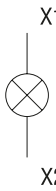
Fastening
onto TS 35 x 7.5 mounting rail

Shock resistance
DIN EN 60068-2-27, 30 g, 18 ms
DIN EN 60068-2-6, 4 g, 1.6 mm

Dimensions



Selection chart

Type of contact	Colour LED	Code no.	Colour actuator	Code no.
	red	**1**	red	**3**
	green	**2**	green	**4**
	yellow	**3**	yellow	**5**
	white	**4**	white	**6**
	blue	**5**	blue	**7**

Complete order no.*

Lamp module without actuating element **07-3351-14** ☐ **0**

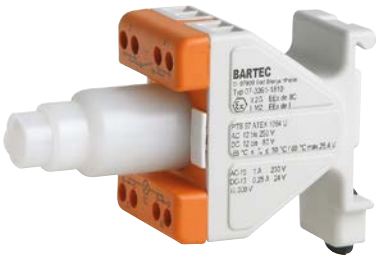
Actuating element Standard **05-0003-001** ☐ **00**

Increased oil resistance **05-0003-001** ☐ **00BN**

Please enter code number. Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

03-0330-0828-10/2014-BCS-374342/2



ComEx Illuminated button with terminals for rail-mounted installation

Features

- One module for all fields of application
- Excellent Illumination
- Easy installation
- High IP protection type

Description

The ComEx illuminated button signals command statuses by illuminating or extinguishing a light signal. It is suitable for use in almost all potentially explosive areas in which the functional status of machinery needs to be visibly displayed.

The illuminated buttons are executed according to the requirements of type of protection “e increased safety” and “d flameproof enclosure”.

The illuminated button can be combined with various lamp module actuators. Each illuminated button actuator is inserted in a mounting hole on a control console or control panel. The respective illuminated button is designed for installation on a mounting rail.

The conductor is connected using terminals with increased safety on the back of the module. The simple installation of the illuminated button actuators without tools guarantees the high IP protection type.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 10.0014U

Further approvals
UL, NEPSI, GOST, KTL, INMETRO, DNV, CSA

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +50 °C
+60 °C (AC/DC 12 to 24 V)

Technical data

Protection class
determined by the actuating element and ComEx enclosure, min. IP 66, terminals IP 20

Rated insulation voltage
300 V

Rated operating voltage

AC 12 V to 250 V	($T_a \leq +50$ °C)
DC 12 V to 60 V	($T_a \leq +50$ °C)
AC/DC 12 V to 24 V	($T_a \leq +60$ °C)

Power consumption
≤ 1 W

Lamp
LED: red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Contacts
1 NC or 1 NO as snap switch element

Switching capacity contact element

AC-15	1 A/230 V
DC-13	0.25 A/24 V

Enclosure material
Thermoplastic

Connection
Terminals 2.5 mm², fine stranded

Electrical life
>10^5 running hours

Mechanical life
>10^5 switching cycles

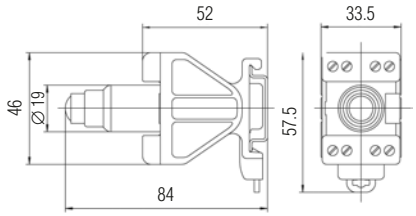
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 110 g

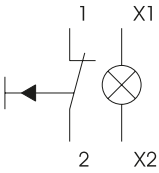
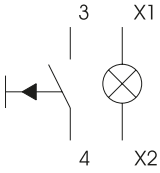
Mounting
on mounting rail TS 35 x 7.5

Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

Dimensions



Selection chart

Type of contact	Code no.	Colour LED	Code no.	Colour actuator	Code no.
1 NC 	**7**	red	**1**	red	**5**
		green	**2**	green	**6**
		yellow	**3**	yellow	**7**
1 NO 	**8**	white	**4**	white	**8**
		blue	**5**	blue	**9**

Complete order no.*

Illuminated button without actuating element **07-3361-1 ☐☐ 0**

Actuating element

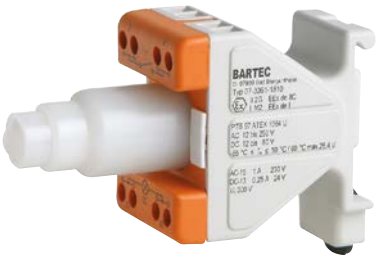
Standard **05-0003-006 ☐ 00**

Increased oil resistance **05-0003-006 ☐ 00BN**

Please enter code number. Technical data subject to change without notice:

***** Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

03-0330-0192/A-10/2014-BCS-200866/6



ComEx Illuminated button Ex i with terminals for rail-mounted installation

Features

- One module for all intrinsically safe application areas
- Long service life
- Excellent luminosity

Description

The ComEx Ex i illuminated button indicates command modes by means of a light signal lighting up or going out. It is suitable for use in almost all hazardous (potentially explosive) areas in which a visual indication of the machine's functional status is required.

The illuminated buttons are designed to conform to the requirements of the "e increased safety", "d flameproof enclosure", and "i intrinsic safety types of protection". They may be activated by intrinsically safe circuits.

The illuminated buttons can be combined with various lamp module actuators. Each illuminated button actuator is fitted into a mounting hole in a control console or a control panel. The respective illuminated button is intended for fitting onto a mounting rail.

Conductors are connected using terminals with increased safety on the back of the module. The lamp module actuator can be fitted easily without tools, which ensures conformance to the high IP degree of protection.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de ia IIC Gb
Ⓔx I M2 Ex de ia I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de ia IIC Gb
Ex de ia I Mb

Certification
IECEx PTB 10.0014U

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Intrinsically safe parameters	
Input voltage (U_i)	30 V
Input current (I_i)	150 mA
Input power (P_i)	1 W
Indcutance (L_i)	negligible
Capacitance (C_i)	negligible

Technical data

Protection class
determined by the actuating element and ComEx enclosure, min. IP 66, terminals IP 20

Rated insulation voltage
300 V

Rated operating voltage (U_e)
AC/DC 10 to 30 V

Frequency range
with AC supply 30 to 100 Hz

Power consumption
≤ 0,5 W

Lamp
LED, red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Contacts
1 NC contact or 1 NO contact
as snap-action switching elements

Switching capacity
AC-15 1 A/230 V
DC-13 0.25 A/24 V

Enclosure material
thermoplastic

Type of connection
terminals 2.5 mm², fine-stranded

Service life
>10⁵ running hours

Mechanische Lebensdauer
>10⁵ switching cycles

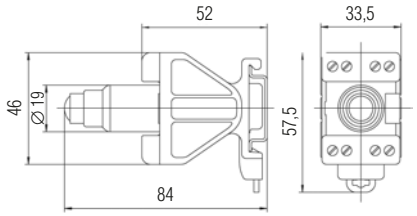
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 110 g

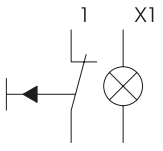
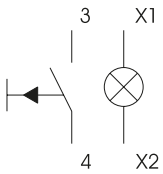
Fastening
onto TS 35 x 7.5 mounting rail

Shock resistance
DIN EN 60068-2-27, 30 g, 18 ms
DIN EN 60068-2-6, 4 g, 1.6 mm

Dimensions



Selection chart

Type of contact	Code no.	Colour LED	Code no.	Colour actuator	Code no.
1 NC 	**5**	red	**1**	red	**3**
		green	**2**	green	**4**
		yellow	**3**	yellow	**5**
1 NO 	**6**	white	**4**	white	**6**
		blue	**5**	blue	**7**

Complete order no.*

Illuminated button	without actuating element	**07-3361-1** ☐☐	**0**
Actuating element	Standard	**05-0003-006** ☐	**00**
	Increased oil resistance	**05-0003-006** ☐	**00BN**

Please enter code number. Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

03-0330-0829-10/2014-BCS-374343/2

ComEx Potentiometer with terminals for rail-mounted installation

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 05 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 10.0017U

Further approvals
NEPSI, KTL, INMETRO, DNV, CSA

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Technical data

Protection class
determined by the actuating element and ComEx enclosure, min. IP 66, terminals IP 20

Rated insulation voltage
500 V

Max. rated voltage
AC/DC 230 V

Resistance
1 kΩ to 10 kΩ

Curve shape
linear

Resistance tolerance
± 20 %

Rated output
max. 1 W at $T_a \leq$ +40 °C

Resistor material
carbon film on ceramics

Rotation
mech. 285° -5°
electr. about approx. 250°

Torgue (beginning)
0.5 to 1.5 Ncm

Torgue (end stop)
≥ 100 Ncm

Enclosure material
thermoplastic

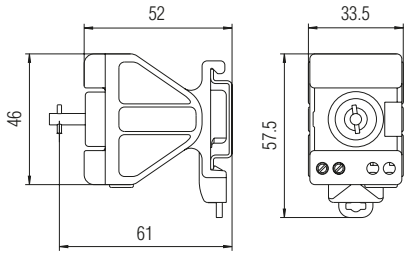
Connection
Double terminals 2 x 2.5 mm², fine stranded

Mechanical life
25000 sinusoidal cycles

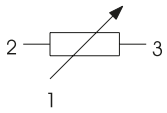
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 71 g

Dimensions



Selection chart

Wiring diagram	Resistance	Code no.
	1 kΩ	**4**
	2.2 kΩ	**5**
	4.7 kΩ	**6**
	10 kΩ	**7**

Other resistances on request.

Complete order no.*

Potentiometer without actuating element **07-3371-1D ☐ 0**

Please enter code number. Technical data subject to change without notice:

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

Actuating element

Standard (Skala 1 to 10)	**Order no. 05-0003-007600**
Increased oil resistance (Skala 1 to 10)	**Order no. 05-0003-007600BN**

Notes for installation and inspection:

At rated voltage: ≤ AC 50 V/≤ DC 120 V
(protection low voltage in accordance with DIN VDE 0100 T. 410)
potentiometer drive shaft can be operated without actuating element.

At rated voltage: ≥ AC 50 V to max. AC/DC 230 V
potentiometer drive shaft can only be operated with actuating element
or has to be deenergized.

03-0330-0431/A-10/2014-BCS-240908/2

ComEx Control switch

Features

- Contacts with positive break operation
- Latched and momentary-contact positions

Description

This control switch has been designed to solve the variety of problems encountered in chemical and petrochemical plants and on explosion-proofed electrical machinery. Four switch contacts as opening and closing elements in different permutations permit a variety of functions. The opener has a positive break operation. The switch actuator offers latched and momentary-contact positions with different switch positions.

The control switch can be installed quickly and directly into double or triple ComEx enclosures, or in combination with other command devices in control units.

Explosion protection

Ex protection type

ATEX ⟨Ex⟩ II 2G Ex de IIC Gb
⟨Ex⟩ I M2 Ex de I Mb

Certification
PTB 99 ATEX 1043 U

IECEx Ex de IIC Gb
Ex de I Mb

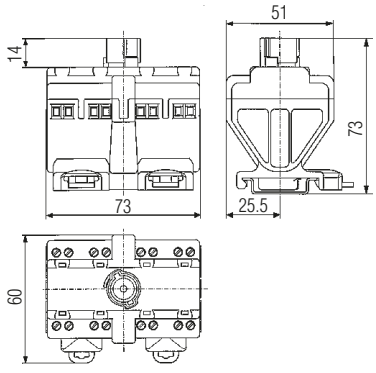
Certification
IECEx PTB 07.0046U

Further approvals
UL, NEPSI, GOST, KTL, INMETRO, DNV, CSA

Other approvals and certificates,
see www.bartec-group.com

Permissible ambient temperature
-55 °C to +60 °C

Dimensions



Technical data

Connection
Terminals 2.5 mm², fine stranded

Contact material
$AgSnO_2$

Enclosure material
Thermoplastic

Installation
on TS 35 x 7.5 mounting rail

Switch function
max. 4 switch contacts
different NC/NO contact assemblies
latching and momentary-contact functions
with different switch positions

Contacts
contacts with positive break operation
(self-cleaning)

Installation
in ComEx double and triple enclosures
and in control units as floor mounting
and front-panel mounting

Switch isolator
DIN EN 60947-3 (main motor switch)

P/AC-3/AC-23	AC-3	AC-23
230 V	3 ph/3 kW	1 ph/2.2 kW
400 V	3 ph/5.5 kW	1 ph/3 kW

I_e = AC-23/400 V/10 A

Control switch according to
DIN EN 60947-5-1 (auxiliary circuit switch)

AC-15	400 V	10 A
AC-12	400 V	16 A
DC-13	24 V	1 A

Electrical data

Rated insulation voltage
U_i = 690 V
U_e = 400 V

Rated impulse strength
U_{imp} = 6 kV

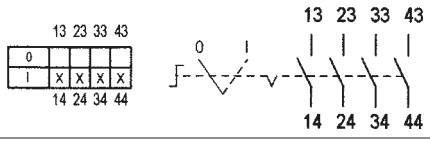
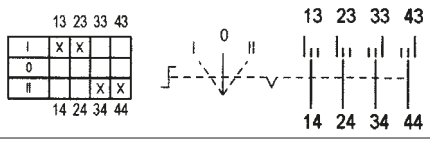
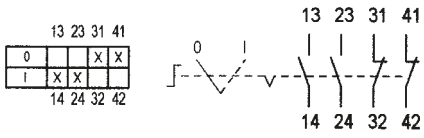
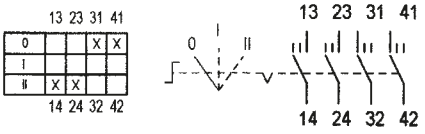
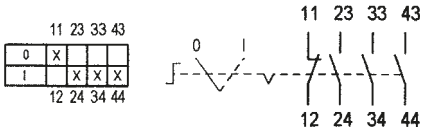
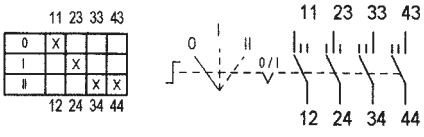
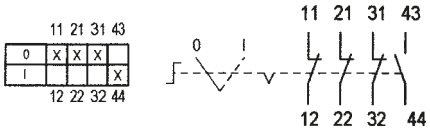
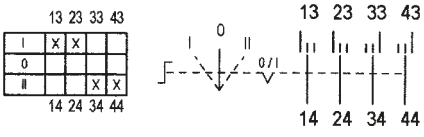
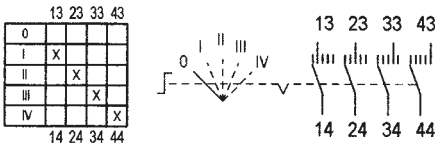
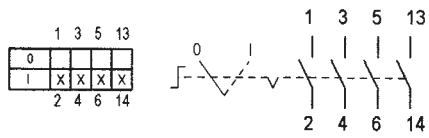
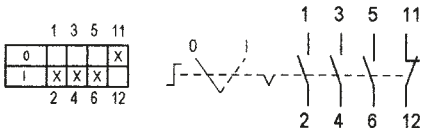
Conditional rated short-circuit current at 400 V
I_e = 4 kA

Short-circuit current (general-purpose l.v.h.b.c back-up fuse for the protection of cables and circuits)
max. 16 A

Nominal thermal current

(+40 °C)	I_{the} =16 A
(+60 °C)	I_{the} =11 A

Selection chart

Contact arrangement of control switch	Code no.	Contact arrangement of control switch	Code no.
	A01		C06
	A02		C07
	A03		E08
	A04		E09
	H05		L01
Contact arrangement of switch-isolator			
	N01		N02

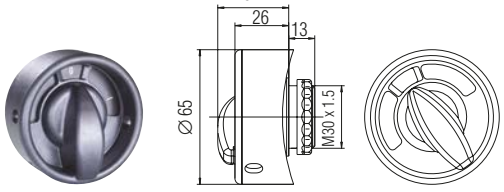
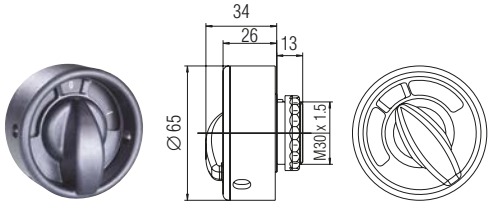
Further contact versions are available upon request.

Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

Complete order no. 07-3331-1

Please enter code number.
Technical data subject to change without notice.

Selection chart

Illustration/Dimensions	Description	Order no.
For ComEx enclosure  For control unit/ComEx 316L 	**Black position selector** with protective collar, lockable* **only for 4-pole switch**	
	0 - I for ComEx enclosure für Control unit (flat)	**05-0003-006201** **05-0003-006301**
	I - II for ComEx enclosure für Control unit (flat)	**05-0003-006202** **05-0003-006302**
	I - 0 - II for ComEx enclosure für Control unit	**05-0003-006203** **05-0003-006303**
	0 - I - II for ComEx enclosure für Control unit (flat)	**05-0003-006204** **05-0003-006304**
	0 - I - II - III for ComEx enclosure für Control unit (flat)	**05-0003-006205** **05-0003-006305**
	0 - I - II - III - IV for ComEx enclosure für Control unit (flat)	**05-0003-006206** **05-0003-006306**
	HAND - 0 - AUTO for ComEx enclosure für Control unit (flat)	**05-0003-006209** **05-0003-006309**

*In principle, there are 3 boreholes in the protective collar to fit padlocks. If no further details are given on which switching position is to be locked, the boreholes are provided in the switch position 0 (I), other to customer specifications.

ComEx Switch module with terminals for panel-mounted installation

Low stock!

Replacement
ComEx[flex] Switch module
Catalog page 46

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 99 ATEX 1043 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 07.0046U

Further approvals
UL, INMETRO, GOST, DNV, KTL

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Technical data

Protection class
Determined by actuating element and control station enclosure, terminals IP 20 (IEC 60529).

Rated insulation voltage
690 V

Rated voltage			
400 V	400 V	110 V	24 V
Utilization category			
AC-12	AC-15	DC-13	DC-13
Rated operating currents			
16 A	10 A	0,5 A	1 A

Conventional thermal current I_{the}
16 A/+40 °C, 11 A/+60 °C

Contact options
contacts with positive break operation (self cleaning)
1 NC and 1 NO or
2 NC or 2 NO

Contact material
$AgSnO_2$

Enclosure material
Thermoplastic

Connection
Terminals 2.5 mm², fine stranded

Mechanical life
10^6 switching cycles

Storage temperature
-55 °C to +70 °C

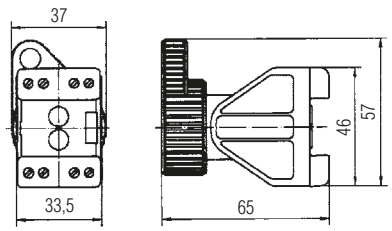
Weight
approx. 87 g

Mounting
locked, by bayonet lock

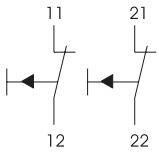
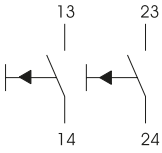
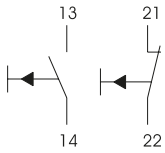
Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

03-0330-0192/B-10/2014-BCS-200866/7

Dimensions



Selection chart

Type of contact	Code no.	Actuating element	Code no.
2 NC 	1	Pushbutton	0700
		Double push button actuator	7400
		Emergency stop NOT-AUS	0800
		Selector switch 0 + I latching, 2 positions	0900
		Selector switch I + II latching, 3 positions	1000
		Selector switch I + II momentary-contact, 3 positions	1001
		Selector switch I latching, II momentary-contact, 3 positions	1002
2 NO 	2	Selector switch I momentary-contact, II latching, 3 positions	1003
		Selector switch with protective collar 0 + I	7001
		Selector switch with protective collar I + 0	7002
		Selector switch with protective collar I + 0 + II	7203
		Mushroom pushbutton, black	1800
		Lockable in both positions, DOM lock	1200
1 NC + NO 	4	Lockable in the depressed position, DOM lock	1201
		Lockable in the initial position, DOM lock	1202
		Locking-type mushroom pushbutton	1203
		Lockable in both positions, RONIS lock	6100
		Key switch, 2 switching positions latching, key retractable 0 + I	7700
		Key switch, 2 switching pos. momentary contact, not retractable 0 + I	7701
		Key switch, 3 switching positions latching, key retractable I + 0 + II	7900

Complete order no.*

Switch module without actuating element **07-3323-1 ☐ 00**

Actuating element

Standard **05-0003-00 ☐☐☐☐**

Increased oil resistance **05-0003-00 ☐☐☐☐ BN**

Please enter code number.
Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

ComEx Lamp module with terminals for panel-mounted installation

Low stock!

Replacement
ComEx[flex] Lamp module
Catalog page 48

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 10.0014U

Further approvals
UL, INMETRO, GOST, DNV, KTL

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +50 °C
+60 °C (AC/DC 12 to 24 V)

Technical data

Protection class
Determined by actuating element and control station enclosure, terminals IP 20 (IEC 60529).

Rated insulation voltage
300 V

Rated operating voltage

AC 12 V to 250 V	($T_a \leq +50$ °C)
DC 12 V to 60 V	($T_a \leq +50$ °C)
AC/DC 12 V to 24 V	($T_a \leq +60$ °C)

Power consumption
≤ 1 W

Lamp
LED
red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Enclosure material
Thermoplastic

Connection
Terminals 2.5 mm², fine stranded

Electrical life
> 10^5 running hours

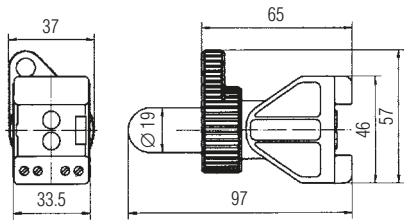
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 90 g

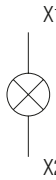
Mounting
locked, by bayonet lock

Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

Dimensions



Selection chart

Wiring diagram	Colour LED	Code no.	Colour actuator	Code no.
	red	**1**	red	**3**
	green	**2**	green	**4**
	yellow	**3**	yellow	**5**
	white	**4**	white	**6**
	blue	**5**	blue	**7**

Complete order no.*

Lamp module without actuating element — **07-3353-11 ☐ 0**

Actuating element

Standard — **05-0003-001 ☐ 00**

Increased oil resistance — **05-0003-001 ☐ 00BN**

Please enter code number.
Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

03-0330-0192/B-10/2014-BCS-200866/10

ComEx Illuminated button with terminals for panel-mounted installation

Low stock!

Replacement
ComEx^{flex} Illuminated button
Catalog page 52

Explosion protection

Ex protection type
ATEX ⟨Ex⟩ II 2G Ex de IIC Gb
⟨Ex⟩ I M2 Ex de I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 10.0014 U

Further approvals
UL, NEPSI, GOST, KTL, INMETRO, DNV, CSA

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +50 °C
+60 °C (AC/DC 12 to 24 V)

Technical data

Protection class
determined by actuating element and control station enclosure, terminals IP 20 (IEC 60529).

Rated insulation voltage
300 V

Rated operating voltage

AC 12 V to 250 V	($T_a \leq$ +50 °C)
DC 12 V to 60 V	($T_a \leq$ +50 °C)
AC/DC 12 V to 24 V	($T_a \leq$ +60 °C)

Power consumption
≤ 1 W

Lamp
LED: red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Contacts
1 NC or 1 NO as snap switch element

Switching capacity contact element

AC-15	1 A/230 V
DC-13	0.25 A/24 V

Enclosure material
Thermoplastic

Connection
Terminals 2.5 mm², fine stranded

Electrical life
>10^5 running hours

Mechanical life
>10^5 switching cycles

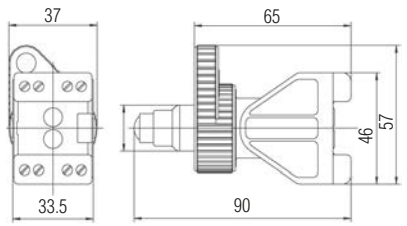
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 130 g

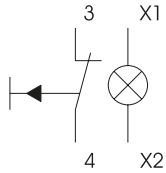
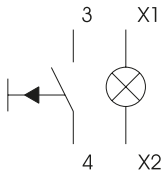
Mounting
locked, by bayonet lock

Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

Dimensions



Selection chart

Type of contact	Code no.	Colour LED	Code no.	Colour actuator	Code no.
1 NC 	**7**	red	**1**	red	**5**
		green	**2**	green	**6**
		yellow	**3**	yellow	**7**
1 NO 	**8**	white	**4**	white	**8**
		blue	**5**	blue	**9**

Complete order no.*

Illuminated button without actuating element **07-3363-1 ☐☐ 0**

Actuating element

Standard **05-0003-006 ☐ 00**

Increased oil resistance **05-0003-006 ☐ 00BN**

Please enter code number. Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

ComEx Potentiometer with terminals for panel-mounted installation

Low stock!

Replacement
ComEx[flex] Potentiometer
Catalog page 56

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 05 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB I0.0017 U

Further approvals
NEPSI, GOST, KTL, INMETRO, DNV, CSA

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Technical data

Protection class
determined by actuating element and control station enclosure, terminals IP 20 (IEC 60529).

Rated insulation voltage
500 V

Max. rated voltage
AC/DC 230 V

Resistance
1 kΩ to 10 kΩ

Curve shape
linear

Resistance tolerance
± 20 %

Power consumption
max. 1 W at $T_a \leq +40$ °C

Resistor material
carbon film on ceramics

Rotation
mech. 285° -5°
electr. about approx. 250°

Torque (beginning)
0.5 to 1.5 Ncm

Torque (end stop)
≥ 100 Ncm

Enclosure material
Thermoplastic

Connection
Double terminals 2 x 2.5 mm², fine stranded

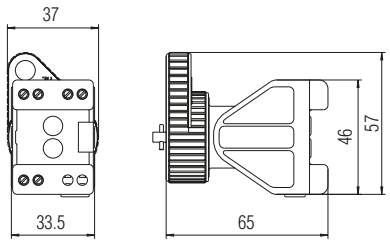
Mechanical life
25000 sinusoidal cycles

Storage and transport temperature
-55 °C to +70 °C

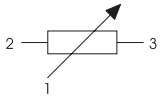
Weight
approx. 88 g

03-0330-0427/A-10/2014-BCS-240845/1

Dimensions



Selection chart

Wiring diagram	Resistance	Code no.
	1 kΩ	**4**
	2.2 kΩ	**5**
	4.7 kΩ	**6**
	10 kΩ	**7**

Other resistances on request.

Complete order no.*

Potentiometer without actuating element **07-3373-1D ☐ 0**

Please enter code number.
Technical data subject to change without notice

Actuating element

Standard (scale 1 to 10)	**Order no. 05-0003-007600**
Increased oil resistance (scale 1 to 10)	**Order no. 05-0003-007600BN**

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

Notes for installation and inspection:

At rated voltage: ≤ AC 50 V/≤ DC 120 V
(protection low voltage in accordance with DIN VDE 0100 T. 410)
potentiometer drive shaft can be operated without actuating element.

At rated voltage: ≥ AC 50 V to max. AC/DC 230 V
potentiometer drive shaft can only be operated with actuating element
or has to be deenergized.

03-0330-0427/A-10/2014-BCS-240845/2

ComEx Switch module with connection cable for installation on panel

Low stock!

Replacement
ComEx[flex] Switch module
Catalog page 46

Features

- Self-cleaning contacts
- Positive break contacts
- One-hand fastening

Description

As completely certified equipment, BARTEC modules with connection cable can be directly installed in industrial control cabinets in hazardous areas. A high IP degree of protection can be maintained due to easy installation of the actuating elements in the control cabinet. The respective modules can be single-handedly installed to the actuating elements.

Explosion protection

Ex protection type
ATEX Ⓔx II 2G Ex d IIC T6

Certification
PTB 00 ATEX 1092 X

Further approvals
UL, GOST, INMETRO, DNV

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-40 °C to +60 °C (-55 °C on request)

Technical data

Protection class
Determined by actuating element and enclosure, up to IP 67, in conjunction with actuating element.

Rated insulation voltage
U_i = 690 V (on request)
U_i = 400 V (Standard version)

Rated voltage			
400 V	400 V	110 V	24 V
Utilization category			
AC-12	AC-15	DC-13	DC-13
Rated operating currents			
16 A	10 A	0,5 A	1 A

Conventional thermal current I_{the}
16 A/+40 °C, 11 A/+60 °C

Contact options
contacts with positive break operation (self cleaning)
1 NC and 1 NO or
2 NC or 2 NO or
1 NC or 1 NO

Contact material
$AgSnO_2$

Enclosure material
Thermoplastic

Connection
flexible cord 4 x 1.5 mm² (∅ 9.1 mm)
resp. 2 x 1.5 mm², (∅ 7.7 mm)

Mechanical life
10^6 switching cycles

Storage temperature
-55 °C to +70 °C

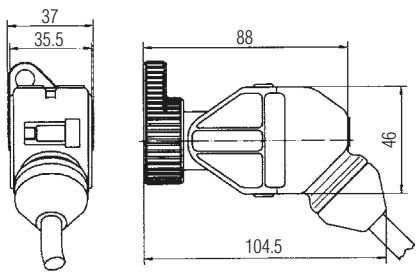
Weight
approx. 160 g without cable

Cable length
3 m, indicate greater lengths in plain text

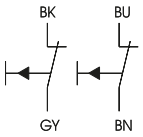
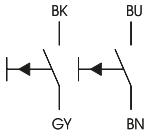
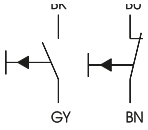
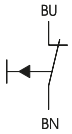
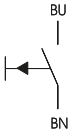
Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

03-0330-0192/B-10/2014-BCS-200866/11

Dimensions



Selection chart

Type of contact	Code no.	Actuating element	Code no.
2 NC 	1	Pushbutton	0700
		Double push button actuator	7400
		Emergency stop NOT-AUS	0800
		Selector switch 0 + I latching, 2 positions	0900
2 NO 	2	Selector switch I + II latching, 3 positions	1000
		Selector switch I + II momentary-contact, 3 positions	1001
		Selector switch I latching, II momentary-contact, 3 positions	1002
		Selector switch I momentary-contact, II latching, 3 positions	1003
1 NC + 1 NO 	4	Selector switch with protective collar 0 + I	7001
		Selector switch with protective collar I + 0	7002
		Selector switch with protective collar I + 0 + II	7203
		Mushroom pushbutton, black	1800
1 NC 	7	Lockable in both positions, DOM lock	1200
		Lockable in the depressed position, DOM lock	1201
		Lockable in the initial position, DOM lock	1202
		Locking-type mushroom pushbutton	1203
1 NO 	8	Lockable in both positions, RONIS lock	6100
		Key switch, 2 switching positions latching, key retractable 0 + I	7700
		Key switch, 2 switching positions momentary contact, not retractable 0 + I	7701
		Key switch, 3 switching positions latching, key retractable I + 0 + II	7900

Complete order no.

Switch module without actuating element **07-3323-3** ☐ **03***)

Actuating element Standard **05-0003-00** ☐☐

Increased oil resistance **05-0003-00** ☐☐ **BN**

Please enter code number. Technical data subject to change without notice.

*) Standard length 3 m, indicate greater lengths in plain text.

ComEx Lamp module with connection cable for installation on panel

Low stock!

Replacement
ComEx^{flex} Lamp module
Catalog page 48

Features

- Long service life
- Illumination 180°
- Brilliant colours
- One-hand fastening

Description

As completely certified equipment, BARTEC modules with connection cable can be directly installed in industrial control cabinets in hazardous areas. A high IP degree of protection can be maintained due to easy installation of the actuating elements in the control cabinet. The respective modules can be single-handedly installed to the actuating elements.

Explosion protection

Ex protection type
ATEX Ⓔx II 2G Ex d IIC T6

Certification
PTB 97 ATEX 1065 X

Further approvals
UL, GOST, INMETRO, DNV

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-40 °C to +50 °C (-55 °C on request)
+60 °C (AC/DC 12 to 24 V)

03-0330-0192/B-10/2014-BCS-200866/13

Technical data

Protection class
determined by actuating element and enclosure, up to IP 67, in conjunction with actuating element.

Rated insulation voltage
300 V

Rated operating voltage
AC 12 V to 250 V ($T_a \leq +50$ °C)
DC 12 V to 60 V ($T_a \leq +50$ °C)
AC/DC 12 V to 24 V ($T_a \leq +60$ °C)

Power consumption
≤ 1 W

Lamp
LED
red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Enclosure material
Thermoplastic

Connection
flexible cord 2 x 0.75 mm² (∅ 6.4 mm)

Electrical life
>10^5 running hours

Storage temperature
-55 °C to +70 °C

Weight
approx. 180 g without cable

Mounting
locked, by bayonet lock

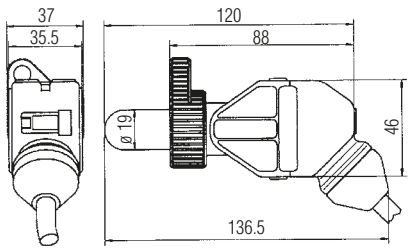
Cable length
3 m, indicate greater lengths in plain text

Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

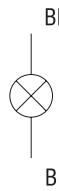
Note

The connection cable for lamp modules must be installed in a way which ensures that no capacitive influence (voltage transmission) is possible through lines routed in parallel.

Dimensions



Selection chart

Wiring diagram	Colour LED	Code no.	Colour actuator	Code no.
	red	**1**	red	**3**
	green	**2**	green	**4**
	yellow	**3**	yellow	**5**
	white	**4**	white	**6**
	blue	**5**	blue	**7**

Complete order no.

Lamp module without actuating element **07-3353-31** ☐ **3***)

Actuating element Standard **05-0003-001** ☐ **00**
Increased oil resistance **05-0003-001** ☐ **00BN**

Please enter code number. Technical data subject to change without notice
*) Standard length 3 m, indicate greater lengths in plain text.

ComEx Illuminated button with connection cable for installation on panel

Low stock!

Replacement
ComEx^{flex} Illuminated button
Catalog page 52

Features

- High service life
- Brilliant colours
- One-hand fastening

Description

As completely certified equipment, BARTEC modules with connection cable can be directly installed in industrial control cabinets in hazardous areas. A high IP degree of protection can be maintained due to easy installation of the actuating elements in the control cabinet. The respective modules can be single-handedly installed to the actuating elements.

Explosion protection

Ex protection type
ATEX ⟨Ex⟩ II 2G Ex d IIC T6

Certification
PTB 97 ATEX 1065 X

Further approvals
UL, GOST, INMETRO, DNV

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-40 °C to +50 °C
-55 °C on request

Technical data

Protection class
determined by actuating element and enclosure. Switch module up to IP 67 in conjunction with actuating element.

Rated insulation voltage
300 V

Rated operating voltage
AC 12 V to 250 V ($T_a \leq +50$ °C)
DC 12 V to 60 V ($T_a \leq +50$ °C)
AC/DC 12 V to 24 V ($T_a \leq +60$ °C)

Power consumption
≤ 1 W

Lamp
LED: red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

■ Contact element

Rated voltage	
230 V	24 V
Utilization category	
AC-15	DC-13
Rated operation currents	
1 A	0.25 A

Contacts
1 NC or 1 NO as snap switch element

Enclosure material
Thermoplastic

Connection
flexible cable 4 x 0.75 mm² (∅ 7.2 mm)

Electrical life
>10⁵ running hours

Mechanical life
>10⁵ switching cycles

Storage temperature
-55 °C to +70 °C

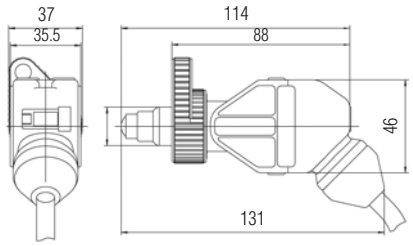
Weight
approx. 200 g without cable

Cable length
3 m, indicate greater lengths in plain text

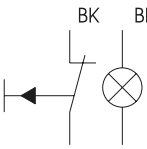
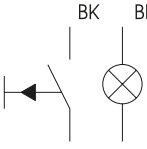
Mounting
locked, by bayonet lock

Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

Dimensions



Selection chart

Type of contact	Code no.	Colour LED	Code no.	Colour actuator	Code no.
1 NC 	**7**	red	**1**	red	**5**
		green	**2**	green	**6**
		yellow	**3**	yellow	**7**
1 NO 	**8**	white	**4**	white	**8**
		blue	**5**	blue	**9**

Complete order no.

Illuminated button without actuating element **07-3363-3 □ □ 3*)**

Actuating element Standard **05-0003-006 □ 00**

Increased oil resistance **05-0003-006 □ 00BN**

Please enter code number.
Technical data subject to change without notice

*) Standard length 3 m, indicate greater lengths in plain text.

Note
The connection cable for illuminated buttons must be installed in a way which ensures that no capacitive influence (voltage transmission) is possible through lines routed in parallel.

03-0330-0296/A-10/2014-BCS-217101/2

ComEx Potentiometer with connection cable for front installation

Low stock!

Replacement
ComEx^{flex} Potentiometer
Catalog page 56

Features

- High end stop torque
- High IP degree of protection
- One-hand fastening

Description

As completely certified equipment, BARTEC modules with connection cable can be directly installed in industrial control cabinets in hazardous areas. A high IP degree of protection can be maintained due to easy installation of the actuating elements in the control cabinet. The respective modules can be single-handedly installed to the actuating elements.

Explosion protection

Ex protection type
ATEX Ⓔx II 2G Ex d IIC T6

Certification
PTB 05 ATEX 1065 X

IECEx Ex d IIC T6

Certification
IECEx PTB 11.0053 X

Further approvals
INMETRO, DNV

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-40 °C to +60 °C
(-55 °C on request)

03-0330-0426/A-10/2014-BCS-240844/1

Technical data

Protection class
determined by actuating element and enclosure. Potentiometer up to IP 67 in conjunction with actuating element.

Rated insulation voltage
U_i = 500 V
U_i = 400 V (Standard version)

Max. rated operating voltage
AC/DC 230 V

Resistance
1 kΩ to 10 kΩ

Characteristic curve
linear

Resistance tolerance
± 20 %

Power consumption
max. 1 W for $T_a \leq$ +40 °C

Resistance material
carbon layer on ceramics

Rotation range
mech. 285° -5°
electr. effective approx. 250°

Torque (beginning)
0.5 to 1.5 Ncm

Torque (end stop)
≥ 100 Ncm

Enclosure material
Thermoplastic

Connection
flexible cable 3 x 0.75 mm²

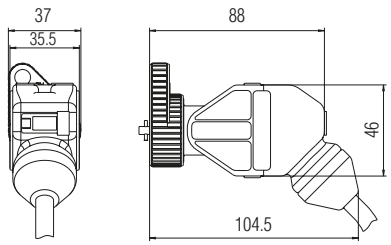
Mechanical life
25000 sinusoidal cycles

Storage temperature
-55 °C to +70 °C

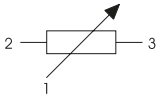
Weight
approx. 240 g with 1 m cable

Cable length
3 m, indicate greater lengths in plain text

Dimensions



Selection chart

Wiring diagram	Resistance value	Code no.
	1 kΩ	4
	2.2 kΩ	5
	4.7 kΩ	6
	10 kΩ	7

Other resistances on request.

Complete order no.

Potentiometer without actuating element **07-3373-3D** ☐ **3*)**

Please enter code number.
Technical data subject to change without notice.

*) Standard length 3 m, indicate greater lengths in plain text.

Actuating element

Standard (Scale 1 to 10)	**05-0003-007600**
Increased oil resistance (Scale 1 to 10)	**05-0003-007600BN**

Notes for installation and inspection:

At rated voltage: ≤ AC 50 V/≤ DC 120 V
(protection low voltage in accordance with DIN VDE 0100 T. 410)
potentiometer drive shaft can be operated without actuating element.

At rated voltage: ≥ AC 50 V to max. AC/DC 230 V
potentiometer drive shaft can only be operated with actuating element or has to be deenergized.

03-0330-0426/A-10/2014-BCS-240844/2

ComEx[flex] Switch module

Features

- One module for all fields of application
- Large selection of actuating elements
- High flexibility thanks to the junction box
- Low installation depth

Description

The ComEx[flex] switch module is used in almost all hazardous areas where machine functions are activated by means of a button or a switch.

The ComEx[flex] is flexible and in addition to a large number of actuating elements it offers a junction box to facilitate a safe and convenient installation of the module into a control panel. All contacts in the switch modules are self-cleaning and the opening contacts have positive opening operation.

The conductors are connected by means of terminals on the back of the module which have an increased safety level. The easy installation of the actuating elements without tools ensures conformance to the high IP degree of protection.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 99 ATEX 1043 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 07.0046 U

Further approvals
CSA, NEPSI, GOST, KTL, INMETRO, DNV

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Technical data

Protection class
determined by the actuating element and control station enclosure, min. IP 66, terminals IP 20 (IEC 60529).

Rated insulation voltage
690 V

Rated operating voltage			
400 V	400 V	110 V	24 V
Utilization category			
AC-12	AC-15	DC-13	DC-13
Rated operating currents			
16 A	10 A	0.5 A	1 A

Conventional thermal current Ithe
16 A/+40 °C, 11 A/+60 °C

Contact options
contacts with positive-break operation (self-cleaning)
1 N/C and 1 N/O or 2 N/C or 2 N/O

Contact material
$AgSnO_2$

Enclosure material
thermoplastic

Connection
terminals 2.5 mm², fine-stranded

Mechanical life
>10^6 switching cycles

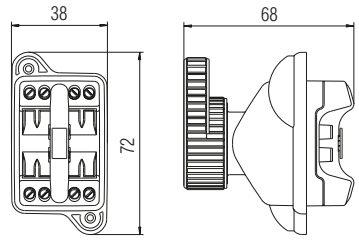
Storage temperature
-55 °C to +70 °C

Weight
approx. 110 g

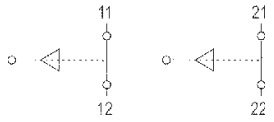
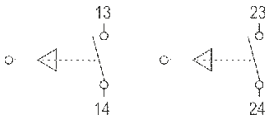
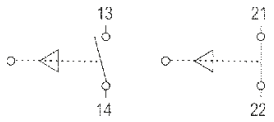
Mounting
locked, bayonet lock

Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

Dimensions



Selection chart

Type of contact		Code no.
2 N/C		1
2 N/O		2
1 N/C + 1 N/O		4

Complete order no.*

Switch module without actuating element **07-3323-4 ☐ 00**

Please enter code number. Technical data subject to change without notice

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

ComEx[flex] Lamp module

Features

- One module for all fields of application
- Illumination 180°
- High flexibility due to junction box
- Low installation depth

Description

The ComEx[flex] lamp module indicates command modes by means of a light signal lighting up or going out. It is suitable for use in almost all explosive areas in which a visual indication of a machine's functional status is required.

The lamp module can be combined with various lamp module actuating elements. A junction box is available to facilitate a safe and convenient installation of the module into a control panel.

The conductors are connected by means of terminals on the back of the module which have an increased safety level. The lamp module actuating elements can be fitted easily without tools, which ensures conformance to the high IP degree of protection.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 10.0014 U

Further approvals
CSA, NEPSI, GOST, KTL, INMETRO, DNV

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

03-0330-0670-10/2014-BCS-320187/1

Technical data

Protection class
determined by actuating element and control station enclosure, min. IP 66, terminals IP 20 (IEC 60529).

Rated insulation voltage
300 V

Rated operating voltage

AC 12 V to 250 V	($T_a \leq +50$ °C)
DC 12 V to 60 V	($T_a \leq +50$ °C)
AC/DC 12 V to 24 V	($T_a \leq +60$ °C)

Power consumption
≤ 1 W

Lamp
LED, red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Enclosure material
Thermoplastic

Connection
Terminals 2.5 mm², fine-stranded

Electrical life
>10^5 running hours

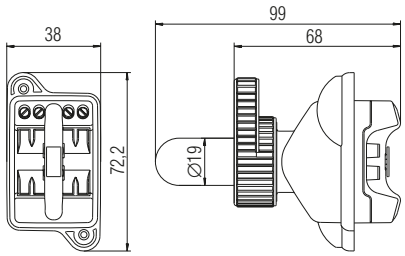
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 110 g

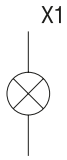
Mounting
locked, bayonet lock

Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

Dimensions



Selection chart

Wiring diagram	Colour LED	Code no.	Colour actuator	Code no.
	red	**1**	red	**3**
	green	**2**	green	**4**
	yellow	**3**	yellow	**5**
	white	**4**	white	**6**
	blue	**5**	blue	**7**

Complete order no.*

Lamp module without actuating element **07-3353-41** ☐ **0**

Actuating element Standard **05-0003-001** ☐ **00**

Increased oil resistance **05-0003-001** ☐ **00BN**

Please enter code number. Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

ComEx[flex] Lamp module Ex i

Features

- One module for all intrinsically safe application areas
- Illumination 180°
- High flexibility due to junction box
- Low installation depth

Description

The ComEx[flex] Ex i lamp module indicates command modes by means of a light signal lighting up or going out. It is suitable for use in almost all hazardous (potentially explosive) areas in which a visual indication of a machine's functional status is required.

The lamp modules are designed to conform to the requirements of the "e increased safety", "d flameproof enclosure" and "i intrinsic safety types of protection". They may be activated by intrinsically safe circuits.

The lamp module can be combined with various lamp module actuators. A junction box is available to facilitate a safe and convenient installation of the module into a control panel.

Conductors are connected using terminals with increased safety on the back of the module. The lamp module actuators can be fitted easily without tools, which ensures conformance to the high IP degree of protection.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de ia IIC Gb
Ⓔx I M2 Ex de ia I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de ia IIC Gb
Ex de ia I Mb

Certification
IECEx PTB 10.0014U

Other approvals and certificates, see www.bartec-group.com

Ambient tempperature
-55 °C to +60 °C

Intrinsically safe parameters	
Input voltage (U_i)	30 V
Input current (I_i)	150 mA
Input power (P_i)	1 W
Indcutance (L_i)	negligible
Capacitance (C_i)	negligible

Technical data

Protection class
determined by actuating element and control unit enclosure, min. IP 66, terminals IP 20 (IEC 60529).

Rated insulation voltage
300 V

Rating operating voltage (U_e)
AC/DC 10 to 30 V

Frequency range
with AC supply 30 to 100 Hz

Power consumption
≤ 0.5 W

Lamp
LED, red, green, yellow, white, blue

Illumination
very bright, over a visible angle of 180°

Enclosure material
thermoplastic

Type of connection
Terminals 2.5 mm², fine-stranded

Electrical life
>10^5 running hours

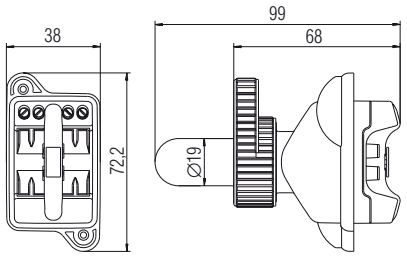
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 110 g

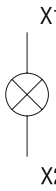
Fastening
locked, by bayonet lock

Shock resistance
DIN EN 60068-2-27, 30 g, 18 ms
DIN EN 60068-2-6, 4 g, 1.6 mm

Dimensions



Selection chart

Wiring diagram	LED colour	Code no.	Actuator colour	Code no.
	red	**1**	red	**3**
	green	**2**	green	**4**
	yellow	**3**	yellow	**5**
	white	**4**	white	**6**
	blue	**5**	blue	**7**

Complete order no.*

Lamp module without actuator **07-3353-44** ☐ **0**

Actuating element standard **05-0003-001** ☐ **00**

increased oil resistance **05-0003-001** ☐ **00BN**

Please insert correct code. Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

ComEx[flex] Illuminated button

Features

- One module for all fields of application
- Excellent luminosity
- High flexibility thanks to the junction box
- Low installation depth

Description

The ComEx[flex] illuminated button is used in almost all hazardous (potentially explosive) areas where machine functions are activated by pressing a button and the corresponding functional status is to be indicated visually.

ComEx[flex] is flexible and in addition to a large number of illuminated button actuators it offers a junction box to facilitate a safe and convenient installation of the module into a control panel. The module contacts are designed as snap-action contact elements.

The conductors are connected by means of terminals on the back of the module which have an increased safety level. The easy installation of the lamp module actuating elements, without tools, ensures conformance to the high IP degree of protection.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 10.0014 U

Further approvals
CSA, NEPSI, GOST, KTL, INMETRO, DNV

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Technical data

Protection class
determined by the actuating element and control station enclosure, min. IP 66, terminals IP 20 (IEC 60529).

Rated insulation voltage
300 V

Rated operating voltage

AC 12 V to 250 V	($T_a \leq +50$ °C)
DC 12 V to 60 V	($T_a \leq +50$ °C)
AC/DC 12 V to 24 V	($T_a \leq +60$ °C)

Power consumption
< 1 W

Lamp
LED, red, green, yellow, white, blue

Contacts
1 N/C or 1 N/O as snap switch element
AC 15: 1 A, 230 V

Illumination
very bright, over a visible angle of 180°

Enclosure material
thermoplastic

Type of connection
terminals 2.5 mm², fine-stranded

Service life
electrical: >10^5 running hours
mechanical: >10^5 switching cycles

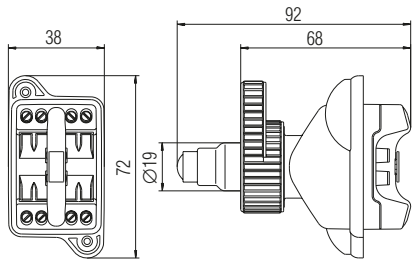
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 110 g

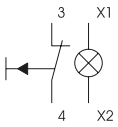
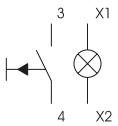
Mounting
locked, bayonet lock

Shock resistance
DIN EN 60068-2-27, 30 g 18 ms

Dimensions



Selection chart

Type of contacts	Code no.	Colour LED	Code no.	Colour actuator	Code no.
1 N/C 	**7**	red	**1**	red	**5**
		green	**2**	green	**6**
		yellow	**3**	yellow	**7**
1 N/O 	**8**	white	**4**	white	**8**
		blue	**5**	blue	**9**

Complete order no.*

Illuminated button **07-3363-4 ☐☐ 0**
without actuating element

Actuating element

Standard	**05-0003-006 ☐ 00**
Increased oil resistance	**05-0003-006 ☐ 00BN**

Please enter code number. Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

ComEx[flex] Illuminated button Ex i

Features

- One module for all intrinsically safe application areas
- Excellent luminosity
- High flexibility due to junction box
- Low installation depth

Description

The ComEx[flex] Ex i illuminated button is used in almost all hazardous (potentially explosive) areas where machine functions are to be activated at the touch of a button and the corresponding functional status is to be visually displayed.

The illuminated buttons are produced in conformance to the requirements for the “e increased safety”, “d flameproof enclosure”, and “i intrinsic safety types of protection”. They may be activated by intrinsically safe circuits.

ComEx[flex] is flexible and in addition to a large number of illuminated button actuators, it offers a junction box to facilitate a safe and convenient installation of the module into a control panel. The module’s contacts are designed as snap-action switching elements.

Conductors are connected using terminals with increased safety on the back of the module. The illuminated button actuators can be fitted easily without tools, which ensures conformance to the high IP degree of protection

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de ia IIC Gb
Ⓔx I M2 Ex de ia I Mb

Certification
PTB 97 ATEX 1064 U

IECEx Ex de ia IIC Gb
Ex de ia I Mb

Certification
IECEx PTB 10.0014U

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

Intrinsically safe parameters	
Input voltage (U_i)	30 V
Input current (I_i)	150 mA
Input power (P_i)	1 W
Indcutance (L_i)	negligible
Capacitance (C_i)	negligible

Technical data

Protection class
determined by the actuating element and control unit enclosure, min. IP 66, terminals IP 20 (IEC 60529).

Rated insulation voltage
300 V

Rated operating voltage (U_e)
AC/DC 10 to 30 V

Frequency range
with AC supply 30 to 100 Hz

Power consumption
≤ 0,5 W

Lamp
LED, red, green, yellow, white, blue

Contacts
1 NC contact or 1 NO contact
as snap-action switching elements
AC 15: 1 A, 230 V
DC 13: 0.25 A, 24 V

Illumination
very bright, over a visible angle of 180°

Enclosure material
thermoplastic

Type of connection
terminals 2.5 mm², fine-stranded

Service life
electrical: >10⁵ running hours
mechanical: >10⁵ switching cycles

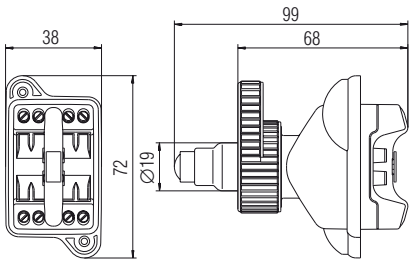
Storage and transport temperature
-55 °C to +70 °C

Weight
approx. 110 g

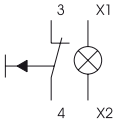
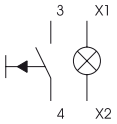
Fastening
locked, by bayonet lock

Shock resistance
DIN EN 60068-2-27, 30 g, 18 ms
DIN EN 60068-2-6, 4 g, 1.6 mm

Dimensions



Selection chart

Type of contact	Code no.	Colour LED	Code no.	Colour actuator	Code no.
1 NC 	**5**	red	**1**	red	**3**
		green	**2**	green	**4**
		yellow	**3**	yellow	**5**
1 NO 	**6**	white	**4**	white	**6**
		blue	**5**	blue	**7**

Complete order no.*

Illuminated button without actuating element **07-3363-4** ☐ ☐ **0**

Actuating element Standard **05-0003-006** ☐ **00**

Increased oil resistance **05-0003-006** ☐ **00BN**

Please enter code number. Technical data subject to change without notice.

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

03-0330-0827-10/2014-BCS-374341/2

ComEx[flex] Potentiometer

Features

- One module for all fields of application
- High flexibility thanks to the junction box
- Low installation depth

Description

The ComEx[flex] potentiometer is used in almost all hazardous (potentially explosive) areas where machine functions are controlled by means of adjustable voltage distributors.

The module can be combined with a potentiometer actuator (scale graduation 0 to 10). A junction box is available as a safe and convenient means of installing the potentiometer in a control panel.

The conductors are connected by means of terminals on the back of the module which have an increased safety level. The easy installation of the potentiometer actuating element without the need for tools,ensures conformance to the high IP degree of protection.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification
PTB 05 ATEX 1064 U

IECEx Ex de IIC Gb
Ex de I Mb

Certification
IECEx PTB 10.0017 U

Further approvals
CSA, NEPSI, GOST, KTL, INMETRO, DNV

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +60 °C

03-0330-0669-10/2014-BCS-320186/1

Technical data

Protection class
determined by the actuating element and control station enclosure, min. IP 66, terminals IP 20 (IEC 60529).

Rated insulation voltage
500 V

Max. rated voltage
AC/DC 230 V

Resistance
1 kΩ to 10 kΩ

Curve shape
linear

Resistance tolerance
+ 20 %

Rated output
max. 1 W for Ta ≤ +40 °C

Resistor material
carbon film on ceramics

Rotation
mech. 285° to 5°
electr. approx. 250°

Torque (beginning)
0.5 to 1.5 Ncm

Torque (end stop)
≥ 100 Ncm

Enclosure material
Thermoplastic

Connection
double terminals 2 x 2.5 mm², fine-stranded

Mechanical life
25,000 sinusoidal cycles

Storage and transport temperature
-55 °C to +70 °C

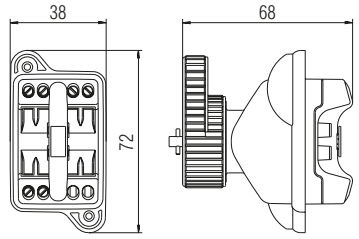
Weight
approx. 110 g

Notes for installation and inspection

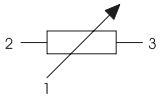
At rated voltage:

- ≤ AC 50 V/≤ DC 120 V
  (Safety extra low voltage in conformance to DIN VDE 0100 T. 410)
  The potentiometer drive shaft can be operated without actuating element.
- ≥ AC 50 V to max. AC/DC 230 V
  Potentiometer drive shaft must be operated with an actuating element or it must be deenergized.

Dimensions



Selection chart

Wiring diagram	Resistance (kΩ)	Code no.
	1	**4**
	2,2	**5**
	4,7	**6**
	10	**7**

Complete order no.*

Potentiometer without actuating element **07-3373-4D ☐ 0**

Please enter code number. Other levels of resistance on request.
Technical data subject to change without notice.

Actuating element	Complete order no.
Standard (Scale 1 to 10)	**05-0003-007600**
Increased oil resistance (Scale 1 to 10)	**05-0003-007600BN**

* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

03-0330-0669-10/2014-BCS-320186/2

ComEx[flex] Junction box

Junction box

BARTEC offers a junction box to facilitate the use of ComEx[flex] in a control console or a control panel. The junction box features a cable gland and can be combined with various function modules.

The junction box allows the connection of a conductor, which can be assembled either to order or by the customer.

ComEx[flex] junction boxes in conjunction with ComEx[flex] function modules

Explosionsschutz

Kennzeichnung

ATEX Ⓔx II 2G Ex de IIC T6 Gb
Ⓔx II 2D Ex tb IIIC T80 °C Db IP 66

Certification
PTB 11 ATEX 1010 X

IECEx Ex de IIC T6 Gb
Ex tb IIIC T80 °C Db IP 66

Certification
IECEx PTB 11.0025X

Further approvals
NEPSI, GOST, KTL, INMETRO, DNV, CSA

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-55 °C to +40 °C / +50 °C / +60 °C

Approved for Zone
1, 2 and 21, 22

Technical data

Protection class
Function module with junction box and actuating element min. IP 66

Weight
approx. 40 g

Clamping range
4 to 9 mm
5 to 10 mm

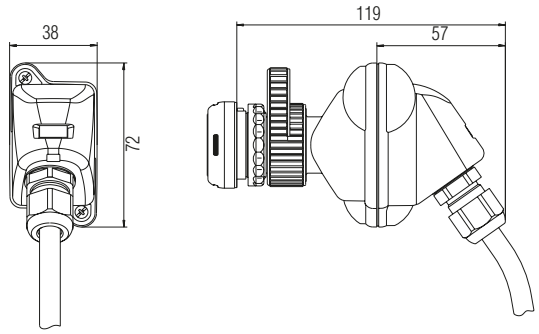
Enclosure material/manufacturing process
Thermoplastic/injection moulding

Sheathed leads available on request
BETAflam 145-flex UL
ULstyle 4486

Switch module	4 x 1,5 mm² BK, BU, BN, GY
Lamp Module	2 x 0,75 mm² BU, BN
Illuminated button	4 x 0,75 mm² BK, BU, BN, GY
Potentiometer	3 x 0,75 mm² BK, BN, GY

03-0330-0668-10/2014-BCS-320185/1

Dimensions



ComEx^flex Junction box with function modules

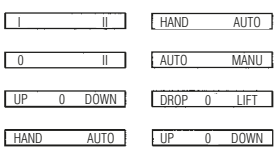
Junction box
Order no.* 05-0042-0050

Technical data subject to change without notice.

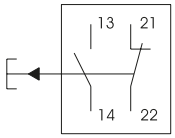
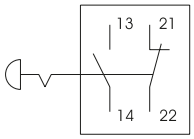
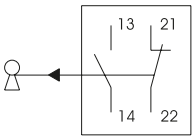
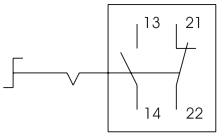
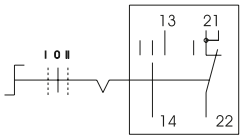
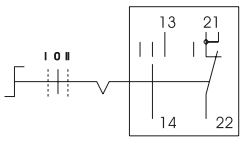
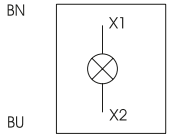
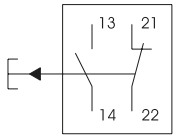
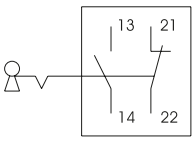
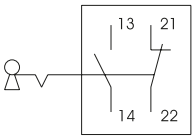
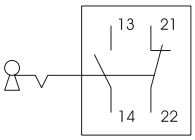
* Product printing standard: ATEX and IECEx marking.
Other markings on request. Please specify in plain text.

03-0330-0668-10/2014-BCS-320185/2

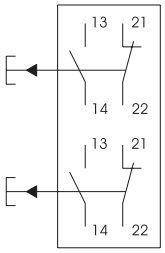
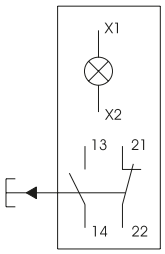
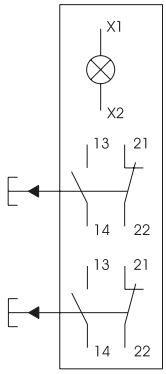
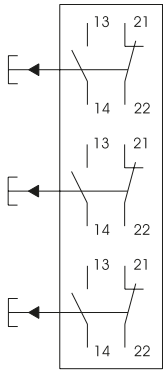
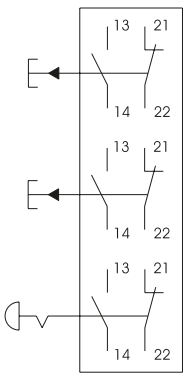
Selection chart

Illustration	Description	Order no.
	**Fixing nut** M 30 to fix the actuating elements in the mounting wall of enclosure resp. in the enclosure	**05-1138-0009**
	**Printed pushbutton labels** 6 loose pushbutton labels 1 x green marked START, ON, I 1 x red marked STOP, OFF, O	**05-0091-0019**
	**Spanner**	**05-1191-0001**
	**Label holder** Label holder for actuating elements with label insert	**05-0044-0001** **03-5412-0056**
	**Contrast plate** for EMERCENCY-STOP impact switch yellow ∅ 90 mm	**05-2144-1097**
	**Label** unmarked, for device information	**03-3600-0021**
	**Marking tag** for an additional label, for all actuating elements	**05-1105-0020**
Examples 	**Label (without marking)** for marking tag Labelling to your specifications (see examples)	**03-5412-0060**

Selection chart

	Wiring diagram	Description	Weight	Order no.
		**1 pushbutton** 1 NO + 1 NC incl. labels red, green, yellow, white	0,33 kg	**07-3511-10P74**
		**1 NOT/AUS Emergency/Stop** 1 NO + 1 NC marked NOT/AUS and Emergency/Stop	0,36 kg	**07-3511-10N84**
		**1 Mushroom Keyswitch** 1 NO + 1 NC with key to reset	0,40 kg	**07-3511-10K34**
		**1 Selector switch** 1 NO + 1 NC, 2 position with 2 stops 0 and I, latching	0,35 kg	**07-3511-10S94**
		**1 Selector switch** 1 NO + 1 NC, 3 position with 3 stops I - 0 - II, latching	0,35 kg	**07-3511-10S04**
		**1 Selector switch** 1 NO + 1 NC, 3 position with 3 stops I - 0 - II, momentary-contact	0,35 kg	**07-3511-10S14**
		**1 Lamp** red green yellow white	0,35 kg	**07-3511-10LRR** **07-3511-10LGG** **07-3511-10LYY** **07-3511-10LWW**
		**1 Mushroom Pushbutton**, black 1 NO + 1 NC	0,35 kg	**07-3511-10P84**
		**1 Keyswitch** 1 NO + 1 NC lockable in both positions	0,40 kg	**07-3511-10K04**
		**1 Keyswitch** 1 NO + 1 NC lockable in the pushed-in-position	0,40 kg	**07-3511-10K14**
		**1 Keyswitch** 1 NO + 1 NC lockable in the initial position	0,40 kg	**07-3511-10K24**

Selection chart

	Wiring diagram	Description	Weight	Order no.
		**2 pushbuttons** 1 NO + 1 NC each including key labels	0,50 kg	**07-3512-10P74P74**
		**1 indicator lamp, 1 pushbutton** with indicated lam: red / green / yellow / white / blue 1 NO + 1 NC	0,52 kg	**07-3512-10LRRP74** **07-3512-10LGGP74** **07-3512-10LYYP74** **07-3512-10LWWP74** **07-3512-10LBBP74**
		**1 indicator lamp, 2 pushbuttons** with indicated lamp: red / green / yellow / white 1 NO + 1 NC each	0,70 kg	**07-3513-10LRRP74P7** **07-3513-10LGGP74P74** **07-3513-10LYYP74P74** **07-3513-10LWWP74P74**
		**3 pushbuttons** 1 NO + 1 NC each including key labels	0,68 kg	**07-3513-10P74P74P74**
		**2 pushbuttons** **1 emergency stop button** 1 NO + 1 NC each	0,70 kg	**07-3513-10P74P74N84**

ComEx control stations

Features

- 3 standard enclosures
- Easy to install
- Extremely flexible
- Customer-tailored solutions

Description

ComEx is a flexible system offering standard as well as customer-specific local control and indicating units.

You have the choice between three standard enclosures which can accomodate up to three different control and indicating devices. Combinations of up to three ComEx enclosures are possible.

Either stuffing box glands in M20 x 1.5 and M25 x 1.5 made of plastic or cable glands made of metal are available for the electrical connection.

The plastic glands require no lock nuts.

Metal glands are screwed into a metal earth plate sheet inside of the enclosure. Maximum amount of cable clands: two off M20.

To ensure easier operation on site, each enclosure can be equipped with an individual info-label.

For offshore applications special oil-resistant attachments are available.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex ed IIC T6
Ⓔx II 2D Ex tD A21 IP 65, IP 66, IP 67 T80 °C

Certification
PTB 00 ATEX 1068

IECEx Ex ed IIC T6
Ex tD A21 IP 65, IP 66, IP 67 T80 °C

Certification
IECEx PTB 08.0022

Further approvals
UL, CSA, GOST, KTL, INMETRO, DNV

Other approvals and certificates, see www.bartec-group.com

Permissible ambient temperature
-55 °C to +60 °C
(-20 °C to +60 °C for Zone 21 and 22)

Product printing
Standard: ATEX and IECEx marking.
Other markings on request.
Please specify in plain text.

Technical data

Connection
Terminals 2.5 mm²

PE conductor terminals
4 x 2.5 mm²

Rated insulation voltage
max. AC 690 V

Nominal current
max. 16 A

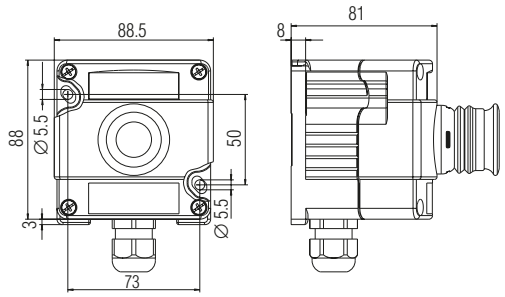
Cable entry
M20 x 1.5 for cable ∅ 7 to 13 mm
M25 x 1.5 for cable ∅ 7 to 12 mm
M25 x 1.5 for cable ∅ 10 to 17 mm

Enclosure
Thermoplastic

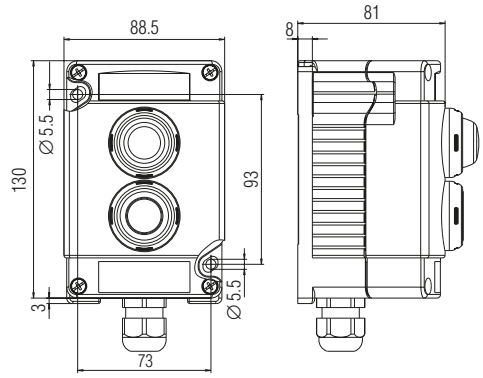
Protection class
up to IP 66/IP 67

03-0330-0189/A-10/2014-BCS-200863/1

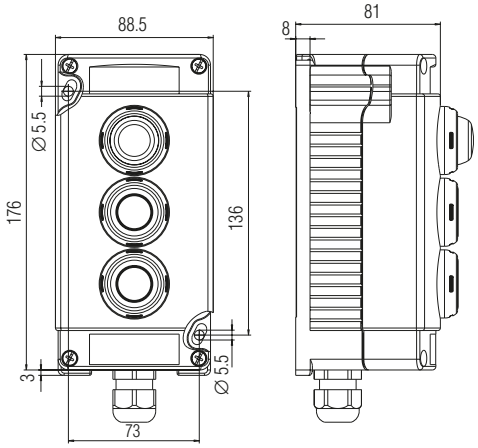
Control unit, single Type 07-3511-....



Control station, double Type 07-3512-....



Control station, triple Type 07-3513-....



Selection chart Actuator elements

Illustration	Description	Code no.
	**Pushbutton** with rubber membrane and with five loose labels: red, green, yellow, white, black	**P7**
	**Double pushbutton actuator** with rubber membrane, 5 loose labels in red, green, yellow, white, black	**P2**
	**Emergency/Stop** marked 'NOT/AUS EMERGENCY/STOP'	**N8**
	**Locking mushroom push button** pushed in without a key unlocked with a key DOM lock 4 A 185	**K3**
	**Mushroom pushbutton**, black	**P8**
	**Position selector switch** 2 positions, 0 + I latching	**S9**
	**Position selector switch** 3 positions I-0-II I + II latching I + II momentary-contact I latching, II momentary-contact I momentary-contact, II latching	 **S0** **S1** **S2** **S3**

Illustration	Description	Code no.
	**Lock** (DOM) lockable in both positions key retractable in both positions lock 4 A 185 lockable in its depressed position, key retractable in its depressed position lock 4 A 185 lockable in its initial position, key retractable in its initial position lock 4 A 185 (tip lock)	**K0** **K1** **K2**
	**Lock** (RONIS) lockable in both positions key retractable in both positions lock 445	**K4**
	**Lock** (RONIS) Lock 455 2 switching positions 0-I latching, key retractable 2 switching positions 0-I momentary contact, position I key not retractable 3 switching positions I-0-II latching on both sides, key retractable	 **E0** **E1** **E2**
	**Lamp** red green yellow white blue	 **LR** **LG** **LY** **LW** **LB**
	**Illuminated button actuator** red green yellow white blue	 **TR** **TG** **TY** **TW** **TB**
	**Blanking plug** black, to cover unused holes in the front panel	**B1**
	**Potentiometer actuating element** black, scale 1 - 10	**D0**

03-0330-0190/A-10/2014-BCS-200864/2

Selection chart Modules

Illustration	Description	Code no.
	**Switch module**	
	1 NC/1 NO	**4**
	2 NC	**1**
	2 NO	**2**
	**Indicator light**	
	red	**R**
	green	**G**
	yellow	**Y**
	white	**W**
	blue	**B**
	**Illuminated button**	
	red 1 NO	**RB**
	green 1 NO	**GB**
	yellow 1 NO	**YB**
	white 1 NO	**WB**
	blue 1 NO	**BB**
	red 1 NC	**RA**
	green 1 NC	**GA**
	yellow 1 NC	**YA**
	white 1 NC	**WA**
	blue 1 NC	**BA**
	**Potentiometer**	
	Resistance values	
	1 kΩ	**4**
	2.2 kΩ	**5**
	4.7 kΩ	**6**
	10 kΩ	**7**
	**Terminal block**	
	with 6 modular terminals 2.5 mm², Ex e II	**6**

Complete order no.

Actuator element resp. Lamp module operator

☐☐

Switch module resp. Indicator light or Terminal block

☐

Measuring instrument

☐☐☐

Please insert code number.

Control unit, single **07-3511-10**

☐☐☐

Control unit, double **07-3512-10**

☐☐☐☐☐☐

Control unit, double **07-3512-10**

☐☐☐

Control unit, triple **07-3513-10**

☐☐☐☐☐☐☐☐☐

Control unit, triple **07-3513-10**

☐☐☐☐☐☐

Technical data subject to change without notice.

03-0330-0190/A-10/2014-BCS-200864/4

Selection chart

Illustration	Description	Order no.
	**Cable gland** zur for inserting permanent cables and leads Ex e, black domed cap nuts Ex i, blue domed cap nuts (intrinsically safe circuit) see capture Installation systems/Cable glands	**03-6062-01..** **03-6065-00..**
	**Locking device** (without padlock) for ComEx enclosure NIRO frame, transparent hood of high-quality thermoplast	
	**Protective metal shroud** for emergency stop actuating element to prevent accidental switching	
	**External earth stud** for outside-connection	
	**Conduit adapter** tested adapter for ComEx enclosure with NPT internal thread Thread 1/2“ NPT Thread 3/4“ NPT	
	**Earth plate ComEx** for earthing of metal cable glands Thread 1 x M20 Thread 2 x M20 Thread 1 x M25	 **05-0012-0114** **05-0012-0115** **05-0012-0116**
	**Installation kit for control switches** in control units for enclosures with wall thicknesses of 1 to 2 mm for enclosures with wall thicknesses of 2.5 to 5 mm	 **05-0091-0187** **05-0091-0188**

Control switch

Features

- For Zone 1 and 2, 21 and 22
- Positive break operation
- Latched and momentary-contact positions
- Easy installation
- Customer-specific solutions

Description

This control switch has been designed to solve the variety of problems encountered in chemical and petrochemical plants and on explosion-proofed electrical machinery in zones 1 and 2 and in Zone 21 and 22. Four switch contacts as opening and closing elements in different permutations permit a variety of functions. The operner has a positive break operation. The switch actuator offers latched and momentary-contact positions with different switch positions.

The control switch is supplied in double or triple ComEx enclosures, or in combination with other command devices, in control units.

The actuating element can be locked with up to max. 3 padlocks.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex ed IIC T6
Ⓔx II 2D Ex tD A21 IP 66 T80 °C

Certification
PTB 00 ATEX 1068

IECEx Ex ed IIC T6
Ex tD A21 IP 66 T80 °C

Certification
IECEx PTB 08.0022

Further approvals
UL, CSA, GOST, KTL, INMETRO, DNV

Other approvals and certificates,
see www.bartec-group.com

Permissible ambient temperatures
-55 °C to +60 °C
-20 °C to +60 °C for Zone 21 and 22

Product printing
Standard: ATEX and IECEx marking.
Other markings on request.
Please specify in plain text.

Technical data

Connection
Terminals 2.5 mm²

Conductor terminals
4 x 2.5 mm²

Rated insulation voltage
max. AC 690 V

Rated current
max. 16 A

Cable entry
Standard version:
M20 x 1.5 for cables with ∅ 7 to 13 mm

Special version:
M25 x 1.5 for cables with ∅ 7 to 12 mm
M25 x 1.5 for cables with ∅ 10 to 17 mm

Enclosure material
Thermoplastic

Protection class
IP 66/IP 67

Contact material
$AgSnO_2$

Switching function
4 switch contacts
NC/NO in different switch permutations
Latching and momentary-contact functions with different switch positions

Contacts
contacts with positive break operation (self-cleaning)

Switch isolator (main motor switch)
DIN EN 60947-3

P/AC-3/AC-23 A	AC-3	AC-23
230 V	3 ph/3 kW	1 ph/2.2 kW
400 V	3 ph/5.5 kW	1 ph/3 kW

I_e = AC-23/400 V/10 A

Control switch according to DIN EN 60947-5-1 (auxiliary circuit switch)

AC-15	400 V	10 A
AC-12	400 V	16 A
DC-13	24 V	1 A

Electrical data

Rated insulation voltage
U_i = 690 V
U_e = 400 V

Rated impulse strength
U_{imp} = 6 kV

Conditional rated short/circuit current at 400 V
i_e = 4 kA

Short circuit current
(general-purpose l.v.h.b.c. back-up fuse for the protection of cables and circuits)
max. 16 A

Nominal thermal current

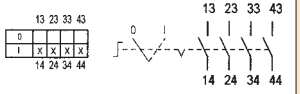
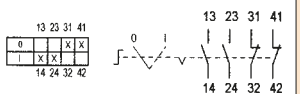
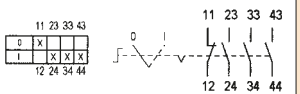
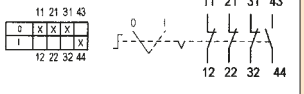
(+40 °C)	I_{the} = 16 A
(+60 °C)	I_{the} = 11 A

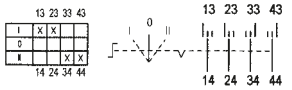
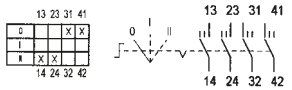
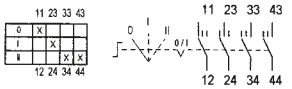
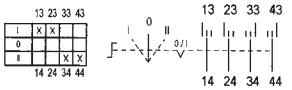
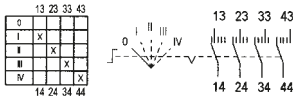
Dimensions
See dimensions for complete device

03-0330-0323/A-10/2014-BCS-217130/2

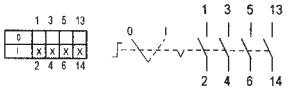
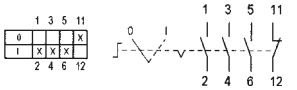
Selection chart

Labelling	Code no.	Labelling	Code no.
0 - I	01	LOWER - RAISE	14
I - II	02	REMOTE - LOCAL	15
I - 0 - II	03	OFF - OPERATION - ON	16
0 - I - II	04	OFF - 0 - ON	17
0 - I - II - III	05	UP - 0 - DOWN	18
0 - I - II - III - IV	06	OUT - OFF - MANUAL	19
AUS - EIN	07	LOCAL - REMOTE - AUTO	20
OFF - ON	08	STOP - 0 - START	21
MANUAL - 0 - AUTO	09	AUS - AUTO - EIN	22
MANUAL - 0 - AUTO - ON	10	OFF - AUTO - ON	23
MANUAL - OPERATION - I	11	0 - IN -START	24
STOP - START	12	UNLOCKED - LOCKED	25
MANUAL - AUTO	13		

Switching arrangement of control switch	Code no.
	A01
	A02
	A03
	A04
	H05

Switching arrangement of control switch	Code no.
	C06
	C07
	E08
	E09
	L01

Other variants available.

Switching arrangement for switch isolator	Code no.
	N01
	N02

Complete order no.

Please enter code numbers.

Control unit, double	**07-3512-10G**									
Control unit, triple	**07-3513-10G**									
Labelling position selector										
Switching arrangement										
Switch module or indicator light										

Other labbelings and switching arrangements on request. Technical data subject to change without notice.

In principle, there are 3 bore holes at the protective shroud for padlocks.
Where no further information is given on the end position,
bore holes are drilled in the position 0 (I) or as requested.

ComEx control stations *Stainless steel*

Features

- Standard enclosures
- Corrosion resistance
- Customer-tailored solutions

Description

It's a question of control, signalling and display units fitted into stainless steel standard enclosures. The enclosures are certified for use in Zone 1 and 2 as well as Zone 21 and 22.

The equipment is highly corrosion resistant due to high quality stainless steels. Either plastic or metal glands are used for electrical connection.

On request, BARTEC will equip the enclosures with corresponding control, signalling and display units and cable glands and supply the required labels.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex de IIC T6 Gb
Ⓔx II 2D Ex tb IIIC T 80 °C Db

Certification
IBExU 12 ATEX 1099

IECEx Ex de IIC T6 Gb
Ex tb IIIC T 80 °C Db

Certification
IECEx IBE 12.0031

Further approvals
CSA, GOST, NEPSI

Other approvals and certificates,
see www.bartec-group.com

Permissible ambient temperature
-20 °C to +40 °C
-55 °C to +60 °C
(depending on the fitted components)

Product printing
Standard: ATEX and IECEx marking.
Other markings on request.
Please specify in plain text.

Technical data

Connection
Terminals 2.5 mm²

Bore hole for bushings
standard version:
1 x M20 x 1.5

special versions:
2 x M20 x 1.5 up to max. 1 x M40 x 1.5

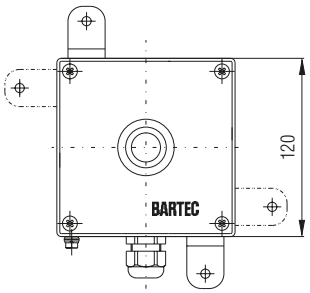
Enclosure
High-quality stainless steel 316 L, 312 L

Protection class
IP 65/IP 66

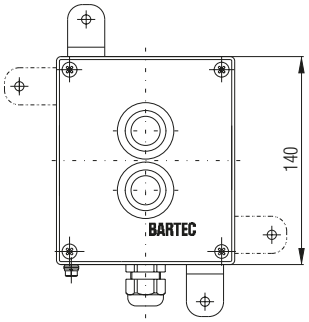
Technical data subject to change without notice.

03-0330-0429/A-10/2014-BCS-240847/1

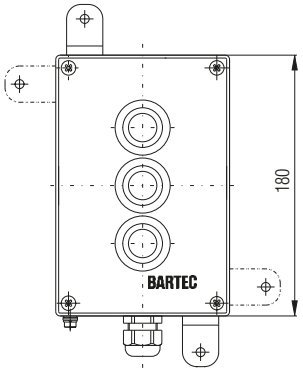
Control unit, single Type 07-3232-1275/....



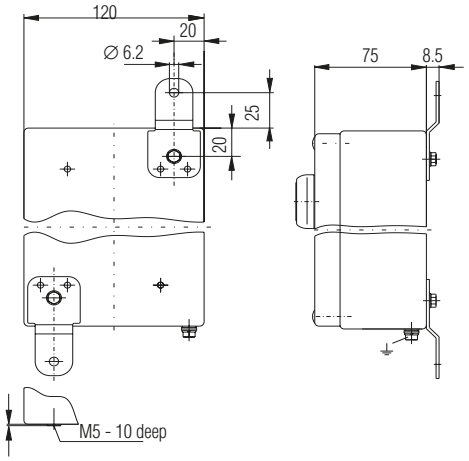
Control station, double Type 07-3132-1475/....



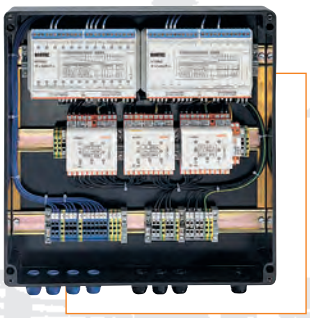
Control station, triple Type 07-3132-1875/....



Mounting dimensions



BARTEC



Control panels

Controls

Switching Signalling Controlling Connecting

To meet the increasing demand for complex control and automation functions for use directly in hazardous (potentially explosive) areas, BARTEC offers a wide range of products with many individual solution options.

BARTEC controls are modular in construction and are produced in a great variety of versions as customised solutions.

Local control stations

For many years and all over the world, local control stations have proved effective in controlling machinery and plants both directly on site and also as remote I/O.

The local control stations are optionally available in aluminium, polyester or stainless-steel enclosures to suit the different areas of use. BARTEC's controls are certified to ATEX for Zones 1 and 21 and have been awarded a lot of other international approvals, including for the Russian, Korean and Chinese market.

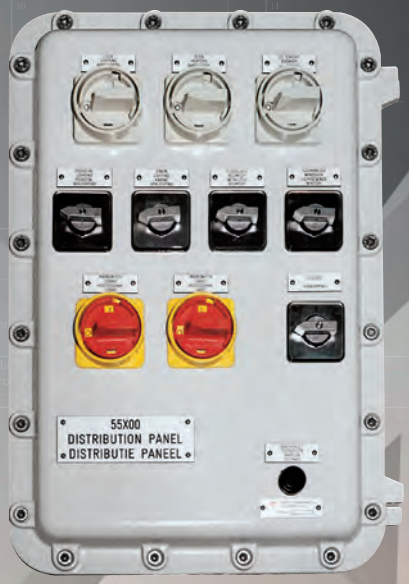
- International approvals
- Individual wiring
- Customer-specific solutions
- Variable enclosure sizes
- Installation of other makes is also possible
- Enclosure in aluminium, polyester and stainless steel

03-0330-0823-10/2014-BCS-373798/1

Flameproof encapsulated solutions

BARTEC offers flameproof control units in very many different versions. The choice ranges from controlling and regulating devices for mounting rotary encoders, circuits and cameras to large control units for mounting complex machine controls. All controlsare certified for the ATEX area Zone 1.

- Versions with threaded gap (for Gas Group IIC) or flat gap (for Gas Groups IIB, IIB and H2)
- Installation of standard industrial components or even inspection windows is possible
- Enclosure made of copper-free aluminium or stainless steel
- Special surface painting, versions for offshore areas



Best Service

Our experienced engineering team assures the success of your specific control solution. We are always there for you - throughout each phase of the project.

Customized project planning and comprehensive documentation, assembly and production in accordance with the highest quality standards, and a service hotline for all cases.
That is what we mean by best service.

Modules for panel mounting

As completely certified apparatus, all modules with their power supply cables can be used directly in the hazardous areas, for example, on machines and in control cabinets.

The modules are certified For the European ATEX area, Zone 1, for the American market in conformance to UL for Class 1, Div. 2 and Class 1, Zone 1 and for the Russian market.

Individual enclosures for small control, regulating and display devices

To allow the use of electrical components in the hazardous area, BARTEC offers flameproof encapsulated enclosures.

Into these enclosures we fit devices, such as small motors, printed circuit boards or cameras. ATEX certification is issued for the complete device as part of the EC Type Examination Certificate.

03-0330-0823-10/2014-BCS-373798/2

Local control stations for Zone 1 and Zone 21

Features

- The right size/material enclosure
- Optimum functionality thanks to the great variety of components
- Customised planning and implementation
- Certified to many standards

Description

BARTEC produces local control stations for use in areas with flammable gases and dusts. Depending on the application area, the control stations are designed with the type of protection “Increased safety” or “Protection by enclosure”.

The explosion-protected local control stations are available in aluminium, polyester or stainless steel. When selecting the version, you can choose between a cabinet with door and an enclosure with screw cover.

Control, signalling and display devices and remote I/O systems are installed according to customer specifications.

The installation of industrial standard equipment in controls for Zone 21, type of protection tb “Protection by enclosure” is possible.

The control elements can also be mounted on a mounting rail or in the front wall. Free installation areas can be designated for the subsequent installation of BARTEC control and signalling devices, which are then sealed using blanking plugs.

All explosion-protected local control stations are supplied prewired on terminals.

Fields of application

Chemical and petrochemical industry, process and plant engineering, pharmaceutical and food industry, OFF SHORE areas.

03-0330-0808-10/2014-BCS-369033/1

Explosion protection

Ex protection type
(depending on the components installed)

for Zone 1

Ⓔx II 2G Ex d e ma/mb op is q ia/ib [ib]
IIA, IIB, IIC, T6, T5, T4, T3 Gb

Ⓔx II 2(1)G Ex d e ma/mb op is q ia/ib [ia Ga]
IIA, IIB, IIC, T6, T5, T4, T3 Gb

for Zone 21

Ⓔx II 2D Ex tb [ib] IIIA, IIIB, IIIC
T80 °C, T100 °C, T130 °C Db

Ⓔx II 2(1)D Ex tb [ia Da] IIIA, IIIB, IIIC
T80 °C, T100 °C, T130 °C Db

Ambient temperature
(special design on request)
-20 °C to +40 °C
-55 °C max. +80 °C
(depending on fixtures)

Certification
IBExU 12 ATEX 1099
IECEx IBE 12.0031

Technical data

Material

Type 07-3.01 with lid
aluminium
ALSi 12, pressure or chill casting
RAL 7001 silver grey

Type 07-3.03 with lid
glass-fibre reinforced polyester
RAL 9005, deep black

Type 07-3.09 mit door
glass-fibre reinforced polyester
RAL 9011, graphite black

Type 07-3.13 with door
High-quality stainless steel 1.4301 (304)

Type 07-3.32 with lid
High-quality stainless steel 1.4404 (316L)
Enclosure with lid

Type 07-3.36 with door
High-quality stainless steel 1.4404 (316L)

Seals

EPDM (Standard)
-20 °C to +85 °C

PU (Standard at 07-3109)
-20 °C to +80 °C

Silicone
-55 °C to +100 °C

Mechanical strength
(acc. to DIN EN 60079-0)
Impact energy 7 Nm

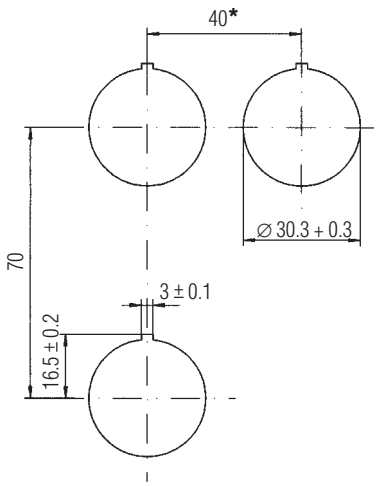
Protection class
(higher degree of protection on request)
EN 60529/IEC 60529
max. IP 66

Electrical data

Rated voltage
up to 1000 V

Rated curent
max. 160 A depending on devices fitted

Mounting dimensions
for switching and light elements according to EN 60947-5-1



* Recommended distance for mushroom pushbutton, emergency switch as well as position selector with protective shroud: 100 mm.

Configuration data for control stations

Type of enclosure **07-3** ☐ ☐ ☐ -

Dimensions Width _____ Height _____ Depth _____

Nominal voltage AC _____ V DC _____ V

Threaded glands _____

Local control stations *for Zone 2 and Zone 22*

Features

- The right size/material enclosure
- Optimum functionality thanks to the great variety of components
- Customised planning and implementation
- Certified to many standards

Description

BARTEC produces local control stations for use in areas with flammable gases and dusts. Depending on the application area, the control stations are designed with the type of protection “Increased safety” or “Protection by enclosure”.

The explosion-protected local control stations are available in aluminium, polyester or stainless steel. When selecting the version, you can choose between a cabinet with door and an enclosure with screw cover.

Control, signalling and display devices and remote I/O systems are installed according to customer specifications.

The installation of industrial standard equipment in controls for Zone 22, type of protection t “Protection by enclosure” is possible.

The control elements can also be mounted on a mounting rail or in the front wall. Free installation areas can be designated for the subsequent installation of BARTEC control and signalling devices, which are then sealed using blanking plugs.

All explosion-protected local control stations are supplied prewired on terminals.

Fields of application

Chemical and petrochemical industry, process and plant engineering, pharmaceutical and food industry, OFF SHORE areas.

Explosion protection

Ex protection type
(depending on the components installed)

for Zone 2

- II 3G
  Ex d e nA nC ma/mb/mc op is op sh q ia/ib/ic [ic] IIA, IIB, IIC T6, T5, T4 Gc
- II 3(2)G
  Ex d e nA nC ma/mb/mc op is op sh q ia/ib/ic [ib Gb] IIA, IIB, IIC T6, T5, T4 Gc
- II 3(1)G
  Ex d e nA nC ma/mb/mc op is op sh q ia/ib/ic [ia Ga] IIA, IIB, IIC T6, T5, T4 Gc

for Zone 22

- II 3D Ex tc [ic] IIIA, IIIB, IIIC T80 °C, T100 °C Dc
- II 3(2)D Ex tc [ib Db] IIIA, IIIB, IIIC T80 °C, T100 °C Dc
- II 3(1)D Ex tc [ia Da] IIIA, IIIB, IIIC T80 °C, T100 °C Dc

Ambient temperature
(special design on request)
-20 °C bis +40 °C
-55 °C bis max. +80 °C
(depending on fixtures)

Technical data

Material

Type A7-3.01 with lid
aluminium
ALSi 12, pressure or chill casting
RAL 7001 silver grey

Type A7-3.03 with lid
glass-fibre reinforced polyester
RAL 9005, deep black

Type A7-3.09 mit door
glass-fibre reinforced polyester
RAL 9011, graphite black

Type A7-3.13 with door
High-quality stainless steel 1.4301 (304)

Type A7-3.32 with lid
High-quality stainless steel 1.4404 (316L)
Enclosure with lid

Type A7-3.36 with door
High-quality stainless steel 1.4404 (316L)

Seals

EPDM (Standard)
-20 °C to +85 °C

PU (Standard at 07-3109)
-20 °C to +80 °C

Silicone
-55 °C to +100 °C

Mechanical strength
(acc. to DIN EN 60079-0)
Impact energy 7 Nm

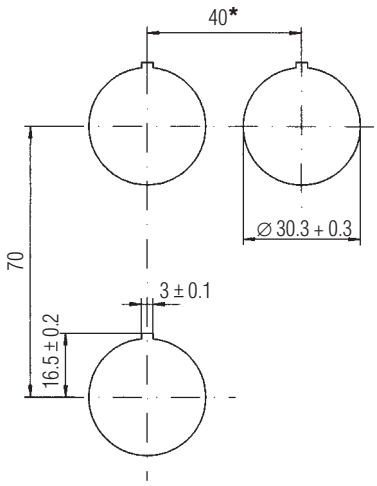
Protection class
(higher degree of protection on request)
EN 60529/IEC 60529
max. IP 66

Electrical data

Rated voltage
up to 1000 V

Rated curent
max. 160 A depending on devices fitted

Mounting dimensions
for switching and light elements according to EN 60947-5-1



* Recommended distance for mushroom pushbutton, emergency switch as well as position selector with protective shroud: 100 mm.

Configuration data for control stations

Type of enclosure **A7-3** ☐ ☐ ☐ -

Dimensions Width _____ Height _____ Depth _____

Nominal voltage AC _____ V / DC _____ V

Threaded glands _____

03-0330-0595/A-07/2014-BCS-306762/2

Control stations in flameproof enclosures

Description

The control stations in flameproof enclosure of the GUB series in compact design allow standard electronics and control components to be installed. The enclosure is light; numerous connection systems can be used; flanging is possible; can be equipped with electrical or mechanical bushings at the edges.

The GUB control stations can be applied in hazardous areas, Zone 1 and Zone 2 as well as in areas endangered by flammable dusts, Zone 21 and Zone 22.

Connection variants

Flameproof control units can be connected either by means of direct cable insertion through Ex d cable entries or indirectly by means of an Ex e connection compartment. The electrical connection between the Ex d and Ex e compartment is established by means of Ex d line bushings. Control and display units can be fitted into the connection compartment.

Explosion protection

Depending on the fitted components; comply with specifications on the type label.

Ex protection type

Ⓔx II 2(1)G Ex db [ia Ga] IIC T6/T5 Gb
Ⓔx II 2(1)D Ex tb [ia Da] IIIC
T85 °C resp. T100 °C Db

Certification
DEKRA 13 ATEX 0209

IECEx Ex db [ia Ga] IIC T6/T5 Gb
Ex tb [ia Da] IIIC

Certification
IECEx DEK 13.0075

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
Depending on the fitted components. Comply with specifications on the type label

Operation -20 °C to +55 °C

Approved for the zones
1, 2 and 21, 22

Technical data

Power dissipation
max. 3 to 197 W (depending on the version and type of protection)

Protection class
max. IP 66 (IEC 60529)

Rated cross-section of conductor
max. 400 mm²

Weight
approx. 1.9 kg to approx. 55 kg (depending on the version)

Enclosure material
copper-free aluminium pressure casting

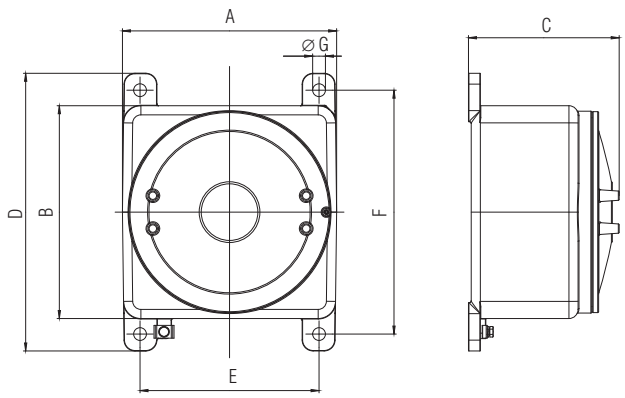
Rated voltage
max. 1000 V

Rated current
max. 1000 A

Enclosure									
Type	**Dimensions** (mm)/tolerance ±2 % of the nominal size								**Weight (kg)**
	A	**B**	**C**	**Cg**	**D**	**E**	**F**	**ØG**	
07-4120	120	120	116	-	165	100	145	2 x 9	1.9
07-4140	150	150	130	125	198	126	174	2 x 10	2.5
07-4150	174	174	140	136	218	150	195	2 x 10	3.9
07-4160	230	230	165	154	302	196	267	4 x 14	6.8
07-4170	276	276	217	200	356	236	316	4 x 14	11.9
07-4180	430	430	290	275	520	390	480	4 x 14	29.4

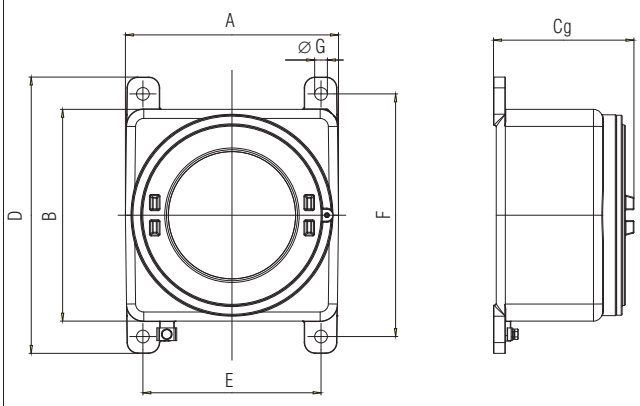
03-0330-0430/B-10/2014-BCS-240848/1

Dimensions of enclosures without inspection window



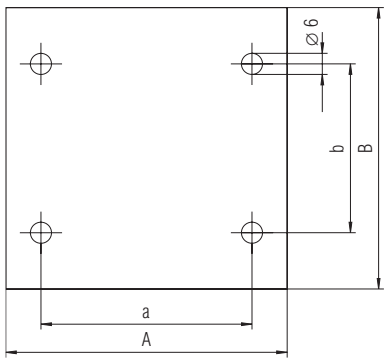
2 Fastening points for types 07-4120, 07-4140, 07-4150
4 Fastening points for types 07-4160, 07-4170, 07-4180

Dimensions of enclosures with inspection window



2 Fastening points for types 07-4140, 07-4150
4 Fastening points for types 07-4160, 07-4170, 07-4180

Dimensions Mounting plate



Cut-out with
Type 07-4120, 07-4140

Cut-out with
Type 07-4120

Mounting plate				
Type	**Am**	**Bm**	**am**	**bm**
07-4120	80	80	48	60
07-4140	100	100	60	80
07-4150	115	115	90	90
07-4160	150	150	130	130
07-4170	200	200	158	158
07-4180	310	310	230	230

Selection chart

Type	Enclosure size (mm)	Code no.	Cover variants	Code no.	Connection type	Code no.
07-4120	120 x 120 x 116	**2**	closed	**1**	Ex de	**1**
07-4140	150 x 150 x 130	**4**				
07-4150	174 x 174 x 140	**5**				
07-4160	230 x 230 x 165	**6**	with window (exept type 07-4120)	**7**	Ex d	**5**
07-4170	276 x 276 x 217	**7**				
07-4180	430 x 430 x 290	**8**				

Complete order no. **07-41 ☐ 0-1 ☐ 6 ☐**

Please enter code number. Technical date subject to change withiout notice.

03-0330-0430/B-10/2014-BCS-240848/2

Flameproof control panels

Description

The control stations can be used both in hazardous areas in zones 1 and 2 and also in areas with combustible dust in zones 21 and 22.

The control station consists of an enclosure in the “Ex d“ or “Ex t“ type of protection, into which electric apparatus, such as contactors, relays, etc. can be fitted as required.

For the electrical connection there is a choice of using a flanged-on connection compartment with the “Ex e“ type of protection or establishing the connection directly with cable glands and lead entries that have been approved for hazardous areas.

If the devices contain intrinsically safe circuits or Ex i components, the electric limits that are decisive for “intrinsic safety“ in the accompanying documents must be adhered to.

Connection variants

Flameproof control units can be connected optionally with a direct cable entry through Ex d cable entries or indirectly through an Ex e connection compartment. The electrical connection between the Ex d and the Ex e compartments is established by means of Ex d line bushings. Control and display units can be fitted into the connection compartment.

Explosion protection

Depending on the fitted components;
observe the specifications on the label

Ex protection type

ATEX Ⓔx II 2(1)G Ex db [ia Ga] IIC T6/T5 G
Ⓔx II 2(1)D Ex tb [ia Da] IIIC
T80 °C, T95 °C resp. T130 °C

Certification
DEKRA 13 ATEX 0209

IECEx Ex db [ia Ga] IIC T6/T5 Gb
Ex tb [ia Da] IIIC

Certification
IECEx DEK 13.0075

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
depends on the fitted components; observe the specifications on the type label
-20 °C to +55 °C

Approved for Zones
1, 2 and 21, 22

Technical data

Power dissipation
max. 80 W to 1350 W
(depends on the version and type of protection)

Protection class
IP 54 (IEC 60529)
IP 66 on request

Rated cross-section of conductor
up to 300 mm²

Weight
approx. 8 kg to approx. 320 kg
(depending on the version)

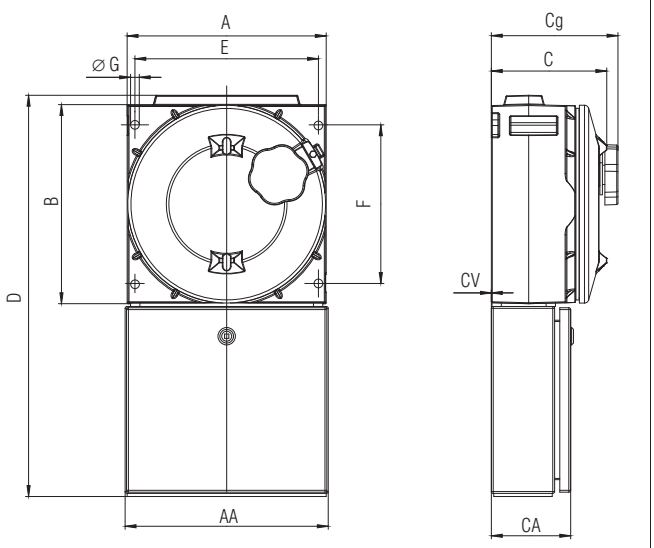
Enclosure material
aluminium or steel with
polyester powder coating
(depending on the version)

Rated voltage
max. 1000 V

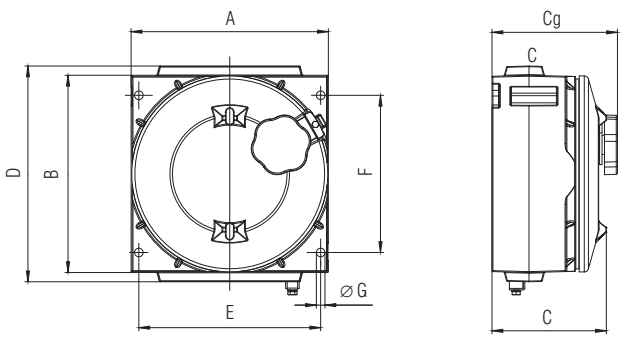
Rated current
max. 125 to 630 A

03-0330-0220/A-10/2014-BCS-201191/1

Dimensions Type 07-43..-1/....



Dimensions Type 07-43..-2/....



Selection chart (Dimensions in mm)/Tolerance ±2 % of the nominal size

A	B	C	Cg	D	AA	CA	CV	E	F	ØG	Weight (kg)	Order no.[1]
210	210	187	203	461	215	126	0	187	145	2 x 14	12,3	**07-4310-046./....**
210	210	187	203	245	-		-	187	145	2 x 14	8	**07-4310-056./....**
320	320	187	203	645	325	126	0	295	255	2 x 14	23	**07-4320-046./....**
320	320	187	203	349	-		-	295	255	2 x 14	16	**07-4320-056./....**
320	320	313	329	645	325	252	0	295	255	2 x 14	32,5	**07-4340-046./....**
320	320	313	329	349	-	-	-	295	255	2 x 14	23	**07-4340-056./....**
430	430	311	329	755	435	252	0	405	365	4 x 14	51,5	**07-4350-046./....**
430	430	311	329	455	-	-	-	405	365	4 x 14	40	**07-4350-056./....**
650	650	480	517	1062	655	252	130	600	505	4 x 24	218,5	**07-4370-047./....**
650	650	480	517	650	-	-	-	600	505	4 x M20	195	**07-4370-057./....**
430	650	311	329	975	435	252	0	405	365	4 x 14	66,5	**07-4380-046./....**
430	650	311	329	675	-	-	-	405	365	4 x 14	55	**07-4380-056./....**

[1] Version without inspection window.
If required, the d enclosure can be supplied with an inspection window. (Please ask!)

03-0330-0220/A-10/2014-BCS-201191/2

Ex d control units

Features

- Standard components
- Cost-effective; also applies to spare parts
- Easy-to-service
- Expandible

Description

The BARTEC Ex d control panels are constructed according to protection type Ex d, flameproof encapsulation. Standard components such as switches, contactors and relays are mounted in an explosionproof enclosure constructed in such a way as to keep internal explosions from igniting the surrounding atmosphere.

Ex d control panels are usually custom-built in close cooperation with the customer himself for his special application.

Version

Flameproof control panels are available either with direct cable-entries through Ex d cable-glands or with indirect cable-entries through a junction box with protection type increased safety Ex e.

The electrical wiring between Ex d and Ex e enclosure will be done through Ex d line bushings.

Fields of application

- Zone 1 + 2 and zone 21 + 22
- Gas groups IIA, IIB and IIB + H2
- Temperature class T4/T5 or T6

03-0330-0220/B-10/2014-BCS-201191/3

Explosion protection

Ex protection type

ATEX
- II 2G Ex d...IIB+H2 T6 or T4
- II 2(1, 2, 3)G Ex d...IIB+H2 T6 or T5
- II 2D Ex td...A21 IP 6X T80 °C to T130 °C
- II 2(1, 2, 3)D Ex tD...A21 IP 6X T80 °C to T130 °C

Certification
DEKRA 13 ATEX 0209

IECEx
Ex d...IIB, IIB+H2 T6 or T4
Ex d...IIB, IIB+H2 T6 or T5
Ex td...A21 IP 6X T80 °C to T130 °C
Ex tD...A21 IP 6X T80 °C to T130 °C

Certification
IECEx DEK 13.0075

Other approvals and certificates, see www.bartec-group.com

Technical data

Nominal voltage
AC 1000 V
DC 1500 V

Operating voltage
25 kV

Rated current
1000 A

Protection class
IP 65/IP 66/IP 67

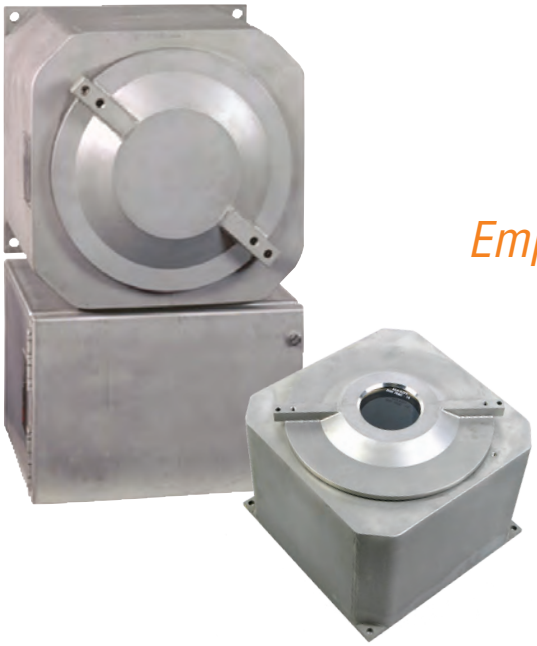
Material
Aluminum alloy < (Cu 0.05 %)
Stainless steel 1.4404

Selection chart

Name	Dimensions (mm) outside			Dimensions (mm) inside			empty weight
	width	height	depth	width	height	depth	kg
EJB-1A	304	204	218	240	140	153	10,3
EJB-2A	424	224	218	360	160	153	15,4
EJB-3A	364	284	278	300	220	213	19,4
EJB-3BA	364	284	218	300	220	153	16,4
EJB-4A	432	332	299	360	260	233	25,4
EJB-4BA							
EJB-45A	567	387	298	490	305	229	38,9
EJB-45BA							
EJB-5A	632	432	341	560	360	275	51
EJB-5BA							
EJB-503	632	432	397	560	360	330	59,2
EJB-55	710	510	356	630	430	273	81,3
EJB-6	870	650	480	760	540	353	158,4
EJB-6B	870	650	380	760	540	253	138,5
EJB-7	1000	700	500	890	590	340	248
EJB-7B	1000	700	400	890	590	240	210

It is possible to combine the various enclosures.

03-0330-0220/B-10/2014-BCS-201191/4



Empty Enclosure TNCD

Features

- Seawater-resistant
- Temperature-resistant
- Flame-retardant

Description

The TNCD range of enclosures are manufactured in SS 316 L and are designed to meet the requirements for Ex d IIC equipment in harsh environments on and offshore. Can be configured as Ex d direct entry or as an Ex de combination for indirect entry.

Explosion protection

Ex protection type Complete enclosure

ATEX Ⓔx II 2G
Ⓔx II 2(1)G Ex d [ia Ga] [ib Gb] [op is Ga] IIC T6 to T4 Gb
Ⓔx II 2D Ex tb [ia Db] [ib Db] IIIC T85 °C to T135 °C Db

Certification
TÜV 12 ATEX 102320

IECEx Ex d [ia Ga] [ib Gb] [op is Ga] IIC T6 to T4 Gb
Ex t [ia Db] [ib Db] IIIC T85 °C to T135 °C Db

Certification
IECEx TUN 12.0018X

Ex protection type Empty enclosure

ATEX Ⓔx II 2G Ex d IIC
Ⓔx II 2D Ex tD A21 IP 66

Certification
Nemko 03ATEX263U

IECEx Ex d IIC Gb
Ex tD A21 IP 66

Certification
IECEx NEM 10.0001U

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-20 °C to +40 °C
option
-50 °C to +40 °C

Technical data

Material
stainless steel 316L/CF-3M

Surface treatment
shot blasted

Earthing between Ex d and Ex e/Ex i
through the flange assembly

Lid
with or without hinges, depending on size

Protection class
IP 66 (IP 67 on request)

Guidelines
EN/IEC 60079-0, EN/IEC 60079-1

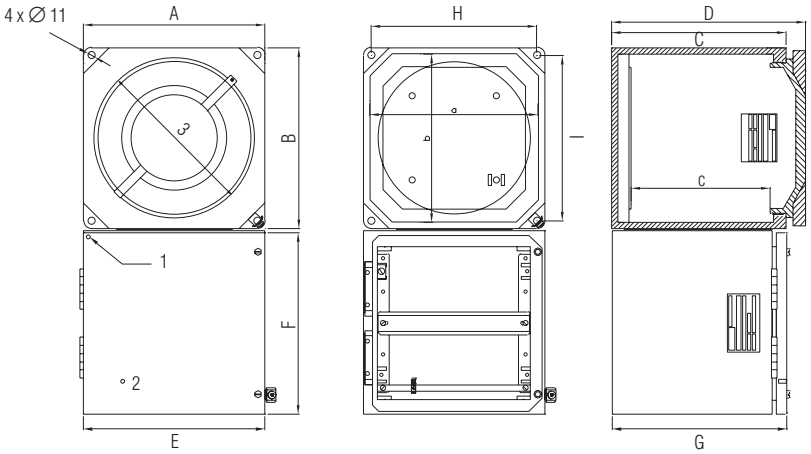
03-0330-0691-10/2014-TEC-336321/1

Type	Window ∅ max.
TNCD 1919XX	65 mm
TNCD 2828XX	100 mm
TNCD 3838XX	100 mm
TNCD 5757XX	154 mm

Viewing window TNCD

The window is placed in the centre of the lid. Windows (∅ 65 mm) can also be placed on the sides or back wall. Viewing windows are available in the following diameters: 65 mm, 100 mm and 154 mm.

Dimensions



1 Option: safety wire
2 M6 x 12 welded stud inside door
3 Lid

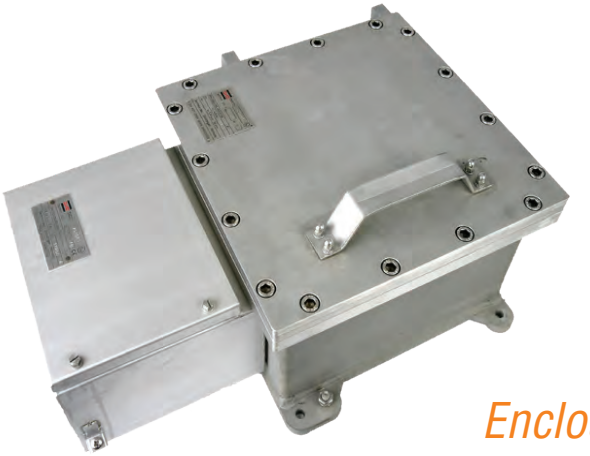
Selection chart

TNCD	Width E mm	Heigth F mm	Depth G mm	Weight mm
191918	190	190	180	3.0
281927	280	190	270	4.4
282827	280	280	270	6.6
381927	380	190	270	4.6
383827	380	380	270	10.5
571927	570	190	270	9.6
573827	570	380	270	13.4
575727	570	570	270	19.7

Selection chart

External dimensions								Internal dimensions			Fixing dimensions	
TNCD	Width A mm	Height B mm	Depth C mm	Total depth D mm	Weight kg	Window diameter mm	Lid apera-ture mm	Width a mm	Height b mm	Depth c mm	H mm	I mm
191918	190	190	180	213	16	65	150	170	170	131	166	166
192818	190	280	180	213	22	65		170	260	131		
282827	280	280	270	300	37	65/100	235	260	260	217	256	256
283827	280	380	270	300	49	65/100		260	360	217		
383827	380	380	270	300	60	65/100	335	360	360	217	356	356
383838	380	380	380	410	72	65/100		360	360	327		
385727	380	570	270	300	88	65/100		360	550	215		
575727	570	570	270	300	125	65/100/154	500	550	550	213	546	546
575738	570	570	380	410	144	65/100/154		550	550	325		

03-0330-0691-10/2014-TEC-336321/2



Enclosure Combination TNBCD for direct/indirect cable entry

Features

- Seawater-resistant
- Temperature-resistant
- Flameproof enclosure Ex d

Description

The TNBCD range of enclosures are manufatured in SS316L and are designed to meet the requirements for Ex d IIB equipment in harsh environments on- and offshore.

Can be configured as Ex d direct entry or as an Ex de combination for indirect entry.

Explosion protection

Ex protection type Complete enclosure

IECEx Ex d [ia Ga] [ib Gb] [op is Ga] IIB
T6 bis T4 Gb
Ex t [ia Da] [ib Db] IIIB
T85 °C bis T135 °C Db

Certification
IECEx TUN 12.0014X

Ex protection type Empty enclosure

ATEX Ex II 2G Ex d IIB Gb
Ex II 2D Ex tD A21 IP 66, IP 67, IP 68

Certification
Nemko 03 ATEX 264 U

IECEx Ex d IIB Gb
Ex tD A21 IP 66, IP 67, IP 68

Certification
IECEx NEM 10.0003U

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
-20 °C to +50 °C
option
-50 °C to +60 °C

Technical data

Material
stainless steel 316L/CF-3M

Surface treatment
shot blasted

Earthing between Ex d and Ex e/Ex i
through the flange assembly

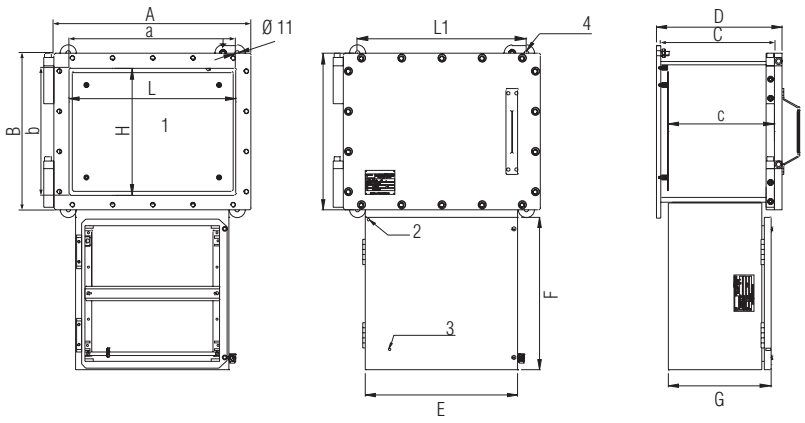
Cover
with or without hinges, depending on size

Protection class
IP 66 (IP 67 and IP 68 on request)

Guidelines
IEC/EN: 60079-0, 60079-1

03-0330-0694-10/2014-TEC-336324/1

Dimensions



1 Mountingplate
2 Option: safety wire
3 M6 x 12 Welded stud inside door
4 Fixing lugs

Control and signalling devices can be fitted directly into the lid of an Ex d enclosure or into the junction box.

Selection chart Ex e connection boxes (optional)

TNCC	**E** mm	**F** mm	**G** mm	**Weight** mm
202025	200	200	255	3.8
252015	250	200	155	4.1
383821	380	380	255	9.2
453825	450	380	255	11.0

Selection chart Ex d IIB Explosion proof enclosures

External dimensions						**Internal dimensions**				**Fixing dimensions**		**Mounting plate**	
TNBCD	**Width (fixing) A** mm	**Height (fixing) B** mm	**Depth C** mm	**Total depth D** mm	**Window** ∅ mm	**Wide a** mm	**Height b** mm	**Depth c** mm	**Weight** kg	**L1** mm	**H1** mm	**L** mm	**H** mm
262531	300	290	280	315	65/100	226	216	265	16	230	290	210	196
323321	360	370	180	215	65/100	286	296	165	37	360	300	266	280
453535	490	390	320	355	65/100/154	416	316	305	60	420	390	400	296
573835	615	420	320	355	65/100/154	541	346	305	125	545	420	525	326

Empty Enclosure TNXCD for Multi-Purpose Applications

Features

- Seawater-resistant
- Temperature-resistant
- Flameproof enclosure Ex d

Description

The TNXCD range of Ex d/Ex de IIC enclosures are manufactured in SS316L and are designed as slim, compact, multipurpose enclosures.

A typical application is CCTV camera housing.

Explosion protection

Ex protection type Empty enclosure

ATEX II 2G Ex db IIC Gb or Ex de IIC Gb
II 2D Ex tb IIIC Db

Certification
TÜV 12 ATEX 101150 U

IECEx Ex d IIC Gb
Ex de IIC Gb
Ex tb IIIC Db

Certification
IECEx TUN 12.0013 U

Ex protection type Complete enclosure

ATEX II 2G/2 IID Ex d IIC/IIB or
Ex de IIC/IIB Gb

Certification
DNV-2004-OSL-ATEX-0115

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
various, max. -50 °C to +60 °C

Technical data

Material
stainless steel 316L/CF-3M

Earthing between Ex d and Ex e enclosure
through the flange assembly

Entries
Ex e glands and Ex d bushings,
or Ex d glands only

Gland size Ex e
M25

Gland size Ex d
according to specification

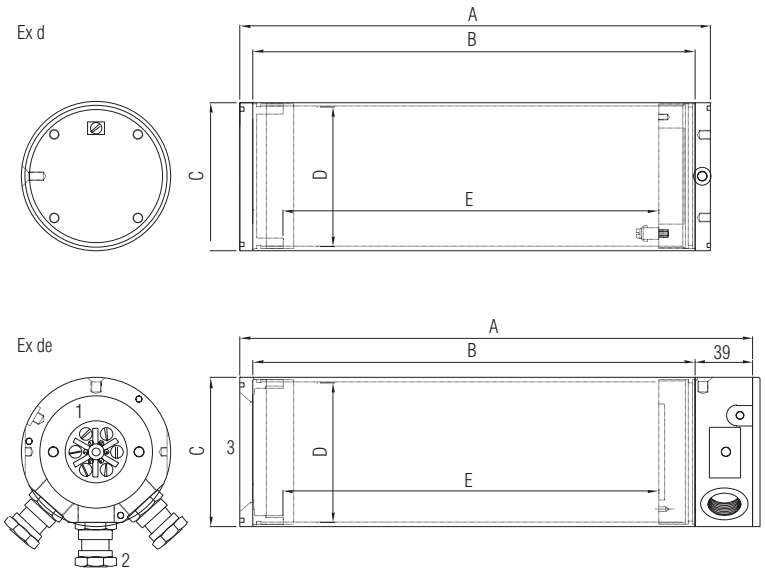
Bushing Ex d
max. M42, number and core size
according to specification

Protection class
IP 66 (IP 67 and IP 68 on request)

Guidelines/norms/certifications
EN/IEC 60079-0, EN 60079-1, EN 60079-7,
EN 50281

03-0330-0692-10/2014-TEC-336322/1

Dimensions



1 Cable bushing
2 Cable gland or blanking plug
3 Option: DOME

Selection chart TNXCD Ex d

TNXCD	Total length A mm	Tube length B mm	Diameter C mm	Internal diameter D mm	Internal length E mm	Junction box F	Weight kg	Window/Dome ∅ mm
XCD1003200	217.2	193	101	95	155	N/A	3.3	68
XCD1003360	384.2	360	101	95	315	N/A	4.1	68
XCD1303100	119.5	100	132	126	55	N/A	4.0	95
XCD1303200	219.5	200	132	126	155	N/A	5.3	95
XCD1303360	379.5	360	132	126	315	N/A	7.0	95
XCD1953290	305.5	290	195	187	238	N/A	13.0	155

Selection chart TNXCD Ex de

TNXCD	Total length A mm	Tube length B mm	Diameter C mm	Internal diameter D mm	Internal length E mm	Junction box F mm	Weight kg	Window/Dome ∅ mm
XCD1002200	247.7	193	100	95	155	39	3.9	68
XCD1002360	414.7	360	100	95	315	39	4.8	68
XCD1301100	161	100	130	126	55	45	5.6	95
XCD1301200	261	200	130	126	155	45	6.9	95
XCD1301360	421	360	130	126	315	45	8.6	95
XCD1951290	389	290	195	187	238	59	17.1	155

03-0330-0692-10/2014-TEC-336322/2

Flameproof control unit

Features

- Variety of covers
- Variety of connection possibilities
- Bushings can be fitted on all sides
- Flange surfaces for mounting enclosures
- Low weight

Description

As flameproof control unit, this Ex d enclosure from BARTEC provides a compact solution for the installation of standard industrial products, whereby components such as contactors and relays are installed in a flameproof enclosure.

The enclosure is light, flexible with respect to wiring systems, may be flange mounted and can be equipped with electrical or mechanical line bushings on the sides and in the lid. The different versions of lids enable the installation of display units or devices with control buttons. The installation of Ex i assemblies is also permitted.

Types of connection

Flameproof control units may be connected either with direct cable entry by means of Ex d cable glands or indirectly using an Ex e junction box. The electrical connection between Ex d and Ex e area takes place using Ex d line bushings with terminals. Control devices and display units can be installed in the junction box.

Note:
The use of an empty enclosure requires an acceptance inspection by a notified body.

Explosion protection

Ex protection type max.
Dependent on the installed components;
Observe the information on the type label.

Ex protection type

ATEX II 2G Ex db eb ia/ib [ib] IIA, IIB resp. IIC T6, T5 resp. T4

II 2(1)G Ex db eb ia/ib [ia] IIA, IIB resp. IIC T6, T5 resp. T4

Certification
Ex d control unit
PTB 03 ATEX 1138
Empty enclosure
PTB 03 ATEX 1137 U

IECEx
Ex db eb ia/ib [ib] IIA, IIB resp. IIC T6, T5 resp. T4
Ex db eb ia/ib [ia] IIA, IIB resp. IIC T6, T5 resp. T4

Certification
Ex d control unit
IECEx PTB 11.0038
Empty enclosure
IECEx PTB 11.0026U

Ambient temperature
Dependent on the installed components;
Observe the information on the type label.

Operating temperature
-20 °C to +55 °C

Approved for
Zone 1 and 2

Technical data

Power dissipation
max. 67 W
(depending on version and type of protection)

Protecion class
max. IP 54 (IEC 60529)

Rated cross-section of conductor
max. 16 mm²

Weight
approx. 4 kg
(depending on the version)

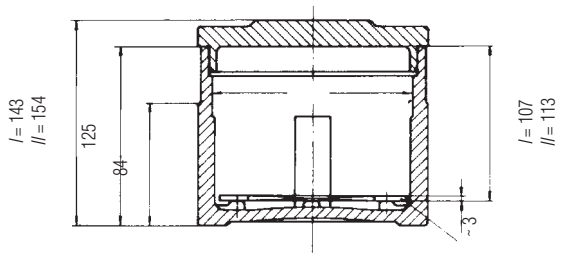
Enclosure material
aluminium

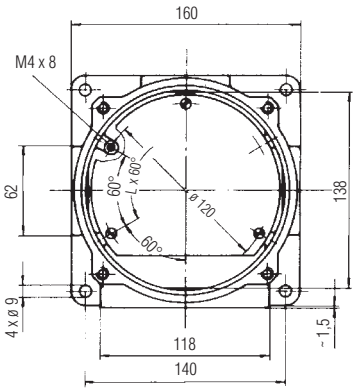
Rated voltage
max. 690 V

Rated current
max. 104 A

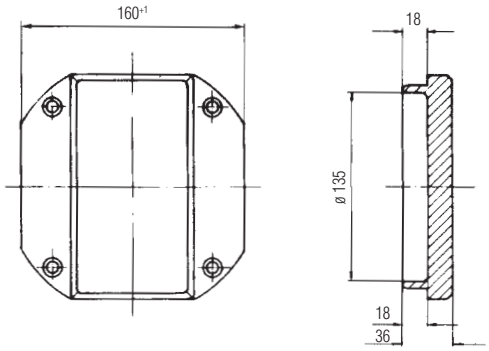
03-0330-0223/A-10/2014-BCS-201194/1

Dimensions

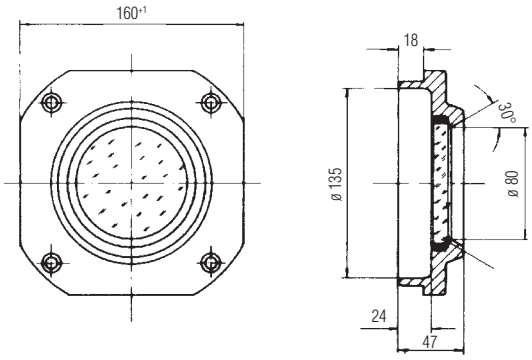




Lid closed (/)



Lid with ∅ 80 mm diameter window (//)



Versions to specification, please give particulars in pain text.

Selection chart

Description	Code no.
Ex d enclosure, lid closed	1
Ex d-Gehäuse, lid with ∅ 80 mm diameter window	8

Complete order no.

Empty enclosure	07-4231-1
Control unit	07-4230-1

Please insert correct code. Technical data subject to change without notice.

Limit Monitor

Description

The limit value transmitters of Types 07-31..-.../... are deployed in conjunction with pneumatic actuators on valves and fittings.

They serve to signal the "open/closed" status of a fitting. This end position is communicated by means of up to a maximum of 6 limit switches in the “Ex d” type of protection or by means of 6 proximity initiators in conformance to NAMUR in the “Ex i” type of protection. In intrinsically safe proximity initiators there is a choice of slot initiators or V3 initiators.

The limit monitors are available in polyester, aluminium and stainless steel. The metal versions can be used in temperatures down to -60 °C – depending on the fitted components.

To ensure mechanical adaptability to the pneumatic actuators, we supply 4 consoles according to VDI/VDE 3845.

The BARTEC limit monitors can be used in hazardous (potentially explosive) areas in Zone 1 and 2 in accordance with the certified explosion sub-groups IIA, IIB and IIC and the temperature classes T5/T6 and in Zone 21 and 22 in accordance with the certified max. surface temperature.

Selection chart for Standard-Limit Monitors

		Console Dimensions (mm)			**Order no.**
		A	**B**	**H**	
	Aluminium enclosure **black** **(220 x 120 x 90 mm)**	**for Zone 1 + 2 and 21 + 22**			
Ex e d m Picture 1	Console VDI/VDE 3845	130	50	75	**07-31A1-2209/9005**
	Console VDI/VDE 3845	130	30	55	**07-31A1-2209/9004**
	Console VDI/VDE 3845	80	30	55	**07-31A1-2209/9003**
	Console VDI/VDE 3845	80	20	45	**07-31A1-2209/9002**
	Connection dimensions DIN EN ISO 5211 F05	without console			**07-31A1-2209/9001**
	Polyester enclosure **black** **(220 x 120 x 90 mm)**	**for Zone 1 + 2 and 21 + 22**			
Ex e d m Picture 1	Console VDI/VDE 3845	130	50	75	**07-31B1-2209/9004**
	Console VDI/VDE 3845	130	30	55	**07-31B1-2209/9003**
	Console VDI/VDE 3845	80	30	55	**07-31B1-2209/9002**
	Console VDI/VDE 3845	80	20	45	**07-31B1-2209/9001**
	Connection dimensions DIN EN ISO 5211 F05	without console			**07-31B1-2209/9007**
	Polyester enclosure **black** **(110 x 75 x 55 mm)**	**for Zone 1 + 2 and 21 + 22**			
Ex e d m Picture 2	Console VDI/VDE 3845	130	50	75	**07-31B1-1105/9005**
	Console VDI/VDE 3845	130	30	55	**07-31B1-1105/9004**
	Console VDI/VDE 3845	80	30	55	**07-31B1-1105/9003**
	Console VDI/VDE 3845	80	20	45	**07-31B1-1105/9002**
	Connection dimensions DIN EN ISO 5211 F05	without console			**07-31B1-1105/9001**
	Stainless-steel enclosure **(150 x 150 x 80 mm)**	**for Zone 1 + 2 and 21 + 22**			
Ex e d m Picture 3	Console VDI/VDE 3845	130	50	75	**07-31D1-1508/9003**
	Console VDI/VDE 3845	130	30	55	**07-31D1-1508/9004**
	Console VDI/VDE 3845	80	30	55	**07-31D1-1508/9005**
	Console VDI/VDE 3845	80	20	45	**07-31D1-1508/9006**
	Connection dimensions DIN EN ISO 5211 F05	without console			**07-31D1-1508/9002**

03-0330-0162/B-10/2014-BCS-129314/1

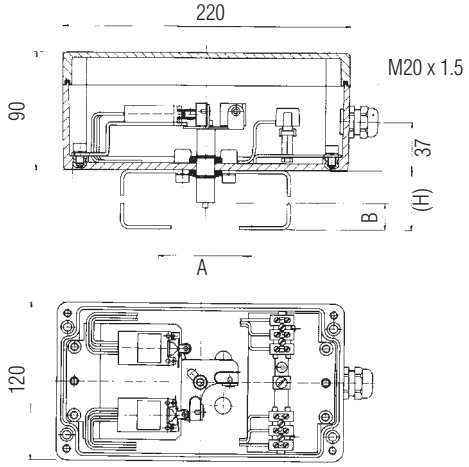
Explosion protection

Ex protection type (max.)	dependent on the installed parts Ex II 2G Ex e d mb ia resp. ib IIC T6 or T5 Gb Ex II 2D Ex tb IIIC T90 °C Db
Certification	IBExU02ATEX1126 IECEx IBE 13.0038
Ambient temperature	-60 °C to max. +70 °C

Technical data

Protection class	Enclosure IP 65/67 according to EN 60529 and IEC 60529
Material	Type 07-31A cast aluminium Type 07-31B polyester black Type 07-31D high quality stainless steel
Mounting console and connection dimensions	according to DIN EN ISO 5211 F05 resp. VDI/VDE 3845
Connection	Ex glands M20 x 1.5 resp. M16 x 1.5

Picture 1



Aluminium enclosure **220 x 120 x 90 mm**
Polyester enclosure **220 x 120 x 90 mm**

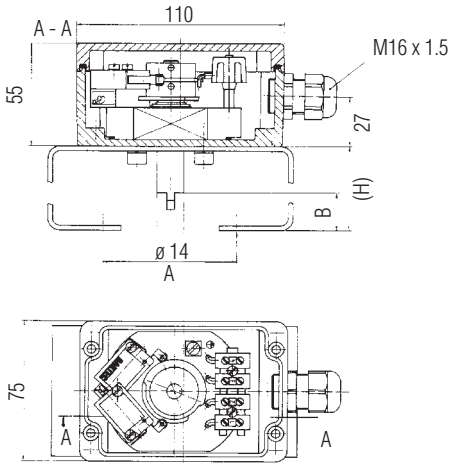
Built-in
2 microswitches

Ex protection type	Ex e d IIC
Switching function	changeover contact

Cable connection via Ex e modular terminals. An Ex e cable gland is provided for the cable connection M20 x 1.5 (6 to 12).

The version with enclosure dimensions 220 x 120 x 90 mm optionally provides additional terminals for the connection of a magnetic valve.

Picture 2



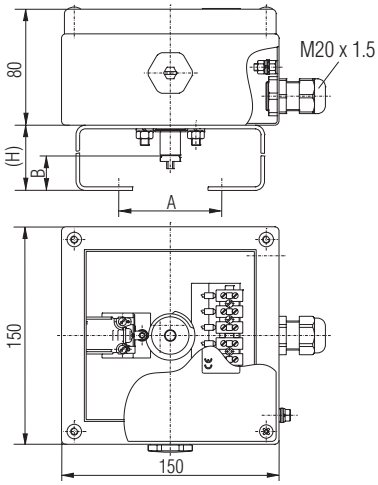
Polyester enclosure **110 x 75 x 55 mm**

Built-in
2 micro-switches

Ex protection type	Ex e d IIC
Switching function	NO contact

The cable is connected to Ex e-rail-mounted terminals.
An EEx e-cable gland is provided to insert the cable M16 x 1.5 (5 to 10).

Picture 3



Stainless-steel enclosure **150 x 150 x 80 mm**

Fitted components
2 microswitches

Ex protection type	Ex e d IIC
Switching function	Changeover contact

The cable is connected to Ex e-rail-mounted terminals.
An Ex e-cable gland is provided to insert the cable M16 x 1.5 (6 to 12).

03-0330-0162/B-10/2014-BCS-1293314/2

Control, regulating and display devices

Description

BARTEC offers two type series of explosion proof encapsulated enclosures for using electric components in hazardous (potentially explosive areas).

Within the scope of the EC model test certification, these can be fitted with industrial standard units, such as e.g. small-type motors, printed circuit boards and cameras.

The mounted parts are evaluated by BARTEC, fitted into a suitable housing and provided as a complete device with the corresponding ATEX marking.

This housing series offers optimum solution approaches for control, regulating and display devices in Zone 1 and zone 21 hazardous areas.

Explosion protection

Ex protection type

ATEX Type 07-61.1.. $V \leq 100\ cm^3$
- Ex II 2G Ex d e IIC T6, T5 Gb
- Ex II 2D Ex tb IIIC T80 °C/T95 °C Db

Typ 07-61.2.. $100\ cm^3 < V \leq 2750\ cm^3$
- Ex II 2G Ex d e [ib] IIC T6, T5, T4 Gb
- Ex II 2(1)G Ex d e [ia Ga] IIC T6, T5, T4 Gb
- Ex II 2D Ex tb [ib] IIIC T80 °C/T95 °C Db
- Ex II 2(1)D Ex tb [ia Da] IIIC T80 °C/T95 °C Db

Certification
EPS 14 ATEX 1696

IECEx Typ 07-61.1.. $V \leq 100\ cm^3$
Ex d e IIC T6, T5 Gb
Ex tb IIIC T80 °C/T95 °C Db

Type 07-61.2.. $100\ cm^3 < V \leq 2750\ cm^3$
Ex d e [ib] IIC T6, T5, T4 Gb
Ex d e [ia Ga] IIC T6, T5, T4 Gb
Ex tb [ib] IIIC T80 °C/T95 °C Db
Ex tb [ia Da] IIIC T80 °C/T95 °C Db

Certification
IECEx EPS 14.0042

Other approvals and certificates,
see www.bartec-group.com

Technical data

Protection class
min. IP 54/IEC 60529

Enclosure material
Metall

Surface
bare, electro-plated or varnished

Order no.

07-61.1-...
07-61.2-...

03-0330-0428/B-10/2014-BCS-240846/1

Description

The control, regulating- and display devices are assembled out of the following modules to suit the required function.

The size of the equipment depends on the components, power dissipation and the required housing volume.

Selection chart

Front flange	Enclosure	Rear flange
closed e. g. for vibration measuring instrument or printed circuit board installation 	∅ 30 mm to max. 25 cm^3 volume ∅ 45 mm to max. 100 cm^3 volume ∅ 60 mm to max. 200 cm^3 volume ∅ 90 mm to max. 1000 cm^3 volume ∅ 120 mm to max. 2750 cm^3 volume  	**with multicore tube encapsulated directly in the housing** only up to a maximum 60 mm housing diameter  **with cable entry**  **with Ex d screwed cable gland** not suitable for gas subgroup IIC when sparking parts have been fitted.  **Flange with Ex e connection housing** 
with shaft bushing e. g. for small motors, rotary encoders or switches 		
with inspection glass e. g. for cameras, optoelectronic units Displays 		

03-0330-0428/B-10/2014-BCS-240846/2

Potentiometer

Features

- High IP-protection class
- Small design
- Simple installation

Description

These up to 4 W potentionmeters show that Ex potentiometers can be small and compact.

The external dimensions are approximately the same as those of standard industrial potentio-meter enclosures. Central fixing in a single hole and the standard size of shaft have been includend.

From the variety of resistors on the market we have chosen cemented wire-wound resistors and carbon film resistors and developed a standard-program range.The metal Ex d enclosures are tailored to the dimensions of the resistors and feature a standard 30 mm diameter. The potentiometers have been designed so that the stated nominal capacities can be fully exploited at temperature class T6 or T5 and be deployed in zones 1 and 2.

The potentiometer is fitted into an enclosure that meets the requirements of an approved type of protection in conformance to IEC/EN 60079-0.

Explosion protection

Ex protection type
Ⓔx II 2G Ex db IIC Gb
Ⓔx I M2 Ex db I Mb

Certification
PTB 03 ATEX 1025 U

Temperature class
T6 to T4

Ambient temperature
-55 °C to +40 °C/+60 °C/+80 °C

Technical data

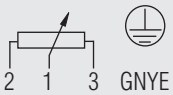
Protection class
min. IP 54/IEC 60529

Enclosure
nickel-plated brass (CuZn)

Tightning torque (for nuts)
200 Ncm

Resistance characteristic
linear

Electrical connection
cores
4GAF - 0.75



■ **Cemented wire-wound resistors:**

Resistance values/power ratings
see selection chart

Resistance tolerance
± 5 %

Linearity tolerance
max. 3 % of final value

Insulation resistance
≥ 100 MΩ

Rotation
electr./mech. 250°/270°

End stop strength
30 Ncm

Weight with cores (0.5 m)
180 g

■ **Carbon-film resistors on ceramic:**

Resistance values/power ratings
see selection chart

Insulation resistance
≥ 100 MΩ

Rotation
electr./mech. 270°

End stop strength
100 Ncm

Weight with cores (0.5 m)
200 g

■ **Precision wire-wound resistors:**

Resistance values/power ratings
see selection chart

Insulation resistance
≥ 1000 MΩ

Resistance tolerance
± 5 %

Linearity tolerance
to 500 Ω ± 1 %
> 500 Ω ± 0.5 %

Rotation
electr./mech. 320°

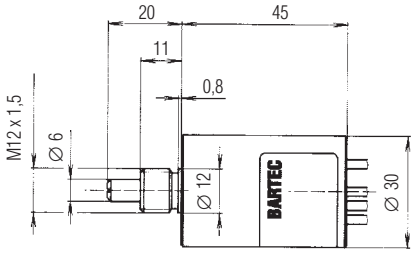
End stop strength
100 Ncm

Weight with cores (0.5 m)
170 g

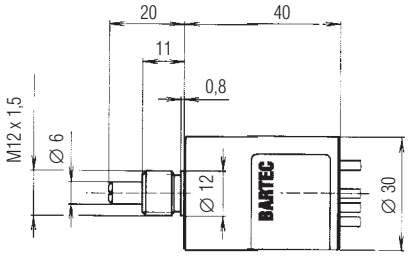
03-0330-0164/B-10/2014-BCS-129471/1

Dimensions in mm

Cemented wire-wound resistors for high power ratings



Carbon-film resistors
Precision wire-wound resistors



Selection chart

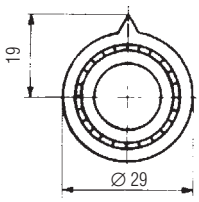
Resistor type/ standard resistance values (stock items printed bold)				Temperature class/ power rating	Complete order no. (indicate resistance values in plain text)
Cemented wire-wound resistors higher power ratings					
10 Ω	68 Ω	**470** Ω	3.3 k Ω	**T6/2.5 W** resp. **T4/4 W**	**07-6612-** ☐ **111** resp. **07-6613-** ☐ **111**
12 Ω	82 Ω	**560** Ω	3.9 k Ω		
15 Ω	**100** Ω	**680** Ω	**4.7** k Ω		
18 Ω	120 Ω	820 Ω	**5.6** k Ω		
22 Ω	150 Ω	**1** k Ω	**6.8** k Ω		
27 Ω	180 Ω	1.2 k Ω	8.2 k Ω		
33 Ω	**220** Ω	1.5 k Ω	**10** k Ω		
39 Ω	**270** Ω	1.8 k Ω			
47 Ω	**330** Ω	**2.2** k Ω			
56 Ω	390 Ω	**2.7** k Ω			
Carbon film resistors					
100 Ω	1 k Ω	10 k Ω	100 k Ω	**T6/2 W**	**07-6612-** ☐ **113**
220 Ω	2.2 k Ω	22 k Ω	220 k Ω		
470 Ω	4.7 Ω	47 k Ω	470 k Ω		
			1 M Ω		
Precision wire-wound resistors					
10 Ω	100 Ω	1 k Ω	10 k Ω	**T6/1.2 W**	**07-6612-** ☐ **112** Lead length: 100 mm up to 1000 mm In 100-mm steps 5 = standard 500 mm
20 Ω	200 Ω	2 k Ω	20 k Ω		
50 Ω	500 Ω	5 k Ω			

Special versions - please indicate particulars in plain text

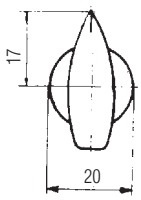
- Anti-rotation pin on front of enclosure
- Threaded holes on front of enclosure
- Side entry of leads
- Other resistance values

Accessories/Order no.

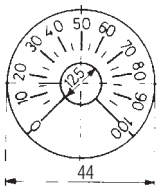
Rotary knob shaft ∅ 6 mm
Order no. 03-5401-0001



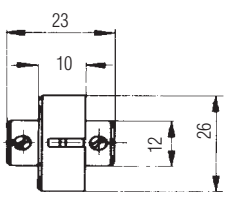
Pointer knob shaft ∅ 6 mm
Order no. 03-5401-0002



Scale 0 to 100
Order no. 05-0144-0112 (270°)
Order no. 05-0144-0127 (320°)



Slip clutch adjustable to 50 Ncm, shaft ∅ 6 mm
Order no. 03-5600-0001



03-0330-0164/B-10/2014-BCS-129471/2

Potentiometer

Features

- High IP-protection class
- Simple installation
- No further approvals required

Description

This standard range of up to 8 W potentiometers with wire-wound resistors show that Ex potentiometers can be small and compact.

The external dimensions are approximately the same as those of standard industrial potentio-meter enclosures. Central fixing in a single hole and the standard size of shaft have been included.

From the variety of resistors on the market we have chosen the most commonly used types and developed a standard program range.

The metal Ex d enclosures are tailored to the dimensions of the resistors and feature a standard 30 mm diameter. The potentiometers have been designed so that the stated nominal capacities can be fully exploited at temperature class T6 or T5 and be deployed in zones 1 and 2.

In addition to the standard models all other versions such as tandem potentiometers, potentiometers with microswitches, non-standard shafts or larger resistor diameters can be encapsulated in enclosures of up to 120 mm diameter.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex d e IIC T6 resp. T5 Gb
Ⓔx II 2D Ex tb IIIC
T80 °C resp. T95 °C Db

Certification
EPS 14 ATEX 1696

IECEx Ex d e IIC T6 resp. T5 Gb
Ex tb IIIC T80 °C resp. T95 °C Db

Certification
IECEx EPS 14.0042

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-20 °C to +70 °C

Technical data

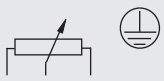
Protection class
min. IP 54/IEC 60529

Enclosure
metal

Tightening torque (for nuts)
200 Ncm

Resistance characteristic
linear

Electrical connection
cable
H05VV-F4G 0.75



■ Cemented wire-wound resistors

Resistance values/power ratings
See selection chart

Resistance tolerance
± 5 %

Linearity tolerance
max. 3 % of final value

Insulation resistance
≥ 100 MΩ

Rotation
electr./mech. 250°/270°

End stop strength
30 Ncm

Weight with cable (1 m)

2.5 W	6 W	8 W
250 g	320 g	550 g

■ Carbon-film resistors on ceramic

Resistance values/power ratings
see selection chart

Insulation resistance
≥ 100 MΩ

Rotation
electr./mech. 270°

End stop strength
100 Ncm

Weight with cable (1 m)
240 g

■ Precision wire-wound resistors

Resistance values/power ratings
see selection chart

Resistance tolerance
1 turn ± 5 % / 10 turns > 50 Ω ± 3 %

Linearity tolerance
1 turn to 500 Ω ± 1 %
> 500 Ω ± 0.5 %

10 turns potentiometer ± 0.25 %

Insulation resistance
min. 1 000 MΩ

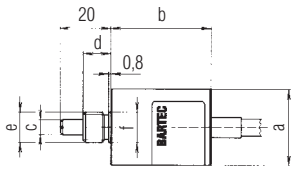
Rotation
electr./mech. 1 turn 320° ± 2°
10 turns 10 x 360° + 10°

Weight with cable (1 m)
1 turn 210 g/10 turns 300 g

End stop strength
1 turn 100 Ncm/10 turns 30 Ncm

03-0330-0165/B-10/2014-BCS-129472/1

Dimensions in mm



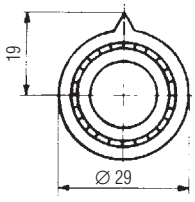
a	b	c	d	e	f
∅ 30	55	∅ 6	11	M12 x 1,5	∅ 12
∅ 45	90	∅ 6	11	M12 x 1,5	∅ 12
∅ 60	87	∅ 6	11	M12 x 1,5	∅ 12
∅ 30	45	∅ 6	11	M12 x 1,5	∅ 12
∅ 38	50	∅ 6,35	8	3/8-32	∅ 10,3

Selection chart

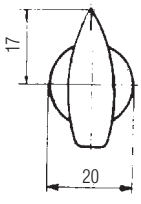
Resistor type/ standard resistance values (stock items printed bold)	Temperature class/ power rating	Complete order no. (indicate resistance values in plain text)
Cemented wire-wound resistors higher power ratings 10 Ω 12 Ω 15 Ω 18 Ω 22 Ω 27 Ω 33 Ω 39 Ω 47 Ω 56 Ω 68 Ω 82 Ω 100 Ω 120 Ω 150 Ω 180 Ω 220 Ω 270 Ω 330 Ω 390 Ω 470 Ω 560 Ω 680 Ω 820 Ω 1 kΩ 1,2 kΩ 1,5 kΩ 1,8 kΩ 2,2 kΩ 2,7 kΩ 3,3 kΩ 3,9 kΩ 4,7 kΩ 5,6 kΩ 6,8 kΩ 10 kΩ 12 kΩ 15 kΩ 18 kΩ 20 kΩ 22 kΩ 27 kΩ 30 kΩ bis 10 k Ω	**T6/2,5 W** resp. **T5/3 W**	**07-6622-** ☐ **111** resp. **07-6623-** ☐ **111**
bis 20 k Ω	**T6/5 W** resp. **T5/6 W**	**07-6624-** ☐ **111** resp. **07-6625-** ☐ **111**
bis 30 k Ω	**T6/7 W** resp. **T5/8 W**	**07-6626-** ☐ **111** resp. **07-6627-** ☐ **111**
Carbon-film resistors 100 Ω 220 Ω 470 Ω 1k Ω 2,2 k Ω 4,7 k Ω 10 k Ω 22 k Ω 47 k Ω 100 k Ω 220 k Ω 470 k Ω 1 M Ω	**T6/2 W**	**07-6622-** ☐ **113**
Precision wire-wound resistors 10 Ω 20 Ω 50 Ω 100 Ω 200 Ω 500 Ω 1 kΩ 2 kΩ 5 kΩ 10 kΩ 20 kΩ	**T6/1,2 W**	**07-6622-** ☐ **112**
10 turns potentiometer* 20 Ω 50 Ω 100 Ω 200 Ω 500 Ω 1 kΩ 2 kΩ 5 kΩ 10 kΩ 20 kΩ 50 kΩ 100 kΩ	**T6/2 W**	**07-6624-** ☐ **102** Lead length: 5 = standard 500 mm 0 = length in plain text
Special versions, Please indicate particulars in plain text ■ Anti-rotation pin on front of enclosure ■ Threaded holes on front of enclosure ■ Side entry of cabl ■ Other resistance values		

Accessories/Order no.

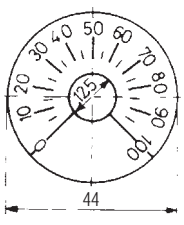
Rotary knob shaft ∅ 6 mm
Order no. 03-5401-0001



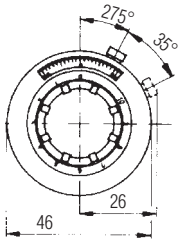
Pointer knob shaft ∅ 6 mm
Order no. 03-5401-0002



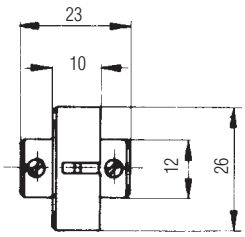
scale 0 - 100
Order no.
05-0144-0112 (270 °)
05-0144-0127 (320 °)



More turn drive*
shaft ∅ 6.35 mm
Order no. 03-5425-0001



Slip clutch,adjustable
to 50 Ncm, shaft ∅ 6 mm
Order no. 03-5600-0001



*Max. wall thickness for installing a switch panel = 2.5 mm

Customer

Company

Street

Postcode/City

Country

Contact person

E-mail

Phone Fax

BARTEC

Sales employee

☐ **Offer** ☐ **Order**

Project name/Application number

Customer number

Order value

Deadline Offer

Delivery

System options

Please fill in the appropriate form

Flameproof control station	☐	Form 1
Local control station	☐	Formt 2
Enclosures for small control, regulating and display devices	☐	Form 3

Was a similar system already supplied to the customer?

☐ no ☐ yes

Description

Documentation

☐ Wiring diagram ☐ Technical description

☐ Drawings ☐ I/O list

Rated voltage _____ V

Application

Gas	☐ Zone 1 (2G)	☐ Zone 2 (3G)
Temperature class	☐ T4	☐ T5
	☐ T6	
Dust	☐ Zone 21 (2D)	☐ Zone 22 (3D)
Max. surface temperature	☐ 80 °C	☐ 95 °C

Sub Ex area

☐ IIA ☐ IIB ☐ IIC

Temperature range

☐ -20 °C to +40 °C ☐ deviant _____ °C

☐ Interior ☐ Exterior

Further informations

03-0330-0596-10/09-BCS-306763/1

Form 1

Flameproof control stations

Enclosure sizes (mm)

Length Width Height

or **max. available installation dimensions** (mm)

Length Width Height

Direct cable entry ☐ yes ☐ no

Ex e/i connection range ☐ yes ☐ no

Installations/Customer provision

Quantity	Manufacturer	Type	Dimensions (mm)	Power dissipation (W)	Data sheet

Direct cable entry

Terminals

Quantity	Nominal cross section (mm²)	Ex i or Ex e

Cable glands

Quantity	Thread size	Clamping range

Ex e/i connection range

Terminals

Quantity	Nominal cross section (mm²)	Ex i or Ex e

Cable glands

Quantity	Thread size	Clamping range	Ex i or Ex e

03-0330-0596-10/09-BCS-306763/2

Form 2

Local control station

Enclosure sizes (mm))

Length Width Height

or **max. available installation dimensions** (mm)

Length Width Height

Material

- ☐ Polyester
- ☐ Stainless steel V2A
- ☐ Stainless steel V4A
- ☐ Aluminium

Installations/Customer provision

Quantity	Manufacturer	Type	Dimensions (mm)	Power dissipation (W)	Data sheet

Terminals

Quantity	Nominal cross section (mm^2)	Ex i or Ex e

Cable glands

Quantity	Thread size	Clamping range	Ex i or Ex e

Form 3

Enclosures for small control, regulating and display devices

Type

- ☐ 07-61.1.. $V \leq 100\ cm^3$
- ☐ 07-61.2.. $100\ cm^3\ V \leq 2750\ cm^3$

Enclosure material

- ☐ Aluminium bare
- ☐ Aluminium varnished RAL colour _____
- ☐ Stainless steel V2A
- ☐ Stainless steel V4A

Information about mounting parts

Rotating electrical machines

e. g. Motors/power-wheel instruments

Max. rotation	_____	U/min
Max. voltage	_____	V
Power input	_____	A
Power consumption	_____	W
Shaft version	☐ like examples	☐ like drawings
Fittings exchangeably	☐ yes	☐ no

Transmitter/Receiver

Max. voltage	_____	V
Power input	_____	A
Power consumption	_____	W
Radiation intensity	_____	
Inspection glass, size	_____	mm

Instruments without spindle/inspection glass

(e. g. vibration measuring instrument)

Max. voltage	_____	V
Power input	_____	A
Power consumption	_____	W

03-0330-0596-10/09-BCS-306763/4

BARTEC

BARTEC

Pressurized control panels

Features

- 4 voltage free contacts
- 3-line LCD display
- LED status display
- Modular design
- Fail-safe control

Control unit

Description

The APEX 2003.00 control unit controls and monitors the purging and operating phases in pressurised enclosures.

Digital or proportional purging gas valves are available to allow the purging gas to enter.

The parameters are set by means of rotary switches and buttons. There is also the option of transferring the parameters through an RS485 interface.

The control unit has two programmable relays and a non-floating enabling contact.

Explosion protection

Ex protection type

ATEX Ⓔx II 2(1)G Ex d e ib [ia Ga px] IIC T6/T4 Gb
Ⓔx II 2(1)G Ex d e [ia Ga px] IIC T6 Gb

Certification
DMT 99 ATEX E 082

IECEx Ex d e ib [ia Ga px] IIC T4/T6 Gb
Ex d e [ia Ga px] IIC T6 Gb

Certification
IECEx BVS 13.0039

See www.bartec.-group.com for more approvals and certification.

Ambient temperature
-20 °C to +40 °C

Technical data

Guidelines
Directive 2004/108/EC
Directive 94/9/EC

Construction
Ex e protective enclosure
with viewport lid

Enclosure material
glass-fibre reinforced polyester

Protection class
IP 65

Terminals
2.5 mm², fine stranded

Pressure sensors
MIN A/B = 0 to 25 mbar
MAX = 0 to 25 mbar
DIFF A/B = 0 to 25 mbar

Purging time
0 to 99 min; 5 sec. dropout delay

Weight
4.3 kg

Saftey Level
SIL 2

Electrical data

Supply voltage
AC 230 V (AC 115 V) ±10%
DC 24 V ±10 %

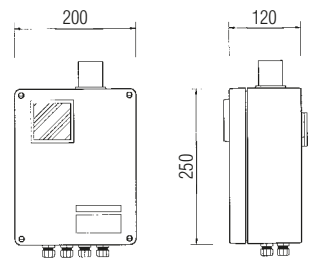
Power consumption
P_V = 15 W/230 V

Make contact
K 2/3, 5 A for cos φ = 1
K 4 and K 5, voltage free

Temperature switching value (optional)
0 °C to +80 °C

Bypass key switch (optional)

Dimensions/mounting positions



Selection chart 9 W version

Orifice	Code no.	Version	Code no.
12 mm	4	AC 230 V	1
15 mm	5	AC 115 V	2
18 mm	6	DC 24 V	4

07-3711-121 ☐ / ☐ 000
Complete order no.
Please enter code number. Technical data subject to change without notice.

Selection chart 15 W version

Orifice	Code no.	Version	Code no.
12 mm	4	230 V	1
15 mm	5		
18 mm	6	115 V	2

07-3711-121 ☐ / ☐ 082
Complete order no.
Please enter code number. Technical data subject to change without notice.

03-0330-0219/B-10/2014-BCS-201199/1

Features

- 4 voltage free contacts
- 3-line LCD display
- LED status display
- Modular design
- Fail-safe control

Control unit

Description

The APEX 2003.002x control unit controls and monitors the purging and operating phases in pressurised enclosures.

Digital or proportional purging gas valves are available to allow the purging gas to enter.

The parameters are set by means of rotary switches and buttons. There is also the option of transferring the parameters through an RS485 interface.

The control unit has two programmable relays and a non-floating enabling contact.

Explosion protection

Ex protection type

ATEX Ⓔx II 2(1)G Ex d e ib [ia Ga px] IIC T6/T4 Gb
Ⓔx II 2(1)G Ex d e [ia Ga px] IIC T6 Gb

Certification
DMT 99 ATEX E 082

IECEx Ex d e ib [ia Ga px] IIC T4/T6 Gb
Ex d e [ia Ga px] IIC T6 Gb

Certification
IECEx BVS 13.0039

Further approvals
RTN, GOST

See www.bartec.-group.com for more approvals and certification.

Ambient temperature
-20 °C to +40 °C

Technical data

Guidelines
Directive 2004/108/EC
Directive 94/9/EC

Construction
Ex e protective enclosure
with viewport lid

Enclosure material
glass-fibre reinforced polyester

Protection class
IP 65

Terminals
2.5 mm², fine stranded

Pressure sensors
MIN A/B = 0 to 25 mbar
MAX = 0 to 25 mbar
DIFF A/B = 0 to 25 mbar

Purging time
0 to 99 min; 5 sec. dropout delay

Weight
7.5 kg

Safety Level
SIL 2

Electrical data

Supply voltage
AC 230 V (AC 115 V) ±10%
DC 24 V ±10 %

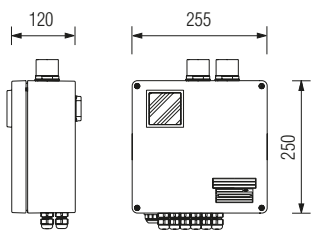
Power consumption
P_V = 15 W/230 V

Make contact
K 2/3, 5 A for cos φ = 1
K 4 and K 5, voltage free

Temperature switching value (optional)
0 °C to +80 °C

Bypass key switch (optional)

Dimensions/mounting positions



Selection chart 9 W version

Version	Code no.
AC 230 V	1
AC 115 V	2
DC 24 V	4

07-3711-1216/ ☐ 017

Complete order no.
Please enter code number. Technical data subject to change without notice.

Selection chart 15 W version

Version	Code no.
230 V	1
115 V	2

07-3711-1216/ ☐ 107

Complete order no.
Please enter code number. Technical data subject to change without notice.

03-0330-0422/B-10/2014-BCS-240840

Control unit

Features

- 4 voltage free contacts
- 3-line LCD display
- LED status display
- Modular design
- Fail-safe control
- Integrated valve switch

Description

The APEX 2003.MV control unit controls and monitors the purging and operating phases in small separate pressurised enclosures with a maximum internal volume of 70 litres.

The parameters are set by means of rotary switches and buttons. There is also the option of transferring the parameters through an RS 485 interface.

The control unit features two programmable relays and a non-floating enabling contact.

Explosion protection

Ex protection type
ATEX ⟨Ex⟩ II 2(1)G Ex d e ib [ia Ga px] IIC T4 Gb

Certification
DMT 99 ATEX E 082

See www.bartec.-group.com for more approvals and certification.

Ambient temperature
-20 °C to +40 °C

Technical data

Guidelines
Directive 2004/108/EC
Directive 94/9/EC

Construction
Ex e protective enclosure
with viewport lid

Enclosure material
glass-fibre reinforced polyester

Protection class
IP 65

Terminals
2.5 mm², fine stranded

Purge gas connection
∅ 10 mm

Pressure sensors
MIN A/B = 0 to 25 mbar
MAX = 0 to 25 mbar
DIFF A/B = 0 to 25 mbar

Purging time
0 to 99 min; 5 sec. dropout delay

Weight
5.9 kg

Safety Level
SIL 2

Electrical data

Supply voltage
AC 230 V (AC 115 V) ±10 %

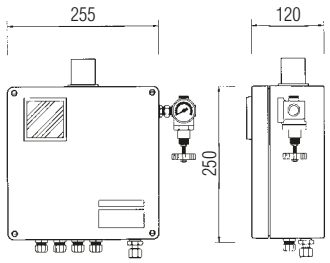
Power consumption
P_V = 15 W/230 V

Make contact
K 2/3, 5 A for cos φ = 1
K 4 and K 5; voltage free

Temperature switching value (optional)
0 °C to +80 °C

Bypass key switch (optional)

Dimensions/mounting positions



Selection chart

Version	Code no.
230 V	1
115 V	2

07-3711-2213/ ☐ 000

Complete order no.
Please enter code number. Technical data subject to change without notice.

Control unit

Features

- 4 voltage free contacts
- 3-line LCD display
- LED status display
- Modular design
- Fail-safe control
- Integrated valve switches for purging gas input and output
- Connection possibility of seperate pressure sensors

Description

The APEX 2003.SI control unit controls and monitors the purging and operating phases in Ex p protected analysis systems with integrated containment.

Additional function

By connecting additional pressure sensors, the pressure inside the enclosure is regulated by means of a proportional valve to a higher level than that of the measuring gas.

The flow of purge gas during the purging phase is at most 4100 standard litres / h while the pressure inside the enclosure is 50 mbar.

The control unit features two freely programmable relays and one non-floating enabling contact.

Explosion protection

Ex protection type
ATEX Ⓔx II 2(1)G Ex d e ib [ia Ga px] IIC T4 Gb

Certification
DMT 99 ATEX E 082

See www.bartec.-group.com for more approvals and certification.

Ambient temperature
-20 °C to +40 °C

Technical data

Guidelines
Directive 2004/108/EC
Directive 94/9/EC

Construction
Ex e protective enclosure
with viewport lid

Enclosure material
glass-fiber reinforced, polyester

Protection class
IP 65

Terminals
2.5 mm², fine stranded

Purge gas connection
∅ 10 mm

Pressure time
MIN A/B = 0 to 300 mbar
MAX = 0 to 300 mbar
DIFF A/B = 0 to 25 mbar

Purging time
0 bis 99 min; 5 sec. dropout delay

Weight
11 kg

Safety Level
SIL 2

Electrical data

Supply voltage
AC 230 (AC 115 V) ±10 %

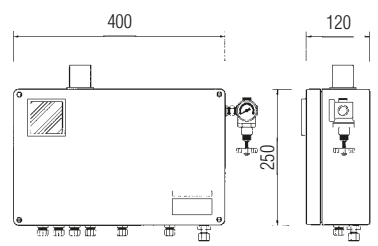
Power consumption
P_V = 21 W/230 V

Make contact
K 2/3, 5 A for cos φ = 1
K 4 and K 5, voltage free

Temperature switching value (optional)
0 °C to +80 °C

Bypass key switch (optional)

Dimensions/mounting positions



Selection chart

Version	Code no.
230 V	1
115 V	2

07-3711-3223/ ☐ 003

Complete order no.
Please enter code number. Technical data subject to change without notice.

SILAS Controller

Features

- Small configuration
- Easy to handle
- Separate purging gas input and output

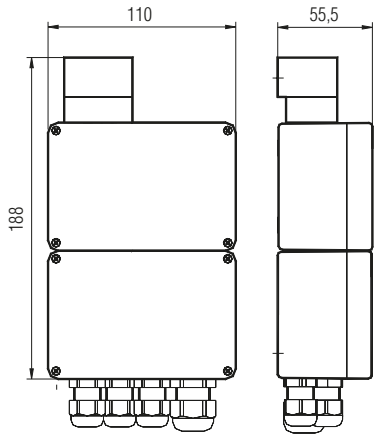
Description

The SILAS controller serves to monitor electrical operating equipment that is set up in accordance with the „pressurised apparatus with leakage compensation“.

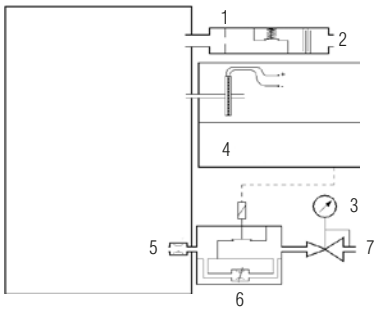
It is a complete safety device, which consists of a Type A7-3741-1110/*000 SILAS controller and a type 17-51P3-1604 pressure control device.

It is also necessary to have an optional digital purging gas valve to supply protective gas.

Dimensions

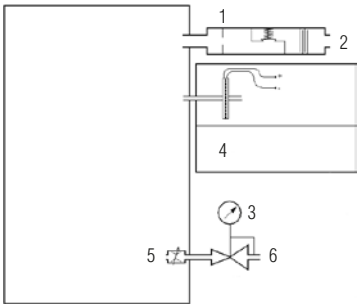


Solution variant pz



1. Pressure monitor module (17-51P3-1604)
2. Protective gas outlet
3. Pressure reducer (05-0056.)
4. SILAS controller (A7-3741-1100/.000)
5. Purging air nozzle
6. Optional digital purging gas valve (e. g. 03-5110-00.)
7. Protective gas supply

Solution variant pD



1. Pressure monitor module (17-51P3-1604)
2. Protective gas outlet
3. Pressure reducer (05-0056-..)
4. SILAS controller (A7-3741-1100/.000)
5. Purging air nozzle
6. Optional digital purging gas valve (e. g. 03-5110-00..)
7. Protective gas supply

03-0330-0597-10/2014-BCS-306764/1

Explosion protection

Ex protection type/ambient temperature

ATEX ⟨Ex⟩ II 3G Ex nA nC [pz] IIC T4 Gc
-20 °C to +60 °C
⟨Ex⟩ II 3G Ex nA nC [pz] IIC T6 Gc
-20 °C to +40 °C
⟨Ex⟩ II 3D Ex tc [p] IIIB T85 °C Dc

Certification
TÜV 09 ATEX 553359

IECEx Ex nA nC [pz] IIC T4 Gc
-20 °C to +60 °C
Ex nA nC [pz] IIC T6 Gc
-20 °C to +40 °C
Ex tc [p] IIIB T85 °C Dc

Certification
IECEx TUN 10.0030 X

See www.bartec.-group.com for more approvals and certification.

Approved for
Zone 2 and Zone 22

Technical data

Operating elements
- LCD display
- 1 power switch
- 1 BCD switch for selecting parameters
- 3 buttons for changing parameters
- 3 LEDs for displaying switching relay status
- 1 bypass

Relay
1. Alarm relay (voltage-free)
2. Control relay for purge valve
3. Signal relay for status transmission

Supply voltage
AC 230 V/50 to 60 Hz
AC 115 V/50 to 60 Hz
DC 24 V

Power consumption
max. 8 W

Ambient temperature
Operation -20 °C to +40 °C (+60 °C)
Storage -20 °C to +60 °C

Pressure range
0 to 25 mbar for all pressure switching levels

Purging time
0 to 60 min. (adjustable)

Weight
approx. 1.2 kg

Protection class
min. IP 54

Assembly
See operating instructions SILAS controller

Selection chart

Description	Rated voltage	Code no.
SILAS Controller	AC 230 V	**1**
	AC 115 V	**2**
	DC 24 V	**4**

Complete order no. A7-3741-1110/ ☐ 000

Please enter code number. Technical data subject to change without notice.

Order no. SILAS Accessories
Pressure monitor
Module Zone 2 or 22
17-51P3-1604

03-0330-0597-10/2014-BCS-306764/2

APC
APEX Pressurized Cabinet
for Zone 1

SPC
SILAS Pressurized Cabinet
for Zone 2 or 22

Description

The demand of complex automation functions for processes in the field of chemistry, pharmacy, oil and gas calls for flexible, safe and maintenance-friendly solutions for measuring, controlling, regulating and visualization tasks, particularly in potentially explosive areas.

Complete control systems and switchgear, motors, actuators and pumps, open-plan displays, industrial monitors incl. keyboards and printers must be made ready for applications in hazardous areas.

For many applications the Ex p pressurized cabinet is one of the most flexible Ex solutions. Thanks to this type of protection, non-explosion proof devices can be operated in potentially explosive areas of zone 1, 2 and 22.

The underlying idea is to prevent an explosive atmosphere from entering a sealed protective enclosure by generating a permanent overpressure against the surrounding atmosphere.

With the pressurized cabinet, BARTEC offers a completely new Ex solution for the control and automation of devices, machines and systems in zone 1, 2 and 22.

Depending on the application, non-explosion-proof control units and switchgear as well as complete automation systems are mounted into the pressurized cabinet. On the basis of the modular APEX 2003 overpressure control, which has been certified in accordance with ATEX, modern, operationable Ex solutions are realized - including the required certification in accordance with 94/9/EC.

The stirring gas overpressure is realized by a compensation of the leakage losses or by permanent flushing. The pressurized cabinet has been designed for an ambient temperature between -20 °C and +60 °C in the temperature classes T3 to T5. For temperature class T6, an ambient temperature between -20 °C and +40 °C is permissible.

The maintenance and availability of the explosion-proof devices and system has top priority. Within the course of many years, the BARTEC experts have gathered substantial experience with explosion protection applications as well as the conception of complete system solutions for automation. On the basis of this know-how, safe and economically efficient solutions ranging from engineering over production and procurement via commissioning and approval have been developed.

Depending on the application, Ex p solutions are realized with sheet-steel or stainless steel, with air-conditioning, different lacquer coats, seawater-resistant and tropic-proof. BARTEC solutions also comprise commissioning and function checks. For integration into the already existing explosion protection document, a detailed operating manual is supplied. In addition to this, introduction and training measures for qualified staff members may be implemented upon request.

Customized Solutions

BARTEC offers customized, pressurized solutions for:

- Devices
- Printers
- Operator terminals
- Control units
- Frequency converters
- Monitors
- Motors

Air-conditioning

Optionally available from BARTEC various solutions to the climate of Ex-p systems:

- Operating heating
- Standstill heating
- Air cooler
- Air-conditionier
- Water-air cooler

Accessories

- Stirring gas filter systems
- Power amplifier up to 30 kW
- Interposing relays for data performances
- Bypass key switches

03-0330-0657-10/2014-BCS-318750/1

Explosion protection

Ex protection type APC

ATEX Ⓔx II 2G Ex px IIC T3 to T6 Gb
Ⓔx II 2G Ex px ib IIC T3 to T6 Gb

Certification
BVS 11 ATEX E 144

IECEx Ex px IIC T3 to T6 Gb
Ex px ib IIC T3 to T6 Gb

Certification
IECEx BVS 13.0049

See www.bartec.-group.com for more approvals and certification.

Ex protection type SPC

ATEX Ⓔx II 3G Ex pz IIC T3 to T6 Gc
Ⓔx II 3G Ex pz ib IIC T3 to T6 Gc

Certification
BVS 11 ATEX E 145

IECEx Ex pz IIC T3 to T6 Gc
Ex pz ib IIC T3 to T6 Gc

Certification
IECEx BVS 11.0070

See www.bartec.-group.com for more approvals and certification.

Ambient temperature
-20 °C to +60 °C
(at T6 max. +40 °C)

Technical data

Structure	Standard enclosure or tailor-made solutions
Enclosure material	Stainless steel, Coated sheet-steel Plastic (certified separately)
Protection class	min. IP 54
Enclosure volume	max. 6.336 dm^3
Overpressure range	0 to 25 mbar
Stirring gas	cleaned compressed air or inert gas $T_{max.}$ = 40 °C
Purging gas primary pressure	1 to 25 bar
Operating pressure	2 to 4 mbar
Cleaning pressure	1 to 20 mbar
Purging time	**APC** 0 to 99 minutes **SPC** 0 to 60 minutes
Switch-off delay	5 seconds
Guidelines/norms/certifications	Directive 2004/108/EC Directive 94/9/EC

Electrical data

Supply voltage	max. AC 690 V
Power consumption	depending on the application

03-0330-0657-10/2014-BCS-318750/2

Digital purging gas valve

for Ex px operating equipment

Description

The proportional purging gas valve activated by the APEX controller conducts the supplied purging gas into the Ex px control cabinet.

During the purging phase the purging gas valve opens far enough to allow the max. purging gas pressure to be reached and ensure purging pressure in the encapsulated control cabinet.

After the purging phase the purging gas valve closes. The leakage from the Ex px control cabinet is compensated by the valve's linear opening.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex mb IIC T6 Gb

Certification
PTB 00 ATEX 2129X

IECEx Ex mb IIC T6 Gb

Certification
IECEx PTB 07.0021X

See www.bartec.-group.com for more approvals and certification.

Approved for
Zone 1 and Zone 2

Ambient temperature
-10 °C to +55 °C

Technical data

Adjusting elements
Adjustment screw to set the quantity of leakage air

Supply voltage
AC 230 V/9 W/50 to 60 Hz
AC 115 V/9 W/50 to 60 Hz
DC 24 V/9 W

Voltage tolerance
± 10%

Pressure range
0 to 16 bar

Connection
3-metre cable or terminal box

Valve connection
G 3/8"

Nominal diameter
13 mm

Max. Ex px control cabinet capacity
2.000 litres

Weight
approx. 1.2 kg

Protection class
IP 65

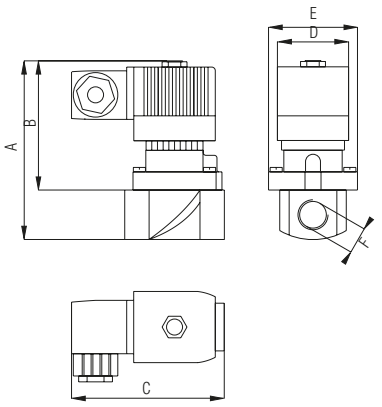
Assembly
Inside Ex px operating equipment

Scope of supply
Valve
2 x purging air nozzle, without boreholes

03-0330-0598-10/2014-BCS-3066805/1

Dimensions in mm	Type
100	A
72	B
56	C
40	D
40	E
G 3/8"	F

Dimensions



Purging air nozzle		
Ex px control cabinet capacity	**Recommended purging air nozzle**	**Recommended orifice APEX controller**
< 50 litres	∅ 2.8 mm	12 mm
≥ 50 litres < 300 litres	∅ 3.9 mm	15 mm
≥ 300 < 700 litres	∅ 4.5 mm	18 mm
≥ 1000 litres	∅ 5.5 mm	2 x 18 mm

Selection chart

	Digital purging gas valve	Code no.
3 m cable connection	AC 230 V	**71**
	AC 110 V	**72**
	DC 24 V	**73**
Terminal box	AC 230 V	**74**
	AC 110 V	**75**
	DC 24 V	**76**

Complete oder no. 05-0056-00 ☐☐

Please enter code number. Technical data subject to change without notice.

03-0330-0598-10/2014-BCS-306805/2

Proportional purging gas valve

for Ex px operating equipment

Description

The proportional purging gas valve activated by the APEX controller conducts the supplied purging gas into the Ex px control cabinet.

During the purging phase the purging gas valve opens far enough to allow the max. purging gas pressure to be reached and ensure purging pressure in the encapsulated control cabinet.

After the purging phase the purging gas valve closes. The leakage from the Ex px control cabinet is compensated by the valve's linear opening.

Only the actual loss by leakage is compensated when the proportional purging gas valve is used.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex m II T4

Certification
PTB 00 ATEX 2202X

IECEx Ex m II T4

Certification
IECEx PTB 13.0011 X

Ambient temperature
-10 °C to +55 °C

Technical data

Supply voltage
AC 230 V/15 W/50 to 60 Hz
AC 115 V/15 W/50 to 60 Hz

Voltage tolerance
± 10 %

Pressure range
0 to 4 bar

Valve connection
G 3/8"

Nominal diameter
6.0 mm

Max. Ex px control cabinet capacity
1,000 litres

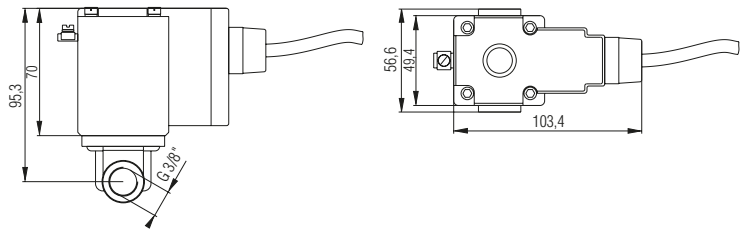
Weight
approx. 1.2 kg

Protection class
IP 65

Assembly
Inside Ex px operating equipment

Scope of supply
valve with 3-m connection cable
2 x purging air nozzle, without boreholes

Dimensions mm



Selection chart Proportional purging gas valve G 3/8"

Voltage	Order no. Brass valve body	Order no. Stainless-steel valve body
AC 230 V	**05-0056-0077**	**05-0056-0079**
AC 110 V	**05-0056-0078**	**05-0056-0080**

Digital purging gas valve

for Ex pz operating equipment

Description

The digital purging gas valve activated by the SILAS controller conducts the supplied purging gas into the Ex pz control cabinet.

During the purging phase the purging gas valve opens and accordingly ensures purging pressure in the encapsulated control cabinet.

After the purging phase the purging gas valve closes. The leakage from the Ex pz control cabinet is compensated by an integrated adjustable leakage air valve.

Explosion protection

Ex protection type
Ⓔx II 3G Ex nA T4

Ambient temperature
-10 °C to +40 °C

permitted for
Zone 2

Technical data

Adjusting elements
Adjustment screw to set the quantity of leakage air

Supply voltage
AC 230 V/6,5 VA/50 to 60 Hz
AC 115 V/5,6 VA/50 to 60 Hz
DC 24 V/6,0 W

Voltage tolerance
± 10%

Pressure range
0 to 4 bar

Valve connection
G 3/8"

Nominal diameter
6,0 mm

Control cabinet borehole
17 mm

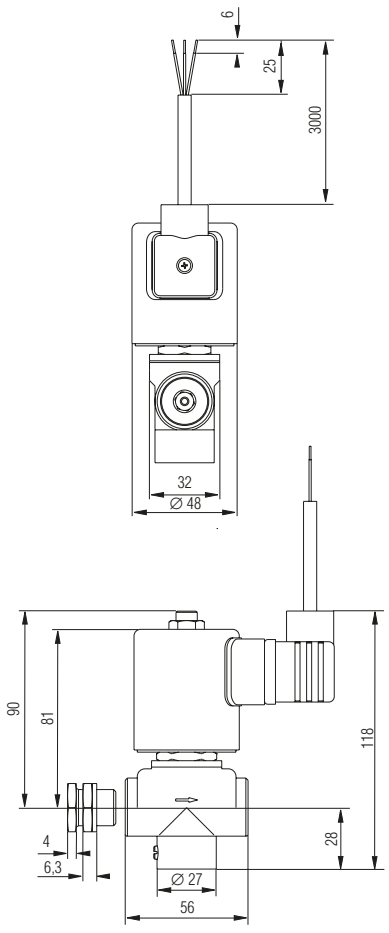
Weight
approx. 1,2 kg

Protection class
IP 65
with mounted appliance outlet

Assembly
Inside Ex pz operating equipment

Scope of supply
Valve with 3-m connection cable
Purging air nozzle
Bulkhead union

Dimensions



Selection chart Digital purging gas valve

Voltage	Order no. with purging air nozzle [1]	Order no. with purging air nozzle [2]
AC 230 V	**03-5110-0026**	**03-5110-0027**
AC 115 V	**03-5110-0028**	**03-5110-0030**
DC 24 V	**03-5110-0029**	**03-5110-0031**

[1] Ø 2.8 mm and Ø 3.9 mm; [2] Ø 5.5 mm and Ø 7.7 mm

Pressure monitor module

Description

The pressure monitor module is a constituent part of pressurised controls. Various variants are available for applications in Zone 1, 2 and 22.

Function

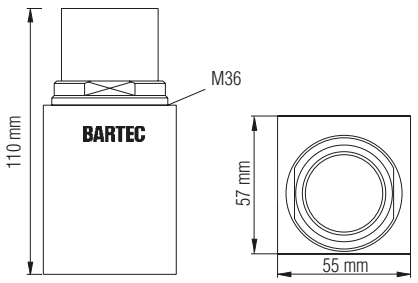
Pressure monitor module for Zone 1

- pressure monitor module
- pickup points for measuring the flow rate

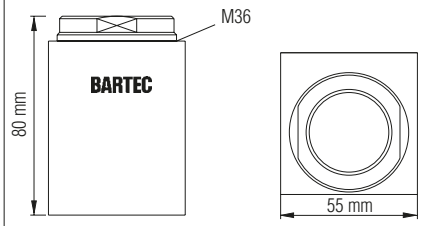
Pressure monitor module for Zone 2 and 22

- pressure monitor module
- through-flow valve

Dimensions Variant for Zone 1



Dimensions Variant for Zone 2



Pressure monitor module Zone 1

Technical data

Temperature range
-20 °C to +80 °C

Installation
in the Ex px operating equipment

Assembly borehole
∅ 37 mm

Connection
Quick plug-in connector for hose

Flying spark barrier
3-fold

Mounting position
- any position
- plastic body inside Ex p operating equipment

Opening pressure
3 mbar

Orifice plate

17-51P3-1403	12 mm
17-51P3-1503	15 mm
17-51P3-1603	18 mm

Protection class
IP 65

Pressure monitor module Zone 2 and 22

Technical data

Temperature range
-20 °C to +80 °C

Installation
in the Ex pz/pD operating equipment

Assembly borehole
∅ 37 mm

Flying spark barrier
2-fold (1x for each input and output)

Mounting position
- any position
- plastic body inside Ex pz/pD operating equipment

Opening pressure
3 mbar

Protection class
IP 54

Order no.

Module Zone 1
Orifice plate

12 mm	**17-51P3-1403**
15 mm	**17-51P3-1503**
18 mm	**17-51P3-1603**

Module Zone 2 or 22
17-51P3-1604

Pressure reducer

Description

This upstream connecting pressure reducer is a diaphragm pressure regulator with secondary venting for lowering the pressure of externally supplied compressed air.

The settings are made by means of a handwheel. The set reduced pressure can be read on a pressure gauge.

Ambient conditions	
Ambient temperature	-10 °C bis +60 °C
Medium temperature	-10 °C to +40 °C
for Ex p operating equipment	Zone 1 and 2

Pressure reducer 1/4" with pressure gauge

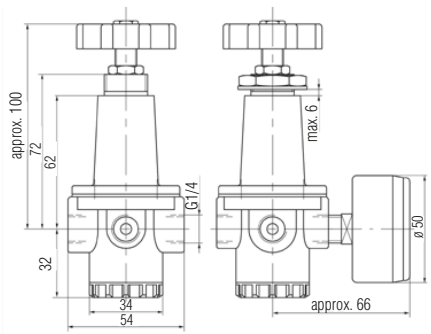
Technical data

Operating elements
Handwheel for setting the air pressure;
Handwheel held in place by means of a locknut

Installation
Mounting position is optional, observe the flow direction marking on the enclosure;
Mounting in control cabinet borehole: ø 17.5 mm

Max. input pressure (p_1)	16 bar
Pressure regulation range (p_2)	0.5 to 6 bar, infinitely variably
Connections	Air connection G 1/4" Pressure gauge connection G 1/4" Nominal diameter DN 6
Nominal flow rate (QN)	1000 l/min
Weight	with pressure gauge approx. 0.55 kg
Material	Enclosure: zinc die casting Diaphragm, seals: NBR Compression spring: steel, galvanised Counterpressure spring: stainless steel
Scope of supply	Pressure reducer, 2 x gaskets, Bulkhead nipples G1 / 4"i / G3 / 8"a Double nipples detachable G1 / 4" / G1 / 4"

Dimensions in mm, Pressure reducer 1/4"



Order no. Pressure reducer 1/4" **05-0056-0007**

Pressure reducer 1/2" with pressure gauge

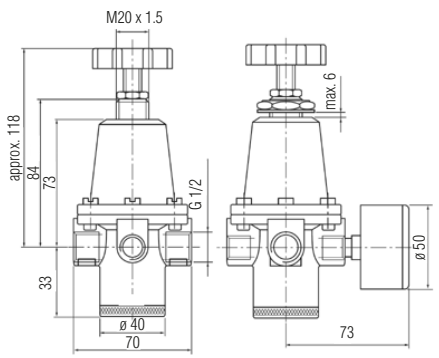
Technical data

Operating elements
Handwheel for setting the air pressure;
Handwheel held in place by means of a locknut

Installation
Mounting position is optional, observe the flow direction marking on the enclosure;
Mounting in control cabinet borehole: ø 21 mm

Max. input pressure (p_1)	25 bar
Pressure regulation range (p_2)	0.5 to 6 bar, infinitely variably
Connections	Air connection G 1/2" Pressure gauge connection G 1/4" Nominal diameter DN 15
Nominal flow rate (QN)	2.200 l/min
Weight	with pressure gauge approx. 1.2 kg
Material	Enclosure: zinc die casting Diaphragm, seals: NBR Compression spring: steel, galvanised Counterpressure spring: stainless steel
Scope of supply	Pressure reducer, 2 x gaskets, Bulkhead nipples G1 / 4"i / G3 / 8"a Double nipples detachable G1 / 4" / G1 / 4"

Dimensions in mm, Pressure reducer 1/2"



Order no. Pressure reducer 1/2" **05-0056-0041**

Contactor Ex d

Features

- 4 galvanically isolated switching contacts
- 2 redundant switching contacts
- Compact construction
- Switching capacity up to AC 690 V / 18 kW
- Disconnection of power from supply lines

Description

The Ex d contactor is used for the safe switching of currents greater than 5 A or for 3+N mains power supplies in hazardous areas.

The contactor is activated by a pressurised system (e. g. SILAS control, APEX control).

For this purpose it has four galvanically isolated switching contacts in a redundant version in the form of two switching contactors isolated from each other and connected in series. The four isolated switching contacts allow the connection of three-phase consumers also.

Explosion protection

Ex protection type
ATEX Ⓔx II 2G Ex de IIC T6

Certification
PTB 03 ATEX 1138
PTB 03 ATEX 1024

See www.bartec.-group.com for more approvals and certification.

Ambient temperature
-20 °C to +40 °C

Guidelines
Directive 2004/108/EC
Directive 94/9/EC

Technical data

Protection class
IP 65

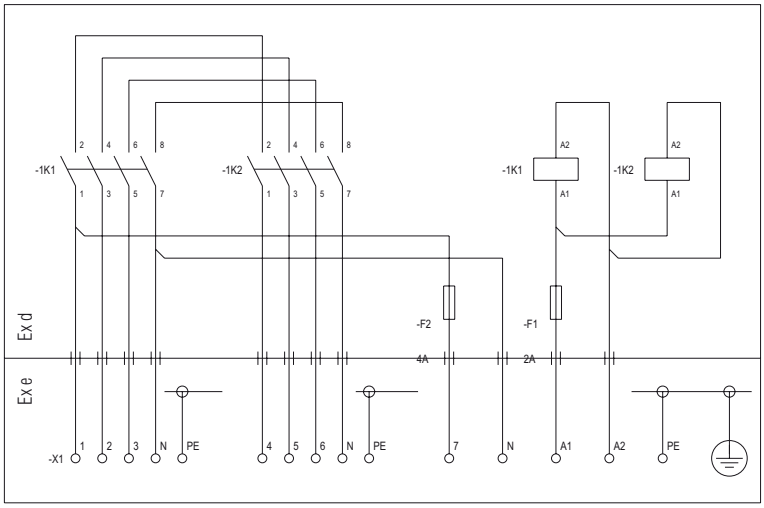
Rated operating voltage U_e
690 V

Rated frequency range
50 to 60 Hz

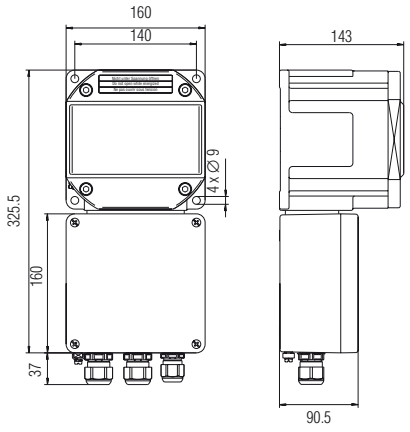
Ambient temperature (operation)
-20 °C to + 40 °C

Coil voltage
AC 100 to 250 V/50/60 Hz or
DC 100 to 250 V

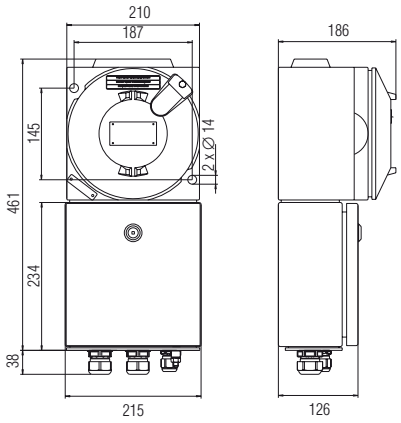
Wiring diagram



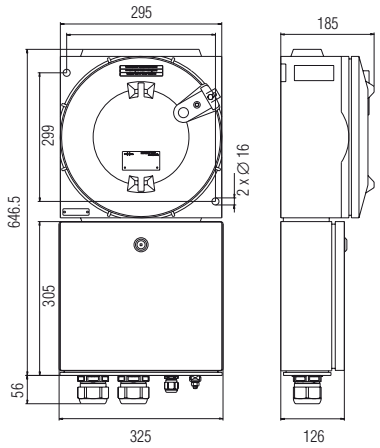
Dimensions Type 4 kW and 7.5 kW



Dimensions Type 11 kW



Dimensions Type 18 kW



Selection chart

Variants	4 kW	7.5 kW	11 kW	18 kW
Max. Conductor cross-section/Connecting terminals	4 mm²	4 mm²	16 mm²	35 mm²
Cable glands	2 x M25, 2 x M20	2 x M25, 1 x M20	2 x M32, 1 x M20	2 x M50, 1 x M20
Rated operating current I_e /AC-1 U_e max. 690 V	20 A	20 A	30 A	50 A
Rated operating current I_e /AC-3 U_e 380 to 400 V	9 A	18 A	26 A	38 A
Rated operating power AC-3 220-230-240 V 380 to 400 V	 2.2 kW 4 kW	 4 kW 7.5 kW	 6.5 kW 11 kW	 11 kW 18 kW
Short-circuit protection in accordance with type 2 for contacts without thermal overload relay – without motor protection U_e < 500 V AC – gG fuse	20 A	20 A	25 A	50 A
Material Ex d enclosure Material Ex e junction box	Aluminium painted, similar to RAL 7016 Aluminium painted, similar to RAL 7001		Aluminium painted, similar to RAL 7032 Sheet steel painted, similar to RAL 7032	
Fuse contactor (F1) Fuse pressurisation (F2)	2.0 AT 4.0 AT			
Order no.	**07-4230-1101/0292**	**07-4230-1101/0293**	**07-4310-0561/0142**	**07-4320-0561/0248**

Specification Sheet Pressurized cabinet

BARTEC

Customer

Company

Street

Postcode/City

Country person

Contact

E-mail

Phone Fax

BARTEC

Sales employee

☐ **Offer**

☐ **Order**

Project name

Enquiry number

Deadline

Offer of quotation Delivery

Documents provided

☐ ePLAN documentation

☐ Control cabinet drawing

☐ Other points

☐ Parts list

☐ Data sheets

Drawing numbers

Order quantity

Area of use

☐ Zone 1 (2G)

☐ Zone 2 (3G)

☐ Zone 22 (3D)

☐ ATEX certified

☐ IECEx certified

☐ Outdoor

☐ Indoor

☐ Clean room

☐ Offshore

Temperatures

Ambient temperature _____ to _____ °C

Temperature class

☐ T3

☐ T4

☐ T5

☐ T6

Material and construction “Pressurized cabinet“

Enclosure size (mm): Width _____ x Height _____ x Depth _____

☐ Stainless steel V2A (1.4301, AISI 304)

☐ Stainless steel V4A (1.4401, AISI 316L)

☐ Sheet steel, painted

☐ Plastic (separately certified)

☐ 1-door, stop on the right

☐ 2-door

☐ multi-door

☐ Painted in conformance to RAL:

☐ Plinth, height: _____

☐ Seawater-resistant paint

☐ Special paint (include specification sheet)

☐ Steering castors

☐ Sun roof

☐ Feet

☐ Crane eyelets

☐ Lock double-bit, standard

☐ Lock, lockable

03-0330-0666-10/2014-BCS-319728/1

Inspection window/fitted window

☐ Inspection window

Size (mm): Width _____ x Height _____

☐ Fitted window ☐ lockable

Size (mm): Width _____ x Height _____

Operating voltage

☐ AC 230 V (L/N/PE) ☐ AC 115 V (L/N/PE)

☐ AC 400 V (3L/N/PE) ☐ DC 24 V (L+/GND)

☐ Power consumption: _____ A

☐ others: _____

Safe activation

☐ Direct activation (through Ex p control)

☐ Indirect activation (through Ex d contactor)

☐ Activation from the non-hazardous zone

Interface(s)

☐ RS _____ ☐ LAN

☐ PROFIBUS ☐ other: _____

Air conditioning/cooling/heating

☐ Compressed-air cooling (VORTEX)

☐ Water/air cooling

☐ Air conditioning

☐ Anti-freeze heating

Internal power dissipation _____ W

Max. internal temperature _____ °C

Min. internal temperature _____ °C

Max. external temperature _____ °C

Min. external temperature _____ °C

Water temperature _____ °C

Purge gas medium

☐ cleaned compressed air

☐ inert gas

Cable entries

Quantity	Size	Ex i	Ex i circuits effective in Zone

Quantity	Size	Ex i	Ex i circuits effective in Zone

Fitted components

Quantity	Product designation	Type

03-0330-0666-10/2014-BCS-319728/2

BARTEC

BARTEC

Installation systems

Plug-and-socket devices

Low stock!

Description

BARTEC's plug-and-socket devices for areas in which an explosion hazard exists are particularly well-suited for use in raw atmospheres because of their high degree of IP protection and their resistance to chemicals.

Their integrated switch function gives them the ability to switch overloads as per IEC/EN 60947-3 Cat. AC 22 or AC 23.

Silver-plated butting contacts ensure a constant contact pressure with low transfer resistances.

Special encodings are possible and can be done on request.

Plugs/couplers

The modular design of the plug-and-socket system allows both plugs and couplers to be supplied. They are supplied in unmounted state.

Wall socket

BARTEC supplies both a fully certified wall socket and a socket with a 30° adapter to flange onto housings.

Plug-and-socket devices from BARTEC are approved in accordance with the European directives not only for Zone 1 and 2, but also for Zone 21 and 22. Likewise for Class I Div. 2 Groups A, B, C, D and Class II Div. 2, Groups E, F, H in accordance with the American standards.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G and 2 IID Ex de IIC T6
Ⓔx Ex tD A21 IP 66/IP 67 T80 °C

IECEx Ex de IIC T6
Ex tD A21 IP 66/IP 67 T80 °C

Other approvals and certificates, see www.bartec-group.com

Technical data

Protection class
IP 66/IP 67 (EN 60529)
tested impact energy 4 Nm

Temperature range
-40 °C to +40 °C
on request to +60 °C

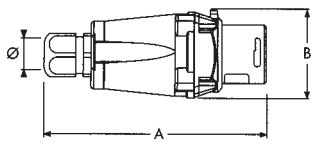
Electrical data

Switching performance in accordance with IEC/EN 60947-3				
Voltage	**Max. conductor cross-section in mm²**			**Type**
440 V*	**Flexible**	**Rigid**	**Auxiliary contacts**	
20 A AC-23	2.5	4		**07-8101**
32 A AC-23	10	16		**07-8102**
32 A AC-23	10	16	2.5	**07-8102** with auxiliary contact
60 A AC-22	16	25		**07-8103**
60 A AC-23	16	25	2.5	**07-8103** with auxiliary contact

The following plastic cable glands are available for the electrical connection:					
Plug housings		**Type**	**Wall socket**		**Type**
16 A	M20 x 1.5 (8 to 13 mm)	**07-8101-5...**	16 A	M25 x 1.5	**07-8101-1...**
32 A	M25 x 1.5 (13 to 19 mm)	**07-8102-5...**	32 A	M25 x 1.5	**07-8102-1...**
60 A	M32 x 1.5 (17 to 25 mm)	**07-8103-5...**	60 A	M25 x 1.5	**07-8103-1...**

*Further voltages on request.

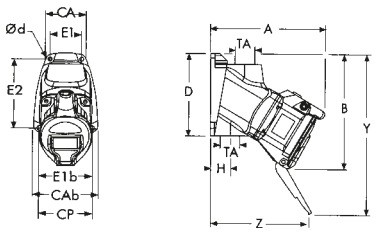
Dimensions plug



Plug

A	B	∅	Type
127	51	8 to 13	**07-8101-5...**
128	68	13 to 19	**07-8102-5...**
149	83	17 to 25	**07-8103-5...**

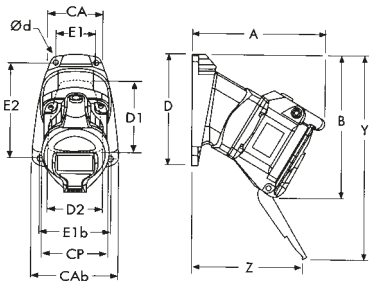
Dimensions wall socket



Wall Socket

A	B	CA	CAb	CP	D	E1	E1b	E2	H	TA	Y	Z	∅d	Type
127	131	45	68	57	90	36	56	78	37.5	M25 x 1.5	180	111	4.5	**07-8101-1...**
138	132	84	84	73	107	70	70	70	17.5	M25 x 1.5	200	105	6.0	**07-8102-1...**
165	162	89	89	82	122	77	77	88	24.0	M25 x 1.5	236	114	6.5	**07-8103-1...**

Dimensions socket with 30° adapter



Socket with 30° adapter

A	B	CA	CAb	CP	D	D1	D2	E1	E1b	E2	Y	Z	∅d	Type
108	120	45	68	57	90	75	50	36	56	78	169	92	4.5	**07-8101-3...**
119	141	76	76	73	107	65	95	63	63	95	209	86	5.5	**07-8102-3...**
136	156	76	76	82	107	65	95	63	63	95	230	85	5.5	**07-8103-3...**

Selection chart

Amperage	Code no.	Execution	Code no.	Assignment	Code no.	Auxiliary contacts	Code no.
16 A	**1**	Plug	**51**	L + N + PE (230 V)	**1**	without	**0**
32 A	**2**	Socket	**12**	2 + PE (440 V)	**2**	with two auxiliary contacts*	**1**
60 A	**3**	Socket with 30°-adapter	**32**	3 + PE (440 V)	**3**		**-**
	-		**-**	3 + N + PE (440 V)	**4**		**-**

Complete order no. 07-810 ☐ - ☐☐☐☐☐

Please enter code number. Auxiliary contacts* only possible for 32 A and 60 A models.

Other socket distributors for Zone 1, 2 and Zone 21, 22 available on request.

Connector

16 A plug connection

Wall socket

Description

The plug connections in the 07-831* series are suitable for use in potentially explosive areas of Zones 1 and 2 and of Zones 21 and 22.

The quality materials used for the enclosure, including the external metal parts, guarantee the appropriate corrosion protection and chemical resistance for the application in “normal industrial atmospheres”:

- Impact resistant polyamide
- Fibreglass reinforced polyester
- Stainless steel AISI 316 L.

The plug connections are used to supply power to portable local controllers, electrical installations and mobile machines and drives in potentially explosive areas, but can also be used in a “normal industrial area”.

The low voltage sockets can be used up to a max. 16 A and for the voltage range set out in EN 60309 (see technical data).

The operating equipment connected to the connector must be suitable for the mains voltage supplied.

Flange socket

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex d e [ia] IIC T6 Gb
Ⓔx II 2D Ex tb IIIC T80 °C Db

Certification
Wall socket/connector
PTB 99 ATEX 1039
Flange socket
PTB 99 ATEX 1040 U

IECEx Ex ed [ia] IIC T6

Certification
IECEx BKI 04.0002

Other approvals and test certificates can be found at www.bartec.de

Permitted ambient temperature
-20 °C to +40 °C

Extended temperature range on request

Technical data

Rated voltage
Up to 250 V, (3-pole) / 415 V, (4-pole) / 415 V, (5-pole) AC
Further voltage ranges on request

Rated current
16 A

Frequency
Up to 400 Hz

Making / breaking capacity AC-3 in acc. with EN 60947-4
U_e 690 V / I_e 16 A

Max. external back-up fuse
Without thermal protection: 16 A
With thermal protection: 35 A gL
(Rated current set to 16 A)

Protection class
I

Protection class under EN 60529
IP 66

Enclosure colour
schwarz

Wall socket

Cable glands
1 x M25 ∅ 8 to 17 mm
1 x M25 plastic EX screw plug

Terminals
2 x 1 to 4 mm²

Enclosure material
Fibreglass reinforced polyester

Connector

Cable glands
- ∅ 8 to 19 mm (3-pole)
- ∅ 8 to 21 mm (4-pole)
- ∅ 12 to 21 mm (5-pole)

Terminals
1 x 1.0 to 2.5 mm²

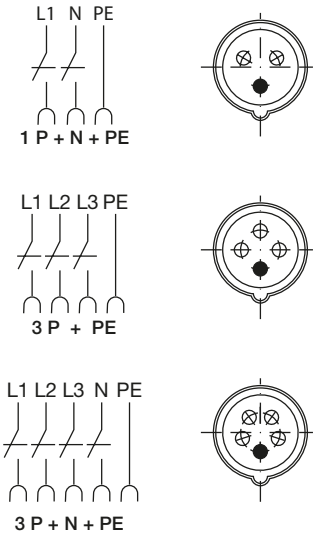
Enclosure material
Polyamide

Flange socket

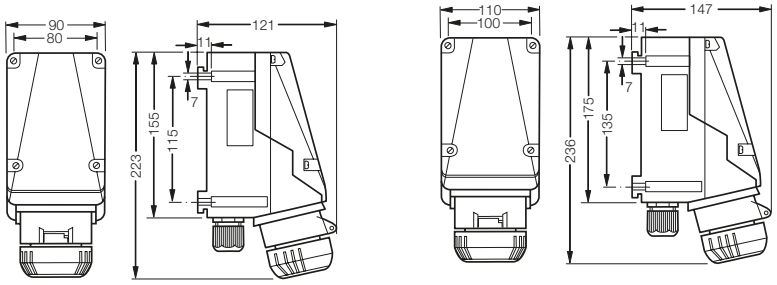
Terminals
2 x 1 to 4 mm²

Enclosure material
Polyamide

Connection diagrams
without auxiliary contact

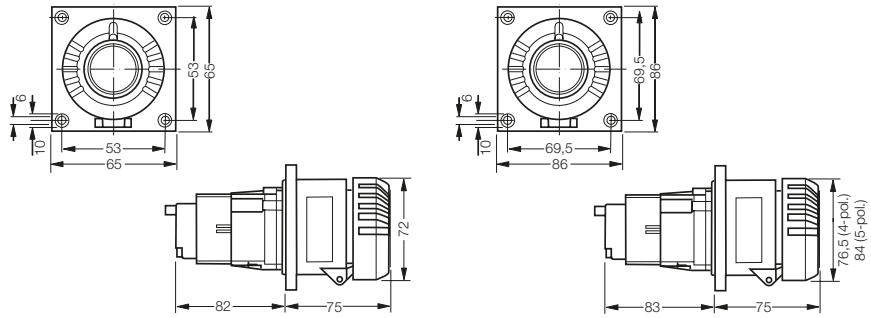


Dimensions 3-pole wall socket, 4/5-pole wall socket

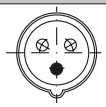
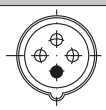
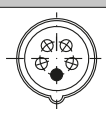


Dimensions 3-pole connector, 4/5-pole connector

Dimensions 3-pole flange socket, 4/5-pole flange socket



Selection table

Voltage	h	Type	Cable gland	Weight approx. kg	Order no.
Type 16 A 3-pole					
200 to 250 V	 6	Wall socket	M25 KU	1.2	**07-8314-34431000**
		Flange socket		0.4	**07-8313-34100000**
		Connector		0.35	**07-8311-34100000**
Type 16 A 4-pole					
380 to 415 V	 6	Wall socket	M25 KU	1.8	**07-8314-45431000**
		Flange socket		1.0	**07-8313-45100000**
		Connector		0.7	**07-8311-45100000**
Type 16 A 5-pole					
200 to 250 V 380 to 415 V	 6	Wall socket	M25 KU	1.8	**07-8314-55431000**
		Flange socket		1.0	**07-8313-55100000**
		Connector		0.7	**07-8311-55100000**

Other voltage ranges and designs are available on request. KU = 1 x M25 plastic cable gland for ∅ 8 to 17 mm, 1 x M25 plastic EX screw plug

03-0330-0832-10/2014-BCS-3746762/2

Connector

32 A plug connection

Wall socket

Description

The plug connections in the 07-832* series are suitable for use in potentially explosive areas of Zones 1 and 2 and of Zones 21 and 22.

The quality materials used for the enclosure, including the external metal parts, guarantee the appropriate corrosion protection and chemical resistance for the application in “normal industrial atmospheres”:

- Impact resistant polyamide
- Fibreglass reinforced polyester
- Stainless steel AISI 316 L.

The plug connections are used to supply power to portable local controllers, electrical installations and mobile machines and drives in potentially explosive areas, but can also be used in a “normal industrial area”.

The low voltage sockets can be used up to a max. 32 A and for the voltage range set out in EN 60309 (see technical data).

The operating equipment connected to the connector must be suitable for the mains voltage supplied.

Flange socket

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex d e [ia] IIC T6 Gb
Ⓔx II 2D Ex tb IIIC T80 °C Db

Certification
Wall socket/connector
PTB 99 ATEX 1041
Flange socket
PTB 99 ATEX 1042 U

IECEx Ex ed [ia] IIC T6

Certification
IECEx BKI 04.0002

Other approvals and test certificates can be found at www.bartec.de

Permitted ambient temperature
-20 °C to +40 °C

Extended temperature range on request

Technical data

Rated voltage
Up to 250 V, (3-pole) / 415 V, (4-pole) / 415 V, (5-pole) AC
Further voltage ranges on request

Rated current
16 A

Frequency
Up to 400 Hz

Making / breaking capacity AC-3 in acc. with EN 60947-4
U_e 690 V / I_e 16 A

Max. external back-up fuse
Without thermal protection: 16 A
With thermal protection: 35 A gL
(Rated current set to 16 A)

Protection class
I

Protection class under EN 60529
IP 66

Enclosure colour
Black

Wall socket

Cable glands
1 x M25 ∅ 8 to 17 mm
1 x M25 plastic EX screw plug

Terminals
2 x 1 to 4 mm²

Enclosure material
Fibreglass reinforced polyester

Connector

Cable glands
- ∅ 8 to 19 mm (3-pole)
- ∅ 8 to 21 mm (4-pole)
- ∅ 12 to 21 mm (5-pole)

Terminals
1 x 1.0 to 2.5 mm²

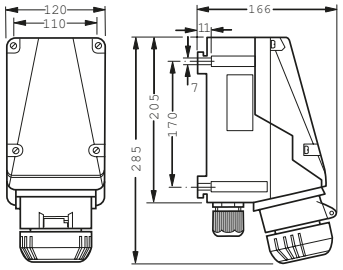
Enclosure material
Polyamide

Flange socket

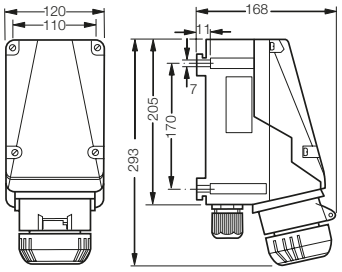
Terminals
2 x 1 to 4 mm²

Enclosure material
Polyamide

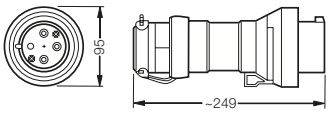
Dimensions 3-pole wall socket,



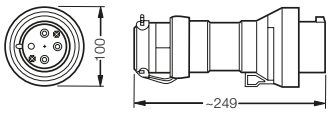
4/5-pole wall socket



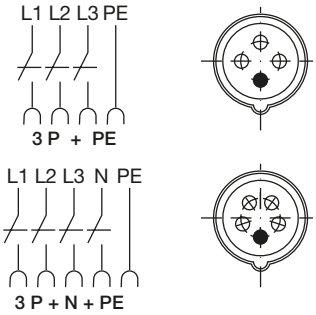
Dimensions 3-pole connector



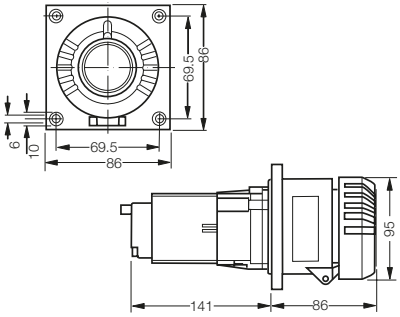
4/5-pole connector



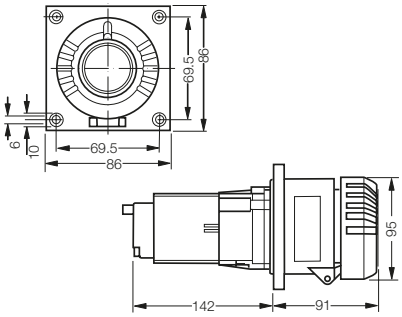
Connection diagrams
without auxiliary contact



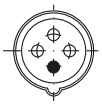
Dimensions 3-pole flange socket



4/5-pole flange socket



Selection table

Voltage	h	Type	Cable gland	Weight approx. kg	Order no.
Type 32 A 4-pole					
380 to 415 V	 6	Wall socket	KU	1.8	**07-8324-45461000**
		Flange socket		1.0	**07-8323-45100000**
		Connector		0.7	**07-8321-45100000**
Type 32 A 5-pole					
200 to 250 V 380 to 415 V	 6	Wall socket	KU	1.8	**07-8324-55461000**
		Flange socket		1.0	**07-8323-55100000**
		Connector		0.7	**07-8321-55100000**

Other voltage ranges and designs are available on request. KU = 1 x M40 plastic cable gland for ∅ 17 to 28 mm, 1 x M40 plastic EX screw plug

Connector

63 A plug connection

Wall socket

Description

The plug connections in the 07-833* series are suitable for use in potentially explosive areas of Zones 1 and 2 and of Zones 21 and 22.

The quality materials used for the enclosure, including the external metal parts, guarantee the appropriate corrosion protection and chemical resistance for the application in “normal industrial atmospheres”:

- Impact resistant polyamide
- Fibreglass reinforced polyester
- Stainless steel AISI 316 L.

The plug connections are used to supply power to portable local controllers, electrical installations and mobile machines and drives in potentially explosive areas, but can also be used in a “normal industrial area”.

The low voltage sockets can be used up to a max. 63 A and for the voltage range set out in EN 60309 (see technical data).

The operating equipment connected to the connector must be suitable for the mains voltage supplied.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex d e IIC T6 Gb
Ⓔx II 2D Ex tb IIIC T80 °C Db

Certification
PTB 00 ATEX 1070

IECEx Ex ed IIC T6

Certification
IECEx BKI 04.0004

Other approvals and test certificates can be found at www.bartec.de

Permitted ambient temperature
-20 °C to +40 °C

Extended temperature range on request

03-0330-0832-10/2014-BCS-374676/5

Technical data

Rated voltage
Up to 415 V AC
Further voltage ranges on request

Rated current
63 A

Frequency
Up to 400 Hz

Making / breaking capacity AC-3 in acc. with EN 60947-4
U_e 690 V / I_e 16 A

Max. external back-up fuse
Without thermal protection: 63 A
With thermal protection: 80 A gL
(Rated current set to 63 A)

Protection class
I

Protection class under EN 60529
IP 66

Enclosure colour
Black

Wall socket

Cable glands
1 x M50 ∅ 22 to 35 mm
1 x M50 plastic EX screw plug

Terminals
2 x 4 to 25 mm²
mit Kabelschuh 1 x 35 mm²

Enclosure material
Fibreglass reinforced polyester

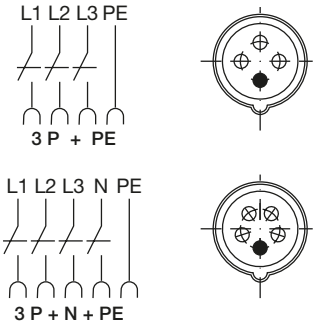
Connector

Cable glands
∅ 19 to 34 mm

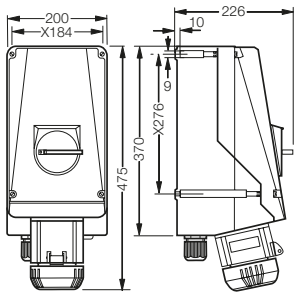
Terminals
1 x 4 to 16 mm²
Pin cable shoe[2)] 1 x 25 mm²

Enclosure material
Polyamide

Connection diagrams
without auxiliary contact

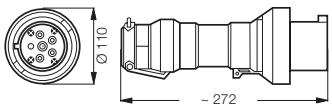


Dimensions 4/5-pole wall socket



X = mounting dimensions

Dimensions 4/5-pole connector



Selection table

Voltage	h	Type	Cable gland	Weight approx. kg	Order no.
Type 63 A 4-pole					
380 to 415 V	 6	Wall socket	KU	1.8	**07-8334-45461000**
		Connector		0.75	**07-8331-45100000**
Type 63 A 5-pole					
200 to 250 V 380 to 415 V	 6	Wall socket	KU	1.8	**07-8334-55461000**
		Connector		0.75	**07-8331-55100000**

Other voltage ranges and designs are available on request.
KU = 1 x M50 plastic cable gland for ∅ 22 to 35 mm, 1 x M50 plastic Ex screw plug

Polyester, Aluminium and Stainless steel enclosures

	Polyester	Aluminium	High-quality stainless steel
Fields of application	Chemical and Petrochemical industry OFF-SHORE Mechanical engineering Refineries	Chemical and Petrochemical industry OFF-SHORE Mechanical engineering Refineries	Chemical and Petrochemical industry OFF-SHORE Mechanical engineering Refineries Food industry Navigation
Functions	Electrical distributions/controls Sensor/actuator terminal box Local control stations and bus connections within the Ex area	Electrical distributions/controls Sensor/actuator terminal box	Electrical distributions/controls Sensor/actuator terminal box Local control stations and bus connections within the Ex area
Requirements	Ex area Zone 1 and 2 International approvals chemical-resistant High protection class for mounted components Seawater-proof Flame-retardant Halogen-free, UV-resistant High temperature resistant corrosion-proof	Ex area Zone 1 and 2 International approvals chemical-resistant High protection class for mounted components Flame-retardant Halogen-free, UV-resistant Special varnishes	Ex area Zone 1 and 2 International approvals chemical-resistant High protection class for mounted components Seawater-proof Flame-retardant Halogen-free, UV-resistant Suitable for installations outdoors and in aggressive atmospheres

03-0330-0195-10/2014-BCS-201166/1

Polyester enclosures

Features

- Chemical-resistant
- Temperature-resistant
- Flame-retardant
- Use in Ex areas with a surface resistance $< 10^9\ \Omega$, black enclosure
- Corrosion-proof
- Seawater-proof

Description

Polyester enclosures have proven their worth in many industrial plants. They offer safe protection even when they are used under extremely unfavorable conditions, on exposure to aggressive chemical media or hard mechanical conditions. The inside base of the enclosure has at its sides, threaded bushings for the fastening of mounting rails or panels. The enclosure is mounted by means of insulated screws outside of the lid seal.

Selection chart

	Empty enclosure	
External dimensions in mm Length (L) x Width (B) x Height (H)	**Polyester black, IP 66/67** **Order no.**	**Polyester grey, IP 66/67** **Order no.**
80 x 75 x 55	**07-5195-0800/7555**	**07-5194-0800/7555**
110 x 75 x 55	**07-5195-1100/7555**	**07-5194-1100/7555**
160 x 75 x 55	**07-5195-1600/7555**	**07-5194-1600/7555**
190 x 75 x 55	**07-5195-1900/7555**	**07-5194-1900/7555**
122 x 120 x 90	**07-5195-1221/2090**	**07-5194-1221/2090**
122 x 120 x 120	**07-5195-1221/2012**	**07-5194-1221/2012**
220 x 120 x 90	**07-5195-2201/2090**	**07-5194-2201/2090**
160 x 160 x 90	**07-5195-1601/6090**	**07-5194-1601/6090**
160 x 160 x 120	**07-5195-1601/6012**	**07-5194-1601/6012**
260 x 160 x 90	**07-5195-2601/6090**	**07-5194-2601/6090**
360 x 160 x 90	**07-5195-3601/6090**	**07-5194-3601/6090**
560 x 160 x 90	**07-5195-5601/6090**	**07-5194-5601/6090**
200 x 250 x 120	**07-5195-2002/5012**	**07-5194-2002/5012**
255 x 250 x 120	**07-5195-2552/5012**	**07-5194-2552/5012**
255 x 250 x 160	**07-5195-2552/5016**	**07-5194-2552/5016**
400 x 250 x 120	**07-5195-4002/5012**	**07-5194-4002/5012**
400 x 250 x 160	**07-5195-4002/5016**	**07-5194-4002/5016**
400 x 405 x 120	**07-5195-4004/0512**	**07-5194-4004/0512**
400 x 405 x 165	**07-5195-4004/0516**	**07-5194-4004/0516**
600 x 250 x 120	**07-5195-6002/0512**	**07-5194-6002/5012**

Explosion protection

Ex protection type

Ex enclosure **black** *07-5185-..../....*

ATEX Ⓔx II 2G Ex e IIC Gb
Ⓔx II 2D Ex tb IIIC Db IP 66

Certification
PTB 08 ATEX 1064

IECEx Ex e IIC Gb
Ex tb IIIC Db IP 66

Certification
PTB 09.0009X

Ex enclosure **grey** *07-5184-..../....*

ATEX Ⓔx II 2G Ex e IIC Gb

Certification
PTB 08 ATEX 1064

IECEx Ex e IIC Gb

Certification
PTB 09.0009X

Other approvals and certificates,
see www.bartec-group.com

Technical data

Material
glass-fiber reinforced polyester, EN 60079-0
halogen-free
black surface resistance $< 10^9\ \Omega$
grey surface resistance $> 10^{12}\ \Omega$

Colour
black RAL 9005
grey RAL 7000/RAL 7001

Lid screws (other models on request)
stainless steel cross-head (+ -)

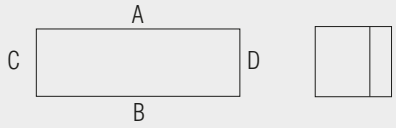
Standard seal
EPDM -20 °C to +95 °C
optional
Silicone -55 °C to +100 °C

Mechanical resistance (EN 60079-0)
impact energy 7 Nm

Protection class EN 60529/IEC 60529
IP 66

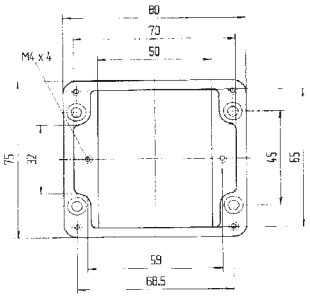
03-0330-0196/A-10/2014-BCS-2011671/1

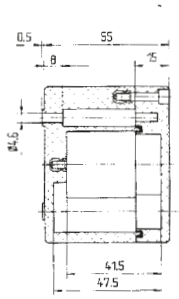
Dimensions (mm)



The dimensions indicated on this page apply to the following polyester enclosures and distribution boxes:

IP enclosure	*black*	*07-51**95**-..../....*	*Ex e distribution box*	*black*	*07-51**03**-..../....*
IP enclosure	*grey*	*07-51**94**-..../....*	*Ex e distribution box*	*grey*	*07-51**06**-..../....*
Ex enclosure	*black*	*07-51**85**-..../....*	*Ex i distribution box*	*black*	*07-51**05**-..../....*
Ex enclosure	*grey*	*07-51**84**-..../....*	*Ex i distribution box*	*grey*	*07-51**07**-..../....*
IP distribution box	*black*	*07-51**78**-..../....*			
IP distribution box	*grey*	*07-51**77**-..../....*			





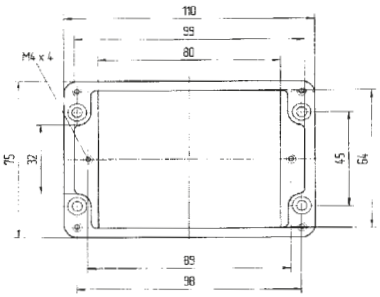
Technical data

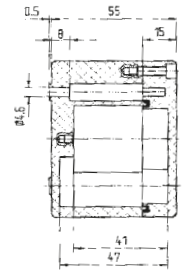
External dimensions: 80 x 75 x 55 mm

Weight: 230 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -0800/7555



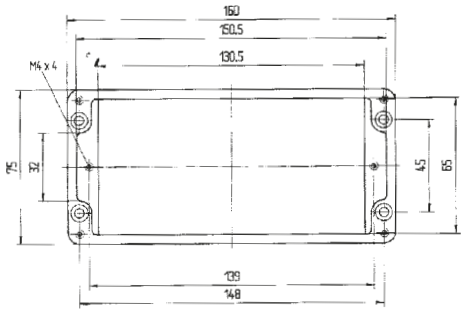


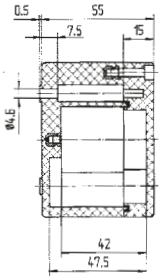
External dimensions: 110 x 75 x 55 mm

Weight: 280 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -1100/7555



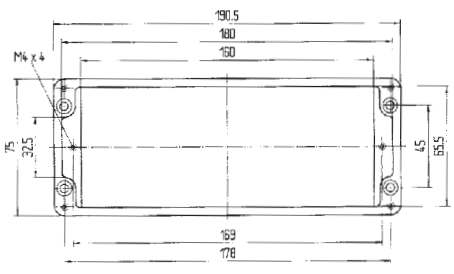


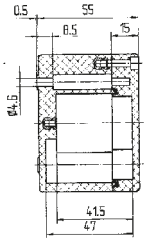
External dimensions: 160 x 75 x 55 mm

Weight: 370 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -1600/7555





External dimensions: 190 x 75 x 55 mm

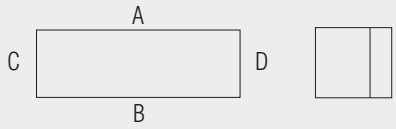
Weight: 430 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -1900/7555

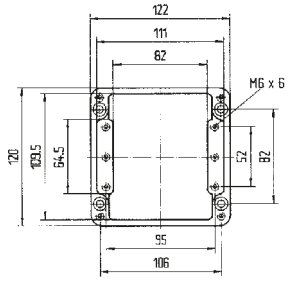
All dimensions are approximate measurements and subject to technical changes.

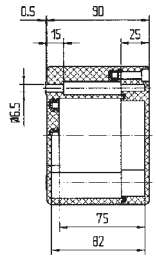
Dimensions (mm)



The dimensions indicated on this page apply to the following polyester enclosures and distribution boxes:

IP enclosure	*black*	*07-51**95**-..../....*	*Ex e distribution box*	*black*	*07-51**03**-..../....*
IP enclosure	*grey*	*07-51**94**-..../....*	*Ex e distribution box*	*grey*	*07-51**06**-..../....*
Ex enclosure	*black*	*07-51**85**-..../....*	*Ex i distribution box*	*black*	*07-51**05**-..../....*
Ex enclosure	*grey*	*07-51**84**-..../....*	*Ex i distribution box*	*grey*	*07-51**07**-..../....*
IP distribution box	*black*	*07-51**78**-..../....*			
IP distribution box	*grey*	*07-51**77**-..../....*			





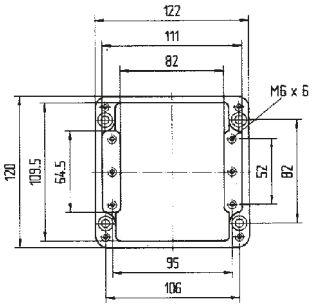
Technical data

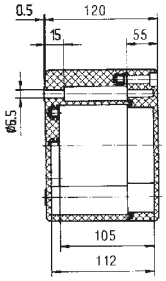
External dimensions: 122 x 120 x 90 mm

Weight: 660 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -1221/2090



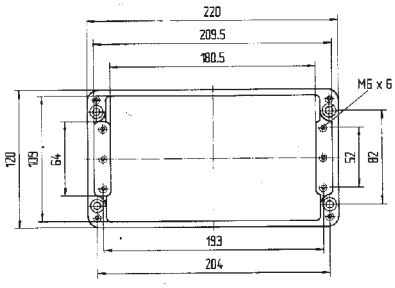


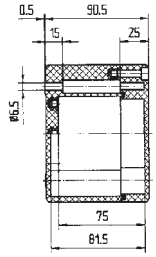
External dimensions: 122 x 120 x 120 mm

Weight: 890 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -1221/2012



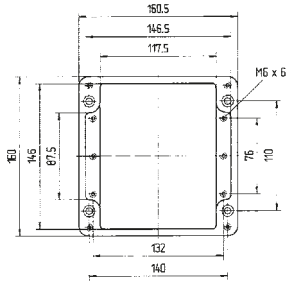


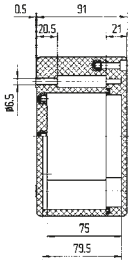
External dimensions: 220 x 120 x 90 mm

Weight: 1040 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -2201/2090





External dimensions: 160 x 160 x 90 mm

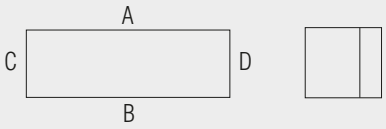
Weight: 1280 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -1601/6090

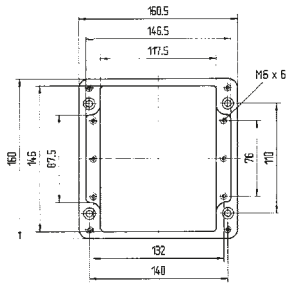
All dimensions are approximate measurements and subject to technical changes.

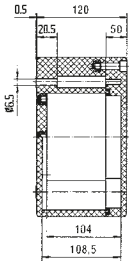
Dimensions (mm)



The dimensions indicated on this page apply to the following polyester enclosures and distribution boxes:

IP enclosure	*black*	*07-51**95**-..../....*	*Ex e distribution box*	*black*	*07-51**03**-..../....*
IP enclosure	*grey*	*07-51**94**-..../....*	*Ex e distribution box*	*grey*	*07-51**06**-..../....*
Ex enclosure	*black*	*07-51**85**-..../....*	*Ex i distribution box*	*black*	*07-51**05**-..../....*
Ex enclosure	*grey*	*07-51**84**-..../....*	*Ex i distribution box*	*grey*	*07-51**07**-..../....*
IP distribution box	*black*	*07-51**78**-..../....*			
IP distribution box	*grey*	*07-51**77**-..../....*			





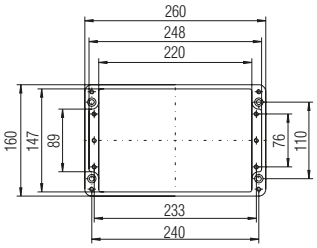
Technical data

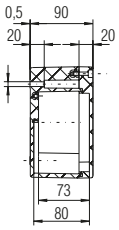
External dimensions: 160 x 160 x 120 mm

Weight: 1500 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -1601/6012



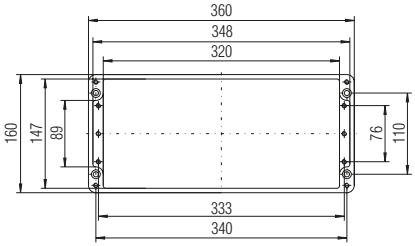


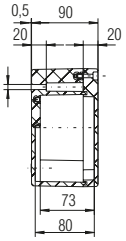
External dimensions: 260 x 160 x 90 mm

Weight: 1750 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -2601/6090



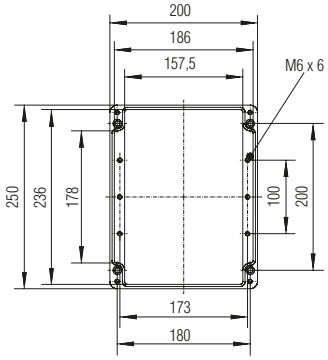


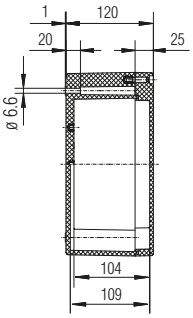
External dimensions: 360 x 160 x 90 mm

Weight: 2300 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -3601/6090





External dimensions: 200 x 250 x 120 mm

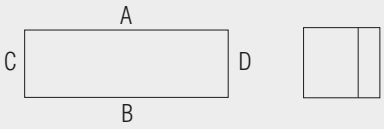
Weight: 2320 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -2552/5012

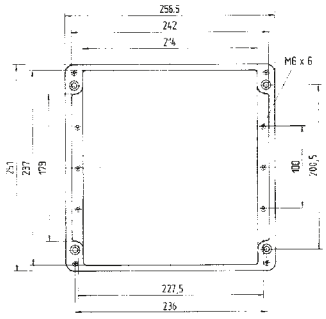
All dimensions are approximate measurements and subject to technical changes.

Dimensions (mm)



The dimensions indicated on this page apply to the following polyester enclosures and distribution boxes:

IP enclosure	*black*	*07-51**95**-..../....*	*Ex e distribution box*	*black*	*07-51**03**-..../....*
IP enclosure	*grey*	*07-51**94**-..../....*	*Ex e distribution box*	*grey*	*07-51**06**-..../....*
Ex enclosure	*black*	*07-51**85**-..../....*	*Ex i distribution box*	*black*	*07-51**05**-..../....*
Ex enclosure	*grey*	*07-51**84**-..../....*	*Ex i distribution box*	*grey*	*07-51**07**-..../....*
IP distribution box	*black*	*07-51**78**-..../....*			
IP distribution box	*grey*	*07-51**77**-..../....*			



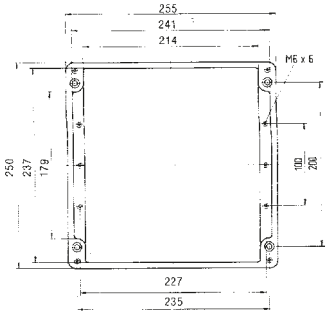
Technical data

External dimensions: 255 x 250 x 120 mm

Weight: 2730 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -2552/5012

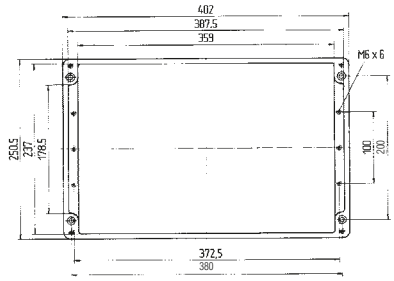


External dimensions: 255 x 250 x 160 mm

Weight: 3275 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -2552/5016

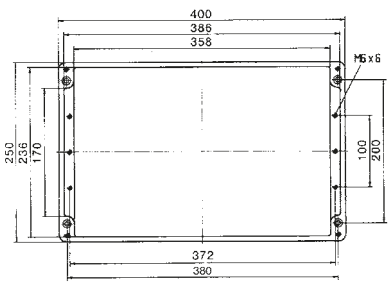


External dimensions: 400 x 250 x 120 mm

Weight: 3650 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -4002/5012



External dimensions: 400 x 250 x 160 mm

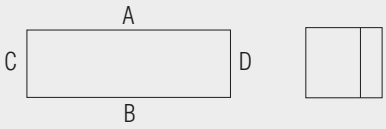
Weight: 4800 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -4002/5016

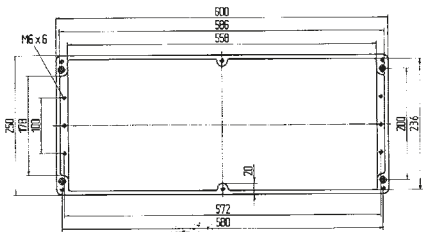
All dimensions are approximate measurements and subject to technical changes.

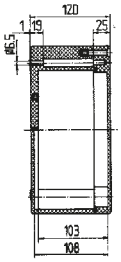
Dimensions (mm)



The dimensions indicated on this page apply to the following polyester enclosures and distribution boxes:

IP enclosure	*black*	*07-51**95**-..../....*	*Ex e distribution box*	*black*	*07-51**03**-..../....*
IP enclosure	*grey*	*07-51**94**-..../....*	*Ex e distribution box*	*grey*	*07-51**06**-..../....*
Ex enclosure	*black*	*07-51**85**-..../....*	*Ex i distribution box*	*black*	*07-51**05**-..../....*
Ex enclosure	*grey*	*07-51**84**-..../....*	*Ex i distribution box*	*grey*	*07-51**07**-..../....*
IP distribution box	*black*	*07-51**78**-..../....*			
IP distribution box	*grey*	*07-51**77**-..../....*			





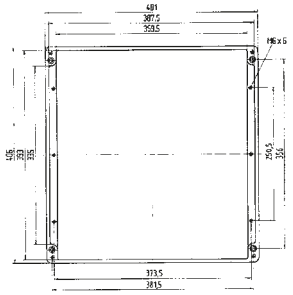
Technical data

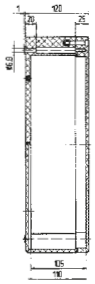
External dimensions: 600 x 250 x 120 mm

Weight: 5380 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -6002/5012



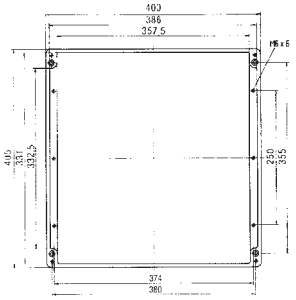


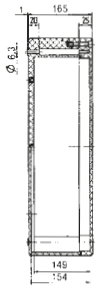
External dimensions: 400 x 405 x 120 mm

Weight: 5080 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -4004/0512





External dimensions: 400 x 405 x 165 mm

Weight: 7740 g

Material: polyester, grey, black

Article no.: 07-51 ☐☐ -4004/0516

All dimensions are approximate measurements and subject to technical changes.

Polyester distribution boxes

Description

Polyester distribution boxes have been of great advantage in many industrial plants. They offer safe protection even when they are exposed to extreme environmental conditions, aggressive chemical media or high mechanical stress.

The narrow sides within the enclosure hold threaded bushings for the fixing of terminal rails or mounting panels. The enclosure is mounted by means of insulated screws outside of the lid sealing gasket.

These black high-quality explosion-proofed enclosures are used in hazardous areas by inflammable dust (Zone 21 and 22).The fundamental prerequisites of the "protection through enclosure" protection class are fulfilled with the heating up calculation as per the accompanying sheet and a separate IP protection test. EC model test certification was issued in 2000 by the nominated body IBExU.

Option
External feet of high-quality stainless steel

Components
Rail-mounted terminals, terminal markers, cable glands, mounting panels, rails, type labels, labels

Installation instructions
The installer must make sure that the enclosure used is suitable for the corresponding field of application.

This means that the marking must correspond to the classification of the Ex area.

Also must the temperature class of the distribution box meet the respective requirements.

Explosion protection

Ex protection type

IP distribution box	**black**	*07-5178-..../....*
Ex e distribution box	**black**	*07-5103-..../....*
Ex i distribution box	**black**	*07-5105-..../....*

ATEX
Ⓔx II 2G Ex e IIA, IIB, IIC T6, T5 Gb
Ⓔx II 2G Ex ia/ib IIA, IIB, IIC T6, T5 Gb
Ⓔx II 2D Ex tb IIIC T80 °C, T95 °C Db IP 66
Ⓔx II 2D Ex ia/ib IIIC T80 °C, T95 °C Db

Certification
Zone 1 + 2 and 21 + 22
PTB 08 ATEX 1064

IECEx Ex e IIA, IIB, IIC T6, T5 Gb
Ex ia/ib IIA, IIB, IIC T6, T5 Gb
Ex tb IIIC T80 °C, T95 °C Db IP 66
Ex ia/ib IIIC T80 °C, T95 °C Db

Certification
Zone 1 + 2 and 21 + 22
PTB 09.0009X

Other approvals and certificates,
see www.bartec-group.com

Explosion protection

Ex protection type

IP distribution box	**grey**	*07-5177-..../....*
Ex e distribution box	**grey**	*07-5106-..../....*
Ex i distribution box	**grey**	*07-5107-..../....*

ATEX
Ⓔx II 2G Ex e IIA, IIB, IIC T6, T5 Gb
Ⓔx II 2G Ex ia/ib IIA, IIB, IIC T6, T5 Gb

Certification
Zone 1 + 2 and 21 + 22
PTB 08 ATEX 1064

IECEx Ex e IIA, IIB, IIC T6, T5 Gb
Ex ia/ib IIA, IIB, IIC T6, T5 Gb

Certification
Zone 1 + 2 and 21 + 22
PTB 09.0009X

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature ranges
(special temperature ranges on request)
-20 °C (-55 °C) to +40 °C at T6 -20 °C (-55 °C) to +55 °C at T5

Technical data

Material
glass-fibre reinforced polyester, EN 60079-0
halogen-free
black surface resistance < 10^9 Ω
grey surface resistance > 10^{12} Ω

Farbe
black RAL 9005
grey RAL 7000/RAL 7001

Lid screws
(other models on request)
stainless steel, captive
cross-head (+ -)

Standard seals
EPDM -20° C to +95° C
optional
silicone -55° C to +95° C

Mechanical resistance
according to EN 60079-0
impact energy 7 Nm

Protection class EN 60529/IEC 60529
IP 66

Rated voltage
max. 1 100 V

03-0330-0197/A-10/2014-BCS-201168/1

The table on this page applies to the following polyester distribution boxes:

IP distribution box	*black*	*07-51**78**-..../....*	*Ex e distribution box*	*black*	*07-51**03**-..../....*	*Ex i distribution box*	*black*	*07-51**05**-..../....*
IP distribution box	*grey*	*07-51**77**-..../....*	*Ex e distribution box*	*grey*	*07-51**06**-..../....*	*Ex i distribution box*	*grey*	*07-51**07**-..../....*

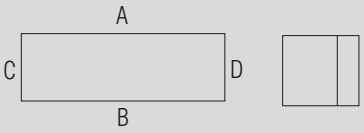
Rail-mounted terminal components/maximum number							**Polyester distribution boxes**			
Article no. Polyester distribution boxes	**Mini-terminal** 07-9702-....		**AKZ4** 03-7112-0006		**WDU 2.5** 03-7111-0012		**WDU 2.5 bl** 03-7111-0012		**WDU 4** 03-7112-0015	
	mounting rail	Terminals per rail	mounting rail	Terminals per rail	mounting rail	Terminals per rail	mounting rail	Terminals per rail	mounting rail	Terminals per rail
07-□□□□ -0800/7555	1	6	1	8	-	-	-	-	-	-
07-□□□□ -1100/7555	1	8	1	13	-	-	-	-	-	-
07-□□□□ -1600/7555	1	12	1	21	-	-	-	-	-	-
07-□□□□ -1900/7555	1	16	1	26	-	-	-	-	-	-
07-□□□□ -2300/7550	1	19	1	32	-	-	-	-	-	-
07-□□□□ -1221/2090	2	8	1	14	1	16	1	16	1	14
07-□□□□ -1221/2012	2	8	1	14	1	16	1	16	1	14
07-□□□□ -2201/2090	2	17	1	30	1	35	1	35	1	30
07-□□□□ -1601/6090	-	-	2	18	1	24	1	23	1	20
07-□□□□ -1601/6012	-	-	2	18	1	24	1	23	1	20
07-□□□□ -2601/6090	-	-	2	34	1	43	1	42	1	34
07-□□□□ -3601/6090	-	-	-	-	1	60	1	62	1	50
07-□□□□ -2552/5012	-	-	-	-	2	43	3	42	2	35
07-□□□□ -2552/5016	-	-	-	-	2	43	3	42	2	35
07-□□□□ -4002/5012	-	-	-	-	2	67	3	70	2	56
07-□□□□ -4002/5016	-	-	-	-	2	67	3	70	2	56
07-□□□□ -4004/0512	-	-	-	-	3	67	5	70	3	56
07-□□□□ -4004/0516	-	-	-	-	3	67	5	70	3	56
07-□□□□ -6002/5012	-	-	-	-	2	108	2	110	1	91

03-0330-0197-10/2014-BCS-201168/2

The table on this page applies to the following polyester distribution boxes:

IP distribution box	*black*	*07-51**78**-..../....*	*Ex e distribution box*	*black*	*07-51**03**-..../....*	*Ex i distribution box*	*black*	*07-51**05**-..../....*
IP distribution box	*grey*	*07-51**77**-..../....*	*Ex e distribution box*	*grey*	*07-51**06**-..../....*	*Ex i distribution box*	*grey*	*07-51**07**-..../....*

Cable glands/maximum number



Polyester distribution boxes

Article no. Polyester distribution boxes	**Side**	**M12 x 1,5**	**M16 x 1,5**	**M20 x 1,5 extended**	**M20 x 1,5**	**M20 x 1,5 extended**	**M25 x 1,5**	**M32 x 1,5**	**M40 x 1,5**	**M50 x 1,5**	**M63 x 1,5**
07-□□□ -0800/7555	A/B C/D	4 1	2 1	2 -	2 -	1 -	1 -	- -	- -	- -	- -
07-□□□ -1100/7555	A/B C/D	6 1	4 1	3 -	3 -	2 -	2 -	- -	- -	- -	- -
07-□□□ -1600/7555	A/B C/D	12 1	6 1	5 -	4 -	4 -	3 -	- -	- -	- -	- -
07-□□□ -1900/7555	A/B C/D	15 1	8 1	6 -	5 -	5 -	4 -	- -	- -	- -	- -
07-□□□ -1221/2090	A/B C/D	13 4	9 4	5 2	5 2	4 2	3 1	2 1	1 1	1 -	- -
07-□□□ -1221/2012	A/B C/D	13 4	9 4	5 2	5 2	4 2	3 1	2 1	1 1	1 -	- -
07-□□□ -2201/2090	A/B C/D	28 4	18 4	12 2	11 2	10 2	5 1	3 1	3 1	2 -	- -
07-□□□ -1601/6090	A/B C/D	18 8	14 8	8 5	8 4	6 4	4 2	2 2	2 1	1 -	- -
07-□□□ -1601/6012	A/B C/D	18 8	14 8	8 5	8 4	6 4	4 2	2 2	1 1	1 -	- -
07-□□□ -2601/6090	A/B C/D	33 8	26 8	17 5	14 4	12 4	7 2	4 2	3 1	3 -	- -
07-□□□ -3601/6090	A/B C/D	48 8	38 8	24 5	20 4	18 4	10 2	6 2	5 1	4 -	- -
07-□□□ -2002/5012	A/B C/D	24 12	16 12	10 10	9 8	7 8	4 4	3 3	2 2	2 2	- 2
07-□□□ -2552/5012	A/B C/D	53 12	34 12	23 10	20 8	18 8	9 4	7 3	4 2	3 2	2 2
07-□□□ -2552/5016	A/B C/D	53 12	34 12	23 10	20 8	18 8	9 4	7 3	4 2	3 2	2 2
07-□□□ -4002/5012	A/B C/D	88 12	58 12	38 10	35 8	30 8	17 4	13 3	6 2	5 2	4 2
07-□□□ -4002/5016	A/B C/D	88 12	58 12	38 10	35 8	30 8	17 4	13 3	6 2	5 2	4 2
07-□□□ -4004/0512	A/B C/D	88 26	58 20	38 16	35 14	30 10	17 6	13 4	6 2	5 4	4 3
07-□□□ -4004/0516	A/B C/D	135 42	89 38	58 34	53 30	46 24	26 8	20 5	9 3	7 6	4 4
07-□□□ -6002/5012	A/B C/D	130 12	84 12	56 10	52 8	46 8	24 4	18 3	10 2	6 2	4 2

Each enclosure side wall has only a limited number of gland entries to ensure the mechanical stability of the enclosure.

The table on this page applies to the following polyester distribution boxes:

*IP distribution box black 07-51**78**-..../....*
*IP distribution box grey 07-51**77**-..../....*
*Ex e distribution box black 07-51**03**-..../....*
*Ex e distribution box grey 07-51**06**-..../....*
*Ex i distribution box black 07-51**05**-..../....*
*Ex i distribution box grey 07-51**07**-..../....*

External dimensions, earth bars, mounting panels								**Polyester distribution boxes**
Article no. Polyester enclosure	**External dimensions** in mm			**Earth bars**				**Mounting panel**
	Length	Width	Height	Type	**Order no.**	Type	**Order no.**	**Order no.**
07- □□□□ -0800/7555	80	75	55	MK 2	**05-0012-0006**	-	-	**05-2105-0002**
07- □□□□ -1100/7555	110	75	55	MK 2	**05-0012-0006**	-	-	**05-2105-0003**
07- □□□□ -1600/7555	160	75	55	MK 2	**05-0012-0006**	-	-	**05-2105-0004**
07- □□□□ -1900/7555	190	75	55	MK 2	**05-0012-0006**	-	-	**05-2105-0005**
07- □□□□ -1221/2090	122	120	90	QS 3	**05-0012-0091**	LS 4	**05-0012-0100**	**05-0105-0100**
07- □□□□ -1221/2012	122	120	120	QS 3	**05-0012-0091**	LS 4	**05-0012-0100**	**05-0105-0100**
07- □□□□ -2201/2090	220	120	90	QS 3	**05-0012-0091**	LS 9	**05-0012-0101**	**05-0105-0101**
07- □□□□ -1601/6090	160	160	90	QS 5	**05-0012-0092**	LS 5	**05-0012-0010**	**05-0105-0103**
07- □□□□ -1601/6012	160	160	120	QS 5	**05-0012-0092**	LS 5	**05-0012-0010**	**05-0105-0103**
07- □□□□ -2601/6090	260	160	90	QS 5	**05-0012-0092**	LS 11	**05-0012-0102**	**05-0105-0104**
07- □□□□ -3601/6090	360	160	90	QS 5	**05-0012-0092**	LS 16	**05-0012-0103**	**05-0105-0105**
07- □□□□ -2552/5012	255	250	120	QS 9	**05-0012-0096**	LS 11	**05-0012-0105**	**05-0105-0113**
07- □□□□ -2552/5016	255	250	160	QS 9	**05-0012-0096**	LS 11	**05-0012-0105**	**05-0105-0113**
07- □□□□ -4002/5012	400	250	120	QS 9	**05-0012-0096**	LS 18	**05-0012-0016**	**05-0105-0114**
07- □□□□ -4002/5016	400	250	160	QS 9	**05-0012-0096**	LS 18	**05-0012-0016**	**05-0105-0114**
07- □□□□ -4004/0512	400	405	120	QS 15	**05-0012-0097**	LS 18	**05-0012-0016**	**05-0105-0117**
07- □□□□ -4004/0516	400	405	120	QS 15	**05-0012-0097**	LS 18	**05-0012-0016**	**05-0105-0117**
07- □□□□ -6002/5012	600	250	120	QS 9	**05-0012-0096**	LS 28	**05-0012-0106**	**05-0105-0199**

03-0330-0197-10/2014-BCS-201168/4

Polyester distribution boxes preassembled

Features

- Delivery from stock
- Modifikation possibilities e. g. to Ex i

Description

Polyester distribution boxes have been of great advantage in many industrial plants. They offer safe protection even when they are exposed to extreme environmental conditions, aggressive chemical media or high mechanical stress.

The narrow sides within the enclosure hold threaded bushings for the fixing of terminal rails or mounting panels. The enclosure is mounted by means of insulated screws outside of the lid sealing gasket.

These black high-quality explosion-proofed enclosures are used in hazardous areas by inflammable dust (Zone 21 and 22). The fundamental prerequisites of the „protection through enclosure" protection class are fulfilled with the heating up calculation as per the accompanying sheet and a separate IP protection test.

Explosion protection

Ex protection type

ATEX
- II 2G Ex e ia/ib IIA, IIB, IIC T6, T5 Gb
- II 2G Ex IIA, IIB, IIC T6, T5 Gb
- II 2D Ex tb IIIC T80 °C, T95 °C Db IP 66
- II 2D Ex ia/ib IIIC T80 °C, T95 °C Db

Certification
PTB 08 ATEX 1064

IECEx
Ex e ia/ib IIA, IIB, IIC T6, T5 Gb
Ex IIA, IIB, IIC T6, T5 Gb
Ex tb IIIC T80 °C, T95 °C Db IP 66
Ex ia/ib IIIC T80 °C, T95 °C Db

Certification
PTB 09.0009X

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-20 °C up to +40 °C at T6
-20 °C up to +55 °C at T5

optional:
-55 °C up to +40 °C at T6
-55 °C up to +55 °C at T5

Technical data

Protection class
IP 66

Material
glass-fibre reinforced polyester, EN 60079-0, halogen-free
colour: RAL 9005, black

Electrical resistance
surface resistance < 10^9 Ω

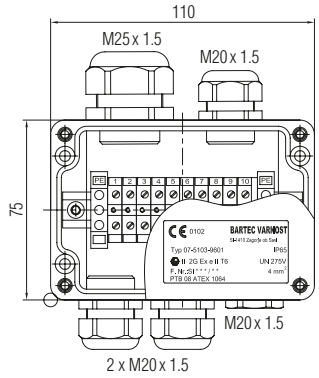
03-0330-0592-10/2014-BCS-304855/1

Selection chart

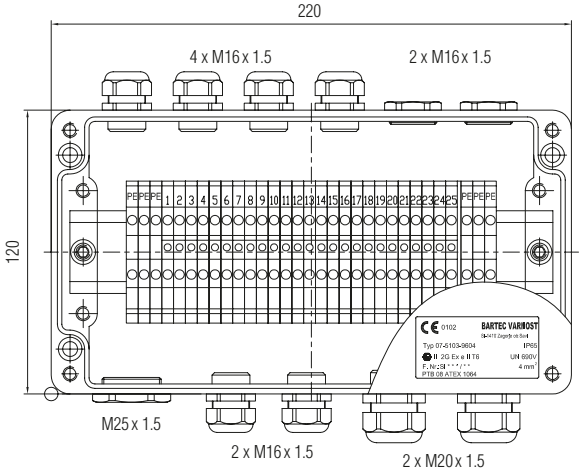
Dimensions	Cable glands (A / C / D / B)				Terminals	Order no.
	side A	side B	side C	side D		
110 x 75 mm	1 x M20 x 1.5 1 x M25 x 1.5	2 x M20 x 1.5 1 x M20*	-	-	10 x AKZ4 + 2 x PE	**07-5103-9601**
122 x 120 mm	2 x M20 x 1.5	2 x M20 x 1.5	1 x M20 x 1.5*	1 x M20 x 1.5*	10 x WDU4 + 2 x PE	**07-5103-9602**
220 x 120 mm	4 x M16 x 1.5 4 x M20 x 1.5*	4 x M16 x 1.5 4 x M20 x 1.5 1 x M25 x 1.5*	-	-	25 x WDU4 + 6 x PE	**07-5103-9604**
122 x 120 mm	-	2 x M20 x 1.5	1 x M20 x 1.5	1 x M20 x 1.5	8 x WDU4 + 2 x PE	**07-5103-9606**
122 x 120 mm	-	2 x M25 x 1.5	1 x M25 x 1.5	1 x M25 x 1.5*	6 x WDU6 + 2 x PE	**07-5103-9608**

* Sealing plug

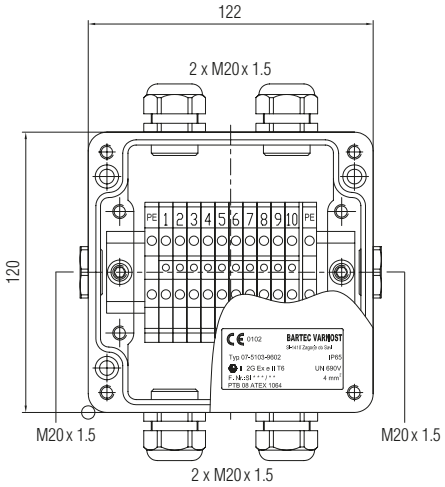
Dimensions 110 x 75 x 55 mm **Type 07-5103-9601**
Terminals 10 x AKZ4 + 2AKE4



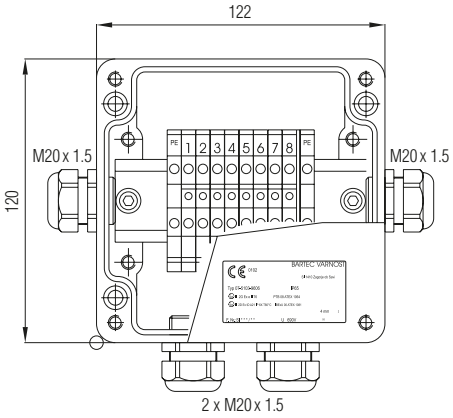
Dimensions 220 x 120 x 90 mm **Type 07-5103-9604**
Terminals 25 x WDU4 + 6 x WPE4



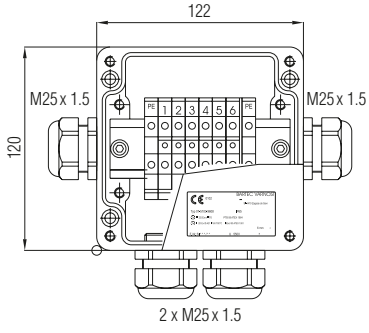
Dimensions 122 x 120 x 90 mm **Type 07-5103-9602**
Terminals 10 x WDU4 + 2 x WPE4

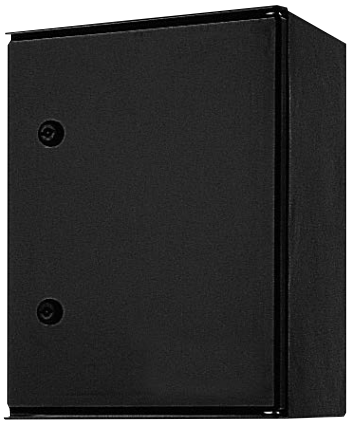


Dimensions 122 x 120 x 90 mm **Type 07-5103-9606**
Terminals 8 x WDU4 + 2 x WPE4



Dimensions 122 x 120 x 90 mm **Type 07-5103-9608**
Terminals 6 x WDU6 + 2 x WPE4





Polyester cabinets-/distribution boxes with door

Description

BARTEC offers nine different types of polyester enclosures with door as distribution boxes for Ex e. The enclosures safely protect against mechanical stress and resist even the most extreme environmental conditions.

Accessories

Supplied with steel sheet mounting panel

Components

Rail-mounted terminals, terminal markers, cable glands, mounting panels, rails, labels

Installation instructions

The installer must make sure that the enclosure used is suitable for the corresponding field of application. This means that the marking must correspond to the classification of the Ex area. Also must the temperature class of the distribution box meet the respective requirements.

Explosion protection

Ex protection type (according to EN 60079-0)

ATEX Ⓔx II 2G Ex e ia/ib IIC T6, T5 Gb
Ⓔx II 2D Ex tb IIIC T80 °C, T95 °C Db IP 66
Ⓔx II 2D Ex ia/ib IIIC T80 °C db IP 66

Certification
PTB 08 ATEX 1066

IECEx Ex e ia/ib IIC T6, T5 Gb
Ex tb IIIC T80 °C, T95 °C Db IP 66
Ex ia/ib IIIC T80 °C db IP 66

Certification
IECEx PTB 13.0017

Other approvals and certificates, see www.bartec-group.com

Technical data

Material
glass-fibre reinforced polyester
enclosure with hinged door, EN 60079
surface resistance < 10^9 Ω,
steel sheet mounting panel, RAL 2000

Colour
RAL 9005, black

Dorlock (other models on request)
double way cam lock

Standard seals
foamed PU seal
-20 °C to +80 °C

Mechanical resistance according to EN 60079
impact energy 7 Nm

Protection class
EN 60529/IEC 60529
IP 66

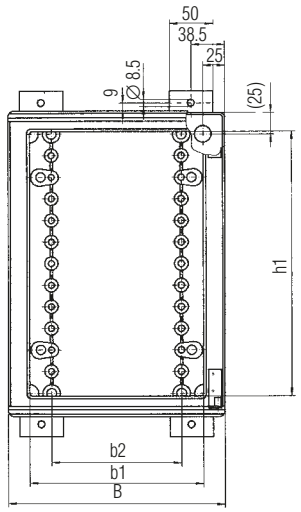
EN 60079-0
(07-5187-8000/0130 in IP 56)

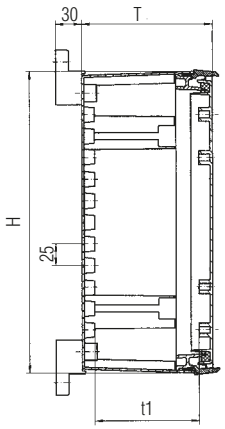
Selection chart

External dimensions in mm Length (L) x Width (B) x Height (H)	**Empty Ex enclosure** *Type 07-5187-..../....* **Order no.**	**Ex e distribution box** *Type 07-5109-..../....* **Order no.**	**Ex i distribution box** *Type 07-5110-..../....* **Order no.**
200 x 300 x 150	**07-5187-2003/0015**	**07-5109-2003/0015**	**07-5110-2003/0015**
250 x 350 x 150	**07-5187-2503/5015**	**07-5109-2503/5015**	**07-5110-2503/5015**
300 x 400 x 200	**07-5187-3004/0020**	**07-5109-3004/0020**	**07-5110-3004/0020**
400 x 400 x 200	**07-5187-4004/0020**	**07-5109-4004/0020**	**07-5110-4004/0020**
400 x 600 x 200	**07-5187-4006/0020**	**07-5109-4006/0020**	**07-5110-4006/0020**
600 x 600 x 200	**07-5187-6006/0020**	**07-5109-6006/0020**	**07-5110-6006/0020**
500 x 500 x 300	**07-5187-5005/0030**	**07-5109-5005/0030**	**07-5110-5005/0030**
600 x 800 x 300	**07-5187-6008/0030**	**07-5109-6008/0030**	**07-5110-6008/0030**
800 x1000 x 300	**07-5187-8000/0130**	**07-5109-8000/0130**	**07-5110-8000/0130**

03-0330-0198-10/2014-BCS-201169/1

Dimensions

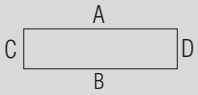




Selection chart Polyester enclosure with door

Dimensions in mm						**Order no.**
Length (L) x Width (B) x Height (H)	b1	h1	t1	b2	Weight in kg	
200 x 300 x 150	140	256	130	100	3.7	**07-5187-20030015**
250 x 350 x 150	190	306	130	150	4.6	**07-5187-25035015**
300 x 400 x 200	240	355	180	200	6.0	**07-5187-30040020**
400 x 400 x 200	340	354	180	300	6.5	**07-5187-40040020**
400 x 600 x 200	340	554	180	300	11.5	**07-5187-40060020**
600 x 600 x 200	440	454	280	400	12.9	**07-5187-50050030**
500 x 500 x 300	540	554	180	500	15.9	**07-5187-60060020**
600 x 800 x 300	485	753	280	500	24.3	**07-5187-60080030**
800 x 1000 x 300	685	953	280	700	30.0	**07-5187-80000130**

Cable glands/maximum number



The following table applies to polyester enclosures/distribution boxes with door

Empty Ex enclosure black *07-51**87**-..../....*
Ex e distribution boxes black *07-51**09**-..../....*
Ex i distribution boxes black *07-51**10**-..../....*

Article no.	**Side**	**M12 x 1,5**	**M16 x 1,5**	**M16 x 1,5**	**M20 x 1,5**	**M20 x 1,5**	**M25 x 1,5**	**M32 x 1,5**	**M40 x 1,5**	**M50 x 1,5**	**M63 x 1,5**
07-□□□□-2003/0015	A/B C/D	24 24	18 18	12 6	8 4	8 4	2 2	2 -	2 -	2 -	- -
07-□□□□-2503/5015	A/B C/D	32 32	24 24	18 12	12 8	12 8	4 2	2 2	2 2	2 2	- -
07-□□□□-3004/0020	A/B C/D	60 60	50 50	32 24	32 24	24 24	12 12	8 4	4 4	4 4	2 2
07-□□□□-4004/0020	A/B C/D	96 60	70 50	48 24	40 24	40 24	24 12	12 4	8 4	8 4	4 2
07-□□□□-4006/0020	A/B C/D	96 120	70 90	48 56	40 52	40 44	24 24	12 12	8 10	8 10	4 4
07-□□□□-6006/0020	A/B C/D	156 120	110 90	80 56	72 52	64 44	36 24	20 12	16 10	16 10	6 4
07-□□□□-5005/0030	A/B C/D	220 165	162 126	128 80	112 72	98 63	50 30	36 16	18 12	18 12	12 9
07-□□□□-6008/0030	A/B C/D	286 308	198 234	160 168	144 152	112 112	60 60	40 36	24 21	24 21	18 21
07-□□□□-8000/0130	A/B C/D	308 418	234 306	160 216	144 200	112 154	60 90	40 52	24 33	24 33	18 27

Each enclosure side wall has only a limited number of gland entries to ensure the mechanical stability of the enclosure.

03-0330-0198-10/2014-BCS-201169/2

Terminal box

Fields of application

- Connection of lamps, devices and sensors
- Zone 1/Zone 2

Description

The explosion-proof terminal boxes of glass-fiber reinforced plastic come with pillar terminals.

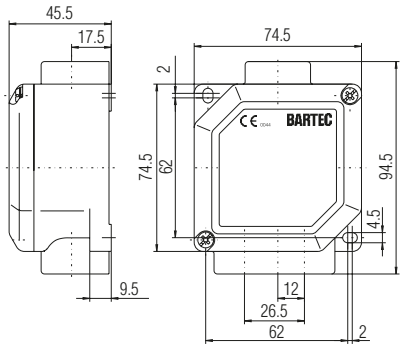
Lid and base are secured with captive screws. The box has pillar terminals and threads (see selection chart).

All holes for cable entries not used, have to be sealed by means of Ex-certified stopping plugs.

The terminal box is also suitable for the connection of intrinsically safe circuits.

Such cases require special markings. The box is mounted via fixing holes located outside of the terminal compartment.

Dimensions (in mm)



Explosion protection

Ex protection type (EN 60079-0)
ATEX Ⓔx II 2G Ex e II T6

Certification
PTB 08 ATEX 1061

IECEx Ex e II T6

Certification
IECEx PTB 09.0066x

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-20 °C to +40 °C

Technical data

Material
glass-fibre reinforced polyester, colour: RAL 7035

Lid screws
stainless steel, captive, cross-head, M 4

Seals
EPDM -20 °C to +80 °C

Mechanical resistance
according to EN 60079-0
impact energy 7 Nm

Protection class
IP 65 (EN 60529/IEC 60529)

Terminals
4 or 5 Ex e II
pillar terminals according to execution
max. 2 x 4 mm², single-wire

Rated voltage
max. 690 V

Rated current
max. 27

Selection chart accessories/spare parts

	Cable glands	Stopping plugs
M20 x 1.5	**03-6062-0127** (6 to 112 mm)	**03-5210-0064**
M20 x 1.5	**07-9534-2M2** (5 to 19 mm)	-
M20 x 1.5	**07-9534-3M2** (10 to 114 mm)	-

Terminal boxes Ex e, 690 V (just drilling, without cable glands)

Name	Order no.
4 sheath clamps 2 x 4 mm², 1 x M20 x 1.5 + 2 x M20 x 1.5	**07-5311-2320/DD00**
5 sheath clamps 2 x 4 mm², 1 x M20 x 1.5 + 2 x M20 x 1.5	**07-5311-2420/DD00**

Terminal boxes Ex e, 690 V (with metric polyamide cable glands))

Name		Order no.
4 sheath clamps 2 x 4 mm² 1 x M20 x 1.5 (6 to 12), 2 x M20 x 1.5 (5 to 9)	Ex e	**07-5311-9014**
3 x M20 x 1.5 (6 to 12)	Ex e	**07-5311-2320/FF00**
1 x M20 x 1.5 (10 to 14), 2 x M20 x 1.5 (6 to 12)	Ex e	**07-5311-9016**
5 sheath clamps 2 x 4 mm² 1 x M20 x 1.5 (6 to 12), 2 x M20 x 1.5 (5 to 9)	Ex e	**07-5311-9015**
3 x M20 x 1.5 (6 to 12))	Ex e	**07-5311-2420/FF00**
1 x M20 x 1.5 (10 to 14), 2 x M20 x 1.5 (6 to 12)	Ex e	**07-5311-9017**

Terminal boxes Ex i (with metric polyamide cable glands)

Name		Order no.
4 sheath clamps 2 x 4 mm², 3 x M20 x 1.5 (6 to 12)	Ex i	**07-5311-9009**
5 sheath clamps 2 x 4 mm², 3 x M20 x 1.5 (6 to 12)	Ex i	**07-5311-9010**

Aluminium enclosures

Features

- Temperature-resistant
- Chemical-resistant against acetone and ammoniac; against benzene, benzole, heating oil
- Seawater-resistant with special varnishing and priming on request

Description

Aluminium enclosures have proven to be an excellent solution for encapsulating and shielding components and modules in electronic and pneumatic engineering.

The base and lid of the enclosure come with earthing screws for the connection of the protective conductor. Fixing holes outside the sealed space.

Explosion protection

Ex protection type (EN 60079-0)
ATEX Ⓔx II 2G Ex e IIC Gb
Ⓔx II 2D Ex tb IIIC Db IP 66

Certification
PTB 08 ATEX 1063 U

IECEx Ex e IIC Gb
Ex tb IIIC Db IP 66

Certification
IECEx PTB 11.0032U

Other approvals and certificates,
see www.bartec-group.com

Technical data

Material
aluminium, die or shell casting, (metal mould)
ALSi 12, Mg < 6 thread -%

Colour
RAL 7001, silver grey, optional unpainted
special varnish and seawater-resistant
varnish on request

Lid screws
(other models on request)
stainless steel, captive,
cross-head (+ -)

Standard seals
CR -28 °C to +95 °C
optional
silicone -55 °C to +100 °C

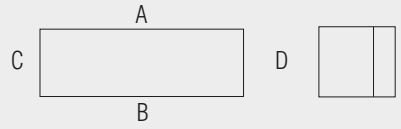
Mechanical resistance nach EN 60079-0
impact energy 7 Nm

Protection class EN 60529/IEC 60529
IP 66

Selection chart IP enclosure	**Aluminium** grey, IP 66
External dimensions in mm Length (L) x Width (B) x Height (H)	**Order no.**
58 x 64 x 36	**07-5190-0580/6436**
98 x 64 x 36	**07-5190-0980/6436**
150 x 64 x 36	**07-5190-1500/6436**
75 x 80 x 57	**07-5190-0750/8057**
125 x 80 x 57	**07-5190-1250/8057**
175 x 80 x 57	**07-5190-1750/8057**
250 x 80 x 57	**07-5190-2500/8057**
122 x 120 x 80	**07-5190-1221/2080**
122 x 120 x 90	**07-5190-1221/2090**
360 x 120 x 80	**07-5190-3601/2080**
220 x 120 x 80	**07-5190-2201/2080**
220 x 120 x 90	**07-5190-2201/2090**
160 x 160 x 90	**07-5190-1601/6090**
260 x 160 x 90	**07-5190-2601/6090**
360 x 160 x 90	**07-5190-3601/6090**
560 x 160 x 90	**07-5190-5601/6090**
200 x 230 x 110	**07-5190-2002/3011**
280 x 230 x 110	**07-5190-2802/3011**
330 x 230 x 110	**07-5190-3302/3011**
400 x 230 x 110	**07-5190-4002/3011**
600 x 230 x 110	**07-5190-6002/3011**
400 x 310 x 110	**07-5190-4003/3011**
600 x 310 x 110	**07-5190-6003/3011**
200 x 230 x 180	**07-5190-2002/3018**
330 x 230 x 180	**07-5190-3302/3018**
400 x 310 x 180	**07-5190-4003/1018**
600 x 310 x 180	**07-5190-6003/1018**

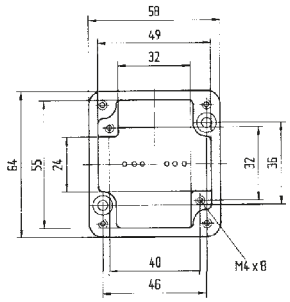
03-0330-0202/A-10/2014-BCS-201173

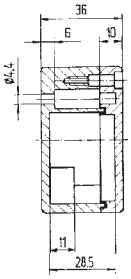
Dimensions (mm)



The dimensions on this page apply to the following aluminium enclosure/distribution boxes:

IP enclosure	*07-51**90**-..../....*	*IP distribution box*	*07-51**72**-..../....*
Ex enclosure	*07-51**80**-..../....*	*Ex e distribution box*	*07-51**01**-..../....*
		Ex i distribution box	*07-51**02**-..../....*





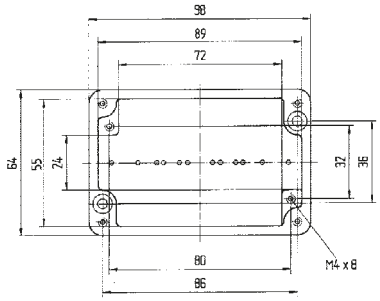
Technical data

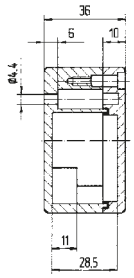
External dimensions: 58 x 64 x 36 mm

Weight: 150 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -0580/6436



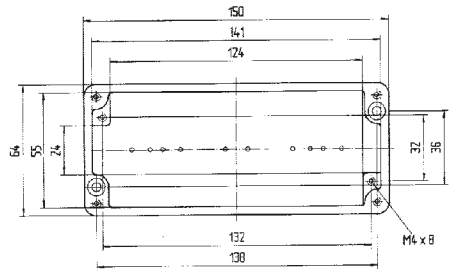


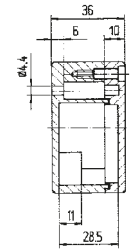
External dimensions: 98 x 64 x 36 mm

Weight: 250 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -0980/6436



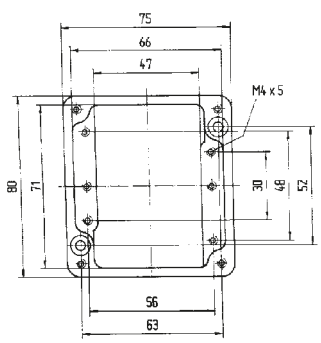


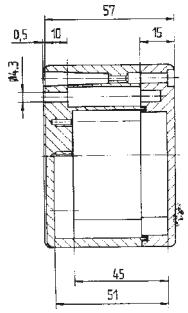
External dimensions: 150 x 64 x 36 mm

Weight: 320 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -1500/6436





External dimensions: 75 x 80 x 57 mm

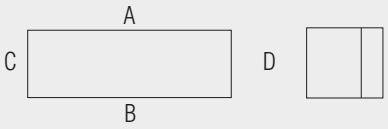
Weight: 300 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -0750/8057

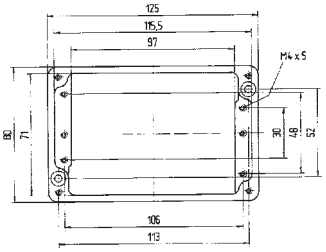
All dimensions are approximate measurements and subject to technical changes.

Dimensions (mm)



The dimensions on this page apply to the following aluminium enclosure/distribution boxes:

IP enclosure	*07-51**90**-..../....*	*IP distribution box*	*07-51**72**-..../....*
Ex enclosure	*07-51**80**-..../....*	*Ex e distribution box*	*07-51**01**-..../....*
		Ex i distribution box	*07-51**02**-..../....*



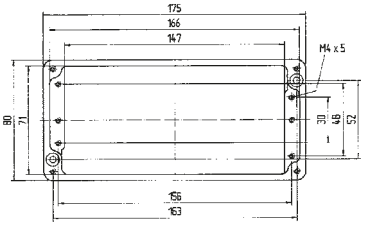
Technical data

External dimensions: 125 x 80 x 57 mm

Weight: 440 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -1250/8057

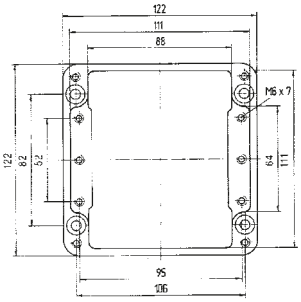


External dimensions: 175 x 80 x 57 mm

Weight: 510 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -1750/8057

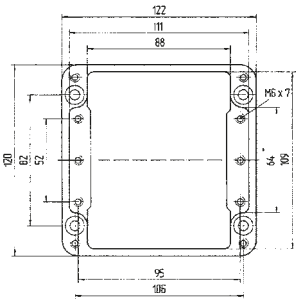


External dimensions: 122 x 122 x 80 mm

Weight: 940 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -1221/2080



External dimensions: 122 x 120 x 90 mm

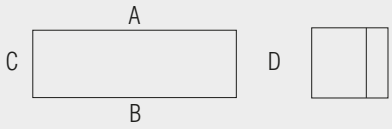
Weight: 880 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -1221/2090

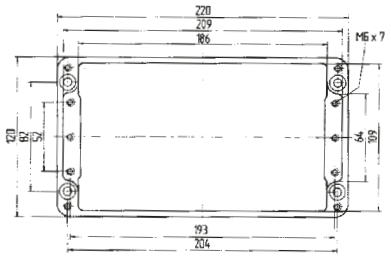
All dimensions are approximate measurements and subject to technical changes.

Dimensions (mm)



The dimensions on this page apply to the following aluminium enclosure/distribution boxes:

IP enclosure	*07-51**90**-..../....*	*IP distribution box*	*07-51**72**-..../....*
Ex enclosure	*07-51**80**-..../....*	*Ex e distribution box*	*07-51**01**-..../....*
		Ex i distribution box	*07-51**02**-..../....*



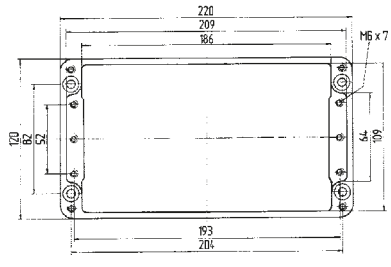
Technical data

External dimensions: 220 x 120 x 80 mm

Weight: 1390 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -2201/2080

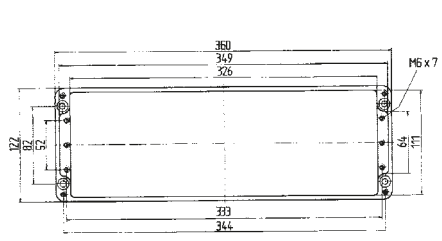


External dimensions: 220 x 120 x 90 mm

Weight: 1350 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -2201/2090

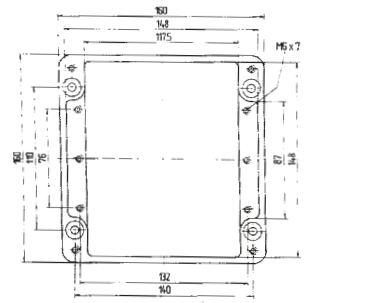


External dimensions: 360 x 120 x 80 mm

Weight: 1950 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -3601/2080



External dimensions: 160 x 160 x 90 mm

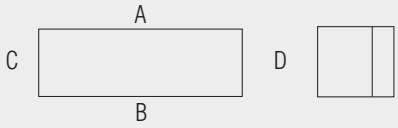
Weight: 1470 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -1601/6090

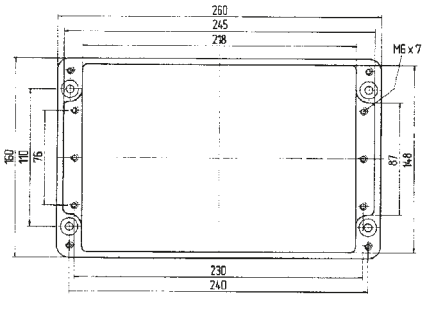
All dimensions are approximate measurements and subject to terminal changes.

Dimensions (mm)



The dimensions on this page apply to the following aluminium enclosure/distribution boxes:

IP enclosure	*07-51**90**-..../....*	*IP distribution box*	*07-51**72**-..../....*
Ex enclosure	*07-51**80**-..../....*	*Ex e distribution box*	*07-51**01**-..../....*
		Ex i distribution box	*07-51**02**-..../....*



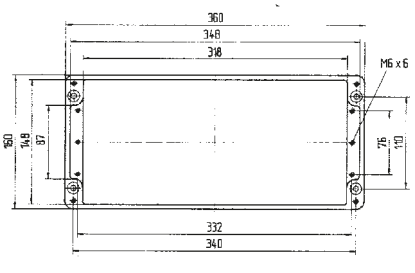
Technical data

External dimensions: 260 x 160 x 90 mm

Weight: 2100 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -2601/6090

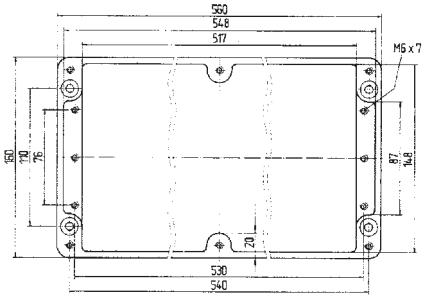


External dimensions: 360 x 160 x 90 mm

Weight: 2700 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -3601/6090

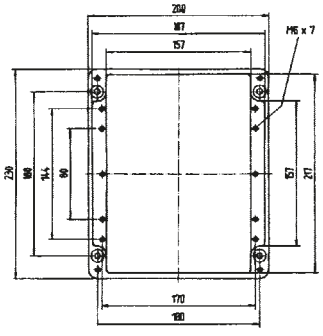


External dimensions: 560 x 160 x 90 mm

Weight: 3600 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -5601/6090



External dimensions: 200 x 230 x 110 mm

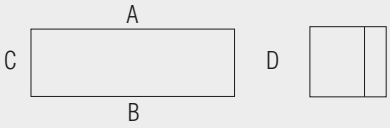
Weight: 2450 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -2002/3011

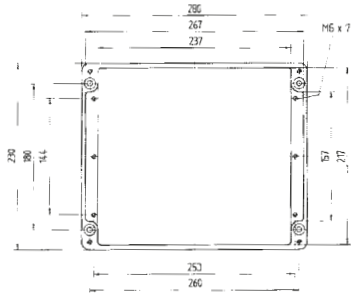
All dimensions are approximate measurements and subject to technical changes.

Dimensions (mm)



The dimensions on this page apply to the following aluminium enclosure/distribution boxes:

IP enclosure	*07-51**90**-..../....*	*IP distribution box*	*07-51**72**-..../....*
Ex enclosure	*07-51**80**-..../....*	*Ex e distribution box*	*07-51**01**-..../....*
		Ex i distribution box	*07-51**02**-..../....*



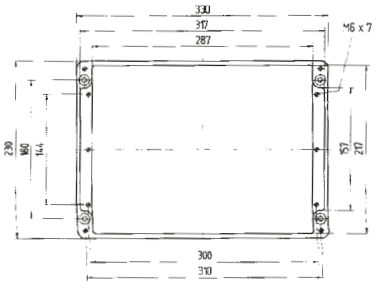
Technical data

External dimensions: 280 x 230 x 110 mm

Weight: 2990 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -2802/3011

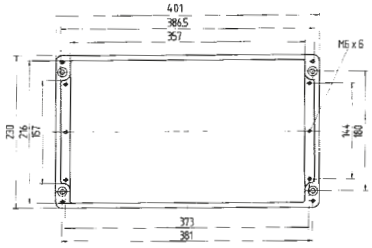


External dimensions: 330 x 230 x 110 mm

Weight: 3400 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -3302/3011

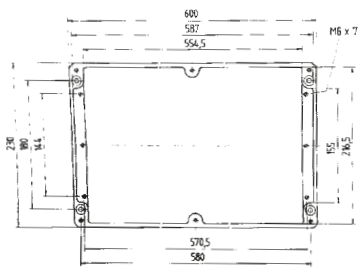


External dimensions: 400 x 230 x 110 mm

Weight: 4600 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -4002/3011



External dimensions: 600 x 230 x 110 mm

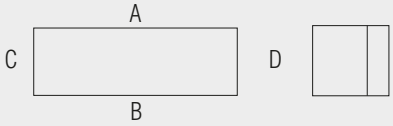
Weight: 6800 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -6002/3011

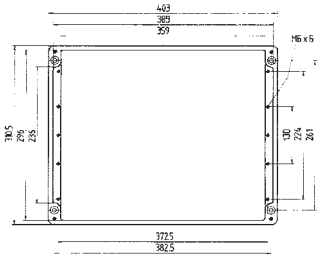
All dimensions are approximate measurements and subject to technical changes.

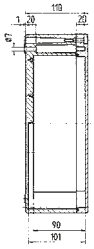
Dimensions (mm)



The dimensions on this page apply to the following aluminium enclosure/distribution boxes:

IP enclosure	*07-51**90**-..../....*	*IP distribution box*	*07-51**72**-..../....*
Ex enclosure	*07-51**80**-..../....*	*Ex e distribution box*	*07-51**01**-..../....*
		Ex i distribution box	*07-51**02**-..../....*





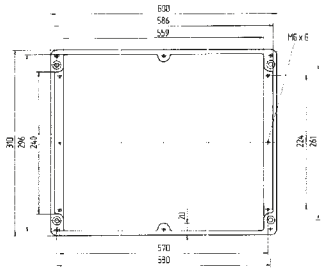
Technical data

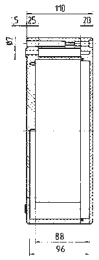
External dimensions: 400 x 310 x 110 mm

Weight: 6600 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -4003/1011





External dimensions: 600 x 310 x 110 mm

Weight: 9400 g

Material: aluminium, grey

Article no.: 07-51 ☐☐ -6003/1011

Aluminium enclosure for NPT thread on request (insulation thickness). All dimensions are approximate measurements and subject to terminal changes.

Aluminium distribution boxes

IP distribution box	**grey**	*07-5172-..../....*
Ex e distribution box	**grey**	*07-5101-..../....*
Ex i distribution box	**grey**	*07-5102-..../....*

Description

Aluminium distribution boxes have proven to be an excellent solution for encapsulating and shielding components and modules in electronic and pneumatic engineering. Bottom and lid of the distribution boxes come with earthing screws for the connecting of the protective conductor. Mounting threads in the bottom section, fixing holes outside of the sealed space.

The same high quality explosion-proofed enclosures are used in hazardous areas by inflammable dust (Zone 21 and 22). By means of the heating calculation according to the supplement to the test certificate and a separate IP-protection test, the basic requirements of the “protection through enclosure“ type of protection are met.

Installation instructions

The installer must make sure that the enclosure used is suitable for the corresponding field of application. This means that the marking must correspond to the classification of the Ex area. Also must the temperature class of the distribution box meet the respective requirements.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex e ia/ib IIA, IIB, IIC T6 or T5 Gb
Ⓔx II 2D Ex tb IIIC T80 °C, T95 °C Db IP 66

Certification for Zone 1 and Zone 2
PTB 11 ATEX 1016X

IECEx Ex e ia/ib IIA, IIB, IIC T6 or T5 Gb
Ex tb IIIC T80 °C, T95 °C Db IP 66

Certification for Zone 21 and Zone 22
IECEx PTB 11.0033X

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature
(specific designs available on request)
-20 °C to +40 °C for T6
-55 °C to +55 °C for T5
Optionally up to +65 °C (T5)

Technical data

Material
aluminium, die or shell casting,
AlSi 12, Mg < 6 thread -%

Colour/coating
RAL 7001, silver grey, optionally unpainted
special varnish and seawater-resistant
varnish on request

Lid screws (other models on request)
stainless steel, captive,
cross-head (+ -)

Standard seals
CR -28 °C to +95 °C
optional
silicone -55 °C to +100 °C

Mechanical resistance
(according to EN 60079-0)
impact energy 7 Nm

Protection class EN 60529/IEC 60529
IP 66

Rated voltage
max. 1 100 V

03-0330-0203/A-10/2014-BCS-201174/1

Aluminum distribution boxes Rail-mounted terminals/maximum number	The table on this page applies to the following aluminium distribution boxes:	*IIP distribution box* *Ex e distribution box* *Ex i distribution box*	*07-51**72**-..../....* *07-51**01**-..../....* *07-51**02**-..../....

Article no. Aluminium enclosure	**Mini-terminal** 07-7902-....		**AKZ4** 03-7112-0008		**WDU 2,5** 03-7111-0012		**WDU 2,5 bl** 03-7111-0012		**WDU 4** 03-7112-0015	
	mounting-rail	Terminals per rail	mounting-rail	Terminals per rail	mounting-rail	Terminals per rail	mounting-rail	Terminals per rail	mounting-rail	Terminals per rail
07-☐☐☐☐-0580/6436	-	3	-	-	-	-	-	-	-	-
07-☐☐☐☐-0980/6436	-	7	-	-	-	-	-	-	-	-
07-☐☐☐☐-1500/6436	-	11	-	-	-	-	-	-	-	-
07-☐☐☐☐-0750/8057	1	5	1	7	-	-	-	-	-	-
07-☐☐☐☐-1250/8057	1	10	1	16	-	-	-	-	-	-
07-☐☐☐☐-1750/8057	1	14	1	22	-	-	-	-	-	-
07-☐☐☐☐-1221/2080	2	8	1	14	1	16	1	16	1	14
07-☐☐☐☐-1221/2090	2	8	1	14	1	16	1	16	1	14
07-☐☐☐☐-2201/2080	2	17	1	30	1	35	1	35	1	30
07-☐☐☐☐-2201/2090	2	17	1	30	1	35	1	35	1	30
07-☐☐☐☐-3601/2080	-	-	-	-	1	60	1	60	1	49
07-☐☐☐☐-1601/6090	-	-	2	18	1	24	1	23	1	20
07-☐☐☐☐-2601/6090	-	-	2	34	1	43	1	42	1	34
07-☐☐☐☐-3601/6090	-	-	-	-	1	60	1	62	1	50
07-☐☐☐☐-5601/6090	-	-	-	-	1	98	1	102	1	85
07-☐☐☐☐-2002/3011	-	-	3	25	2	30	2	30	2	25
07-☐☐☐☐-2802/3011	-	-	-	-	2	44	2	44	2	38
07-☐☐☐☐-3302/3011	-	-	-	-	2	56	2	53	2	46
07-☐☐☐☐-4002/3011	-	-	-	-	2	70	2	68	2	58
07-☐☐☐☐-6002/3011	-	-	-	-	2	108	2	109	1	90
07-☐☐☐☐-4003/1011	-	-	-	-	3	70	3	68	2	58
07-☐☐☐☐-6003/1011	-	-	-	-	2	110	2	110	2	91

03-0330-0203-10/2014-BCS-201174/2

Aluminum distribution boxes
External dimensions, earth bars, mounting plates

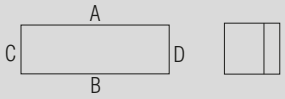
The table on this page applies to the following aluminium distribution boxes:

IIP distribution box *07-51**72**-..../....*
Ex e distribution box *07-51**01**-..../....*
Ex i distribution box *07-51**02**-..../....*

Article no. Aluminium enclosure	**External dimensions in mm**			**Earth bars/Mantle terminal**				**Mounting panel**
	Length	Width	Height	Type	**Order no.**	Type	**Order no.**	**Order no.**
07-□□□□-0580/6436	58	64	36	SB 2	**05-0012-0002**	-	-	**05-2105-0094**
07-□□□□-0980/6436	98	64	36	SB 2	**05-0012-0002**	-	-	**05-2105-0095**
07-□□□□-1500/6436	150	64	36	SB 2	**05-0012-0002**	-	-	**05-2105-0096**
07-□□□□-0750/8057	75	80	57	SB 2	**05-0012-0002**	-	-	**05-2105-0097**
07-□□□□-1250/8057	125	80	57	SB 2	**05-0012-0002**	-	-	**05-0105-0098**
07-□□□□-1750/8057	175	80	57	SB 2	**05-0012-0002**	LS 4	-	**05-0105-0099**
07-□□□□-1221/2080	122	120	80	QS 3	**05-0012-0002**	LS 4	**05-0012-0100**	**05-0105-0100**
07-□□□□-1221/2090	122	120	90	QS 3	**05-0012-0002**	LS 9	**05-0012-0100**	**05-0105-0100**
07-□□□□-2201/2080	220	120	80	QS 3	**05-0012-0091**	LS 5	**05-0012-0101**	**05-0105-0101**
07-□□□□-2201/2090	220	120	90	QS 3	**05-0012-0091**	LS 5	**05-0012-0101**	**05-0105-0101**
07-□□□□-3601/2080	360	120	80	QS 3	**05-0012-0091**	LS 11	**05-0012-0103**	**05-0105-0102**
07-□□□□-1601/6090	160	160	90	QS 5	**05-0012-0092**	LS 16	**05-0012-0010**	**05-0105-0103**
07-□□□□-2601/6090	260	160	90	QS 5	**05-0012-0092**	LS 11	**05-0012-0012**	**05-0105-0106**
07-□□□□-3601/6090	360	160	90	QS 5	**05-0012-0092**	LS 11	**05-0012-0014**	**05-0105-0105**
07-□□□□-5601/6090	560	160	90	QS 5	**05-0012-0092**	LS 18	**05-0012-0107**	**05-0105-0107**
07-□□□□-2002/3011 07-□□□□-3302/3018	200	230	110	QS 7	**05-0012-0098**	LS 18	**05-0012-0108**	**05-0105-0108**
07-□□□□-2802/3011	280	230	110	QS 7	**05-0012-0098**	LS 18	**05-0012-0109**	**05-0105-0109**
07-□□□□-3302/3011 07-□□□□-3302/3018	330	230	110	QS 7	**05-0012-0098**	LS 18	**05-0012-0110**	**05-0105-0110**
07-□□□□-4002/3011	400	230	110	QS 7	**05-0012-0098**	LS 28	**05-0012-0016**	**05-0105-0111**
07-□□□□-6002/3011	600	230	110	QS 7	**05-0012-0098**	LS 28	**05-0012-0111**	**05-0105-0112**
07-□□□□-4003/1011 07-□□□□-4002/1018	400	310	110	QS 13	**05-0012-0099**	LS 28	**05-0012-0016**	**05-0105-0115**
07-□□□□-6003/1011 07-□□□□-6003/1018	600	310	110	QS 13	**05-0012-0099**	LS 28	**05-0012-0111**	**05-0105-0116**

QS = diagonal strip/horizontal alignment, e.g.: LS 4 = 4 clamping points for 8 connections **LS** = horizontal strip/vertical strip, e.g.: QS 3 = 3 clamping points for 6.

Aluminum distribution box with lid
Cable glands/maximum number



The table on this page applies to the following aluminium distribution boxes with lid:

IP distribution box *07-51**72**-..../....*
Ex e distribution box *07-51**01**-..../....*
Ex i distribution box *07-51**02**-..../....*

Article no. Aluminium enclosure	**Side**	**M12 x 1.5**	**M16x 1.5**	**M16 x 1.5 extended**	**M20 x 1.5**	**M20 x 1.5 extended**	**M25 x 1.5**	**M32 x 1.5**	**M40 x 1.5**	**M50 x 1.5**	**M63 x 1.5**
07-□□□□-0580/6436	A/B C/D	1 -	1 -	1 -	- -	- -	- -	- -	- -	- -	- -
07-□□□□-0980/6436	A/B C/D	3 1	3 1	3 1	- -	- -	- -	- -	- -	- -	- -
07-□□□□-1500/6436	A/B C/D	6 1	5 1	4 1	- -	- -	- -	- -	- -	- -	- -
07-□□□□-0750/8057	A/B C/D	5 2	3 2	2 2	2 1	1 -	1 -	- -	- -	- -	- -
07-□□□□-1250/8057	A/B C/D	9 2	6 2	4 2	3 1	3 1	2 -	- -	- -	- -	- -
07-□□□□-1750/8057	A/B C/D	14 2	9 2	6 2	5 1	4 1	3 -	- -	- -	- -	- -
07-□□□□-1221/2080	A/B C/D	12 4	10 4	6 3	6 2	5 2	3 1	2 1	1 -	1 -	1 -
07-□□□□-1221/2090	A/B C/D	12 4	9 4	6 2	5 2	4 2	2 -	1 -	1 -	1 -	1 -
07-□□□□-2201/2080	A/B C/D	27 4	17 4	12 3	11 2	10 2	5 1	3 1	3 -	2 -	2 -
07-□□□□-2201/2090	A/B C/D	27 4	17 4	12 2	11 2	10 2	5 -	3 -	3 -	2 -	1 -
07-□□□□-3601/2080	A/B C/D	48 4	30 4	22 4	21 2	18 2	9 1	6 1	5 -	- -	- -
07-□□□□-1601/6090	A/B C/D	18 8	14 8	8 5	8 4	6 4	4 2	2 -	1 -	1 -	1 -
07-□□□□-2601/6090	A/B C/D	33 8	26 8	17 5	14 4	12 4	7 2	4 -	3 -	3 -	2 -
07-□□□□-3601/6090	A/B C/D	48 8	38 8	24 5	20 4	18 4	10 2	6 -	5 -	4 -	3 -
07-□□□□-5601/6090	A/B C/D	84 8	60 8	42 5	34 4	28 4	20 2	10 -	8 -	6 -	4 -
07-□□□□-2002/3011	A/B C/D	38 20	24 15	16 10	15 10	12 6	8 4	5 3	3 2	2 2	2 1
07-□□□□-2002/3018	A/B C/D	64 56	36 42	25 25	25 25	16 16	16 16	9 9	4 4	4 4	4 4
07-□□□□-2802/3011	A/B C/D	58 20	30 15	25 10	23 10	20 6	11 4	8 3	4 2	3 2	2 -
07-□□□□-3302/3011	A/B C/D	70 20	46 15	30 10	28 10	24 6	14 4	10 3	5 2	4 2	2 1
07-□□□□-3302/3018	A/B C/D	120 56	72 36	50 25	45 25	32 16	28 12	18 9	8 4	8 4	6 4
07-□□□□-4002/3011	A/B C/D	58 20	56 15	38 10	35 10	30 6	17 4	12 3	6 2	4 2	3 1
07-□□□□-6002/3011	A/B C/D	126 25	84 15	56 10	52 10	46 6	24 4	18 3	8 2	6 2	4 1
07-□□□□-4003/1011	A/B C/D	85 30	56 25	38 20	35 18	30 10	17 5	12 4	6 2	4 2	3 1
07-□□□□-4003/1018	A/B C/D	144 84	90 60	65 45	60 40	44 28	36 24	21 15	12 8	10 6	8 6
07-□□□□-6003/1011	A/B C/D	126 30	84 25	56 20	52 18	46 10	24 5	18 4	8 2	6 2	4 1
07-□□□□-6003/1018	A/B C/D	208 84	132 60	90 45	90 40	80 28	56 18	30 15	16 8	16 6	12 6

Each enclosure side wall has only a limited number of gland entries to ensure the mechanical stability of the enclosure.

High-quality stainless steel enclosures, distribution boxes, cabinets

Features

- Customer-specific designs also for non-explosion-hazard zones
- Approved in accordance with directive 94/9/EC
- Long service life
- Sea water resistant
- High IP rating
- Ex approval for distribution boxes available
- Flanges on 5 housing walls possible

Description

BARTEC stainless steel housings and distribution boxes are designed and approved for Zone 1 and 2 as well as Zone 21 and 22. They are particularly suitable for applications under extreme environmental conditions, and they provide reliable protection under heavy loads.

The housings are made from 1.4301 (V2 A) or 1.4404 stainless steel (V4 A). The series includes empty housings and distribution boxes with door or cover. From a housing height of 120 mm, the housings can be supplied with or without flange plates.

In addition to 25 standard sizes, approved customer-specific design variants are also available.

Scope of delivery
The scope of delivery includes wall attachment straps, internal and external PE connection, as well as a mounting plate for the empty housings/distribution cabinets.

Explosion protection

Ex protection type
acc. to EN 60079-0 for empty enclosures/cabinets
- Ⓔx II 2G Ex e IIC Gb
- Ⓔx II 2D Ex tb IIIC Gb

acc. to EN 60079-0 for distribution boxes
- Ⓔx II 2G Ex e IIC T6, T5 Gb
- Ⓔx II 2G Ex e ia/ib IIC T6, T5 Gb
- Ⓔx II 2D Ex tb IIIC T80 °C, T95 °C Db

Certification

Empty enclosure	IBExU99ATEX1118 U
	IECExIBE09.0016 U
INMETRO (Brazil)	2009ECO2CP015 U
Terminal box	IBExU99ATEX1096
	IECExIBE09.0017
INMETRO (Brazil)	2009EC02CP016
GOST-R (Russia)	POCC SI.ME 92.B01671
RTN (Russia)	PPC 00-33604
India	CCEs P250922

Ambient temperature
EPDM gasket
- 20 °C to + 40 °C at T6
- 20 °C to + 55 °C at T5

Silicone gasket (only ST/ST)
- 55 °C to + 40 °C at T6
- 55 °C to + 55 °C at T5

Technical data

Material
1.4404, AISI 316 L high quality stainless steel
optional
1.4301, AISI 304 high quality stainless steel

Surface
brushed, painted or electro polished on request

Standard seals
EPDM

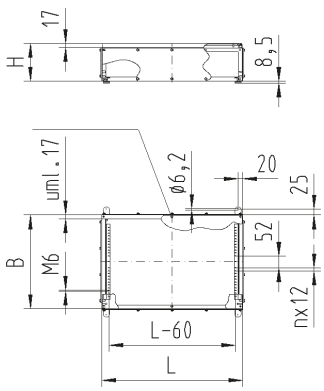
Mechanical strength
Impact energy 7 Nm

Version
with or without gland plated

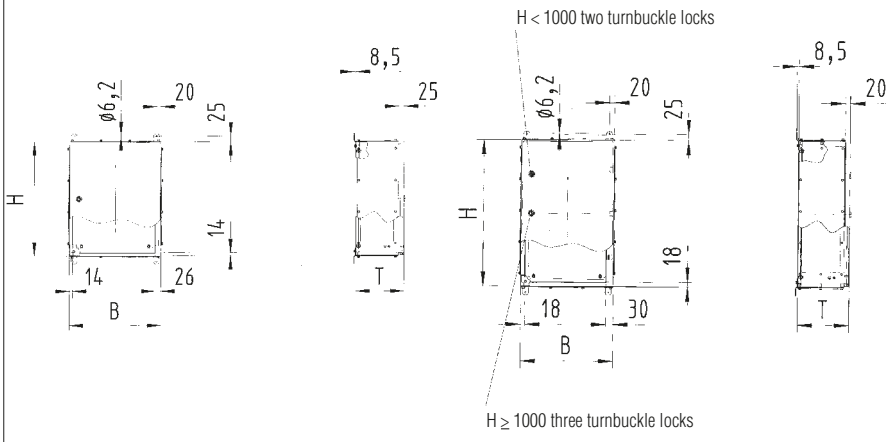
Standard sizes
see selection chart

Protection class acc. to IEC 60529
max. IP 66

Enclosure dimensions



Cabinet dimensions



Selection chart

						Gland plates openings minimum depth for flanges 120 mm A / C E D / B			
Version	**Code no.**	**Enclosure with lid** in mm (w x h x d)	**Code no.**	**Enclosure with hinged door** in mm (w x h x d)	**Code no.**	**Flanges** Side A, B, (E)	**Code no.**	**Flanges** Side C, D, (E)	**Code no.**
Empty Enclosure Ex e	**1**	100 x 100 x 60	**17**	200 x 300 x 155	**51**	without	**1**	without	**1**
		150 x 150 x 80	**01**						
Distribution Box Ex e II	**2**	400 x 150 x 80	**10**	380 x 300 x 155	**54**	Face A	**2**	Face C	**2**
		200 x 200 x 80	**03**						
		300 x 200 x 80	**22**	300 x 380 x 210	**52**				
Distribution Box Ex e [ia/ib] II C	**3**	150 x 150 x 100	**02**			Face B	**3**	Face D	**3**
		200 x 200 x 120	**04**	400 x 400 x 210	**57**				
Distribution Box Ex i II	**4**	300 x 200 x 120	**06**			Face A + B	**4**		
		400 x 200 x 120	**11**	400 x 600 x 210	**58**			Face C + D	**4**
Distribution Box Ex i II	**5**	600 x 200 x 120	**25**			Face E + A	**5**		
		300 x 300 x 120	**07**	600 x 600 x 210	**59**			Face E + C	**5**
		300 x 300 x 160	**08**			Face E + B	**6**		
Distribution Box Ex i II	**6**	380 x 380 x 160	**26**	600 x 760 x 210	**60**				
		400 x 200 x 160	**12**			Face E + A + B	**7**	Face E + D	**6**
Distribution Box Non-Ex	**7**	400 x 400 x 160	**14**	600 x 800 x 300	**61**				
		500 x 400 x 160	**15**			Face E	**8**	Face E + D + C	**7**
				800 x 800 x 300	**62**				
				800 x 1000 x 300	**63**				

or

Complete order no.

Please enter code number.
Technical data subject to change without notice

07-56 ☐☐ - ☐☐☐ ☐

Design	**Code no.**	
	304	**316 L**
Enclosure with screwed lid	**A**	**B**
Enclosure with hinged door	**C**	**D**

Example: Ex e distribution box with hinged door
Dimensions: 400 x 400 x 210 mm with gland plates on face B + C + D
Type 07-56D2-5734

03-0330-0204/A-10/2014-BCS-201175/2

High-quality stainless steel junction boxes
Rail-mounted terminal components/
maximum number

The table on this page applies to the following high-quality stainless steel junction boxes

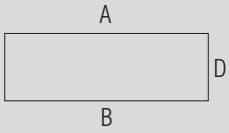
Ex e-Enclosure, empty 07-56.1-....
Ex e-Junction Box 07-56.2-....
Ex e/Ex i-Junction Box 07-56.3-....
Ex i-Junction Box 07-56.4-....
IP Junction Box 07-56.7-....

Article no. High-quality stainless steel junction boxes	**External dimensions** in mm (L x W x H)	**AKZ4** 03-7112-0008		**WDU 2,5** 03-7111-0012		**WDU 4** 03-7112-0015	
without flanges	Lid	Mounting rail	Terminals per rail	Mounting rail	Terminals per rail	Mounting rail	Terminals per rail
07-56 ☐☐ -1711	100 x 100 x 60	1	7	-	-	-	-
07-56 ☐☐ -0111	150 x 150 x 80	2	13	1	16	1	13
07-56 ☐☐ -1011	400 x 150 x 80	2	54	1	65	1	54
07-56 ☐☐ -0311	200 x 200 x 80	2	21	1	25	1	21
07-56 ☐☐ -2211	300 x 200 x 80	2	37	1	45	1	38
07-56 ☐☐ -0211	150 x 150 x 100	2	13	1	16	1	13
07-56 ☐☐ -0411	200 x 200 x 120	-	-	1	25	1	21
07-56 ☐☐ -0611	300 x 200 x 120	-	-	1	45	1	38
07-56 ☐☐ -1111	400 x 200 x 120	-	-	1	65	1	54
07-56 ☐☐ -2511	600 x 200 x 120	-	-	1	104	1	87
07-56 ☐☐ -0711	300 x 300 x 120	-	-	2	45	2	38
07-56 ☐☐ -0811	300 x 300 x 160	-	-	2	45	2	38
07-56 ☐☐ -2611	380 x 380 x 160	-	-	3	61	3	51
07-56 ☐☐ -1211	400 x 200 x 160	-	-	1	65	1	54
07-56 ☐☐ -1411	400 x 400 x 160	-	-	4	65	4	54
07-56 ☐☐ -1511	500 x 400 x 160	-	-	4	84	4	70
	Hinged door						
07-56 ☐☐ -5111	200 x 300 x 155	-	-	2	21	2	18
07-56 ☐☐ -5411	380 x 300 x 155	-	-	2	60	2	50
07-56 ☐☐ -5211	300 x 380 x 210	-	-	3	45	3	37
07-56 ☐☐ -5711	400 x 400 x 210	-	-	3	64	3	54
07-56 ☐☐ -5811	400 x 600 x 210	-	-	5	64	5	54
07-56 ☐☐ -5911	600 x 600 x 210	-	-	5	103	5	86
07-56 ☐☐ -6011	600 x 760 x 210	-	-	6	103	6	86
07-56 ☐☐ -6111	600 x 800 x 300	-	-	7	103	7	86
07-56 ☐☐ -6211	800 x 800 x 300	-	-	7	142	7	118
07-56 ☐☐ -6311	800 x 1000 x 300	-	-	9	142	9	118

The table on this page applies to the following high-quality stainless steel junction boxes

Ex e-Enclosure, empty *07-56.1-....* *Ex e/Ex i-Junction Box* *07-56.3-....* *IP Junction Box* *07-56.7-....*
Ex e-Junction Box *07-56.2-....* *Ex i-Junction Box* *07-56.4-....*

Rail-mounted terminal components/maximum number



High-quality stainless steel junction boxes

Article no. High-quality stainless steel junction boxes without flanges	**External dimensions** in mm (L x W x H) Lid	**Side**	**M12 x 1,5**	**M16 x 1,5**	**M20 x 1,5**	**M25 x 1,5**	**M32 x 1,5**	**M40 x 1,5**	**M50 x 1,5**	**M63 x 1,5**
07-56 □□ -1711	100 x 100 x 60	A/B C/D	3 3	2 2	1 1	1 -	- -	- -	- -	- -
07-56 □□ -0111	150 x 150 x 80	A/B C/D	14 16	5 7	4 5	2 2	1 2	- -	- -	- -
07-56 □□ -1011	400 x 150 x 80	A/B C/D	45 14	24 7	18 6	7 2	6 2	- -	- -	- -
07-56 □□ -0311	200 x 200 x 80	A/B C/D	20 23	10 11	6 8	3 3	2 2	- -	- -	- -
07-56 □□ -2211	300 x 200 x 80	A/B C/D	31 22	17 11	12 7	6 4	4 2	- -	- -	- -
07-56 □□ -0211	150 x 150 x 100	A/B C/D	18 21	11 12	7 7	3 3	2 2	1 1	1 1	1 1
07-56 □□ -0411	200 x 200 x 120	A/B C/D	37 30	20 20	15 13	7 7	4 4	2 2	2 2	2 2
07-56 □□ -0611	300 x 200 x 120	A/B C/D	59 35	32 19	21 13	11 7	7 5	4 2	3 2	3 2
07-56 □□ -1111	400 x 200 x 120	A/B C/D	64 35	34 20	28 13	15 7	9 4	6 2	5 2	4 2
07-56 □□ -2511	600 x 200 x 120	A/B C/D	82 30	78 20	47 13	23 7	15 5	9 2	7 2	6 2
07-56 □□ -0711	300 x 300 x 120	A/B C/D	60 50	35 29	22 21	11 11	7 7	4 4	3 3	3 3
07-56 □□ -0811	300 x 300 x 160	A/B C/D	75 68	46 47	30 31	16 17	10 9	7 7	5 5	4 4
07-56 □□ -2611	380 x 380 x 160	A/B C/D	96 93	60 59	40 39	21 23	11 12	9 9	6 6	5 5
07-56 □□ -1211	400 x 200 x 160	A/B C/D	97 40	61 30	40 17	23 11	13 6	9 4	7 3	5 2
07-56 □□ -1411	400 x 400 x 160	A/B C/D	105 104	61 63	41 43	21 21	13 12	9 9	7 7	5 5
07-56 □□ -1511	500 x 400 x 160	A/B C/D	126 104	79 63	64 43	28 21	16 12	12 9	9 7	7 5
	Hinged door									
07-56 □□ -5111	200 x 300 x 155	A/B C/D	48 74	28 46	18 32	10 17	6 9	4 7	3 4	2 3
07-56 □□ -5411	380 x 300 x 155	A/B C/D	91 74	51 46	39 32	21 17	12 9	9 7	6 4	5 3
07-56 □□ -5211	300 x 380 x 210	A/B C/D	104 107	60 69	40 50	23 23	17 15	8 9	6 8	6 7
07-56 □□ -5711	400 x 400 x 210	A/B C/D	136 115	84 72	55 51	31 23	21 18	10 10	10 9	8 7
07-56 □□ -5811	400 x 600 x 210	A/B C/D	144 183	84 116	55 65	31 35	21 29	10 15	10 14	8 12
07-56 □□ -5911	600 x 600 x 210	A/B C/D	208 194	120 120	85 70	42 35	30 29	16 15	14 14	13 11
07-56 □□ -6011	600 x 760 x 210	A/B C/D	170 228	120 148	80 100	51 47	30 37	16 19	14 17	12 16
07-56 □□ -6111	600 x 800 x 300	A/B C/D	324 411	189 252	119 147	72 78	40 51	28 32	21 27	19 26
07-56 □□ -6211	800 x 800 x 300	A/B C/D	452 403	234 231	147 159	94 83	52 51	30 32	29 29	27 26
07-56 □□ -6311	800 x 1000 x 300	A/B C/D	452 554	234 300	147 194	94 102	52 67	30 42	29 35	27 32

03-0330-0207-10/2014-BCS-201175/5

Medium voltage distribiution boxes

Features

- Two different enclosure material available
- Connection up to 3 cables possible

Description

BARTEC offers explosion protected connection enclosures up to 6 kV and 10 kV with more than ten different enclosure types 07-5H9.-..../.... of stainless steel and polyester. They serve for the connection of incoming and outgoing cables aduacent to electrical equipment such as motors and transformers up to 10 kV within the Ex area.

Consignment
With wall fixing brackets
Accessories: mounting panel, post insulator terminals, PE connection

BARTEC tailors the enclosures to the customer's request and equips them with the desired cable glands.

Explosion protection

Ex protection type
ATEX Ⓔx II 2G Ex e IIC T6/T5 Gb
Ⓔx II 2D Ex tb IIIC T80 °C/T95 °C Db

Certification
IECExU 13 ATEX 1001

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
EPDM gasket
- 20 °C to + 40 °C at T6
- 20 °C to + 55 °C at T5

Silicone gasket (only ST/ST)
- 55 °C to + 40 °C at T6
- 55 °C to + 55 °C at T5

Technical data

Material
polyester, black, glass-fibre reinforced mounting panel of sheet steel

Material
high-quality stainless steel 1.4404

Protection class
IP 66 according to IEC 60529/EN 60529

Storage temperature
- 20 °C to + 70 °C

Rated voltage
up to 6 kV and 10 kV

Rated current
max. 500 A

Rated cross-section
max. 300 mm²

Selection chart Polyester-distribution boxes with door

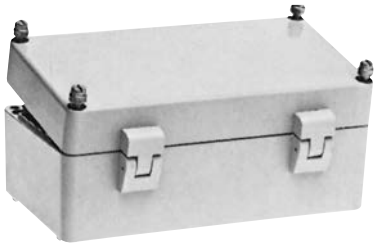
Dimensions in mm			Rated voltage	Order no.
Width	Height	Depth		
400	600	200	6 kV	**07-5H95-4006/0020**
600	600	200	6 kV	**07-5H95-6006/0020**
600	800	300	6 kV / 10 kV	**07-5H95-6008/0030**
800	1000	300	6 kV / 10 kV	**07-5H95-8000/0130**

Selection chart High-quality stainless steel distribution boxes with door

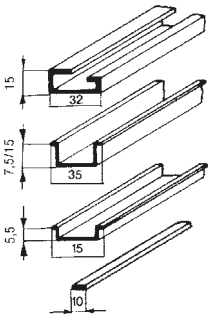
Dimensions in mm			Rated voltage	Order no.
Width	Height	Depth		
400	600	210	6 kV	**07-5H92-4006/0021**
600	600	210	6 kV	**07-5H92-6006/0021**
600	760	210	6 kV	**07-5H92-6007/6021**
760	760	300	6 kV / 10 kV	**07-5H92-7607/6030**
600	800	300	6 kV / 10 kV	**07-5H92-6008/0030**
600	800	300	6 kV / 10 kV	**07-5H92-8008/0030**
800	1000	300	6 kV / 10 kV	**07-5H92-8000/0130**

On request, BARTEC supplies all enclosures complete with terminals, cable entries, blanking plugs and other fittings and components.

Socket-head cap screws



Hinges
Material: aluminium/plastic
Opening angle: approx. 170°



Sealable steel lid screws

Mounting panels
for enclosures:
galvanised steel plate
laminate DIN 7735 HP 2061
for 80 x 75 to 190 x 75 polyester enclosures

Mounting rail TS 35
Material: bare copper, 15 high

Mounting rail TS 32
Material: galvanised steel plate, bare copper

Mounting rail TS 35
Material: galvanised steel plate, 7.5 high

Mounting rail TS 15
Material: galvanised steel plate

Mounting rail TS 10
Material: nickel-plated brass, 10 x 3 (5) mm

Lid seal
Material: silicone
temperature resistance:
-55 °C to +100 °C

External fastening strips
Material: stainless steel

Earth bars LS, QS

Wall bracket/steel structure

PB Pipe bracket

Fixing brackets
We supply special fixing brackets for enclosure mounting on pipes, walls and steel structures. They are made of high-quality stainless steel and can be ordered as complete mounting kit with fixing screws and, on request, bolts for the fixing onto steel structures. Ask BARTEC for more detailed information.

03-0330-0207-10/2014-BCS-201178

Customer

Company

Street

Postcode/City

Country

Contact person

E-mail

Phone Fax

BARTEC

Sales employee

☐ **Offer** ☐ **Order**

Project name/Application number

Customer number

Order value

Deadline Offer

Delivery

Quantity

pieces

Enclosure material

- ☐ Aluminium, grey
- ☐ Polyester, grey, not for DustEx
- ☐ Polyester, black
- ☐ Stainless steel V2A
- ☐ Stainless steel V4A
- ☐ with door
- ☐ with lid

Further requests

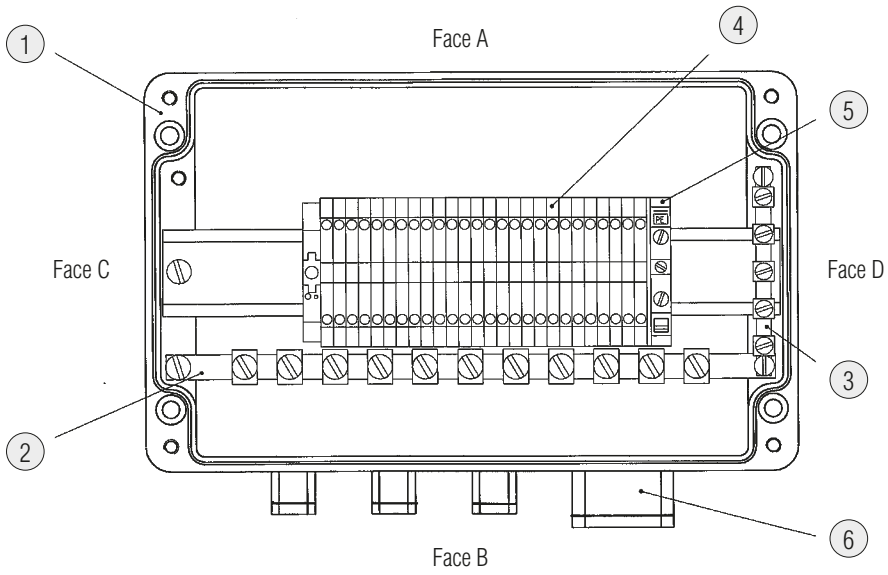
Ex protection type

- ☐ Ex e
- ☐ Ex i
- ☐ Ex e/Ex i
- ☐ DustEx
- ☐ Non Ex
- ☐ IP 65/..

Nominal voltage

- ☐ AC _____ V
- ☐ DC _____ V

03-0330-0591-10/2014-BCS-304849/1



(1) Enclosure size (mm)

Length	Width	Height

(2) (3) Protective earth conductor bars

Horizontal rail ☐

Vertical rail ☐

(2) (3) Rail mounted terminals, PA/PE-terminals

Type	Cross section	Number

(6) Cable glands/stopping plugs (number)

Cable glands	Stopping plugs	Face A	Face B	Face C	Face D
Gland plate (only for SS enclosures)					

Ex rail-mounted terminals

Terminals with EC model test certification

are available in the following executions:

- II 2G Ex e **Feed-through terminals**
- II 2G Ex e **Tension spring terminals**
- II 2G Ex e **Mini-terminals**
- II 2G Ex e **Block terminals**
- II 2G Ex e **Protective conductor terminals**
- II 2G Ex i **Feed-through terminals**
- II 2G Ex i **Tension spring terminals**
- II 2G Ex i **Mini-terminals**

Description

BARTEC deploys rail-mounted terminals with EC model test certification in a variety of electrical operating equipment.

BARTEC draws not only on its own innovations in this field, but also uses the know-how of other terminal manufacturers, such as WAGO, Phoenix and Weidmüller.

BARTEC keeps a stock of terminals and their associated accessories made by these manufacturers and these are installed in explosion-proofed distributor boxes and at on-site control points as required by the customer.

Mounting

The terminals are mounted on rails and each terminal row is provided with a terminal plate at the end to cover open clamp sides. The rows are secured with brackets at both ends to prevent movement. Terminal strips must be installed in accordance with the operating instructions issued by the respective manufacturers.

These instructions document the admissible state for the terminal installation required at maximum operating voltages including the necessary accessories. This applies in particular to a mixed arrangement with voltage conducting terminals, protective conductors and potential equalisation terminals, rail-mounted terminals of differing potentials, and between “inherently safe power circuits“ and those that are “not inherently safe“.

If jumper bars are used, ensure compliance with the clearance and creepage distances required for the operating voltage.

03-0330-0213-10/2014-BCS-201182/1

Protective conductor terminals and PE terminals

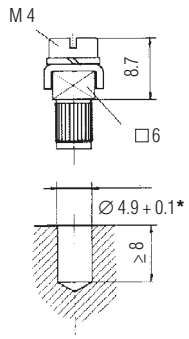
Description

Electrical equipment with operating voltages of more than 65 Volt need protective conductors. Metal enclosures also need an external protective conductor connection.

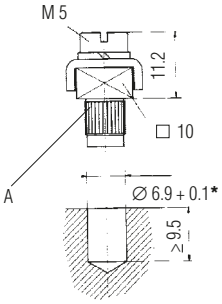
BARTEC supplies these connections in three different sizes. The connections correspond to VDE 0170 and carry marking ⏚ or ⏚.

Installation instructions (A):
Push in square cap (do not hammer in); put on terminal clamp and fasten screw with spring washer. Screw type terminals with U-brackets have to be wired according to EN 60999-1; 2000.

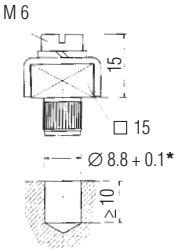
Nominal cross section 1,5 mm²
Max. tightening torque 1,2 Nm



Nominal cross section 4,0 mm²
Max. tightening torque 2,0 Nm



Nominal cross section 10 mm²
Max. tightening torque 3,5 Nm



*Hole diameter in case of aluminium

Selection chart

	Name	Nominal cross section	Possible conductors	Socket material	Order no.
⏚	Earth terminals	1.5 mm²	1.5 mm² stranded, 2.5 mm² single wire	Ms nickel-plated	**05-0012-0038**
		4.0 mm²	4.0 mm² stranded, 6.0 mm² single wire	Ms nickel-plated	**05-0012-0001**
		10.0 mm²	10.0 mm² stranded, 10.0 mm² single wire	Ms nickel-plated	**05-0012-0003**
		1.5 mm²	1.5 mm² stranded, 2.5 mm² single wire	Niro steel	**05-0012-0039**
		4.0 mm²	4.0 mm² stranded, 6.0 mm² single wire	Niro steel	**05-0012-0018**
		10.0 mm²	10.0 mm² stranded, 10.0 mm² single wire	Niro steel	**05-0012-0022**
⏚	PE terminals	1.5 mm²	1.5 mm² stranded, 2.5 mm² single wire	Ms nickel-plated	**05-0012-0002**
		4.0 mm²	4.0 mm² stranded, 6.0 mm² single wire	Ms nickel-plated	**05-0012-0034**
		10.0 mm²	10.0 mm² stranded, 10.0 mm² single wire	Ms nickel-plated	**05-0012-0035**
		1.5 mm²	1.5 mm² stranded, 2.5 mm² single wire	Niro steel	**05-0012-0019**
		4.0 mm²	4.0 mm² stranded, 6.0 mm² single wire	Niro steel	**05-0012-0036**
		10.0 mm²	10.0 mm² stranded, 10.0 mm² single wire	Niro steel	**05-0012-0037**

03-0330-0213-10/2014-BCS-201182/2

Mini-terminal

Features

- Multi-conductor connection max. 2 x 1 mm²
- Operating temperature -55 °C to +120 °C
- Extremely robust
- Tried and tested a million times over
- For base and rail mounting
- Bridging is possible
- Clip-on markers

Description

Ex e I/II mini-terminal

The mini terminal allows conductors to be connected in hazardous areas.

In order to protect from mechanical damage, touch, dust and moisture, Ex terminals must be installed in increased safety type “e“ enclosures.

BARTEC mini-terminals are available as 2 and 3-pole terminals which can be mounted in a row.

The clearances and creepage distances allow the terminals to be mounted directly on metal.

Each individual terminal pole is marked with a number or symbol by a clip-on label.

2 and 3-pole bridges are available for cross connection terminals.

Ex I/II mini-terminals for intrinsically safe circuits

The design of the blue mini-terminal is the same as that of the Ex e I/II mini-terminal and is tested in the same way, too.

Explosion protection

Ex protection type

ATEX ⟨Ex⟩ II 2G Ex eb IIC
⟨Ex⟩ I M2 Ex eb I

Certification
PTB 99 ATEX 3117 U

IECEx Ex eb IIC
Ex eb I

Certification
IECEx PTB 07.0007 U

Further approvals
UL, CSA, NEPSI, GOST

Other approvals and certificates, see www.bartec-group.com

Min. ambient temperature
-55 °C

Max. operating temperature
+120 °C

Technical data

Rated voltage
max. 440 V bei UL (CSA:300 V)

Rated current
max. 23 A bei UL (CSA: 16 A)

Rated cross-section
2.5 mm² (single-, fine- and multi-stranded)
bei UL (CSA: AWG 24 - 14)

Connection of several conductors of the same cross section and type
max. 2 x 1 mm²

Operating temperature range
-55 °C to +120 °C

Material

Insulation	duroplast
Terminal	copper alloy

Bridge
2 and 3-pole bridge

Labelling
plug-in label

Weight
2-pole: 13 g
3-pole: 19 g

Mounting
BARTEC mounting rail or base of enclosure

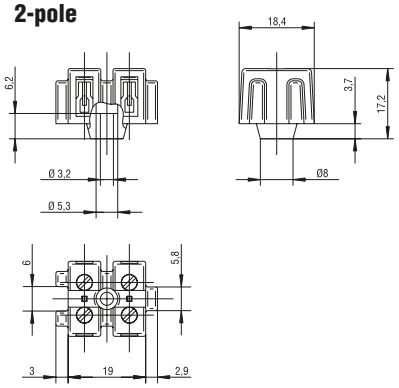
Contact spacing
11 mm

Tightening torque for clamp screw
(EN 60999-1: 2000, TAB 4, III)
für clamp screw = 0.4 Nm
bei UL (CSA: 3.5 lb. in.)

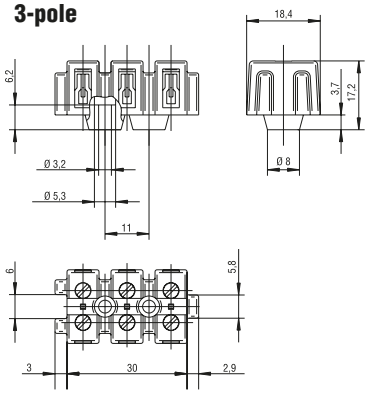
for screw and washer assembly
for fixation = 0.6 Nm
bei UL (CSA: 5.3 lb. in.)

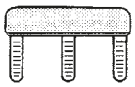
03-0330-0209/A-10/2014-BCS-201180/1

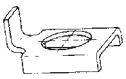
2-pole



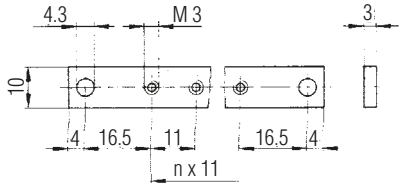
3-pole







Similar to DIN EN ISO 1207
(DIN 84)



Selection chart

		Order no.
Mini terminal 2-pole, Ex e, grey*		**07-9702-0220/1**
Mini terminal 2-pole, blue*		**07-9702-0220/2**
Mini terminal 3-pole, Ex e, grey*		**07-9702-0320/1**
Mini terminal 3-pole, blue*		**07-9702-0320/2**
2-pole bridge		**05-0120-0004**
3-pole bridge		**05-0120-0005**
Rotation stop for base mounting required when a single 2-pole terminal is mounted		**05-0010-0002**
Rotation stop for rail mounting required when a single 2-pole terminal is mounted		**05-0106-0015**
Label not printed printed 0-99, A-Z, symbols on request 1 unit = 100 labels with the same markings		**05-1144-0001** **05-1144-0002**
Screw combination, M3 unit 100 pieces	*l* = 11 mm *l* = 12 mm *l* = 15 mm	**03-1830-0001** **03-1830-0004** **03-1830-0005**
Mounting rail 3 x 10 mm or 5 x 10 mm		**on request**

***** Product printing standard: ATEX and IECEx marking. Other markings on request. Please specify in plain text.

Terminal block

Description

The continuous demand for increased nominal insulation voltage and current carrying capacity in Ex e terminals made us these larger BARTEC terminal blocks.

Terminals for 4 mm² and 16 mm² conductors are available in 2- and 3-pole versions.
Terminals for 35 mm² conductors are available in a 3-pole version. The terminals can be fitted directly onto a metal base or onto a 10 x 5 mm mounting rail.

Features

- Compact design
- Low profile
- Bridging is possible
- Base or rail mounting

Explosion protection

Ex protection type

ATEX ⟨Ex⟩ II 2G Ex eb IIC
⟨Ex⟩ I M2 Ex eb I

Certification
ZELM 13 ATEX 0514 U

IECEx Ex eb IIC
Ex eb I

Certification
IECEx ZLM 13.0004 U

Other approvals and certificates, see www.bartec-group.com

Min. ambient temperature
-55 °C

Max. operating temperature
+105 °C

Technical data

Nominal insulation voltage
1000 V according to DIN EN 60079-7

Nominal voltage
1100 V

Bridge
Jumper bar, 2-pole up to 5-pole

Labelling
2 labels per pole

Mounting
BARTEC mounting rail or base of enclosure

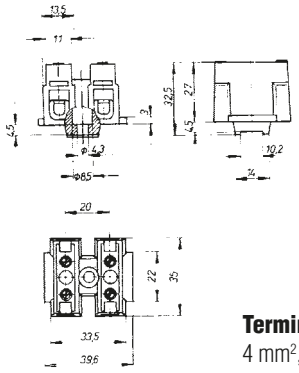
Material

Insulation	Duroplast
Terminal	
4 mm²/16 mm²	copper alloy
35 mm²	galvanised steel

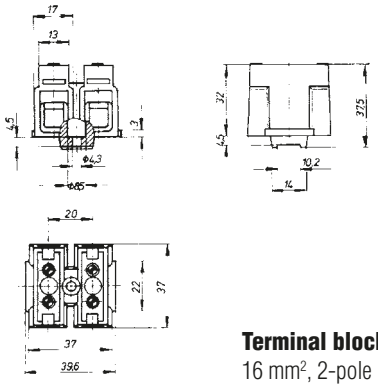
Rating cross section	4 mm²	16 mm²	35 mm²
Conductor cross section			
stranded	0.5 mm²	0.5 mm²	2.5 mm²
single and multi wire	up to 4.0 mm²	up to 16 mm²	up to 35 mm²
Max. current carrying capacity	30 A	72 A	120 A
at ambient temp. +40 °C and conductor cross section	4 mm²	16 mm²	35 mm²
Weight			
2-pole	44 g	68 g	-
3-pole	68 g	104 g	285 g
Spacing	20 mm	20 mm	28 mm
Tightening torque of clamp screw	0.8 Nm	2.0 Nm	3.5 Nm

03-0330-0210/B-10/2014-BCS-201181/1

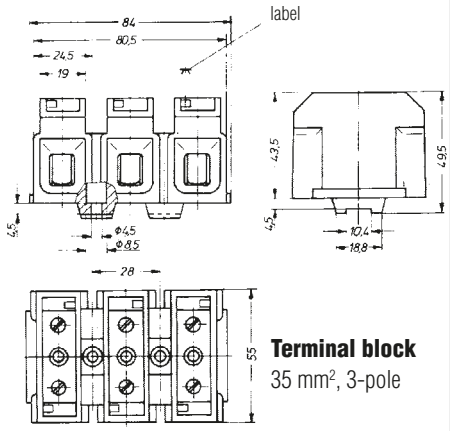
Selection chart



Terminal block
4 mm², 2-pole — **07-9721-0240**

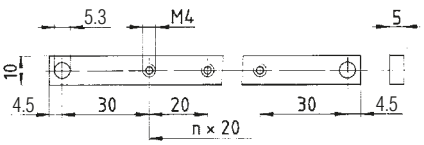


Terminal block
16 mm², 2-pole — **07-9721-0260**

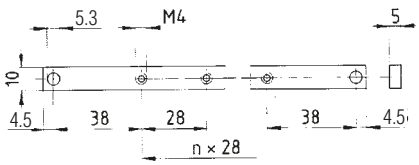


Terminal block
35 mm², 3-pole — **07-9721-0380**

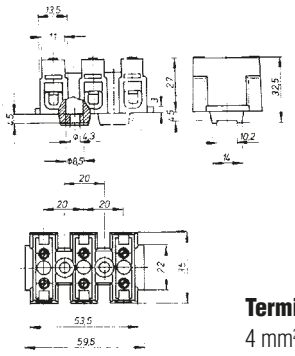
Rotation stop for floor mounting — **05-0010-0004**
required when a single 2-pole terminal is mounted



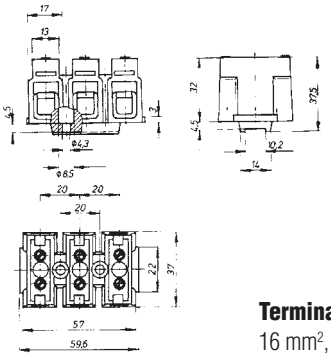
Rail 5 x 10 mm spacing 20 — **on request**



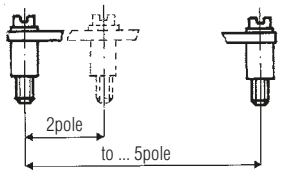
Rail 5 x 10 mm spacing 28 — **on request**



Terminal block
4 mm², 3-pole — **07-9721-0340**



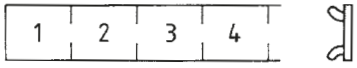
Terminal block
16 mm², 3-pole — **07-9721-0360**



Jumper bar factory mounted	4 mm²	16 mm²	35 mm²
2-pole	**05-0110-0005**	**05-0110-0007**	**05-0110-0013**
3-pole	**05-0110-0006**	**05-0110-0008**	**05-0110-0014**
4-pole	**05-0110-0011**	**05-0110-0009**	**05-0110-0015**
5-pole	**05-0110-0012**	**05-0110-0010**	**05-0110-0016**

Similar to DIN EN ISO 1207 (DIN 84) **Fixing screw** **M 4 x 10 mm** for the insulator — **03-1040-0001**

Circlip S4 — **03-3540-0001**
as securing element for fastening screw



Labels

not printed	**03-3600-0007**
printed as per column 1 (1 - 10, 11 - 20)	**03-3600-0011**
printed as per column 2 (1 - 50)	**03-3600-0001**
printed, L1, L2, L3, N, PE	**03-3600-0012**
printed to customer specifications	**03-3600-0013**

1 unit = 50 Labels

Cable gland

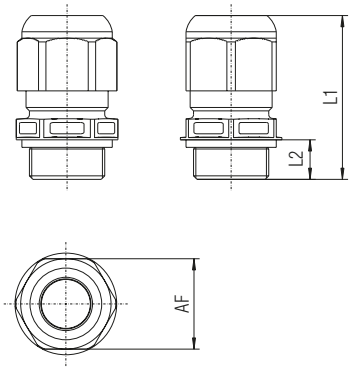
Description

The cable gland made of polyamide is used for inserting permanent cables and leads into electrical equipment with the increased safety “e“ type of explosion protection. The cable glands conform to the protection class IP 66/68.

For intrinsically safe circuits the cable entries are available with a blue cap nut.

When this cable gland is used, the instructions given in the type examination certificate/operating instructions must be observed.

Dimensions



Explosion protection

Ex protection type
- II 2G Ex e II
- II 2D Ex tD A21 IP 68

Certification
PTB 05 ATEX 1068 X
BVS 11 ATEX E074 X

Operating temperature
-40 °C to +75 °C

Technical data

Material
Polyamid, self-extinguishing

Seals
EPDM

Colour
RAL 9005, black
RAL 5015, blue

Protection class (EN 60529)
IP 66/IP 68

Selection chart

Thread size	Cable range (∅)	Across flat (AF	Thread length (L2)	Length in mm (L1)	Unit	Order no.
Cable gland Ex e, black						
M12 x 1.5	3 - 6	16	15	35 - 45	50	**03-6062-0137**
M16 x 1.5	4.5 - 9	20	9	31 - 37	50	**03-6062-0126**
M20 x 1.5	7 - 13	24	10	36 - 45	50	**03-6062-0127**
M25 x 1.5	7 - 12	29	10	38 - 47	50	**03-6062-0128**
M25 x 1.5	10 - 17	29	10	38 - 47	50	**03-6062-0136**
M32 x 1.5	13 - 21	36	12	42 - 51	25	**03-6062-0129**
M40 x 1.5	17 - 28	46	12	52 - 65	10	**03-6062-0130**
M50 x 1.5	23 - 35	55	14	59 - 72	5	**03-6062-0125**
M63 x 1.5	31 - 48	68	15	64 - 78	1	**03-6062-0131**
Cable glands Ex e black, with long connection thread on request..						
Cable gland Ex i, with blue cap nut						
M12 x 1.5	3 - 6	16	15	35 - 45	50	**03-6065-0074**
M16 x 1.5	4.5 - 9	20	9	31 - 37	50	**03-6065-0066**
M20 x 1.5	7 - 13	24	10	36 - 45	50	**03-6065-0067**
M25 x 1.5	7 - 12	29	10	38 - 47	50	**03-6065-0068**
M25 x 1.5	10 - 17	29	10	38 - 47	50	**03-6065-0073**
M32 x 1.5	13 - 21	36	12	42 - 51	25	**03-6065-0069**
M40 x 1.5	17 - 28	46	12	52 - 65	10	**03-6065-0070**
M50 x 1.5	23 - 35	55	14	59 - 72	5	**03-6065-0071**
M63 x 1.5	31 - 48	68	15	64 - 78	1	**03-6065-0072**

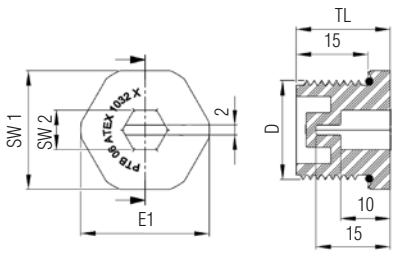
Screw plugs

Description

Screw plugs for closing unused boreholes in enclosures for the hazardous area in accordance with EN 60079-0 and EN 60079-7.

For assembly purposes the outer shape and internal recess of the screw plug head are hexagonal.

Dimensions



Explosion protection

Ex protection type

- II 2G Ex e II
- II 2D Ex tD A21 IP 68

Certification

PTB 06 ATEX 1032 X
BVS 11 ATEX E073 X

Technical data

Protection class

IP 68

Material

Body	polyamide
O-ring	EPDM
Operating temperature	-40 °C to +75 °C
Colour	black

Selection chart

D (mm)	SW* 1 (mm)	SW* 2 (mm)	E1 (mm)	TL (mm)	Nm	Order no.
M12 x 1.5	16	6	18	19	2	**03-5210-0092**
M16 x 1.5	20	8	22	19	2	**03-5210-0085**
M25 x 1.5	29	8	31	20	5	**03-5210-0090**
M32 x 1.5	36	8	39	20	5	**03-5210-0091**
M50 x 1.5	55	8	60	20	10	**03-5210-0087**
M63 x 1.5	68	8	73	20	10	**03-5210-0088**

*AF = Across flat

Technical data subject to change without notice.

BARTEC

BARTEC

Switches

Insert switch

Limit switch

Description

Insert switch with connection cores

This switching element can be universally used for switching, controlling and regulating operations within Ex-areas. The insert switch is audited by the PTB according to the latest EC guideline 94/9/EC. Devices equipped with these insert switches have to be approved by a testing authority, the switch itself needs not be retested.
The cores are cast-in at the back of the switch. Their standard length is 500 mm; other lengths are available on request. To connect the cores we recommend the miniterminals from BARTEC.

Limit switch witch connection cable

The limit switches have been developed for Ex-areas where safe and reliable signalling is required, for example on pumps, petrol pumps, as well as in mechanical and high-tec engineering. The switches must be mounted into the respective devices or systems in such a way as to guarantee mechanical protection. No further tests are required. The connection cable is cast in on the back of the switch. For the connection in Ex-areas BARTEC provides a large variety of terminals and terminal boxes.

Explosion protection

Ex protection type insert switch
ATEX Ⓔx II 2G Ex d IIC T6 Gb
Ⓔx II 2D Ex tD A21 IP 66 T80 °C

Certification
Gas: PTB 00 ATEX 1093 X
Dust: IBExU 01 ATEX 1007 X

IECEx Ex d IIC T6 Gb

Certification
IECEx PTB 07.0045 X

Further approvals
INMETRO, GOST, NEPSI, KTL

Other approvals and certificates, see www.bartec-group.com

Ex protection type limit switch
ATEX Ⓔx II 2G Ex d IIC Gb
Ⓔx I M2 Ex d I Mb

Certification
PTB 98 ATEX 1032 U

IECEx Ex d IIC Gb
Ex d I Mb

Certification
IECEx PTB 07.0040 U

Further approvals
INMETRO, GOST, NEPSI

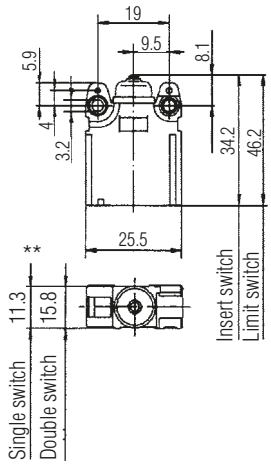
Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-60 °C to +100 °C
depending on the type and materials used

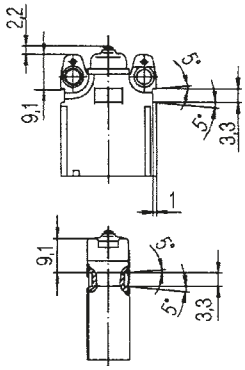
Ambient temperature limit switches
T6 to max. +75 °C
depending on the rated current

Protection class (according to IEC/EN 60529)
IP 66

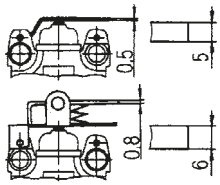
Dimensions in mm



Clip-on pockets



Lever widths



** When packing several switches, these dimensions are reduced to 11 mm resp. 15.5 mm

Technical data

Ex d insert switch/limit switch
EN 60947-5-1
EN 60947-1

Protection class
IEC/EN 60529:IP 66

Electrical data for control switch in accordance with DIN EN 60947-5-1

Rated operating voltage		AC 400 V
Utilization category		
AC-15	2 A	400 V
DC-13	0.15 A	250 V
Isolation voltage		400 V

(further electrical data on request)

Electrical data for switch

Rated current		
AC	2 A	400 V
AC	7 A	250 V
DC	0.5 A	250 V

(further electrical data on request)

Ambient temperature +40 °C		
AC switching capacity		
	ohmic load	inductive load cosφ = 0.6
400 V	3 A	2 A
250 V	5 A	3 A
30 V	7 A	5 A
DC switching capacity		
	ohmic load	inductive load L/R = 3 µs
250 V	0.4 A	0.03 A
30 V	7 A	5 A

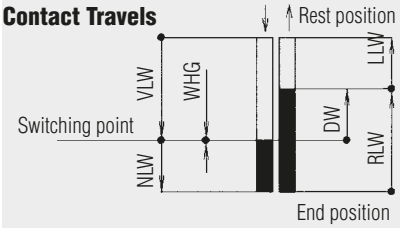
(other electrical data on request)

Tightening torque of fixing screws
0.6 Nm

Rating of gold-coated contacts
Voltage: min. 5 V/max. 30 V
Current: min. 4 mA/max. 400 mA

- the product of voltage and current should not exceed 0.12 VA
- for alternating current these values have to be interpreted as peak values

Contact Travels



Pretravel	VLW	max. 0.9
Overtravel	NLW	min. 0.5
Differential valu	DW	max. 0.45
Release travel	RLW	0.9
Release travel	LLW	0.1 to 0.45
Repeat accuracy WHG (for repetetive actuation)		± 0.02

Service life	
mechanical	> 2 x 10^6
electrical	dependent on load
max. switching rate	1000 operations/h
Switching actuation force	
Single-break switch	max. 2.0 N
Double-break switch	max. 3.6 N
Reset force	
Single-break switch	min. 0.4 N
Double-break switch	min. 0.8 N
Operating rate	≥ 10 µm/sec.

Contact break distance
2 x ≥ 0.3 mm

Electrical connection
- Insert switch: cores 4 GAF 0.75
- Limit switch:
  cable H05VV-F 0.75/A05VV-F 0.75
  (other cables on request)

Conductor diameter
2-wire 6.1 ±0.3 mm
3-wire 6.6 ±0.3 mm
4-wire 6.7 ±0.3 mm
6-wire 8.9 ±0.3 mm

Contact element
snap-action contact element (double-break) as, normally-open, normally-closed, changeover contact as well as N/0 + N/C contacts for circuits with equal potentials.

Contact material
Silver or gold-coated contacts
(all contact elements have a standard protective gold-coating as standard)

Double-break switch (switch options)
- *simultaneous switch sequence:*
  chamber I and II almost simultaneous
- *defined switch sequence:*
  chamber I switches mechanically safe 0.03 up to 0.3 mm before chamber II

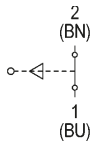
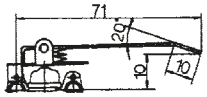
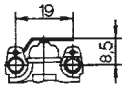
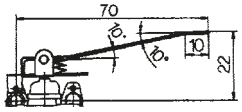
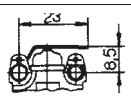
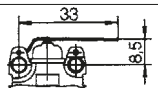
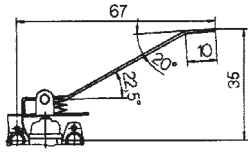
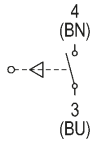
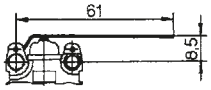
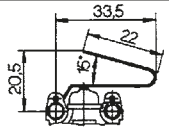
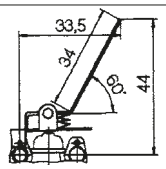
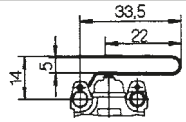
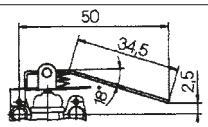
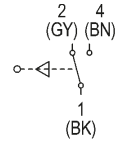
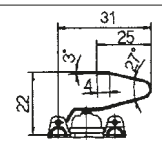
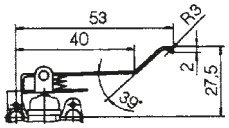
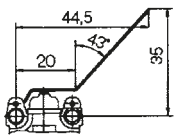
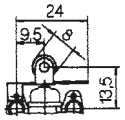
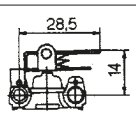
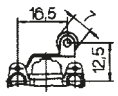
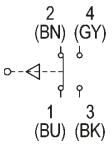
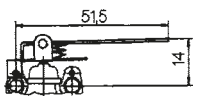
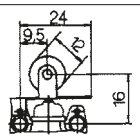
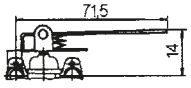
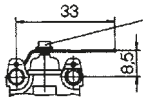
Weight
- Insert switch with 500 mm cores:
  single-break switch 35 g,
  double-break switch 70 g
- Limit switch with 3 m cable:
  single-break switch 210 g,
  double-break switch 415 g

Housing material
plastic (thermoplastics)

Plunger/additional actuator
stainless steel

03-0330-0154/A-10/2014-BCS-129306/2

Selection chart Single-break switch

Type of contact		Additional actuator*			
Switch chamber **1**	Code no.	Options	Code no.	Options	Code no.
	**10**	without additional actuator	**00**		**44**
			**01**		**45**
			**02**		
			**03**		**46**
	**20**		**04**		
			**21**		**47**
			**22**		**48**
	**30**		**23**		**49**
			**24**		plastic roller **61**
					metal roller **62**
			**41**		plastic roller **63**
					metal roller **64**
	**40**		**42**		plastic roller **66**
			**43**		adjusting screw **73**

Complete order no.** 07-☐ 511-☐☐☐☐ / ☐☐

Please enter code number.
Technical data subject to change without notice.

Length of connection cores
5 = 500 mm
Length of connection cable
3 = 3 m

Please specify greater lengths in plain text, code no. **0**

Insert switch with connection cores	**1**
Limit switch with connection cable	**2**

	Contact material	Ambient temperature (T_a)
1	Silver	-20 °C to +60 °C
3	Gold	-20 °C to +60 °C
5	Silver	-55 °C to +60 °C
7	Silver	-55 °C to +75 °C
8	Gold	-55 °C to +75 °C

( ) Code for connection cable

* Dimensions for additional actuator are reference values

** Standard product printing: ATEX and IECEx marking. Other international imprints obtainable on request. Please specify in plain text.

03-0330-0154-10/2014-BCS-129306/3

Selection chart Double-break switch

Type of contact				Additional actuator*			
	Switch chamber **1**	Switch chamber **2**	Code no.	Varianten	Code no.	Varianten	Code no.
simultaneous switch sequence	12 (GY) / 11 (BK)	22 (BN) / 21 (BU)	**11**	without additional actuator	**00**	71, 20°, 10, 10	**44**
	14 (GY) / 13 (BK)	22 (BN) / 21 (BU)	**21**	19, 8.5	**01**	70, 10, 10, 10, 22	**45**
	14 (GY) / 13 (BK)	24 (BN) / 23 (BU)	**22**	23, 8.5	**02**	67, 10, 20°, 5.2, 35	**46**
	12 (2) 14 (3) / 11 (1)	22 (5) 24 (6) / 21 (4)	**33**	33, 8.5	**03**	33.5, 34, 60°, 44	**47**
	12 14 / 11 13	22 24 / 21 23	**44**	61, 8.5	**04**	50, 34.5, 2.5, 15°	**48**
defined switch sequence	12 (GY) / 11 (BK)	22 (BN) / 21 (BU)	**1A**	33.5, 22, 20.5, 15°	**21**	53, 40, R3, 2, 27.5, 30°	**49**
	14 (GY) / 13 (BK)	22 (BN) / 21 (BU)	**2A**	33.5, 22, 14, 5	**22**	24, 9.5, 8, 13.5 — plastic roller	**61**
	14 (GY) / 13 (BK)	24 (BN) / 23 (BU)	**2B**	31, 25, 3°, 27°, 4, 22	**23**	24, 9.5, 8, 13.5 — metal roller	**62**
	12 (2) 14 (3) / 11 (1)	22 (5) 24 (6) / 21 (4)	**3C**	44.5, 43°, 20, 35	**24**	16.5, 7, 12.5 — plastic roller	**63**
	12 14 / 11 13	22 24 / 21 23	**4D**	28.5, 14	**41**	16.5, 7, 12.5 — metal roller	**64**
				51.5, 14	**42**	24, 9.5, 12, 16 — plastic roller	**66**
				71.5, 14	**43**	33, 8.5 — adjusting screw	**73**

Complete order no.** 07-□ 511-□□□□ / □□

Please enter code number.
Technical data subject to change without notice.

Length of connection cores
5 = 500 mm
Length of connection cable
3 = 3 m
Please specify greater lengths in plain text, code no. **0**

Insert switch with connection cores	**1**
Limit switch with connection cable	**2**

	Contact material	Ambient temperature (T_a)
1	Silver	-20 °C to +60 °C
3	Gold	-20 °C to +60 °C
5	Silver	-55 °C to +60 °C
7	Silver	-55 °C to +75 °C
8	Gold	-55 °C to +75 °C

( ) Code for connection cable

* Dimensions for additional actuator are reference values

** Standard product printing: ATEX and IECEx marking. Other international imprints obtainable on request. Please specify in plain text.

03-0330-0154/A-10/2014-BCS-129306/4

Miniature Insert switch/ Limit switch

Description

BARTEC miniature switches are used in areas with of limited space for a flameproof switching element.

They are especially suitable for applications in valves, thermostats, push switches, servo components, level metres and switching gears. The smallest Ex d miniature switch in the world is encapsulated in a plastic enclosure. The leads or cable tail are potted in at the base.

The standard version of the BARTEC miniature switches contains fine silver contacts. Other contact materials such as gold plated silver or solid gold are available for low currents and voltages.

Limit switch with connection cable

Switches with connector cables have been approved by PTB with EC model test certification.

The switches can therefore be mounted at any time into devices and systems which offer mechanical protection – no further testing is required.

The connector cable is cast into the back of the switch. The wires are colour-coded. The (standard) cable length is 3 m; other lengths are available on request.

Insert switch with connection cores

The insert switch with wires is available as a building block for your explosion-proofing solution.

These insert switches are tested and approved by PTB (the Federal Physical-Technical Institute) according to Ex Guideline 94/9/EC.

After installation, the complete device is tested by an authorized institution.

Thanks to its PTB approval, the microswitch itself needs not be individually tested. The leads are individually marked. The length of the cable is 50 cm (standard). Other lengths can be supplied on request.

For the connection of the cores we recommend our BARTEC Ex Mini-terminals.

Explosion protection

Ex protection type limit switch

ATEX ⟨Ex⟩ II 2G Ex d IIC T6, T5 Gb

Certification
EPS 14 ATEX 1689 X

IECEx Ex d IIC Gb T6, T5

Certification
IECEx EPS 14.0039 X

Further approvals
INMETRO, NEPSI, FM

Other approvals and certificates, see www.bartec-group.com

Ex protection type insert switch

ATEX ⟨Ex⟩ II 2G Ex d IIC Gb
⟨Ex⟩ I M2 Ex d I Mb

Certification
EPS 14 ATEX 1688 U

IECEx Ex d IIC Gb
Ex d I Mb

Certification
IECEx EPS 14.0038 U

Further approvals
INMETRO, FM

Other approvals and certificates, see www.bartec-group.com

Working temperature
-60 °C to +100 °C
depending on the type and the materials used

Ambient temperature limit switches
T5 to max. +90 °C
T6 to max. +75 °C
depending on the rated current

Protection class (according to IEC/EN 60529)
IP 54

Technical data

Rated voltage
AC 250 V

Rated current

Switching capacity with AC		
	ohmic load	inductive load
250 V	5 A	5 A
30 V	5 A	5 A
Switching capacity with DC		
	ohmic load	inductive load
250 V	0,25 A	0,03 A
125 V	0,5 A	0,06 A
75 V	1 A	1 A
30 V	5 A	5 A

Contact elements
see table

Tightening torque of fixing screws
max. 0.6 Nm

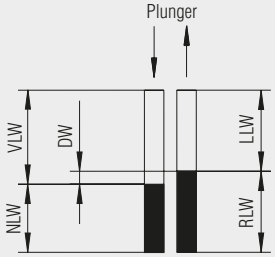
Operating force
max. 1.4 N

Release force
min. 0.25 N

Schalthäufigkeit
max. 1 000/h

Contact travels

- Pretravel (VLW)	0.5 to 1.0 mm
- Overtravel (NLW)	min. 0.2 mm
- Reset travel (RLW)	~0.55 mm
- Differential value (DW)	max. 0.13 mm
- No-load travel (LLW)	~0.5 mm



Mechanical life
>2 x 10^6 switching cycles

Electrical life
dependent on load

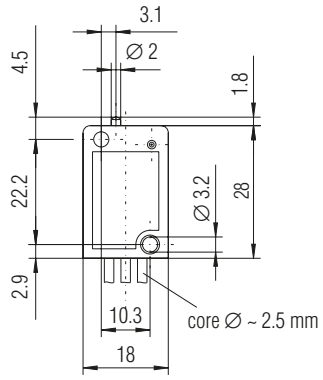
Electrical connection
Insert switch
Cores 0.75 mm² 4 GAF/Radox/HO5V2-K
Limit switches
Lead 0.75 mm² LSYY/BETAflam®
other cores and leads on request

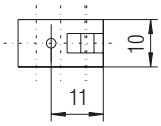
Enclosure
Duroplast

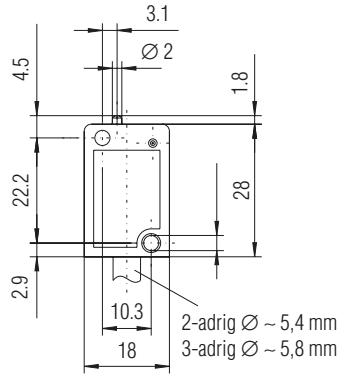
Plunger/additional actuator
stainless steel

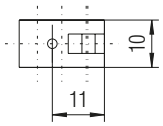
Weight
with 0.5 m cores approx. 25 g
with 1 m cable approx. 50 g

Dimensions in mm

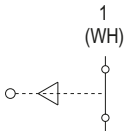
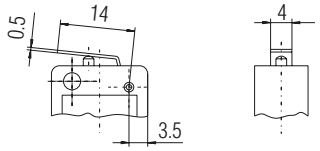
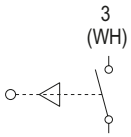
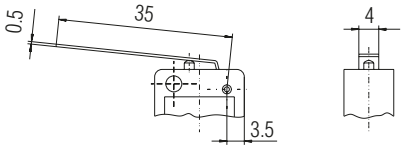
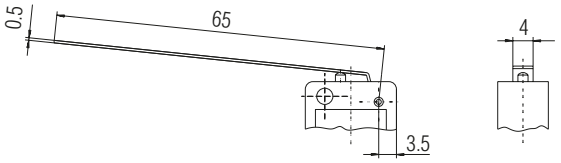
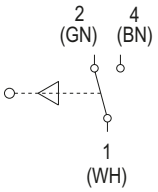
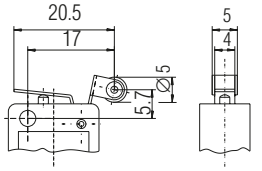








Selection chart

Type of contact	Code no.	Additional actuator* Options	Code no.
	**10**	without additional actuator	**00**
			**01**
	**20**		**02**
			**03**
	**30**		**63**

( ) specification for connection cable

Complete order no. **

Please enter code number.
Technical data subject to change without notice.

07-□ 501-□□□□ / □□

Insert switch with connection cores	**1**
Limit switch with connection cable	**2**

Length of connection cores
5 = 500 mm
Length of connection cable
3 = 3 m
Please specify other lengths in plain text, code no. = **0**

Contact material	
6	Silver
7	Gold-coated contacts

* Dimensions for a additional actuator are reference values

** Standard product printing: ATEX and IECEx marking.
Other international imprints obtainable on request.
Please specify in plain text.

Special versions, please specify in text

- precision switch with differential value 0.04 ± 0.02 (switching capacity 1 A), Type 07-.501-5.../..
- different ambient temperature

03-0330-0156/A-10/2014-BCS-129308/2

Limit switch plastic encapsulated

Features

- Positive break contacts
- Very robust construction
- IP 65 protection class
- 13 different actuator versions
- Operator protection in accordance with GS-ET 15

Description

Besides the metal-enclosed precision switch of the RET series, BARTEC also offers a series of limit switches with plastic bodies. The enclosure is made of shock impact resistant proof plastic providing an IP 65 protection class according to IEC/EN 60529. Due to its format several limit switches can be mounted in tandem formation requiring very little space.

This allows a multiple triggering of switching operations. The connection cable is equipped with a strain relief device, prewired and safely cast into the enclosure by means of epoxy resin. We supply this robust limit switch with a standard length of 3 m; special lengths are available on request.

The integrated switching element changes over via NC contact with positive break operation. Operator protection corresponds the the GS-ET 15 requirements.

Its high vibration resistance and long life are the result of a most extensive laboratory research. The certification for hazardous areas and the high protection class granted thanks to its structural characteristics are the ideal prerequisites for its use in almost all fields of automation, mechanical and high-tec engineering.

Explosion protection

Ex protection type

ATEX II 2G Ex d IIC T6, T5 Gb
II 2D Ex tb IIIC T80 °C, T95 °C Db

Certification
PTB 03 ATEX 1143 X

IECEx Ex d IIC T6, T5 Gb
Ex tb IIIC T80 °C, T95 °C Db

Certification
IECEx EPS 12.0036 X

Other approvals and certificates, see www.bartec-group.com

Operating temperature
-20 °C bis +100 °C
depending on the type and materials used

Ambient temperature Limit switch
T5 for max. +90 °C
T6 for max. +65 °C
depending on rated current

Technical data

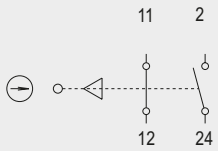
Protection class
IEC/EN 60529: IP 65

Enclosure
shock-resistant thermoplastic material, self-extinguishing UL 94-VO

Switching element
1 NO/1 NC contact
both galvanically isolated
NC contact with pos. break (VDE 0113, Teil 1)

Connection
4 core cable H05VV-F
cross section: 0.75 mm²
cable length: 3 m, 5 m, 10 m

Colour coding of the flexible leads
11 = BN
12 = BU
23 = BK
24 = GY



Electrical structure
EN 60947-5-1
EN 60947-1

Nominal voltage
AC 250 V/DC 230 V

Nominal current
AC 6 A
DC 0.25 A

Switching capacity		
	with AC 15	with DC 13
250 V	6 A	-
230 V	-	0.25 A
24 V	-	4 A

Short circuit protection
6 AgL/gG DIAZED fuse

Mechanical data

Switching point tolerance
± 0.5 mm depending on the actuator

Switching force tolerance
± 1 N

Repeat accuracy
± 0.1 mm

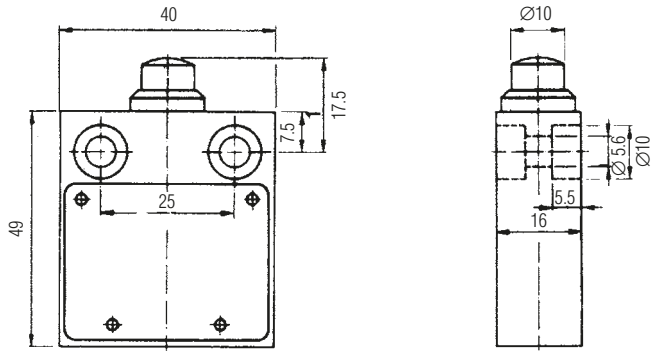
Mechanical service life
> 1 million operating cycles

Max. frequency of operation
1,800 operating cycles/h

Vibration resistance
10 g at 10 to 2,000 Hz

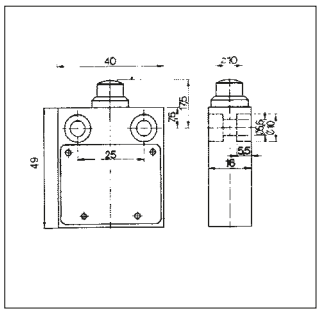
Impact resistance/shock resistance
50 g at a shock duration of 6 ms

Dimensions

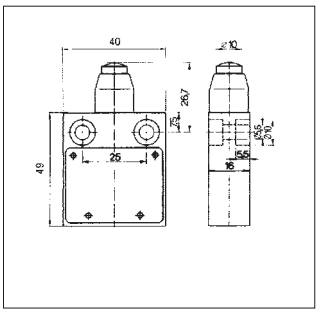


Selection chart

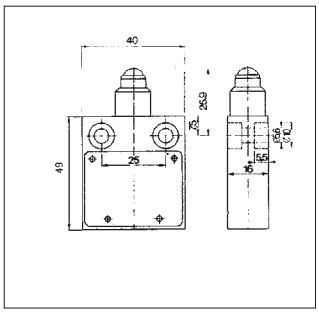
Plunger
07-2961-1.62/01



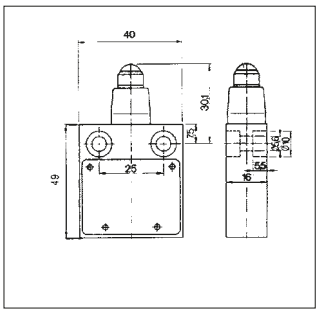
Membrane plunger
07-2961-1.62/02



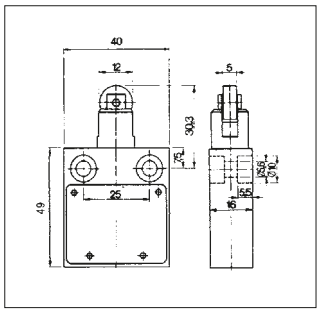
Spherical plunger
07-2961-1.62/03



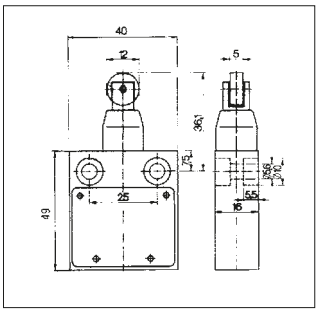
Spherical membrane plunger
07-2961-1.62/04



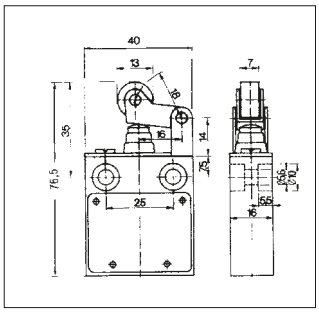
Roller plunger
07-2961-1.62/09



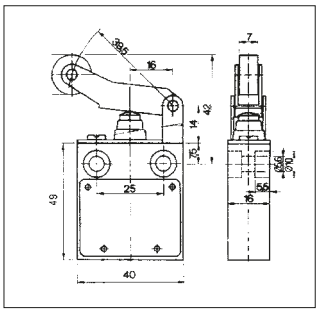
Membrane roller plunger
07-2961-1.62/10



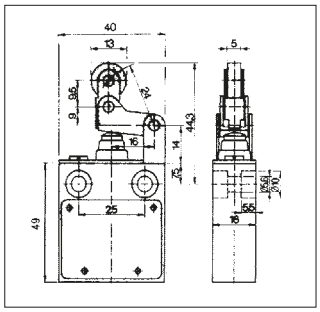
Membrane roller lever
07-2961-1.62/14



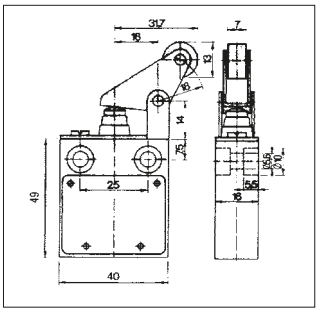
Membrane roller lever, long
07-2961-1.62/16



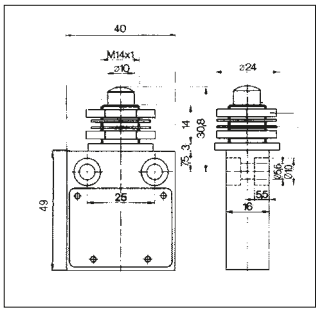
Membrane roller toggle lever
07-2961-1.62/18



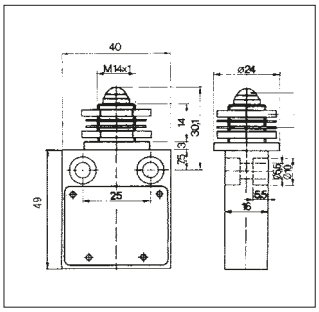
Parallel roller lever
07-2961-1.62/20



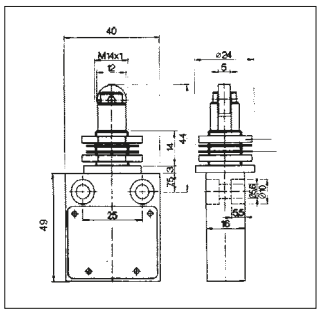
Front mounting/dome plunger
07-2961-1.62/47



Front mounting/spherical plunger 07-2961-1.62/49



Front mounting/roller lever
07-2961-1.62/51



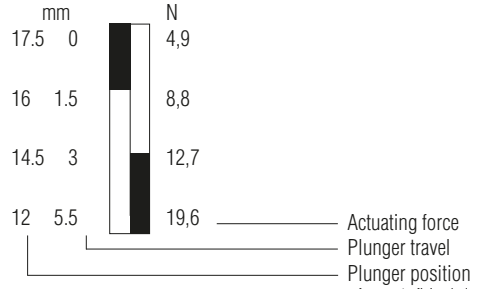
Complete order no. 07-2961-1 ☐ 62/ ☐ ☐

Please enter code number.
Technical data subject to change without notice.

Cable length	
3 m	**3**
5 m	**5**
10 m	**0**

Actuator

Contact travel diagram



03-0330-0157-10/2014-BCS-129309/2

Limit switch metal encapsulated

Features

- Very robust construction
- IP 67 type of protection
- A choice of cable exit positions
- 16 different actuator versions

Description

Limit switches of the RET range are metal-encapsulated precision switches with a robust and compact explosion-proof structures.

Our connection cable comes prewired, is equipped with a strain-relief device and safely cast into the enclosure. We supply this robust limit switch with a standard cable length of three meter. Special cable lengths and switches with lateral cable outlets are available on request. The integrated basic switch has a single-pole changeover contact with high switching accuracy and a precise repeatability of the switching point.

Its high vibration resistance and long mechanical life are the result of extensive laboratory tests. The high protection class, IP 67, allows the switch to be used in nearly all fields of automation, mechanical and high-tec engineering.

Explosion protection

Ex protection type

ATEX II 2G Ex d IIC T6 Gb
II 2D Ex tb IIIC T80 °C Db

Certification
PTB 03 ATEX 1142 X

IECEx Ex d IIC T6 Gb
Ex tb IIIC T80 °C Db

Certification
IECEx EPS 12.0037 X

Other approvals and certificates, see www.bartec-group.com

Operating temperature
-20 °C to +90 °C
depending on the model and the materials used

Limit switch ambient temperature
T6 to max. +60 °C
depending on the rated current

Technical data

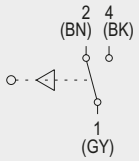
Protection class
IEC/EN 60529: IP 65

Enclosure
aluminium-alloy, hard-coated

Switching element
integrated micro-switch

Connection
4-core cable (H05VV-F)
cross section: 0.75 mm²
cable length: 3 m, 5 m, 10 m

Coloured flexible leads
1 = GY
2 = BN
4 = BK
PE = GN/YE



Equipotential bonding
external Ex terminals

Utilization category

AC 15	5 A	250 V
DC 13	0.16 A	230 V

max. 25 VA for gold contacts

Switching capacity			
	AC	**DC** (induct.)	**DC** (ohmic)
250 V	6,5 A	-	-
220 V	-	0.16 A	-
110 V	-	0.2 A	0.5 A
60 V	-	0.5 A	1.0 A
24 V	-	4.0 A	5.0 A
12 V	-	6.5 A	6.5 A

Electrical data

Type of contact
single-pole changeover contact

Contact resistance
60 mΩ, measure at the end of the cable a cable length of 1 metre

Short circuit protection
5 AgL/gG DIAZED fuse

Mechanical data

Switching point tolerance
± 0.5 mm depending on the actuator

Switching force tolerance
± 1 N

Repeat accuracy
± 0.1 mm

Mechanical service life
> 1 million operating cycles

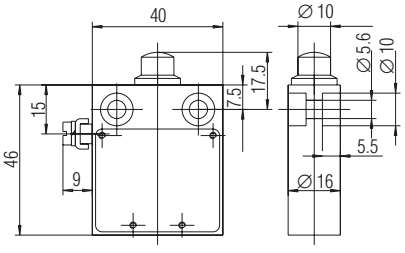
Max. frequency of operation
1,800 operating cycles/h

Vibration resistance
10 g at 10 to 2 000 Hz

Shock resistance/shock stability
50 g at a shock duration of 6 ms

Cable outlet
- bottom
- side
- with bottom screw socket
- with lateral screw socket

Dimensions in mm



Selection chart

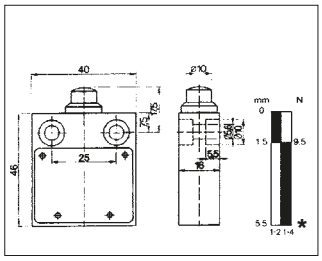
Contact material	Code no.	Cable outlet	Code no.	Cable length	Code no.
Ag	**1**	bottom	**1**	3 m	**3**
		side	**2**		
Ag Au 0.1 A	**3**			5 m	**5**
		with bottom screw socket	**3**		
Au 0.1 A	**4**	with lateral screw socket	**4**	10 m	**0**

Complete order no. 07-295 □ - □ □ 30/ □ □ Actuator

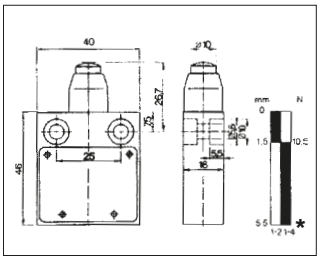
Please enter code number.
Technical data subject to change without notice.

Dimensional drawings and contact travel diagrams

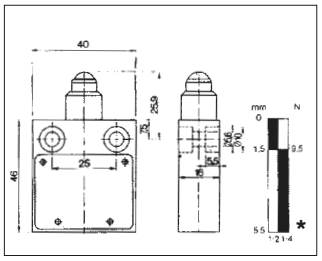
Plunger
07-2951-..30/01



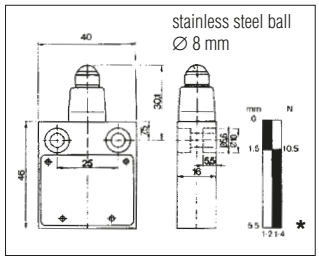
Membrane plunger
07-2951-..30/02



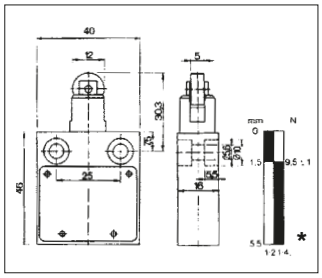
Spherical plunger
07-2951-..30/03



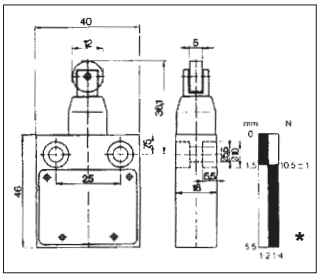
Spherical membrane plunger
07-2951-..30/04



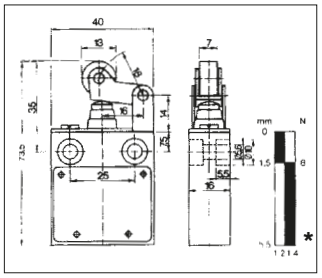
Roller plunger
07-2951-..30/09



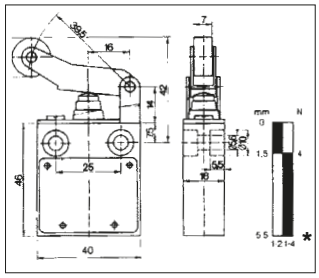
Membrane roller plunger
07-2951-..30/10



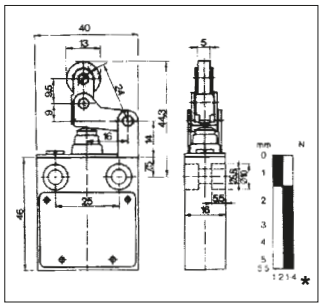
Membrane roller lever
07-2951-..30/14



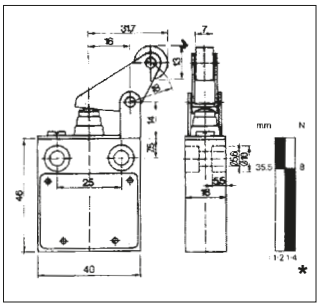
Membrane roller lever, long
07-2951-..30/16



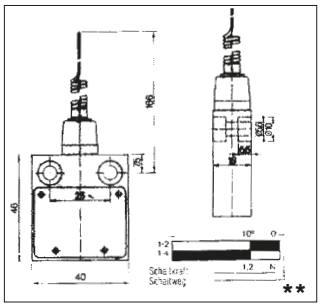
Membrane toggle roller lever
07-2951-..30/18



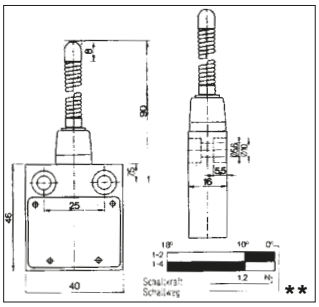
Parallel roller lever
07-2951-..30/20



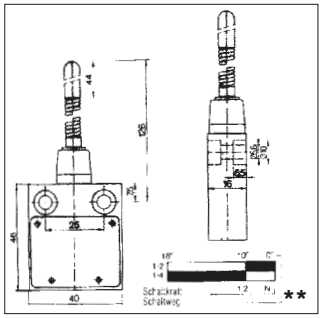
Feeler lever
07-2951-..30/32



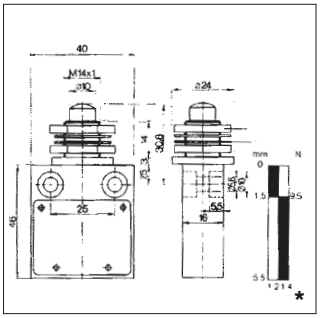
Feeler-butt lever
07-2951-..30/34



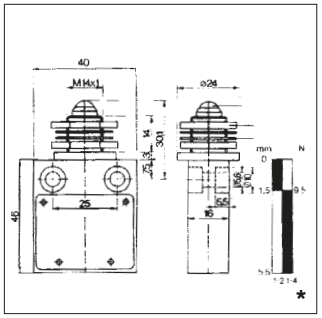
Feeler plastic lever
07-2951-..30/36



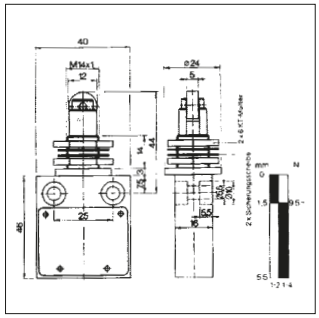
Front-mounting dome plunger
07-2951-..30/47



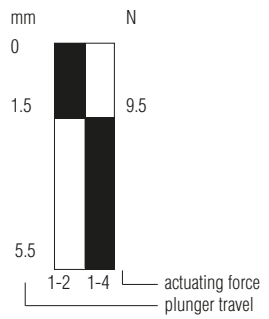
Front-mounting spherical plunger
07-2951-..30/49



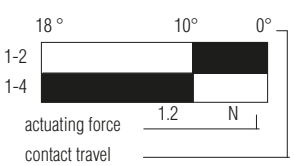
Front-mounting-roller lever
07-2951-..30/51



*** Contact travel diagram**



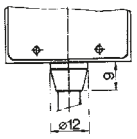
**** Contact travel diagram**



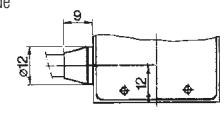
* Dimensions for an additional actuator are reference values

Cable outlet

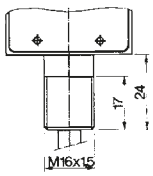
bottom



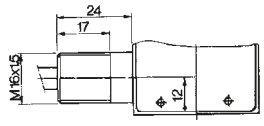
side



with bottom screw socket



with lateral screw socket



All dimensioned drawings and wiring diagrams are drawn without protective earth connection.

Position switch

Features

- Dimensions and mounting dimensions according to DIN EN 50041
- Compatible with non-Ex DIN limit switches
- Different switching elements

Description

All dimensions and actuating elements of the Ex d position switch correspond to the DIN EN 50041 standard.

Its 30 x 60 mm mounting dimensions make the switch directly compatible to the position switch corresponding to the same DIN standard. The switch is equipped with snap-action contacts with several switching element versions. A microswitch with connection cable Type 07-2511 is mounted as switching element.

Different actuators are available for the variety of actuating possibilities. After the removal of four screws these knobs can be rotated by 90 °C allowing so four different directions of actuation.

Gold-plated or gold-nickel contacts are available for the switching of low currents of voltages.

Standard length of the connection cables are 3 m. BARTEC has designed a very extensive range of Ex e terminal boxes of polyester and aluminium for the connection of the position switch within the Ex area.

Explosion protection

Ex protection type
Position switch type 07-2511
ATEX Ⓔx II 2G Ex d IIC T6 Gb
Ⓔx II 2D Ex tD A21 IP 66 T80 °C

Certification
Gas: PTB 00 ATEX 1093 X
Dust: IBExU 01 ATEX 1007 X

IECEx Ex d IIC T6 Gb

Certification
IECEx PTB 07.0045 X

Other approvals and certificates,
see www.bartec-group.com

Operating temperature
-50 °C to +100 °C
depending on the model and the materials used

Limit switch ambient temperature
T6 to max. +75 °C
depending on the rated current

Protection class
IEC/EN 60529: IP 66

Technical data

Protection class
IEC/EN 60529: IP 66

- **Electrical data according to DIN EN 60947-5-1**

Rated operating voltage AC 400 V

Utilisation category

AC 15	4 A	250 V
AC 15	2 A	400 V
DC 13	0.15 A	250 V

Isolation voltage 400 V

Ambient temperature +40 °C		
AC switching capacity		
	ohmic load	inductive load cosφ = 0.6
400 V	3 A	2 A
250 V	5 A	3 A
30 V	7 A	5 A
DC switching capacity		
	ohmic load	inductive load L/R = 3 µs
250 V	0.4 A	0.03 A
30 V	7 A	5 A

(further electrical data on request)

Switching elements
see table

Max. switching frequency
1 000 h

Mechanical life
>2 x 10^6 switching cycles depending on plunger operating speed and angle

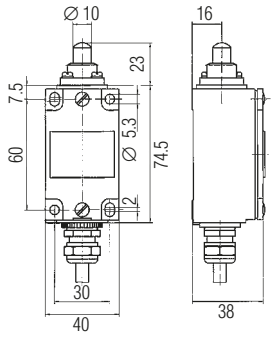
Electrical life
dependent on load

Electrical connection
Lead 0.75 mm² H05VV-F/A05VV-F/
/BETAflam®
other cores and leads on request

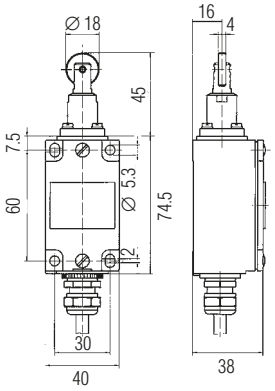
Enclosure material
aluminium

Dimensions*

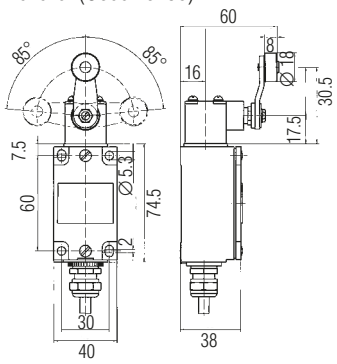
Plunger (Code no. 10)



Roll lever (Code no. 20)



Axle lever (Code no. 30)



Selection chart

Type of contact			Actuators					
Interrupter chamber 1	Interrupter chamber 2	Code no.	Max. operating force	Pretravel	Overtravel	Differential approx.	Max. plunger operating speed	Code no.
1 (BN) / 2 (BU)	—	**10**	17 N	1 mm	5 mm	0.4 mm	5 m/s	**10**
3 (BN) / 4 (BU)	—	**20**						
2 (GY) 4 (BN) / 1 (BK)	—	**30**						
11 (BK) / 12 (GY)	21 (BU) / 22 (BN)	**11**	17 N	1 mm	5 mm	0.4 mm	5 m/s	**20**
13 (BK) / 14 (GY)	23 (BU) / 24 (BN)	**22**						
13 (BK) / 14 (GY)	21 (BU) / 22 (BN)	**21**	6 N	10°	70°	4°	5 m/s	**30**
12 14 (2) (3) / 11 (1)	22 24 (5) (6) / 21 (4)	**33**	other actuators on request					

( ) specification for cable tail

Complete order no.**

07-291 □ -1 □ □□ / □□

Please enter code number.

Technical data subject to change without notice.

Length of connection cable
3 = 3 m
please specify other length in text, plain text code no. **0**

Special versions,
please specify clearly

* Dimensions for actuator are reference values

** Standard product printing:
ATEX and IECEx marking. Other international imprints obtainable on request. Please specify in plain text.

	Contact material	Ambient temperature (T_a)
1	Silver	-20 °C to +60 °C
3	Gold	-20 °C to +60 °C
5	Silver	-50 °C to +60 °C
7	Silver	-50 °C to +75 °C
8	Gold	-50 °C to +75 °C

03-0330-0160/A-10/2014-BCS-129312/2

Position switch

Features

- Dimensions and mounting dimensions according to DIN EN 50041
- Electronic switching inserts with individually adjustable switching points
- Analog switching inserts can transmit through current or voltage paths
- All mechanical N/C contacts as positive opening operation contacts
- Actuating elements can be turned by 4 x 90°
- Model with Ex d “flameproof enclosure“ type of protection

Description

Position switches are used wherever movable parts on machinery and systems have to be positioned, controlled and monitored.

They control and facilitate signalling in switching gear or function as switches in regulating and control devices.

The flameproof encapsulated BARTEC position switches can be used in hazardous (potentially explosive) areas in Zones 1 and 2 in accordance with the certified explosion subgroups IIA, IIB and IIC and the temperature class T6 and in Zones 21 and 22 according to the certified maximum surface temperature.

Position switch without actuator

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex d IIC T6
Ⓔx II 2D Ex tD A21 IP 66 T80 °C

Certification
PTB 09 ATEX 1048 X

Other approvals and certificates,
see www.bartec-group.com

Ambient temperature

Operation	-20 °C to +60 °C
Storage, transport	-20 °C to +80 °C

Approved for Zone
1 + 21 and 2 + 22

Technical data

Protection class
IP 66 (IEC/EN 60529)

Weight
approx. 160 g

Mechanical switching unit

Rated insulation voltage
400 V

Rated operating voltage/current

AC 15	4 A	400 V
AC 15	6 A	24 V and 240 V
DC 13	3 A	24 V
DC 13	0.8 A	110 V
DC 13	0.3 A	220 V

Rated impulse strength
4 kV AC

Switching frequency
up to 6000/h depending on the type

Service life
mechanical max. 10^6 switching cycles
depending on plunger operating angle/speed

Electronic switching unit

Rated voltage
up to DC 30 V

Rated operating voltage/current

DC 12 V	0.015 A
DC 24 V	0.018 A
DC 30 V	0.019 A

Tightening torques

Lid screws	max. 0.9 Nm
Pressure screw	5 Nm

Enclosure/plunger material
Thermoplastic

03-0330-0584-10/2014-BCS-303057/1

Actuator

Technical data

Weight
depending on the model

Tightening torque
Actuator screws 0.9 Nm

Cable entries

Technical data

Pressure screw (fitted)
M20 x 1.5

Conductor diameter 5 to 8.4 mm
Washer
Inner diameter 8.7 mm

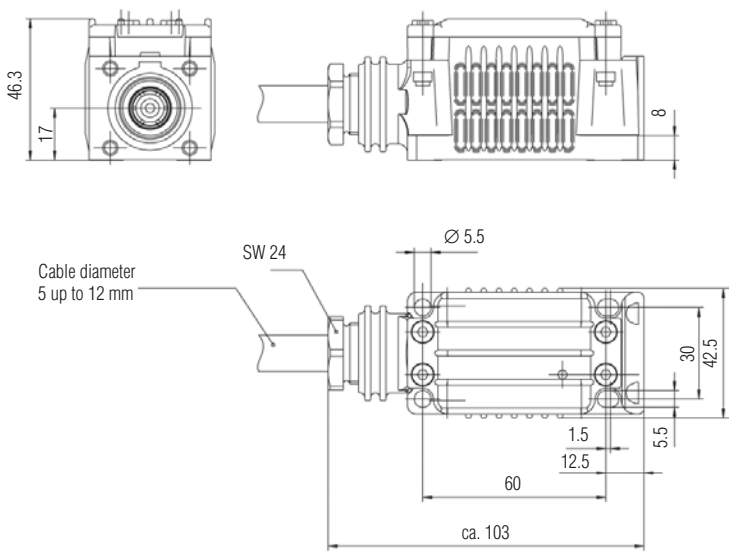
Sealing ring (fitted, without marking)
Inner diameter 8.4 mm

Pressure screw (loose)
M20 x 1.5

Conductor diameter 8 to 12 mm
Washer
Inner diameter 12.2 mm

Sealing ring (fitted, without marking)
Inner diameter 11.7 mm

Dimensions



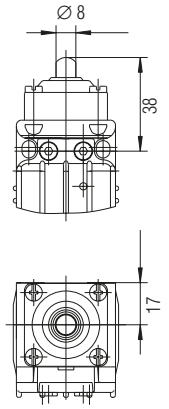
Selection chart

Switching function	Type of contact	Code no.	Actuator	Code no.
Non-overlapping contact making	opening contact /Positive opening contact	**166**	Dome plunger S-AT4	**01**
Non-overlapping contact making	N.O. contact/N.O. contact	**122**	Roller plunger RS-AT4	**03**
Non-overlapping contact making	N.O. contact/Positive opening contact	**126**	Roller lever AR-AT4	**05**
Overlapping contact making	N.O. contact/Positive opening contact	**226**	Pivoted lever R-AT4, ∅ 18, HR 311	**09**
Snap-action contact element	N.O. contact/Positive opening contact	**326**	Pivoted lever R-AT4, ∅ 30, HR 416	**10**
Switching point electronically adjustable	N.O. contacts/N.C. contact	**421**	Pivoted lever R-AT4, adjustable, HV	**13**
Switching point electronically adjustable	N.C. contact /N.O. contacts	**411**	Pivoted lever R-AT4, with rod, plastic HHK	**14**
Analog switch 4 to 20 mA	electronic	**500**	Pivoted lever R-AT4, with rod, metal HHA	**15**
Analog switch 0 to 10 V	electronic	**600**	Spring steel L=160	**16**
			Spring steel L=130	**17**
			Special version	**99**

Complete order no. 07-2931-1 ☐☐☐ / ☐☐
Please insert correct code. Technical data subjcet to change without notice.

Position switch with dome plunger

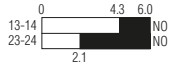
Dimensions



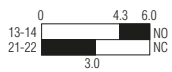
Contact closed
Contact openly
Setting range
*) Factory setting

Switching forces, actuation torques, contact travel

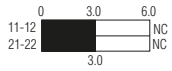
07-2931-112201XX F = max. 20 N



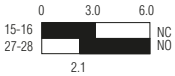
07-2931-112601XX F = max. 20 N



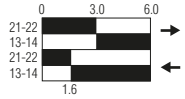
07-2931-116601XX F = max. 20 N



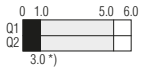
07-2931-122601XX F = max. 20 N



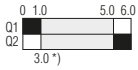
07-2931-132601XX F = max. 20 N



07-2931-141101XX F = max. 20 N

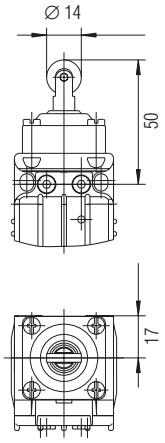


07-2931-142101XX F = max. 20 N



Position switch with roller plunger

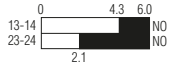
Dimensions



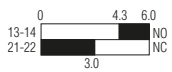
Contact closed
Contact openly
Setting range
*) Factory setting

Switching forces, actuation torques, contact travel

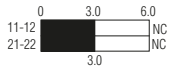
07-2931-112203XX F = max. 20 N



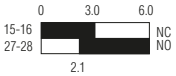
07-2931-112603XX F = max. 20 N



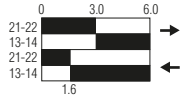
07-2931-116603XX F = max. 20 N



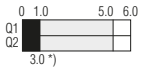
07-2931-122603XX F = max. 20 N



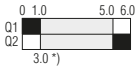
07-2931-132603XX F = max. 20 N



07-2931-141103XX F = max. 20 N

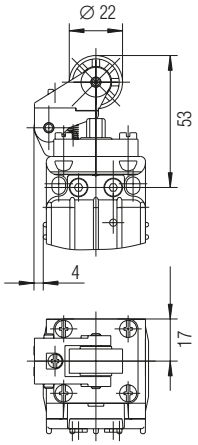


07-2931-142103XX F = max. 20 N



Position switch with roller lever

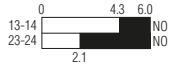
Dimensions



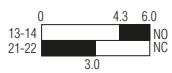
Contact closed
Contact openly
Setting range
*) Factory setting

Switching forces, actuation torques, contact travel

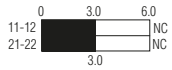
07-2931-112205XX F = max. 10 N



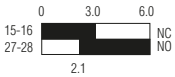
07-2931-112605XX F = max. 10 N



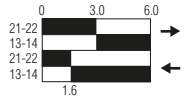
07-2931-116605XX F = max. 10 N



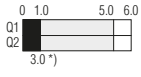
07-2931-122605XX F = max. 10 N



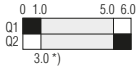
07-2931-132605XX F = max. 10 N



07-2931-141105XX F = max. 10 N

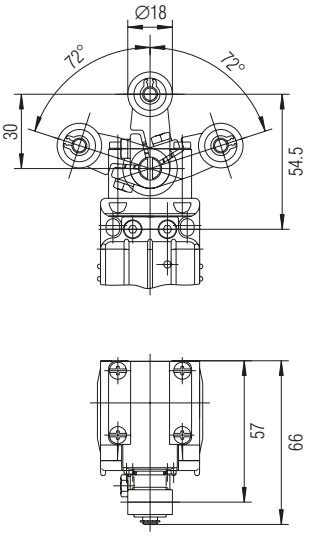


07-2931-142105XX F = max. 10 N



Position switch with pivoted lever

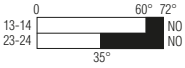
Dimensions



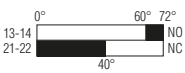
Contact closed
Contact openly
Setting range
*) Factory setting

Switching forces, actuation torques, contact travel

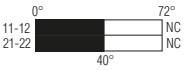
07-2931-112209-....12XX M = max. 0,35 Nm



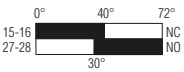
07-2931-112609-....12XX M = max. 0,35 Nm



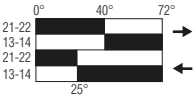
07-2931-116609-....12XX M = max. 0,35 Nm



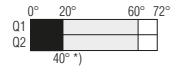
07-2931-122609-....12XX M = max. 0,35 Nm



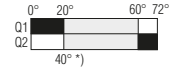
07-2931-132609-....12XX M = max. 0,35 Nm



07-2931-141109-....12XX M = max. 0,35 Nm

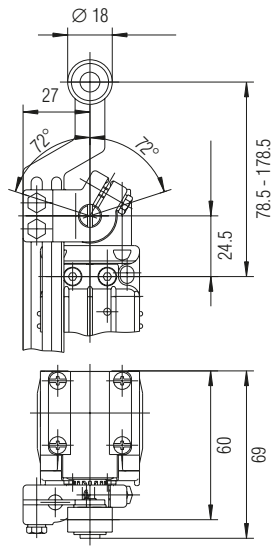


07-2931-142109-....12XX M = max. 0,35 Nm



Position switch with pivoted lever, adjustable

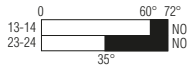
Dimensions



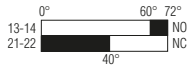
Contact closed
Contact openly
Setting range
*) Factory setting

Switching forces, actuation torques, contact travel

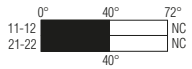
07-2931-112213XX M = max. 0,35 Nm



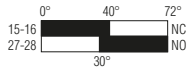
07-2931-112613XX M = max. 0,35 Nm



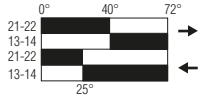
07-2931-116613XX M = max. 0,35 Nm



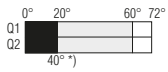
07-2931-122613XX M = max. 0,35 Nm



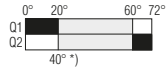
07-2931-132613XX M = max. 0,35 Nm



07-2931-141113XX M = max. 0,35 Nm

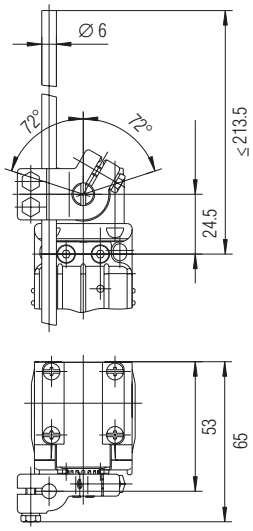


07-2931-142113XX M = max. 0,35 Nm



Position switch with pivoted lever, with rod

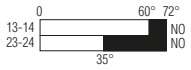
Dimensions



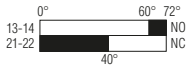
Contact closed
Contact openly
Setting range
*) Factory setting

Switching forces, actuation torques, contact travel

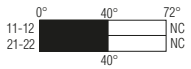
07-2931-112214-...15XX M = max. 0,35 Nm



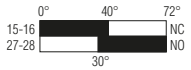
07-2931-112614-...15XX M = max. 0,35 Nm



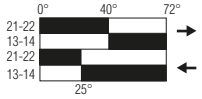
07-2931-116614-...15XX M = max. 0,35 Nm



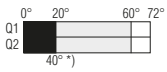
07-2931-122614-...15XX M = max. 0,35 Nm



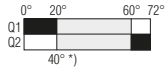
07-2931-132614-...15XX M = max. 0,35 Nm



07-2931-141114-...15XX M = max. 0,35 Nm

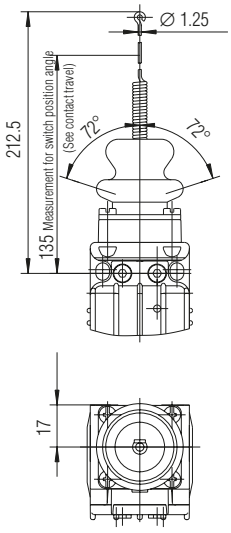


07-2931-142114-...15XX M = max. 0,35 Nm



Position switch with spring steel, L = 160

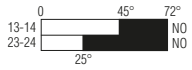
Dimensions



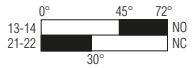
Contact closed
Contact openly
Setting range
*) Factory setting

Switching forces, actuation torques, contact travel

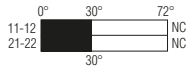
07-2931-112216XX



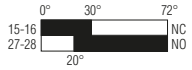
07-2931-112616XX



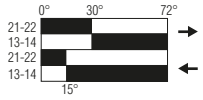
07-2931-116616XX



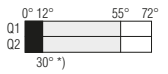
07-2931-122616XX



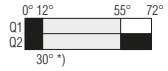
07-2931-132616XX



07-2931-141116XX

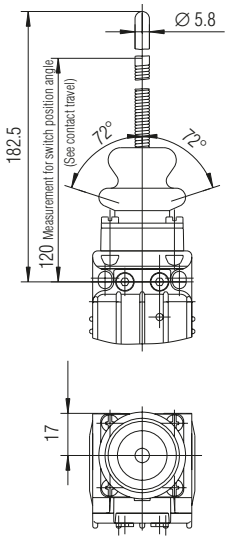


07-2931-142116XX



Position switch with spring steel, L = 130

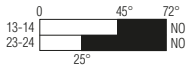
Dimensions



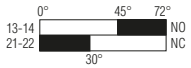
Contact closed
Contact openly
Setting range
*) Factory setting

Switching forces, actuation torques, contact travel

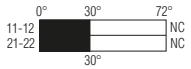
07-2931-112217XX



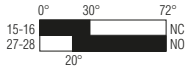
07-2931-112617XX



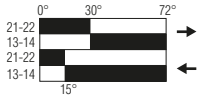
07-2931-116617XX



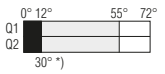
07-2931-122617XX



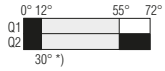
07-2931-132617XX



07-2931-141117XX



07-2931-142117XX



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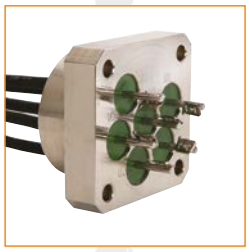
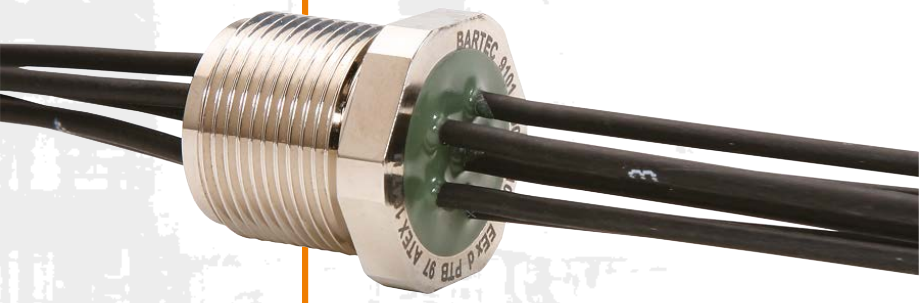
BARTEC





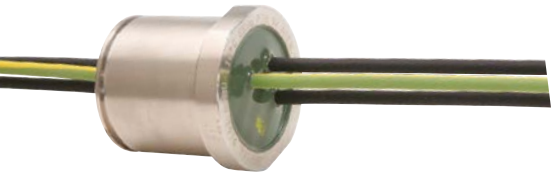
Cable entries and line bushings

Line bushings

multi-core with threaded sleeve

Features

- Space-saving construction as many single cores are gathered in one single sleeve thus requiring only one cable entry hole.
- As all 6 cores are brought out, direct Y-switching. Is also possible on the motor terminal board of Ex d motors.
- Motor mains and thermoprotection cables can be exited in **one** common sleeve.
- Numbered cores simplify connections and eliminate the usual “Ring out“ in larger control systems.
- On the Ex d side, the cores are connected directly to the electrical load, intermediate terminals are no longer necessary.
- Small dimensions allow a rated insulation voltage of up to 3 kV
- Blue cores for Ex i low power circuits
- Permanent heat-resistance of the cores up to +110 °C



multi-core with cylindrica sleeve

Description

A line bushing is a component for the electrical connection between a flameproof “d“ enclosure and an increased safety “e“ terminal box. The bushing consists of a threaded or non-threaded metal sleeve encapsulating one or more cores providing a flameproof barrier. The lengths of these leads vary according to their applications.

The depth of engagement of the threaded sleeves and the joint length of the cylindrical sleeve in the wall of the “d“ enclosure must correspond to the EN 60079-0 and EN 60079-1 standards.

After installation the bushing must be protected against rotation and accidental loosening. Recommendations are given under “Accessories“. Our standard bushings come with threaded sleeves from M10 to M48 or with cylindrical sleeves. They are equipped with cores with a 0.2 to 95 mm^2 csa. and approved for nominal voltages between 250 V and 3 000 V. See also table “Electrical data“.

For the connection of intrinsically safe circuits in the “d“ area with the terminal strip in the connection compartment we provide **line bushings with blue cores for “i“ low power circuits.**

Another product of our line-bushing range is the **bushing with terminals**. Combining Ex d line bushing with an Ex e terminal we designed an element which is hardly any bigger than a normal line bushing. This bushing plus terminals reduces the size of the terminal box and, at the same time, the installation costs. The bushings plus terminals are rated for 690 V and 1 000 V and PTB-certified. We supply them with 2 to 6 poles and threaded sleeves from M 24 to M 42.

All line bushings have been PTB and BVS tested and certified for their use in hazardous areas according to the European standards EN 50014, EN 50018, EN 50019. BARTEC also has numerous other international approvals for these line bushings.

All line bushings have been certified by the Federal Physical-Technical Institute in accordance with the European standards EN 60079-0, EN 60079-1 and EN 60079-7 concerning electrical operating equipment for explosion-endangered areas for above-ground (II) and underground (I) according to ATEX. BARTEC has furthermore obtained several foreign admissions for these line bushings (FM, UL).

When the 94/9/EC guideline comes into force on 01/07/2003, explosion protected operating equipment must be properly Installed in accordance with EN 60079-14.

Among other things, section 10.4.2 requires that **cast, pressure-proof cable insertions according to EN 60079-1 are used for** operating equipment with an internal ignition source for the explosion subgroup IIC and operating equipment with an enclosure volume greater than 2 dm^3 in zone 1.

BARTEC offers a wide range of products with EC type test certification.

4-pole or 6-pole with terminals

Line bushings in the
Ex e terminal box

Connection side of the
line bushing with terminals

Explosion protection

Ex protection type
Line bushing
ATEX II 2G Ex db IIC
I M2 Ex db I

Certification
EPS 13 ATEX 1619 U

IECEx Ex db IIC
Ex db I

Certification
IECEx EPS 13.0045 U

Other approvals
INMETRO, UL, CSA, NEPSI, GOST, FM

Other approvals and certification can be found at www.bartec.de

Standard product printing
ATEX and IECEx marking.
Other international imprints obtainable on request. Please specify in plain text.

Working temperature
-60 °C to +110 °C
depending on the lead used and static test pressure (temperature ranges apply to the “fixed installation” of leads)

Ambient temperature limit switch
depending on the design and the cores/-leads

Standard versions*:

Cores depending on the working temperature and voltage
H07G-K
radiation cross-linked polyolefin copolymer
NSGAFÖU

max. number of cores
50 cores

Cross-section
0.25 mm² to 120 mm²
AWG24 to AWG1

max. number of cores
50 cores

Sleeve size
metric: M16 x 1.5 to M42 x 1.5
non-threaded: ∅ 22 mm to ∅ 36 mm

Sleeve material
Metal, bare, varnished or galvanised

Rated voltage
690 V/1 000 V/3 000 V

Rated currents
see following table
based on VDE 0298-04

* all other versions on request
Please use the customer requirements form at the end of the chapter!

Ex protection type
Line bushing with terminals
ATEX II 2G Ex d e IIC Gb
I M2 Ex d e I Mb

Certification
EPS 14 ATEX 1644 U

IECEx Ex d e IIC Gb
Ex d e I Mb

Certification
IECEx EPS 14.0020 U

Other approvals and certification can be found at www.bartec.de

Working temperature
-60 °C to +110 °C
depending on the design, terminals and lead (temperature ranges apply to the “permanent installation“ of the leads)

Ambient temperature of limit switches
depending on the design and the cores/leads

Standard versions*:

Cores depending on the working temperature and voltage
H07G-K
radiation cross-linked polyolefin copolymer
NSGAFÖU

Number of terminals
4 or 6 (depending on the cross-section)

Cross-section
0.75 mm²/1.5 mm²/2.5 mm²/4 mm²/6 mm²

Sleeve size
metric: M24 x 1.5 to M42 x 1.5
non-threaded: ∅ 22 mm to ∅ 36 mm

Sleeve material
metal, bare, varnished or galvanised

Nominal voltage
690 V/1 000 V

Rated currents
see following table
based on VDE 0298-04

* all other versions on request.
Please use the customer requirements form at the end of the chapter!

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Selection chart

Sleeve type	Code no.	Nominal voltage	Code no.	Conductor, cross-section mm²	Code no.	Sleeve size	Code no.
threaded, metric	**0**	690 V	**1**	Special diameter	**A**	M 10 x 1	**0**
				0.25	**C**		
				0.35	**D**	M 16 x 1	**1**
				0.5	**E**		
				0.75	**F**	M 24 x 1.5 ∅ ≥ 22 mm	**2**
				1	**G**		
				1.5	**H**	M33 x 1.5 ∅ ≥ 32 mm	**3**
pluggable, length of crack 12.5 mm	**5**	1 000 V	**3**	2.5	**J**		
				4	**K**	M36 x 1.5	**4**
				6	**L**	M38 x 1.5 ∅ ≥ 36 mm	**5**
				10	**M**		
				16	**N**	M42 x 1.5	**6**
				25	**P**		
pluggable, length of crack 25 mm	**6**	3 000 V	**4**	35	**Q**	M12 x 1.5	**C**
				50	**R**		
				70	**S**	M16 x 1.5	**D**
				95	**T**		
				120	**U**	M20 x 1.5	**E**
				Mixed cores	**Z**		
						M25 x 1.5	**F**

Complete order no. **07-91** □□ - □ □□ □ **/ G**

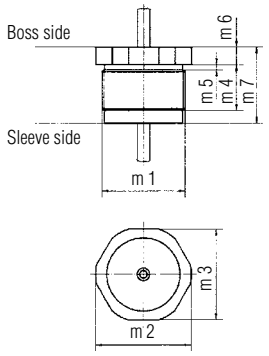
Please enter code number.
Technical data subject to change without notice.

***** Standard product printing: ATEX and IECEx marking.
Other international imprints obtainable on request. Please specify in plain text.

Number of cores
z. B. **02** = 2 cores; **21** = 21 cores; etc. 1 ... 50 cores

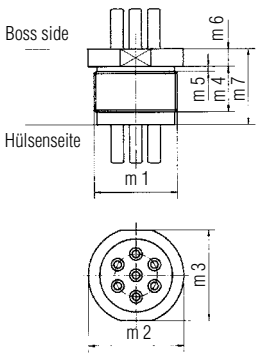
Core length: as ordered
Core identification: printed numbers

Dimensions in mm



m1	m2	m3	m4	m5	m6
M10 x 1	∅ 13.5	12	16	1.5	5
M12 x 1.5	∅ 16.5	15	17	2.0	5
M16 x 1	∅ 21	19	17	1.5	5
M16 x 1.5	∅ 21	19	17	2.0	5
M24 x 1.5	∅ 29	27	19	2.0	5
M25 x 1.5	∅ 29	27	19	2.0	5
M42 x 1.5	∅ 48	46	25	2.0	7

Dimensions in mm



m1	m2	m3	m4	m5	m6
M33 x 1.5	∅ 38	36	18	2,0	7
M36 x 1.5	∅ 42	40	25	2,0	7

Selection chart - cores

Number of cores	Conductor cross section mm²	ated current (A) for continuous operation (reference values) [1] Max. permissible operating temperature at the conductor is 110 °C Max. current carrying capacity based on VDE 0298-4	Thread size	Dimensions m 7 mm	Order no. Indicate core length on both boss and sleeve side in plain text.
1	0.5	7 A	M10 x 1	25	**07-910 ☐ -E010**
1	0.5		M12 x 1.5	25	**07-910 ☐ -E01C**
9	0.5		M16 x 1	25	**07-910 ☐ -E091**
9	0.5		M16 x 1.5	25	**07-910 ☐ -E09D**
19	0.5		M24 x 1.5	26	**07-910 ☐ -E192**
19	0.5		M25 x 1.5	26	**07-910 ☐ -E19F**
16	0.5		M33 x 1.5	30	**07-910 ☐ -E163**
20	0.5		M36 x 1.5	35	**07-910 ☐ -E204**
30	0.5		M38 x 1.5	36	**07-910 ☐ -E305**
40	0.5		M42 x 1.5	35	**07-910 ☐ -E406**

Enter code number **1** = 690 V **3** = 1000 V

[1] When determining the maximum current carrying capacity of the connection cores, the self-heating rate and the enclosure heating at the installation site at the max. permissible ambient temperature must be taken as a basis.

Other equipment options and special sleeves on request.

It is essential to submit a customer requirements form which has been filled in correctly and completely. The form can be found in the catalogue at the end of the chapter.

Selection chart - cores

Number of cores	Conduc-to cross section mm²	Rated current (A) for continuous[1] operation (reference values) [2] Max. permissible operating temperature at the conductor is +110 °C Max. current carrying capacity based on VDE 0298-4	Thread size	Dimen-sions m 7 mm	Order no. Indicate core length on both boss and sleeve side in plain text.
1	0.75	15 A	M10 x 1	25	07-910 ☐ -F010
1	0.75		M12 x 1.5	25	07-910 ☐ -F01C
4	0.75		M16 x 1	25	07-910 ☐ -F041
4	0.75		M16 x 1.5	25	07-910 ☐ -F04D
11	0.75		M24 x 1.5	26	07-910 ☐ -F112
11	0.75		M25 x 1.5	26	07-910 ☐ -F11F
12	0.75		M33 x 1.5	30	07-910 ☐ -F123
15	0.75		M36 x 1.5	35	07-910 ☐ -F154
24	0.75		M38 x 1.5	36	07-910 ☐ -F245
25	0.75		M42 x 1.5	35	07-910 ☐ -F256
1	1.5	24 A	M10 x 1	25	07-910 ☐ -H010
1	1.5		M12 x 1.5	25	07-910 ☐ -H01C
3	1.5		M16 x 1	25	07-910 ☐ -H031
3	1.5		M16 x 1.5	25	07-910 ☐ -H03D
8	1.5		M24 x 1.5	26	07-910 ☐ -H082
8	1.5		M25 x 1.5	26	07-910 ☐ -H08F
12	1.5		M33 x 1.5	30	07-910 ☐ -H123
15	1.5		M36 x 1.5	35	07-910 ☐ -H154
24	1.5		M38 x 1.5	36	07-910 ☐ -H245
25	1.5		M42 x 1.5	35	07-910 ☐ -H256
3	2.5	32 A	M16 x 1	25	07-910 ☐ -J031
3	2.5		M16 x 1.5	25	07-910 ☐ -J03D
6	2.5		M24 x 1.5	26	07-910 ☐ -J062
6	2.5		M25 x 1.5	26	07-910 ☐ -J06F
8	2.5		M33 x 1.5	30	07-910 ☐ -J083
10	2.5		M36 x 1.5	35	07-910 ☐ -J104
10	2.5		M38 x 1.5	36	07-910 ☐ -J105
14	2.5		M42 x 1.5	35	07-910 ☐ -J146
1	4	42 A	M16 x 1	25	07-910 ☐ -K011
1	4		M16 x 1.5	25	07-910 ☐ -K01D
3	4		M24 x 1.5	26	07-910 ☐ -K032
3	4		M25 x 1.5	26	07-910 ☐ -K03F
6	4		M33 x 1.5	30	07-910 ☐ -K063
8	4		M36 x 1.5	35	07-910 ☐ -K084
8	4		M38 x 1.5	36	07-910 ☐ -K085
12	4		M42 x 1.5	35	07-910 ☐ -K126
1	6	54 A	M16 x 1	25	07-910 ☐ -L011
1	6		M16 x 1.5	25	07-910 ☐ -L01D
2	6		M24 x 1.5	26	07-910 ☐ -L022
2	6		M25 x 1.5	26	07-910 ☐ -L02F
6	6		M33 x 1.5	30	07-910 ☐ -L063
6	6		M36 x 1.5	35	07-910 ☐ -L064
6	6		M38 x 1.5	36	07-910 ☐ -L065
8	6		M42 x 1.5	35	07-910 ☐ -L086
1	10	73 A	M16 x 1.5	25	07-910 ☐ -M011
1	10		M16 x 1.5	25	07-910 ☐ -M01D
1	10		M24 x 1.5	26	07-910 ☐ -M012
3	10		M33 x 1.5	30	07-910 ☐ -M033
6	10		M36 x 1.5	35	07-910 ☐ -M064
6	10		M38 x 1.5	36	07-910 ☐ -M065
8	10		M42 x 1.5	35	07-910 ☐ -M086
1	16	98 A	M25 x 1.5	26	07-910 ☐ -N01F
3	16		M33 x 1.5	30	07-910 ☐ -N033
3	16		M36 x 1.5	35	07-910 ☐ -N034
6	16		M38 x 1.5	36	07-910 ☐ -N035
6	16		M42 x 1.5	35	07-910 ☐ -N066
1	25	129 A	M24 x 1.5	26	07-910 ☐ -P012
1	25		M25 x 1.5	26	07-910 ☐ -P01F
1	35	158 A	M24 x 1.5	26	07-910 ☐ -Q012
1	35		M25 x 1.5	26	07-910 ☐ -Q01F
1	50	198 A	M24 x 1.5	26	07-910 ☐ -R012
1	50		M25 x 1.5	26	07-910 ☐ -R01F
1	70	245 A	M33 x 1.5	50	07-910 ☐ -S013
1	70		M36 x 1.5	50	07-910 ☐ -S014

Enter code number: **1** = 690 V, **3** = 1000 V

[1] When determining the maximum current carrying capacity of the connection cores, the self-heating rate and the enclosure heating at the installation site at the max. permissible ambient temperature must be taken as a basis.

Other equipment options and special sleeves on request. It is essential to submit a customer requirements form which has been filled in correctly and completely. The form can be found in the catalogue at the end of the chapter.

Selection chart - cores

Number of cores	Conduc-to cross section mm²	Rated current (A) for continuous operation (reference values) [1] Max. permissible operating temperature at the conductor is +90°C Max. current carrying capacity based on VDE 0298-4	Thread size	Dimen-sions m 7 [2] mm	Order no. Indicate core length on both boss and sleeve side in plain text.
1	1.5	30A	M16 x 1	25	**07-9104-H011**
1	1.5		M16 x 1.5	25	**07-9104-H01D**
2	1.5		M24 x 1.5	26	**07-9104-H022**
2	1.5		M25 x 1.5	26	**07-9104-H02F**
5	1.5		M33 x 1.5	30	**07-9104-H053**
6	1.5		M36 x 1.5	35	**07-9104-H064**
6	1.5		M38 x 1.5	36	**07-9104-H065**
8	1.5		M42 x 1.5	35	**07-9104-H086**
1	2.5	41 A	M16 x 1	25	**07-9104-J011**
1	2.5		M16 x 1.5	25	**07-9104-J01D**
5	2.5		M33 x 1.5	30	**07-9104-J053**
6	2.5		M36 x 1.5	35	**07-9104-J064**
6	2.5		M38 x 1.5	36	**07-9104-J065**
8	2.5		M42 x 1.5	35	**07-9104-J086**
1	4	55 A	M24 x 1.5	26	**07-9104-K012**
1	4		M25 x 1.5	26	**07-9104-K01F**
3	4		M33 x 1.5	30	**07-9104-K033**
5	4		M36 x 1.5	35	**07-9104-K054**
5	4		M38 x 1.5	36	**07-9104-K055**
6	4		M42 x 1.5	35	**07-9104-K066**
1	6	70 A	M24 x 1.5	26	**07-9104-L012**
1	6		M25 x 1.5	26	**07-9104-L01F**
3	6		M33 x 1.5	30	**07-9104-L033**
4	6		M36 x 1.5	35	**07-9104-L044**
4	6		M38 x 1.5	36	**07-9104-L045**
6	6		M42 x 1.5	35	**07-9104-L066**
1	10	98 A	M24 x 1.5	26	**07-9104-M012**
1	10		M25 x 1.5	26	**07-9104-M01F**
2	10		M33 x 1.5	30	**07-9104-M023**
3	10		M36 x 1.5	35	**07-9104-M034**
3	10		M38 x 1.5	36	**07-9104-M035**
1	16	132 A	M24 x 1.5	26	**07-9104-N012**
1	16		M25 x 1.5	26	**07-9104-N01F**
3	16		M42 x 1.5	35	**07-9104-N036**
1	25	176 A	M24 x 1.5	26	**07-9104-P012**
1	25		M25 x 1.5	26	**07-9104-P01F**
1	35	218 A	M33 x 1.5	30	**07-9104-Q013**
1	35		M38 x 1.5	30	**07-9104-Q015**
1	50	276 A	M33 x 1.5	50	**07-9104-R013**

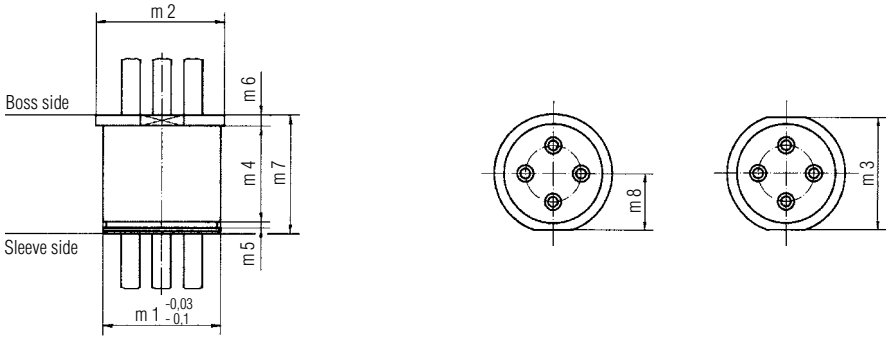
[1] When determining the maximum current carrying capacity of the connection cores, the self-heating rate and the enclosure heating at the installation site at the max. permissible ambient temperature must be taken as a basis.

[2] Thread size M25 x 1,5 - Dimensions m 7 = 46 mm

Other equipment options and special sleeves on request.

It is essential to submit a customer requirements form which has been filled in correctly and completely.
The form can be found in the catalogue at the end of the chapter

Dimensions in mm



m 1	Joint length L	m 2	m 3	m 4	m 5	m 6	m 8
∅ 22	15 mm	∅ 25	-	16.1	1.3	2	11.1 + 0.2
∅ 22	25 mm	∅ 25	-	26.1	1.3	2	11.1 + 0.2
∅ 32	25 mm	∅ 36	-	26.1	1.6	3	17.1 - 0.2
∅ 36	25 mm	∅ 42	SW 40	28.1	1.85	7	-

Selection chart - cores

Number of cores	Conductor cross section mm²	Rated current(A) for continuous operation (reference values) [1] Max. permissible operating temperature at the conductor is +110°C Max. current carrying capacity based on VDE 0298-4	Sleeve size	Dimensions m 7 mm	Order no. Joint length L = 15 mm **07-..5.-** Joint length L = 25 mm **07-..6.-** Indicate the core length on both the boss sleeve sides in plain text
11 11 12 15	0.75 0.75 0.75 0.75	15 A	∅ 22 ∅ 22 ∅ 32 ∅ 36	23 31 32 39	**07-915 ☐ -F112** **07-916 ☐ -F112** **07-916 ☐ -F123** **07-916 ☐ -F155**
8 8 12 15	1.5 1.5 1.5 1.5	24 A	∅ 22 ∅ 22 ∅ 32 ∅ 36	23 31 32 39	**07-915 ☐ -H082** **07-916 ☐ -H082** **07-916 ☐ -H123** **07-916 ☐ -H155**
6 6 10	2.5 2.5 2.5	32 A	∅ 22 ∅ 32 ∅ 36	31 32 39	**07-916 ☐ -J062** **07-916 ☐ -J063** **07-916 ☐ -J105**
3 6 8	4 4 4	42 A	∅ 22 ∅ 32 ∅ 36	31 32 39	**07-916 ☐ -K032** **07-916 ☐ -K063** **07-916 ☐ -K085**
2 6 8	6 6 6	54 A	∅ 22 ∅ 32 ∅ 36	31 32 39	**07-916 ☐ -L022** **07-916 ☐ -L063** **07-916 ☐ -L085**
1 6	10 10	73 A	∅ 32 ∅ 36	32 39	**07-916 ☐ -M013** **07-916 ☐ -M065**
4	16	98 A	∅ 36	39	**07-916 ☐ -N045**
1	25	129 A	∅ 36	39	**07-916 ☐ -P015**
1	35	158 A	∅ 36	39	**07-916 ☐ -Q015**
1	50	198 A	∅ 36	39	**07-916 ☐ -R015**

Enter code number: **1** = 690 V, **3** = 1000 V

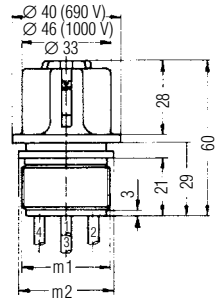
[1] When determining the maximum current-carrying capacity of the connection cores, the self-heating rate and the enclosure heating at the installation site at the max. permissible ambient temperature must be taken as a basis

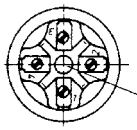
Other equipment options and special sleeves on request.

It is essential to submit a customer requirements form which has been filled in correctly and completely. The form can be found in the catalogue at the end of the chapter.

Note:
1. Cylindrical sleeves with joint length L = 15 mm **(type 07-915*)** for enclosures with a volume of ≤ 2 litres.
2. Cylindrical sleeves with joint length L = 25 mm **(type 07-916*)** for enclosures with a volume of > 2 litres.

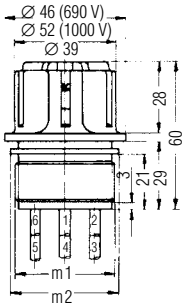
Dimensions in mm

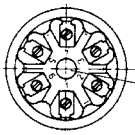




	690 V and 1 000 V		
m 1	M24 x 1.5	M33 x 1.5	M42 x 1.5
m 2	Ø 30	Ø 36	Ø 44

Dimensions in mm





	690 V and 1 000 V	
m 1	M38 x 1.5	M42 x 1.5
m 2	Ø 40	Ø 44

Selection chart - cores

Rated insulation voltage	No. of terminals/ cores	Conductor cross section mm²	Rated current (A) for continuous operation (reference values) [1] Max. permissible operating temperature at the conductor +110 °C Max. current-carrying capacity based on VDE 0298-4 Table 11, Gap 2	Thread size	Order no. Core length please specify in plain text
690 V	4	0.75	11 A	M24 x 1.5	**07-9304-F042**
		1.5	17 A	M24 x 1.5	**07-9304-H042**
		2.5	23 A	M24 x 1.5	**07-9304-J042**
		4	31 A	M24 x 1.5	**07-9304-K042**
	4	0.75	11 A	M33 x 1.5	**07-9304-F043**
		1.5	17 A	M33 x 1.5	**07-9304-H043**
		2.5	23 A	M33 x 1.5	**07-9304-J043**
		4	31 A	M33 x 1.5	**07-9304-K043**
		6	40 A	M33 x 1.5	**07-9304-L043**
	4	0.75	11 A	M42 x 1.5	**07-9304-F046**
		1.5	17 A	M42 x 1.5	**07-9304-H046**
		2.5	23 A	M42 x 1.5	**07-9304-J046**
		4	31 A	M42 x 1.5	**07-9304-K046**
		6	40 A	M42 x 1.5	**07-9304-L046**
690 V	6	0.75	11 A	M38 x 1.5	**07-9304-F065**
		1.5	17 A	M38 x 1.5	**07-9304-H065**
		2.5	23 A	M38 x 1.5	**07-9304-J065**
		4	31 A	M38 x 1.5	**07-9304-K065**
		6	40 A	M38 x 1.5	**07-9304-L065**
	6	0.75	11 A	M42 x 1.5	**07-9304-F066**
		1.5	17 A	M42 x 1.5	**07-9304-H066**
		2.5	23 A	M42 x 1.5	**07-9304-J066**
		4	31 A	M42 x 1.5	**07-9304-K066**
		6	40 A	M42 x 1.5	**07-9304-L066**
1 000 V	4	1.5	17 A	M33 x 1.5	**07-9306-H043**
		2.5	23 A	M33 x 1.5	**07-9306-J043**
		4	31 A	M33 x 1.5	**07-9306-K043**
		6	40 A	M33 x 1.5	**07-9306-L043**
	4	1.5	17 A	M42 x 1.5	**07-9306-H046**
		2.5	23 A	M42 x 1.5	**07-9306-J046**
		4	31 A	M42 x 1.5	**07-9306-K046**
		6	40 A	M42 x 1.5	**07-9306-L046**
	6	1.5	17 A	M38 x 1.5	**07-9306-H065**
		2.5	23 A	M38 x 1.5	**07-9306-J065**
		4	31 A	M38 x 1.5	**07-9306-K065**
	6	1.5	17 A	M42 x 1.5	**07-9306-H066**
		2.5	23 A	M42 x 1.5	**07-9306-J066**
		4	31 A	M42 x 1.5	**07-9306-K066**
		6	40 A	M42 x 1.5	**07-9306-L066**

[1] When determining the maximum current-carrying capacity of the connection cores, the self-heating and enclosure heating at the site of installation at the maximum permissible ambient temperature must be assumed. The maximum tightening torque for the terminal screw is 0.8 Nm.

Other equipment options and special sleeves on request.

It is essential to submit a customer requirements form which has been filled in correctly and completely. The form can be found in the catalogue at the end of the chapter.

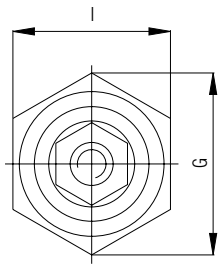
03-0330-0181-10/2014-BCS-200637/8

Bushing conductor studs

Features

- 16 A to 630 A
- 690 V, 1000 V and 1600 V
- Max. working temperature 130 °C
- Different types of terminals
- Standard thread M16 x 1.5 to M42 x 1.5

Dimensions



Description

A bushing conductor stud is a component with which the electrical connection between an enclosure in type of protection Flameproof enclosure „d“ and its connection enclosure in type of protection Increased Safety „e“ is established.

The cable bushing includes a threaded metal sleeve, a ceramic insulation, terminals and a stud.

Standard threaded sleeves from M16 to M42 are included in the delivery of bushing conductor studs.

The diameter of the stud depends on current and the terminal size on the cable diameter.

Thanks to different types of terminals, vertical as well as horizontal cable connection is possible. Special terminals are available on request.

After installation, the bushing conductor stud needs to be secured by means of a nut or adhesive to prevent self-loosening.

Explosion protection

Ex protection type

Ⓔx II 2G Ex de IIC Gb
Ⓔx I M2 Ex de I Mb

Certification

PTB 04 ATEX 1099 U

Temperature range

at the place of installation by rated operation of the electrical apparatus
-50 °C to +130 °C

The maximum current carrying capacity of the bushing conductor stud and the connecting leads shall be established on the basis of the self-heating rate and the enclosure heating rate at the place of installation starting from the maximum permissible ambient temperature.

Technical data

Protection class

EN 60079-0: 2009; EN 60079-1: 2007

Material

Insulation	ceramic, C610
Stud	
16 A to 250 A	CuZn39Pb2
400 A to 630 A	E-Cu

Current

16 A to 630 A

Voltage

690 V, 1000 V and 1600 V

Connection

1.5 mm^2 to 300 mm^2

Stud size

4 mm to 20 mm

Thread size

M16 x 1.5 to M42 x 1.5

Selection chart

Type	Current	Type of terminal	Thread size
TOS4.16A..-.	16 A	A	M16 x 1.5
TOS5.25A..-.	25 A	A, F, FL, RF, C	M18 x 1.5
TOS6.63A..-.	63 A	A, F, FL, RF, C	M20 x 1.5
TOS8.100A..-.	100 A	F, FL, RF, C	M24 x 1.5
TOS10.160A..-.	160 A	F, FL, RF, R	M27 x 1.5
TOS12.250A..-.	250 A	F, FL, RF, R	M33 x 1.5
TOS16.400A..-.	400 A	F, FL, RF, R	M36 x 1.5
TOS20.630A..-.	630 A	F, FL, RF, R	M42 x 1.5

Example-
Complete order no.

Please insert code number.
Technical data subject to change without notice.

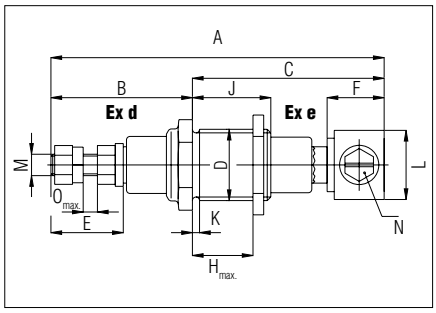
TOS8.100A.690V - RF

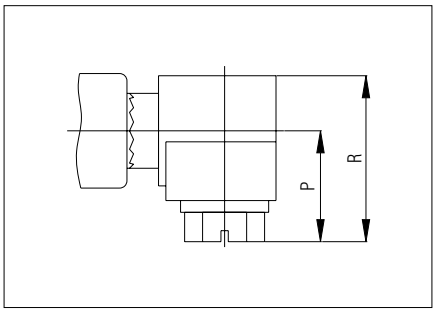
Specify voltage.

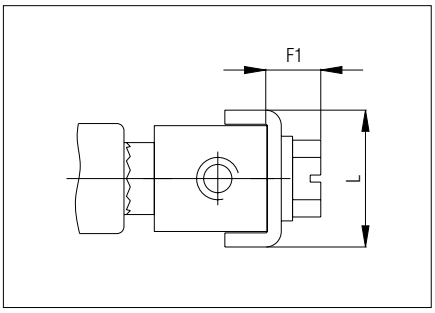
Voltage
690 V, 1000 V or 1600 V

03-0330-0432/A-10/2014-BCS-240910/2

Type of terminal A from 690 V to 1000 V







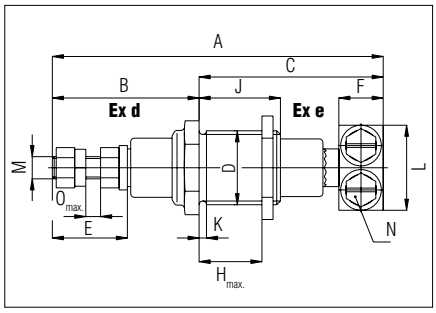
Selection chart Type of terminal A to 690 V

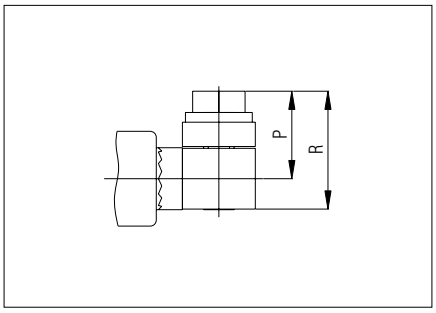
Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS4.16.690 V	M16 x 1.5	81.5	33	48.5	13.4	12/5.5	19.6	18	17	22	2	13.4	M4	M4 x 10	4	10.7	15.7	1.5 - 6 mm²
TOS5.25.690 V	M18 x 1.5	87	36	51	16.5	14/5.5	21.9	18	19	22	2	15.4	M5	M5 x 10	4	11.7	17.7	2.5 - 10 mm²
TOS6.63A.690 V	M20 x 1.5	93.5	39.5	54	20.3	16/7.6	25.4	18	22	22	2	19.4	M6	M6 x 10	4	15.1	22.6	2.5 - 16 mm²

Selection chart Type of terminal A to 1000 V

Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS4.16.1000 V	M16 x 1.5	97.5	41	56.5	13.4	12/5.5	19.6	18	17	22	2	13.4	M4	M4 x 10	4	10.7	15.7	1.5 - 6 mm²
TOS5.25.1000 V	M18 x 1.5	103	44	59	16.5	14/5.5	21.9	18	19	22	2	15.4	M5	M5 x 10	4	11.7	17.7	2.5 - 10 mm²
TOS6.63A.1000 V	M20 x 1.5	109.5	47.5	62	20.3	16/7.6	25.4	18	22	22	2	19.4	M6	M6 x 10	4	15.1	22.6	2.5 - 16 mm²

Type of terminal F from 690 V to 1000 V





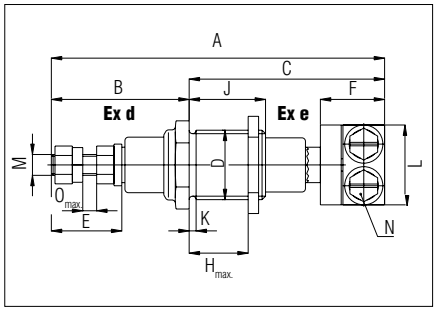
Selection chart Type of terminal F to 690 V

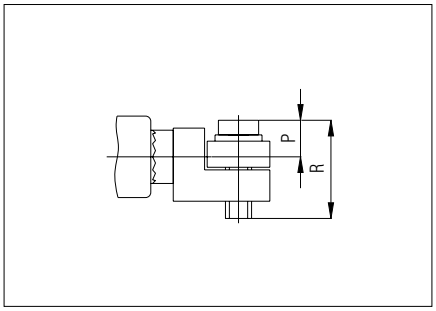
Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS5.25.690 V	M18 x 1.5	83.5	36	47.5	16.5	10	21.9	18	19	22	2	19	M5	M4 x 12	4	11	15	2.5 - 25 mm²
TOS6.63A.690 V	M20 x 1.5	89.5	39.5	50	20.3	12	25.4	18	22	22	2	23	M6	M5 x 16	4	14	19.5	2.5 - 25 mm²
TOS8.100A.690 V	M24 x 1.5	97.5	43.5	54	24.3	15	31.2	18	27	22	2	26	M8	M6 x 25	4	17	29	6 - 50 mm²
TOS10.160A.690 V	M27 x 1.5	110	50	60	30	20	34.6	18	30	22	2	36	M10	M8 x 30	5	21	35.5	10 - 95 mm²
TOS12.250A.690 V	M33 x 1.5	122	55.5	66.5	35.5	25	41.6	18	36	22	2	42	M12	M8 x 35	5	24.5	40.5	16 - 185 mm²
TOS16.400A.690 V	M36 x 1.5	139	65	74	45	30	47.3	18	41	22	2	50	M16	M10 x 40	5	32	47	25 - 300 mm²
TOS20.630A.690 V	M42 x 1.5	153	75	78	55.1	32	53.1	18	46	22	2	50	M20	M10 x 45	6	34.5	51.5	25 - 300 mm²

Selection chart Type of terminal F to 1000 V

Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS5.25.1000 V	M18 x 1.5	99.5	44	55.5	16.5	10	21.9	18	19	22	2	19	M5	M4 x 12	4	11	15	2.5 - 25 mm²
TOS6.63A.1000 V	M20 x 1.5	105.5	47.5	58	20.3	12	25.4	18	22	22	2	23	M6	M5 x 16	4	14	19.5	2.5 - 25 mm²
TOS8.100A.1000 V	M24 x 1.5	113.5	51.5	62	24.3	15	31.2	18	27	22	2	26	M8	M6 x 25	4	17	29	6 - 50 mm²
TOS10.160A.1000 V	M27 x 1.5	126	57.5	68.5	30	20	34.6	18	30	22	2	36	M10	M8 x 30	5	21	35.5	10 - 95 mm²
TOS12.250A.1000 V	M33 x 1.5	138	63.5	74.5	35.5	25	41.6	18	36	22	2	42	M12	M8 x 35	5	24.5	40.5	16 - 185 mm²
TOS16.400A.1000 V	M36 x 1.5	155	73	82	45	30	47.3	18	41	22	2	50	M16	M10 x 40	5	32	47	25 - 300 mm²
TOS20.630A.1000 V	M42 x 1.5	169	83	86	55.1	32	53.1	18	46	22	2	50	M20	M10 x 45	6	34.5	51.5	25 - 300 mm²

Type of terminal FL from 690 V to 1000 V





Selection chart Type of terminal FL to 690 V

Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS5.25.690 V	M18 x 1.5	88.5	36	52.5	16.5	15.5	21.9	18	19	22	2	19	M5	M4 x 12	4	6	14.8	2.5 - 25 mm²
TOS6.63A.690 V	M20 x 1.5	96	39.5	56.5	20.3	18.5	25.4	18	22	22	2	23	M6	M5 x 16	4	6.5	18.8	2.5 - 25 mm²
TOS8.100A.690 V	M24 x 1.5	106.5	43,5	63	24.3	24	31.2	18	27	22	2	26	M8	M6 x 20	4	8	24	6 - 50 mm²
TOS10.160A.690 V	M27 x 1.5	121	50	71	30	31	34.6	18	30	22	2	36	M10	M8 x 30	5	11	35.5	10 - 95 mm²
TOS12.250A.690 V	M33 x 1.5	130	55.5	74.5	35.5	33	41.6	18	36	22	2	42	M12	M8 x 30	5	10	35.5	16 - 185 mm²
TOS16.400A.690 V	M36 x 1.5	151	65	86	45	42	47.3	18	41	22	2	49	M16	M10 x 40	5	12.5	47	25 - 300 mm²
TOS20.630A.690 V	M42 x 1.5	172	75	97	55.1	51	53.1	18	46	22	2	55	M20	M10 x 45	6	10.5	52	25 - 300 mm²

Selection chart Type of terminal FL to 1000 V

Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS5.25.1000 V	M18 x 1.5	104.5	44	60.5	16.5	15.5	21.9	18	19	22	2	19	M5	M4 x 12	4	6	14.8	2.5 - 25 mm²
TOS6.63A.1000 V	M20 x 1.5	112	47.5	64.5	20.3	18.5	25.4	18	22	22	2	23	M6	M5 x 16	4	6.5	18.8	2.5 - 25 mm²
TOS8.100A.1000 V	M24 x 1.5	122.5	51.5	71	24.3	24	31.2	18	27	22	2	26	M8	M6 x 20	4	8	24	6 - 50 mm²
TOS10.160A.1000 V	M27 x 1.5	137	57.5	79.5	30	31	34.6	18	30	22	2	36	M10	M8 x 30	5	11	35.5	10 - 95 mm²
TOS12.250A.1000 V	M33 x 1.5	146	63.5	82.5	35.5	33	41.6	18	36	22	2	42	M12	M8 x 30	5	10	35.5	16 - 185 mm²
TOS16.400A.1000 V	M36 x 1.5	167	73	94	45	42	47.3	18	41	22	2	49	M16	M10 x 40	5	12.5	47	25 - 300 mm²
TOS20.630A.1000 V	M42 x 1.5	188	83	105	55.1	51	53.1	18	46	22	2	55	M20	M10 x 45	6	10.5	52	25 - 300 mm²

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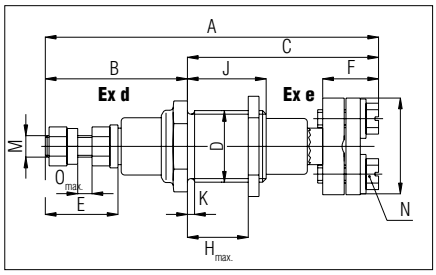
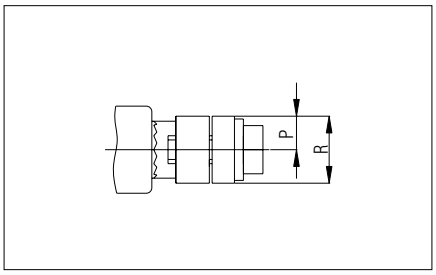
Type of terminal RF from 690 V to 1000 V





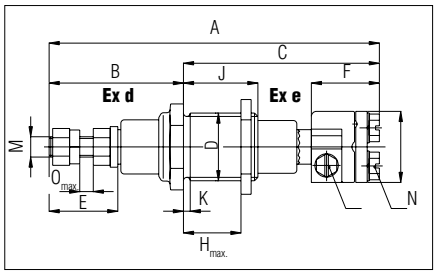
Selection chart Type of terminal RF to 690 V

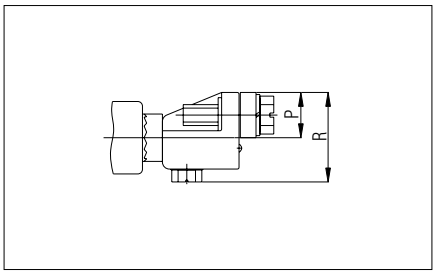
Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS5.25.690 V	M18 x 1.5	85.5	36	49.5	16.5	12.5	21.9	18	19	22	2	22	M5	M4 x 12	4	5	10	2.5 - 25 mm²
TOS6.63A.690 V	M20 x 1.5	93	39.5	53.5	20.3	15.6	25.4	18	22	22	2	27	M6	M5 x 16	4	6	12	2.5 - 25 mm²
TOS8.100A.690 V	M24 x 1.5	102	43.5	58.5	24.3	19.1	31.2	18	27	22	2	32	M8	M6 x 25	4	7.5	15	6 - 50 mm²
TOS10.160A.690 V	M27 x 1.5	114	50	64	30	24	34.6	18	30	22	2	41	M10	M8 x 30	5	10	20	10 - 95 mm²
TOS12.250A.690 V	M33 x 1.5	125	55.5	69.5	35.5	28	41.6	17	36	22	2	43	M12	M8 x 30	5	12.5	25	16 - 185 mm²
TOS16.400A.690 V	M36 x 1.5	145	65	80	45	36	47.3	17	41	22	2	55	M16	M10 x 40	5	15	30	25 - 300 mm²
TOS20.630A.690 V	M42 x 1.5	161	75	86	55.1	40	53.1	17	46	22	2	61	M20	M10 x 45	5	15	30	25 - 300 mm²

Selection chart Type of terminal RF to 1000 V

Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS5.25.1000 V	M18 x 1.5	101.5	44	57.5	16.5	12.5	21.9	18	19	22	2	∅ 22	M5	M4 x 12	4	5	10	2.5 - 25 mm²
TOS6.63A.1000 V	M20 x 1.5	109	47.5	61.5	20.3	15.6	25.4	18	22	22	2	∅ 27	M6	M5 x 16	4	6	12	2.5 - 25 mm²
TOS8.100A.1000 V	M24 x 1.5	118	51.5	66.5	24.3	19.1	31.2	18	27	22	2	∅ 32	M8	M6 x 20	4	7.5	15	6 - 50 mm²
TOS10.160A.1000 V	M27 x 1.5	130	57.5	72.5	30	24	34.6	18	30	22	2	∅ 41	M10	M8 x 30	5	10	20	10 - 95 mm²
TOS12.250A.1000 V	M33 x 1.5	141	63.5	77.5	35.5	28	41.6	17	36	22	2	∅ 43	M12	M8 x 30	5	12.5	25	16 - 185 mm²
TOS16.400A.1000 V	M36 x 1.5	161	73	88	45	36	47.3	17	41	22	2	∅ 55	M16	M10 x 40	5	15	30	25 - 300 mm²
TOS20.630A.1000 V	M42 x 1.5	177.5	83	94.5	55.1	40	53.1	17	46	22	2	∅ 61	M20	M10 x 45	5	15	30	25 - 300 mm²

Type of terminal C from 690 V to 1000 V





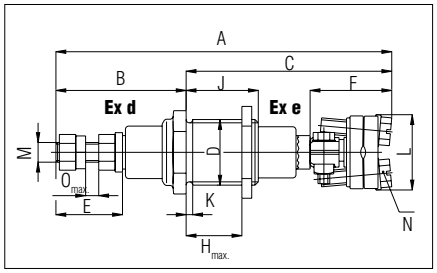
Selection chart Type of terminal C to 690 V

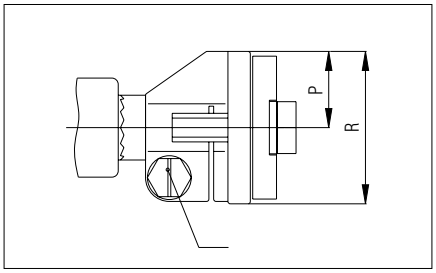
Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS5.25.690 V	M18 x 1.5	90	36	54	16.5	16.8	21.9	18	19	22	2	17,5	M5	M5 x 20/M4 x 6	4	7	20	2.5 - 25 mm²
TOS6.63A.690 V	M20 x 1.5	98	39.5	58.5	20.1	20.1	25.4	18	22	22	2	21	M6	M5 x 20/M4 x 5	4	7	20	2.5 - 25 mm²
TOS8.100A.690 V	M24 x 1.5	110	43,5	66.5	24.3	26.8	31.2	18	27	22	-	28	M8	M6 x 22/M5 x 10	4	12	26	4 - 35 mm²

Selection chart Type of terminal C to 1000 V

Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS5.25.1000 V	M18 x 1.5	106	44	62	16.5	16.8	21.9	18	19	22	2	17.5	M5	M5 x 20/M4 x 6	4	7	20	2.5 - 25 mm²
TOS6.63A.1000 V	M20 x 1.5	114	47.5	66.5	20.1	20.1	25.4	18	22	22	2	21	M6	M5 x 20/M4 x 5	4	7	20	2.5 - 25 mm²
TOS8.100A.1000 V	M24 x 1.5	126	51.5	74.5	24.3	26.8	31.2	18	27	22	2	28	M8	M6 x 22/M5 x 10	4	12	26	4 - 35 mm²

Type of terminal R from 690 V to 1000 V





Selection chart Type of terminal R to 690 V

Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS10.160A.690 V	M27 x 1.5	130.5	50	80.5	30	41.5	34.6	18	30	22	2	37	M10	M8 x 30/M6 x 22	5	19.5	39	6-70 or 10-95 mm²
TOS12.250A.690 V	M33 x 1.5	145.5	55.5	92	35.5	48.8	41.6	17	36	22	2	46.6	M12	M10 x 35/M6 x 22	5	23.5	47	10-95 or 16-150 mm²
TOS16.400A.690 V	M36 x 1.5	161.5	65	96,5	45	52.3	47.3	17	41	22	2	51	M16	M10 x 40/M8 x 30	5	26	52	16-150 or 16-300 mm²
TOS20.630A.690 V	M42 x 1.5	175	75	100	55.1	53.3	53.1	17	46	22	2	59	M30	M10 x 45/M8 x 30	5	29.5	59	16 - 300 mm²

Selection chart Type of terminal R to 1000 V

Type	D	A	B	C	E	F/F1	G	$H_{max.}$	I	J	K	L	M	N	$O_{max.}$	P	R	Terminals
TOS10.160A.1000 V	M27 x 1,5	146,5	57,5	89	30	41,5	4,6	18	30	22	2	37	M10	M8 x 30/M6 x 22	5	19,5	39	6-70 or 10-95 mm²
TOS12.250A.1000 V	M33 x 1,5	161,5	63,5	98	35,5	48,8	1,6	17	36	22	2	6,6	M12	M10 x 35/M6 x 22	5	23,5	47	10-95 or 16-150 mm²
TOS16.400A.1000 V	M36 x 1,5	177,5	73	104,5	45	52,3	7,3	17	41	22	2	51	M16	M10 x 40/M8 x 30	5	26	52	16-150 or 16-300 mm²
TOS20.630A.1000 V	M42 x 1,5	191	83	108	55,1	53,3	3,1	17	46	22	2	59	M30	M10 x 45/M8 x 30	5	29,5	59	16-300 mm²

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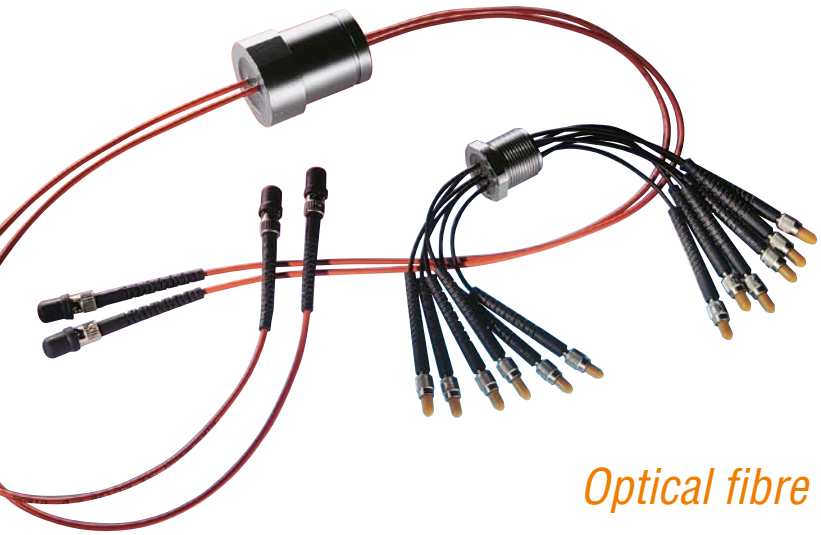


Optical fibre bushing

Features

- Fast, interference free transmission of data in both directions
- Not affected by electromagnetic interference
- High transmission reliability
- High transmission speed
- Corrosion-free contacts
- Simple plug-in connection (low installation costs)
- Reliable signal transmission even over long distances
- Suitable for use under extreme conditions

Description

The optical fibre bushing is used as an optical fibre cable entry into flameproof enclosures located in hazardous areas. They can also be supplied with plug-in connectors.

The optical waveguiders - also known as fibres - are made of glass and resist to mechanical, climatic, chemical and electromagnetic influences. The optical waveguide is most commonly used for carrying signals in the form of electromagnetic waves in the frequency range of visible light.

The type and structure of the cable determines its transmission properties.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex d IIC Gb
Ⓔx I M2 Ex d I Mb

Certification
PTB 99 ATEX 1090 U

IECEx Ex d IIC Gb
Ex d I Mb

Certification
IECEx PTB 13.0030 U

Other approvals and certificates, see www.bartec-group.com

Working temperature
-55 °C to +105 °C depending on the fibre optic cable used (temperature ranges apply to the fixed installation of leads)

Ambient temperature limit switch
-55 °C to +80 °C at T6

Depending on the fibre optic conductor selected, the enclosure heating at the installation site at the max. permissible ambient temperature must be assumed when calculating the max. temperature.

Power limit
Ex d II ≤ 35 mW / 5 mW/mm²
Ex d I ≤ 150 mW / 20 mW/mm²

Standard versions*:

max. quantity of the fibre-optic cables
47 cores

Sleeve size
metric: M16 x 1.5 to M48 x 1.5
non-threaded: ∅ 22 mm to ∅ 40 mm

Sleeve material
Metal, bare, varnished or galvanised

* all other versions on request.
Please use the customer requirements form at the end of the chapter!

Installation instructions

Threaded holes into which threaded bushings are screwed must meet the minimum requirements in EN 60079-0 Section 5.3

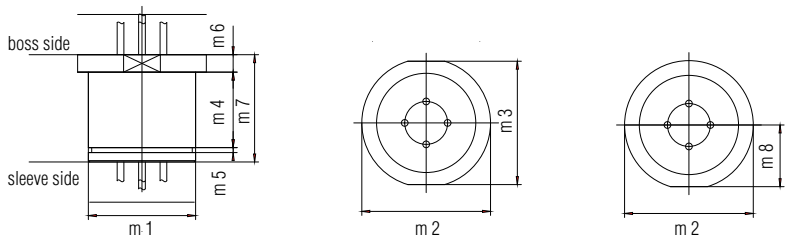
These fibre optic line bushings are suitable for installing in electric apparatus marked “d” flame-proof enclosure for the IIA, IIB, and IIC groups.

Note

The bushings must be fastened in the electric apparatus in such a way that they are secured against twisting and self-loosening.

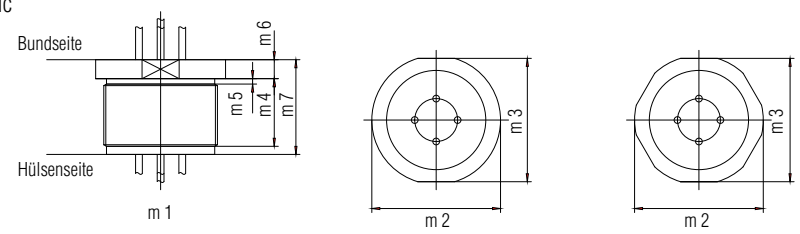
Dimensions								
	m1	m2	m3[1]	m4	m5	m6	m7	m8
threaded	∅ 22 mm (0.87)	∅ 25 mm (0.98)	–	26.1 (1.03)	1.3 (0.05)	2 (0.08)	31 (1.22)	11.1 (0.44)
	∅ 32 mm (1.26)	∅ 36 mm (1.42)	–	26.1 (1.03)	1.6 (0.06)	3 (0.12)	32 (1.26)	17.1 (0.67)
	∅ 36 mm (1.42)	∅ 42 mm (1.65)	SW 40	28.1 (1.12)	1.85 (0.07)	7 (0.28)	39 (1.54)	-
	∅ 40 mm (1.58)	∅ 48 mm (1.89)	SW 46	28.1 (1.12)	1.85 (0.07)	6.5 (0.26)	40 (1.58)	-

Dimensions threaded



Dimensions							
	m1	m2	m3[1]	m4	m5	m6	m7
metric	M16 x 1[2]	∅ 21 mm (0.83)	SW 19	17 (0.67)	max. 1.5 (0.06)	5 (0.2)	25 (0.98)
	M16 x 1.5[2]	∅ 21 mm (0.83)	SW 19	17 (0.67)	max. 2 (0.08)	5 (0.2)	25 (0.98)
	M24 x 1.5[2]	∅ 29 mm (1.14)	SW 27	19 (0.75)	max. 2 (0.08)	5 (0.2)	26 (1.02)
	M33 x 1.5	∅ 38 mm (1.5)	SW 36	18 (0.71)	max. 2 (0.08)	7 (0.28)	30 (1.18)
	M36 x 1.5	∅ 42 mm (1.65)	SW 40	25 (0.98)	max. 2 (0.08)	7 (0.28)	35 (1.38)
	M42 x 1.5[2]	∅ 48 mm (1.89)	SW 46	25 (0.98)	max. 2 (0.08)	7 (0.28)	35 (1.38)

Dimensions
metric



[1] Width across flats
[2] Boss in non-threaded hexagonal version

Selection chart optical fibre line bushing

Sleeve type	Code no.	Fibre type core/jacket	Code no.	Nominal diameter (µm) core/jacket or core/fibre*	Code no.	Sleeve size	Code no.
screw-in, metric	**0**	single strand/single strand material: glass/glass	**A**	9/125	**1**	M16 x 1.5	**D**
						M24 x 1.5 / ∅ 22 mm	**2**
non-threaded, joint length 12.5 mm	**5**			50/125	**2**	M33 x 1.5 / ∅ 32 mm	**3**
						M36 x 1.5	**4**
				62.5/125	**3**	M38 x 1.5 / ∅ 36 mm	**5**
non-threaded, joint length 25 mm	**6**					M42 x 1.5 / ∅ 40 mm	**6**
				200/230	**6**	M48 x 1.5	**7**

*Single mode-lines on request

Complete order no. 57-91 ☐☐ - ☐☐☐

Please insert correct code.
Technical data subject to change without notice.

No. of cores

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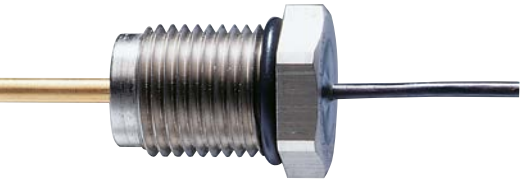
Electrode line bushing

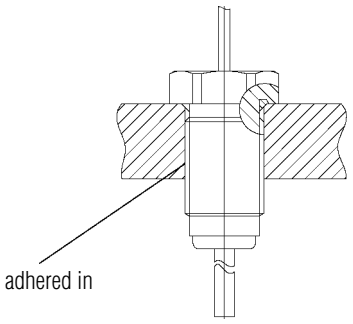


Description

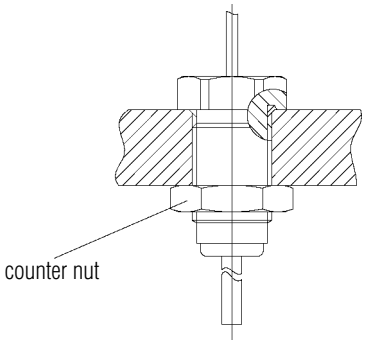
Waste water pumps can be fully submergible units. The pump assembly and motor are often separated from each other by an oil fore-chamber sealed by mechanical seals. Any leaks in the shaft seals need to be registered in order to prevent malfunctions or failure of the motor and to arrange for inspections in good time.

BARTEC's electrode line bushings Ex + sealed allow signals to be reliably transmitted through the walls of pressure-proof enclosed operating equipment, even in areas in which an explosion hazard exists. Only electrical circuits certified as intrinsically safe may be connected to the electrode line bushing.

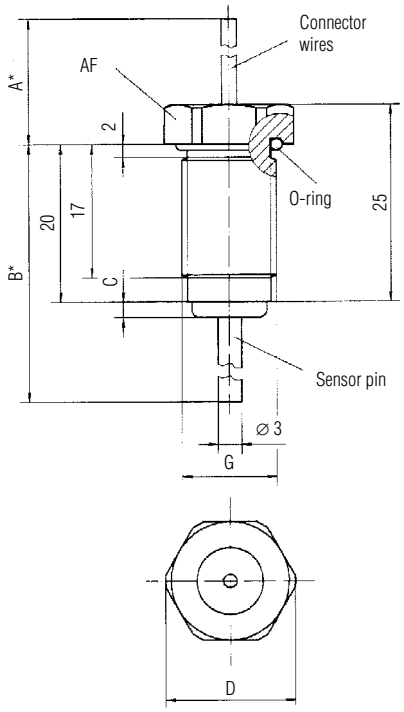
Example application



Example application



Dimensions



See table for standard lengths, other lengths on request

Safety notice

Electrode line bushings that are damaged must be replaced. The electrode line bushing must be secured against twisting and self-loosening.

Explosion protection

Ex protection type

ATEX ⟨Ex⟩ II 2G Ex d II
⟨Ex⟩ I M2 Ex d I

Certification
PTB 02 ATEX 1061 U

Other approvals and certificates, see www.bartec-group.com

Working temperature
-20 °C to +70 °C or +110 °C depending on the core wire used

Technical data

Material

Sleeve	Brass nickel-plated or stainless steel
Gauge	Brass or stainless steel
Thread	M10 x 1; M12 x 1; M16 x 1.5 others on request

Pressure on the Ex e side
≤ 6 bar

Rated insulation voltage
≤ 30 V

Rated constant current
≤ 1 A

Connection method
Cable wires 0.5 to 1.5 mm²

Versions deviating from the basic data are available on request.

Please use the customer requirements form at the end of the chapter!

Selection chart

Dimensions in mm							Order no.
G	**C**	**D**	**SW**	**A**	**B**	**O-ring**	
M10 x 1	2	14.5	13	500	36	9 x 1.5	**37-9405-1230/1000**
M12 x 1	2	16.5	15	500	36	10 x 1.5	**37-9405-123B/1000**
M16 x 1,5	2	21.0	19	500	36	14 x 2	**37-9405-123D/1000**

Technical data subject to change without notice.

03-0330-0293/A-10/2014-BCS-216962

Bushing

Description

The 07-96..-.. type series II 1G line bushing serves as a gas diffusion-proof isolation element for zone 0 (1G/2G) while simultaneously providing an electric connection for leads:

- between flameproof enclosures
- between flameproof enclosures and enclosures with another approved type of protection Category II 2 G
- flameproof enclosures and protected installations Category II 3 G or
- in the safe area

The core piece of this gas diffusion-proof lead-through is a metal plate in which the stud-type bushings are insulated with glass. The electrical connection on both sides of the lead-through can be set forth with metal duct bolts, cable wires or hose lines as required.

This connecting area is, or can additionally be, cast with a poured resin.

The connector studs, connecting wires or the hose line of the line bushing II 1G must be connected in enclosures which conform to a type of protection standardised according to DIN EN 60079-0.

The lead-through is compliant with the pertinent DIN EN 60079-0, DIN EN 60079-1 and DIN EN 60079-7 and DIN EN 60079-26 standards.

Explosion protection

Ex protection type

ATEX Ⓔx II 1/2G Ex d + e/d IIC Ga/Gb
Ⓔx I M1 Ex d + e I Ma

Certification
CML 13 ATEX 1009 U

IECEx Ex d + e/d IIC Ga/Gb
Ex d + e I Ma

Certification
IECEx CML 14.0003 U

Other approvals and certificates, see www.bartec-group.com

Temperature at rated operation
-55 °C to +150 °C (with potting)
-55 °C to +200 °C (without potting)
depending on the lead used and type of sealing

Technical data

Protection class
IEC 60529/EN 60529
without encapsulating IP 00

Material

Sleeve	metal
Insulator	glass
Pour	EP resin, PU resin
Bushing bolt	FeNi alloy steel, Niro steel

Rated insulation voltage
≤ AC 50 V/DC 75 V, 250 V, 690 V, 1 000 V

Rated uninterrupted current
up to 500 A

Type of connection

Core wires	0.25 mm² to 16 mm²
Threaded bolts	M3 to M30

(max. quantity of connections: 99)

Construction sizes

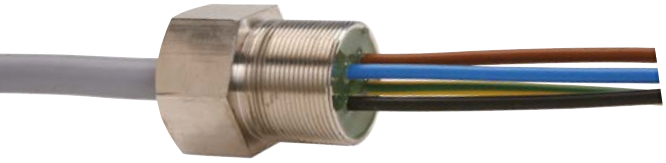
Thread	M10x1 to M72x2
Flange	∅ 10 mm to 250 mm

Pressure
-500 mbar to +400 bar
depending on the design

Complete order no. 07-96 ☐☐-☐☐☐☐☐/☐☐*

There are many connection options available through core wires or threaded bolts.
***Technical specifications can be given in the customer requirements form at the end of the chapter.**
Technical data subject to change without notice.

03-0330-029310/2014-BCS-216963



Cable entries

Features

- Ex e terminal boxes are dispensed with
- Suitable for cables with 1 to max. 25 cores
- Sleeves from M16 x 1.5 to M48 x 1.5
- Compact, space-saving design
- The cores are connected directly to the electrical load at the Ex d side, intermediate terminal positions are dispensed with
- Rated insulation voltage of up to 1000 V for small dimensions
- Permanent heat resistance up to +110 °C

Description

Flameproof Ex d cable entries are elements which allow electrical cables to be introduced into an Ex d enclosure, without danger of explosion.

The additional Ex e terminal housing is not required. A main distribution box may by used or the connections can be made outside the Ex-zone.

The cable entry consists of a threaded metal sleeve, in which a sheathed cable is anchored and encapsulated. The individual cores are then connected directly inside the flameproof enclosure. The length of cores and cables are customer-tailored. All cables come with standard green-yellow earth leads. The length of engaged thread between the sleeve and the flameproof "d" enclosure must comply with DIN EN 60079-0: 2006 and DIN EN 60079-1.

The cable entry is normally inserted from the inside of the flameproof enclosure. A special version can be supplied for insertion from the outside, provided that removal is possible with a special tool only. After installation, the cable entry must be protected against turning and loosening, corresponding recommendations can be found under accessories.

All line bushings have been certified by the Federal Physical-Technical Institute in accordance with the European standards DIN EN 60079-0 and DIN EN 60079-1 concerning electrical operating equipment for hazardous areas for above-ground (II) and underground (I) according to ATEX.

When the 94/9/EC guideline comes into force on 01/07/2003, explosion protected operating equipment must be properly Installed in accordance with DIN EN 60079-14.

Among other things, section 10.4.2 requires that cast, pressure-proof cable insertions according to DIN EN 60079-1: 2007 are used for operating equipment with an internal ignition source for the explosion subgroup IIC and operating equipment with an enclosure volume greater than 2 dm^3 in Zone 1.

BARTEC offers a wide range of products with EC model test certification.

Explosion protection

Cable entry screwable

ATEX Ⓔx II 2G Ex d IIC T6 bis T4 Gb

Certification
PTB 97 ATEX 1079 X

IECEx Ex d IIC T6 bis T4 Gb

Certification
IECEx PTB 13.0051 X

Cable entry pluggable

ATEX Ⓔx II 2G Ex d IIC Gb
Ⓔx II 2D Ex tb IIIC Db

Certification
PTB 03 ATEX 1197 U

IECEx Ex d IIC Gb
Ex tb IIIC Db IP 6X

Certification
IECEx PTB 13.0050 U

Other approvals and certificates,
see www.bartec-group.com

Working temperature
-60 °C to +110 °C
depending on the lead used
(temperature ranges apply to "fixed installation" of leads)

Ambient temperature
depending on the design and the leads

Standard versions*:

Cores depending on the working temperature and voltage
- Ölflex® 100, Ölflex® 110
- HO7RN-F, Ozoflex-Plus
- radiation cross-linked polyolefin copolymer
- NSSHÖU

max. number of cores in shielded cable
threaded: 25 cores
non-threaded: 47 cores

Cross-section
0.25 mm² to 150 mm²

Sleeve size
metric: M24 x 1.5 to M48 x 1.5
non-threaded: ∅ 22 mm to ∅ 36 mm

Sleeve material
Metal, bare, varnished or galvanised

Rated voltage
300 V/500 V/750 V/1 000 V

Rated currents
see following table
based on VDE 0298-04

* all other versions on request.
Please use the customer requirements form at the end of the chapter!

Selection chart

Sleeve type	Code no.	Nominal power	Code no.	Conductors cross section mm²	Code no.	Sleeve size	Code no.
screw-in, metric	0	on order	0	special cross section	A	M24 x 1,5 ∅ = 22 mm	2
				0,25	C		
				0,35	D		
		NSSHöu	1	0,5	E		
				0,75	F	M36 x 1,5	4
		HO5GG-F Radox, Betaflam	3	1	G		
				1,5	H		
				2,5	J		
screw-in NPT	1	Ölflex 100 Ölflex 110	5	4	K	M48 x 1,5	7
				6	L		
				10	M		
		H07RN-F bzw. A07RN-F, (Ozoflex-Plus)	6	16	N	∅ = 36 mm	5
				25	P		
				35	Q		
pluggable	6	LiYY/Ölflex-EB	7	50	R		
				70	S	special sizes	9
				95	T		
		ÖLFLEX CY	8	120	U		
				150	V		

Complete order no.

07-92 □□ - □□□ / G

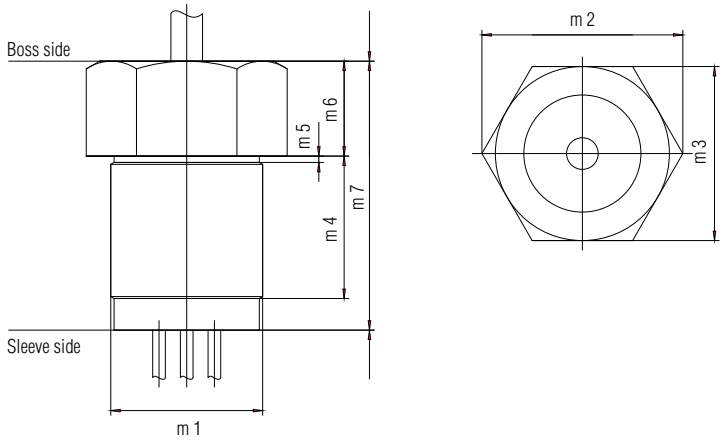
Please insert correct code.
Technical data subject to change without notice.

Number of cores
e.g. **02** = 2 cores; **21** = 21 cores; etc.
1... 47 shielded cable sleeve side
51... 97 shielded cable boss side

Core length: on request
Cable length: on request
Core marking: in accordance with current standards
Other cables:
e.g. shielded or blue cable for intrinsically safe circuits on request.
Customer requirements form at the end of the chapter.

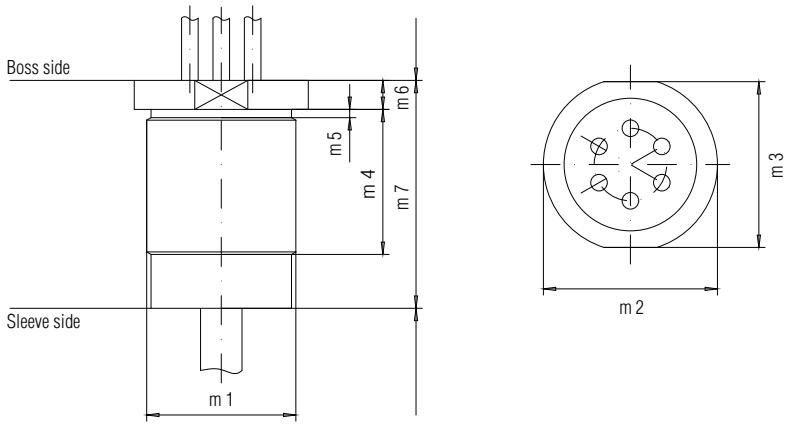
03-0330-0183/A-10/2014-BCS-200639/2

Dimensions Shielded cable Boss side



m 1	m 3	m 4	m 5	m 6	m 7
M24 x 1.5	SW 27	20	max. 2.5	26	46
M36 x 1.5	SW 41	30	max. 2.5	25	55

Dimensions Shielded cable Sleeve side



m 1	m 2	m 3	m 4	m 5	m 6	m 7
M24 x 1.5[1]	-	SW 27	30	max. 2,5	5	46
M25 x 1.5[1]	-	SW 27	35	max. 2.5	5	46
M36 x 1.5	∅ 42	SW 40	35	max. 2.5	7	55
M48 x 1.5	∅ 55	SW 50	35	max. 2.5	10	75

[1] Convenant in hex version

Other fittings and special sleeves on request.

Selection chart

Ex d cable entries 300/500 V - cable, Ölflex 100/110

Number of cores	Conductor cross section mm²	Current carrying capacity (A) in continuous operation (rel.values) [1] Max. permissible operating temperature at the conductor +80 °C. Max. current-carrying capacity based on VDE 0298-4. Table 11, gap 4	Thread size	Order no. please indicate core and cable length in plain text	Shielded cable Sleeve side	Shielded cable Boss side
6 15 25	0,75 0,75 0,75	6 A	M24 x 1,5 M36 x 1,5 M48 x1,5	**07-9205-** **07-9205-** **07-9205-**	**F062** **F154** **F257**	**F562** **F654** **-**
6 14 25	1,5 1,5 1,5	16 A	M24 x 1,5 M36 x 1,5 M48 x 1,5	**07-9205-** **07-9205-** **07-9205-**	**H062** **H144** **H257**	**H562** **H644** **-**
3 7 18	2,5 2,5 2,5	20 A	M24 x 1,5 M36 x 1,5 M48 x 1,5	**07-9205-** **07-9205-** **07-9205-**	**J032** **J074** **J187**	**J532** **J574** **-**

Ex d cable entries 450/750 V - cable H07RN-F, Ozoflex-Plus

		Max. permissible operating temperature at the conductor +60 °C. Max. current-carrying capacity based on VDE 0298-4. Table 13, gap 8				
5 7	1,5 1,5	16 A	M24 x 1,5 M36 x 1,5	**07-9206-** **07-9206-**	**H052** **H074**	**H552** **H574**
3 7 19	2,5 2,5 2,5	23 A	M24 x 1,5 M36 x 1,5 M48 x 1,5	**07-9206-** **07-9206-** **07-9206-**	**J032** **J074** **J197**	**J532** **J574** **-**
5	4	30 A	M36 x 1,5	**07-9206-**	**K054**	**K554**
5	6	38 A	M36 x 1,5	**07-9206-**	**L054**	**L554**
5	10	54 A	M48 x 1,5	**07-9206-**	**M057**	**-**
5	16	71 A	M48 x 1,5	**07-9206-**	**N057**	**-**

Ex d cable entries 1000 V - cable NSSHÖU

		Max. permissible operating temperature at the conductor +90 °C. Max. current-carrying capacity based on VDE 0298-4. Table 15, gap 21 and 4				
5 10	1,5 1,5	20 A	M24 x 1,5 M36 x 1,5	**07-9201-** **07-9201-**	**H052** **H104**	**H552** **H604**
3 7 19	2,5 2,5 2,5	30 A	M24 x 1,5 M36 x 1,5 M48 x 1,5	**07-9201-** **07-9201-** **07-9201-**	**J032** **J074** **J197**	**J532** **J574** **-**
5	4	41 A	M36 x 1,5	**07-9201-**	**K054**	**K554**
4 5	6 6	53 A	M36 x 1,5 M48 x 1,5	**07-9201-** **07-9201-**	**L044** **L057**	**L544** **-**
5	10	74 A	M48 x 1,5	**07-9201-**	**M057**	**-**
5	16	99 A	M48 x 1,5	**07-9201-**	**N057**	**-**
1	25	176 A	M36 x 1,5	**07-9201-**	**P014**	**P514**
1	35	218 A	M36 x 1,5	**07-9201-**	**Q014**	**Q514**
1	50	276 A	M36 x 1,5	**07-9201-**	**R014**	**R514**
1	70	347 A	M36 x 1,5	**07-9201-**	**S014**	**S514**
1	95	416 A	M48 x 1,5	**07-9201-**	**T017**	**-**
1	120	488 A	M48 x 1,5	**07-9201-**	**U017**	**-**

[1] When determining the maximum current carrying capacity of the cores, their self-heating and enclosure heating on site at maximum ambient temperature must be taken into consideration.

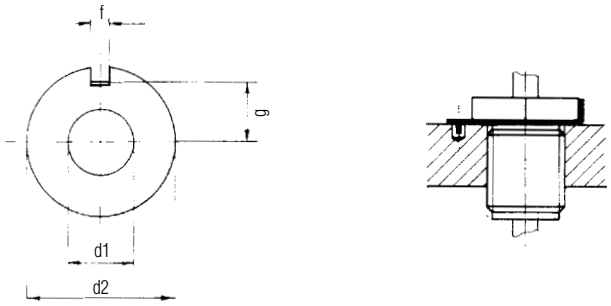
Other fittings and special sleeves on request. It is essential to submit a customer requirements form that has been filled in correctly and completely. The form can be found in the catalogue at the end of the chapter.

Technical data subject to change without notice.

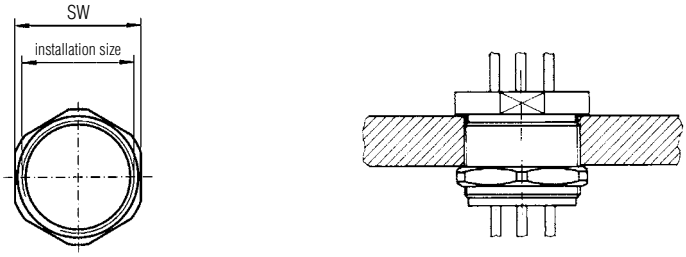
03-0330-0183-10/2014-BCS-200639/4

Line bushings and cable entries must be safe against turning and accidental loosening. The most common fixing methods are shown below.

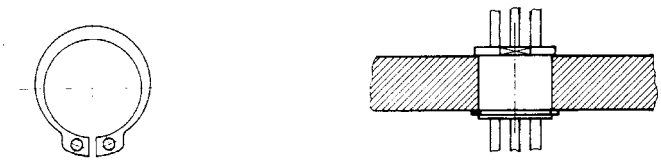
Tab washer



Lock nut



Circlip



Selection chart accessories

Tab washers

Size	d1	d2	f	g	Thickness	Order no.
M16 x 1,5 (x 1)	17	36	3,5	15	0,75	**03-3400-0003**
M24 x 1,5	25	45	3,5	18	0,75	**03-3400-0005**
M33 x 1,5	34	50	4,5	21	0,75	**03-3400-0007**
M36 x 1,5	37	58	4,5	26	0,75	**03-3400-0008**
M42 x 1,5	43	58	4,5	26	0,75	**03-3400-0009**

Lock nuts

Size	Across flat (AF)	Thickness	Order no.
M16 x 1	19	5	**03-2000-0001**
M16 x 1,5	20	3	**03-2090-0120**
M20 x 1,5	24	3,4	**03-2090-0121**
M24 x 1,5	27	5	**03-2000-0003**
M25 x 1,5	30	3,5	**03-2090-0122**
M32 x 1,5	35	4,5	**03-2090-0123**
M33 x 1,5	36	5	**03-2000-0005**
M36 x 1,5	41	6	**03-2000-0006**
M40 x 1,5	44	4,5	**03-2090-0124**
M42 x 1,5	46	6	**03-2000-0008**
M48 x 1,5	55	6	**03-2000-0011**

Circlip similar to DIN 471 for plug-in type line bushings	Order no.
∅ 22 mm	**03-3480-0002**
∅ 32 mm	**03-3480-0003**
∅ 36 mm	**03-3480-0004**

Technical data subject to change without notice.

03-0330-0183-10/2014-BCS-200639/6

Bushings and cable entries, pressure and vacuum sealed

Features

- Economical, due to high packing density
- Space-saving, due to internal thread
- Fast installation with the small flange versions
- Corrosion-resistant due to high-quality sleeve material
- Bushing stems with suitable thermomaterial to ensure unimpaired signals from thermal sensors

Description

Cable entries

Electrical cable entries are components which facilitate the insertion of electric leads into enclosures while providing a secure seal at the point of entry.

Line bushings

The line bushings allow an electrical connection of apparatus in enclosures or the connection of two enclosures.

The standard versions are suitable for the application range of 10^{-6} mbar to 63 bar positive pressure depending on the ambient temperature. Depending on the pressure and the medium to be sealed, the bushing / cable entry can be designed for a temperature range of -70 °C to +150 °C.

Versions up to 1000 bar are available to suit the temperature at the point of cable entry or bushing and the type of the medium to be sealed.

BARTEC cable entries and line bushings in the IP 68 type of protection not only seal the cable sheath, they also protect the inside strands.

BARTEC cable entries and line bushings consist in principle of a sleeve into which electric leads and single conductors are embedded in casting resin. Even the standard version of this component series satisfies most of the sealing requirements of modern process technologies.

When it is necessary to satisfy higher requirements, versions are available that are better than 10^{-6} mbar absolute and higher than 63 bar, sealed by the cast-in stranded conductors. BARTEC line bushings were tested at up to 2000 bar for resistance to oil.

03-0330-0184-10/2014-BCS-200660/1

Single-core non-sheated cable

Technical data

Temperature range
-70 °C to +150 °C

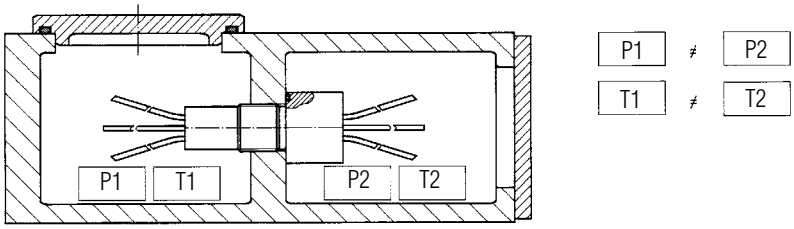
Pressure
up to 200 bar

Vacuum
10^{-6} mbar

Protection class
IP 65 to IP 68

Materials
nickel-plated brass
stainless steel 1.4305 or 1.4571
Steel nickel-plated

Single-core non-sheated cable



Cable entries

Technical data

Temperature range
-70 °C to +150 °C

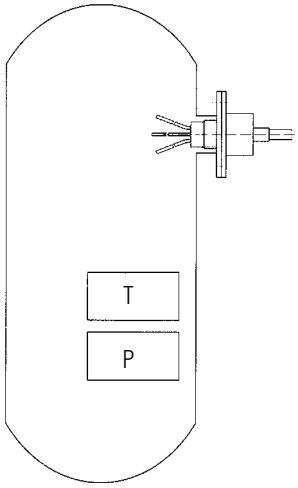
Pressure
up to 200 bar

Vacuum
10^{-6} mbar

Protection class
IP 65 to IP 68

Materials
nickel-plated brass
stainless steel 1.4305 or 1.4571
Steel nickel-plated

Cable entries



Applications

Sealed electric distribution boxes; hydraulic plants; nuclear power plants; climatic chambers; nuclear engineering; pneumatic plants; split cage motors; submersible pumps; drying kilns; impregnation plants; vacuum presses; vacuum furnaces.

■ Electrical versions

The standard versions have cables with flexible cores of a 0.5 mm² to 35 mm² cross section. Larger and smaller cross sections are available on request.

Depending on version, fittings, temperature range and core insulation, a voltage range of up to 6 000 V is possible.

IP 68 versions used in temperature measurement circuits, the bushing stems are made of material with appropriate thermal characteristics.

■ Versions and dimensions

The standard threaded sleeve can be screwed into thread sizes from M24 x 1.5 to M50 x 1.5. Other dimensions and special threads such as NPT and Witworth pipe threads can be supplied on request. Versions with a plug-in flange can also be supplied.

The accommodation of several cables, which may have different core cross sections, in a common sleeve allows compact, dimensioning and economic constructions. Cables with up to 45 cores with cross sections of 0.5 mm² can be put in an M50 x 1.5 sleeve.

For versions with long cables, the screw-in solution is not the most advantageous. Here the plug-in versions with mounting flange consider-ably facilitate installation. The flange may be made to customer specifications.

■ Insulation materials

BARTEC insulates with highly filled expoxy resins. Different formulations are used for the various pressure and temperature ranges.

The BARTEC epoxy casting material is charact-erized by its low outgassing. These material have been used most successfully for many years in industrial vacuum engineering. Their maximum baking temperature of +150 °C - depending on the material used - make them an ideal solution for almost all industrial applications.

The standard sealing washer is made of VITON. For special application, VITON-FEP-sheathed O-rings can be used. Also available are silicone sealing washers.

The versions for higher sealing requirements provide factory-made grooves in the sleeves for the sealing washers.

03-0330-0184-10/2014-BCS-200660/2

Nonthreaded line bushings

Description

Industrial processes often take place in closed containers under increased pressure or even under vacuum conditions. When electric leads are run through, care must be taken to prevent any transfer of mass through the conductor or drops in pressure/vacuum.

BARTEC pressure-proof/vacuum-sealed line bushings provide a simple and cost-effective way of dealing with this problem. These line bushings consist essentially of a metallic sleeve which encapsulates and longitudinally seals the electric conductors in cast resin. This means that sealing is not only ensured along the lengths of the conductors but also through the conductor strands themselves. BARTEC pressure-proof/vacuum-sealed line bushings can be designed for working temperatures of -70 °C to +150 °C depending on the application. Depending on the working temperature and ambient medium, it is possible to control pressure levels of 10^{-6} mbar to 200 bar. Depending on the application, it is also possible to use BARTEC line bushings under conditions which deviate from the following technical basic data.

They are **not** approved for use in hazardous areas.

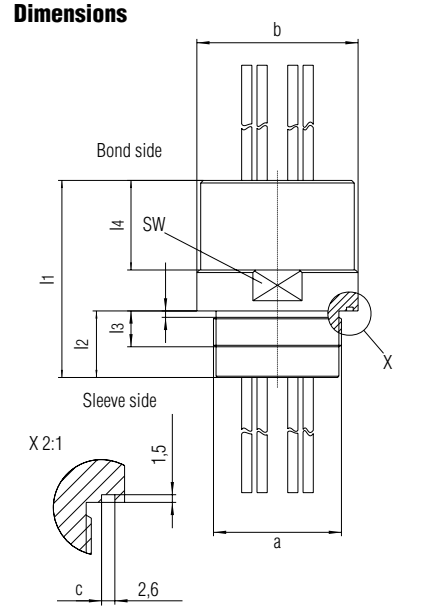
Explosion-proof and pressure-sealed version(EPS 13 ATEX 1619 U).

Selection chart

Thread size	Dimensions in mm							Nominal conductor cross-section	Max. number of conductors
	b	c	l_1	l_2	l_3	l_4	AF		
M24 x 1.5	∅ 36	∅ 28	50	22	17	0	32	0.5	8
								0.75 / 1 / 1.5	6
								2.5	5
								4	1
								6	1
			85	37	17	0	32	10	1
								16	1
M33 x 1.5	∅ 43	∅ 35	50	34	17.5	0	41	0,5	18
								0.75 / 1 / 1.5	8
								2,5	6
								4	5
								6	1
			85	49	17.5	20	41	25	1
								35	1
M36 x 1.5	∅ 46	∅ 38	50	34	17.5	0	41	0,5	22
								0.75 / 1 / 1.5	10
								2.5	9
								4	6
			85	49	17.5	20	41	6	6
								10 + (1.5)	3 + (3)
M42 x 1.5	∅ 55	∅ 45	50	34	17.5	0	50	0.5	30
								0.75 / 1 / 1.5	16
								2.5	12
								4	8
								6	8
			85	49	17.5	20	50	10 + (1.5)	3 + (6)
								16 + (1.5)	3 + (3)
								10 + (1.5)	4 + (4)
M50 x 1.5	∅ 63	∅ 54	77	26	14	35	60	0.5	45
								0.75 / 1 / 1.5	30
								2.5	15
								4	13
								6	13
			97	36	14	45	60	10 + (1.5)	3 + (6)
								16 + (1.5)	3 + (6)
								10 + (1.5)	4 + (4)
								16 + (1.5)	4 + (4)
								25 + (1.5)	4 + (4)

Weitere Ausführungen auf Anfrage. Bitte Kundenanforderungsformular am Ende des Kapitels verwenden!

Dimensions



Technical data

■ **Basic version**

Protection class
IP 68

Nominal voltage
see table

Rated conductor cross section
0.35 mm² to 35 mm²

Temperature range
-70 °C to +150 °C

Nominal pressure
63 bar at RT (RT= +25 °C)

Core lengths
500 mm on both sides,
other lengths on request

Selection chart

Nominal voltage	Code no.	Conductor cross section	Code no.	Number of cores	Code no.	Sleeve sizes	Code no.	Temperature	Code no.	Sleeve material	Code no.
450/750 V	1	Special cross section	A	1 core	01	M24 x 1.5	2	-25 °C to +100 °C	0	nickel-plated brass	00
250 V	2	0.35 mm²	D	2 cores	02	M33 x 1.5	3			nickel-plated steel	01
1 000 V	3	0.5 mm²	E	10 cores	10	M36 x 1.5	4				
3 000 V*	4	0.75 mm²	F	11 cores	11	M42 x 1.5	6	-70 °C to +150 °C	5	Steel 1.4305	02
60 V	5	1.00 mm²	G	20 cores	20	M50 x 1.5	8			Steel 1.4571	03
400 V	7	1.5 mm²	H	21 cores	21	Special size	9				
500 V	8	2.5 mm²	J	etc. up to a max. indicated in column "Maximum number of cores" in the chart "Dimensions"							
Special voltage	9	4.0 mm²	K								
		6.0 mm²	L								
		10.0 mm²	M								
		16.0 mm²	N								
		25.0 mm²	P								
		35.0 mm²	Q								

* on request

Complete order no. **37-910** ☐ - ☐ ☐ ☐ ☐ / 7 ☐ ☐ ☐ *

Technical data subject to change without notice.
***** in conjunction with the customer requirements form at the end of the chapter

03-0330-0186-10/2014-BCS-200662/2

Cable entries with threaded sleeves

Description

Industrial processes often take place within closed containers, under increased pressure or even vacuum conditions. It is therefore of utmost importance that no media leakages or pressure/vacuum drops occur when cables are led in. Our BARTEC pressure and vacuum sealed cable entries provide a simple and cost-effective solution to this problem. The cable entries essentially consist of a metal sleeve encapsulating the whole length of the electric conductors within epoxy-resin. This means that sealing is not only guaranteed for the whole length of the conductors but also through the stranded conductors themselves.

Depending on their field of application, BARTEC pressure and vacuum sealed cable entries can be used at temperatures of -70 °C to +150 °C.

With regard to the actual temperature and surrounding media, pressures of 10^{-6} mbar to 200 bar can be withstood.

Our BARTEC cable entries can also be used under conditions that differ from the basic technical data listed below.

They have **not been** approved for use in potentially explosive areas.

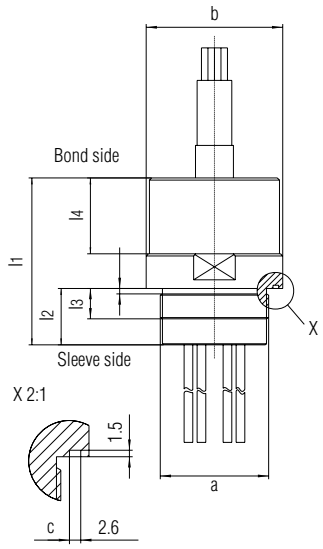
Explosion-proof and pressure-sealed versions (on request).

Selection chart

Tread size	Dimensions in mm							Nominal conductor cross section	Number of cores (max.)
	b	c	l_1	l_2	l_3	l_4	AF		
M24 x 1.5	∅ 36	∅ 28	70	22	17	0	32	0.5	8
								0.75 / 1 / 1.5	6
								2.5	3
								4	1
								6	1
M33 x 1.5	∅ 43	∅ 35	83	34	17.5	33	41	0.5	18
								0.75 / 1 / 1.5	8
								2.5	6
								4	5
								6	1
M36 x 1.5	∅ 46	∅ 38	83	34	17.5	33	41	0.5	22
								0.75 / 1 / 1.5	10
								2.5	9
								4	6
								6	6
M42 x 1.5	∅ 55	∅ 45	83	34	17.5	33	50	0.5	30
								0.75 / 1 / 1.5	16
								2.5	12
								4	8
								6	8

Other versions on request. Please use the customer requirements form at the end of the chapter!

Dimensions



Cable enters on boss side

Technical data

■ **Basic version**

Protection class
IP 68

Nominal voltage
see table

Nominal conductor cross section
0.35 mm² to 6 mm²

Temperature range
-70 °C to +150 °C

Nominal pressure
63 bar at RT (RT= +25 °C)

Cable lengths
500 mm

Core lengths
2.5 m (other lengths on request)

Selection chart

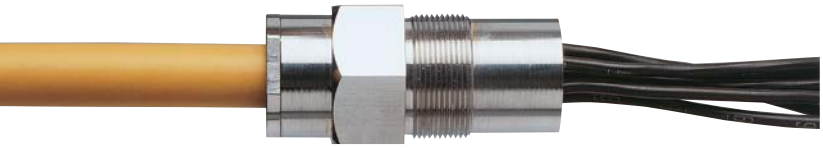
Nominal voltage	Code no.	Conductor cross section	Code no.	Number of cores	Code no.	Sleeve sizes	Code no.	Temperature	Code no.	Sleeve material	Code no.
450/750 V	1	Special cross section	A	1 core	01	M24 x 1.5	2	-25 °C to +100 °C	0	nickel-plated brass	00
250 V	2	0.35 mm²	D	2 cores	02						
1 000 V	3	0.5 mm²	E	etc.		M33 x 1.5	3			nickel-plated steel	01
3 000 V*	4	0.75 mm²	F	10 cores	10	M36 x 1.5	4				
60 V	5	1.00 mm²	G	11 cores	11	M42 x 1.5	6	-70 °C to +150 °C	5	Steel 1.4305	02
400 V	7	1.5 mm²	H	20 cores	20	M50 x 1.5	8			Steel 1.4571	03
500 V	8	2.5 mm²	J	21 cores	21	Special size	9				
Special voltage	9	4.0 mm²	K	etc. up to a max. indicated in column "Maximum number of cores" in the chart "Dimensions"							
		6.0 mm²	L								

* on request

Complete order no. 37-920 ☐ - ☐ ☐ ☐ / 7 ☐ ☐ ☐ ☐ *

Technical data subject to change without notice.
***** in conjunction with the customer requirements form at the end of the chapter

03-0330-0187-10/2014-BCS-200663/2



Cable entries submersible

Description

BARTEC submersible cable entries maintain their seal even under extreme conditions. Major fields of application are submersible pumps for use areas such as:

■ water treatment plants ■ sewage treatment plants ■ sewage disposal ■ building sites

The cable sheath and cores are encapsulated in a special sealing compound. If the cable is damaged, no water can penetrate the cable entries causing a short-circuit.
Our BARTEC submersible cable entries are sealed over their whole length. BARTEC submersible cable entries are designed for depths with pressures up to 6 bar. The standard version is threaded, but flanged versions can also be supplied.
For these cable entries, BARTEC use as extremely robust NSSHÖU cable resistant to extreme stress such as sewage or chemically agressive waste water. The basic versions have 4 x 1.5 mm² or 7 x 2.5 mm² cores. For special cables incorporating pilotlines, we offer versions with 7 x 1.5 mm² or when used with oil-filled motors, the cables can be provided with FEP-insulated stranded conductors. The standard version has nickel-plated brass threaded sleeves. For special applications, BARTEC offers threaded sleeves of stainless steel types.

Explosion-proof version (on request).

Technical data

■ **Basic version**

Protection class
IP 68

Pressure seal
up to 6 bar

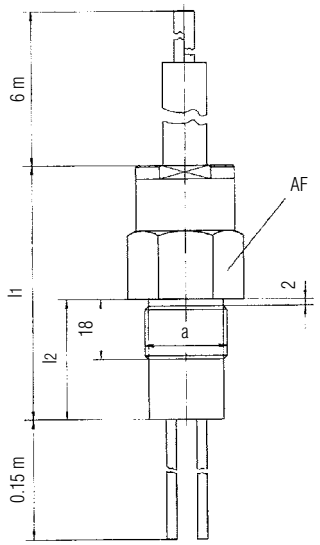
Temperature resistance
max. +100 °C at encapsulation

Voltage
up to 500 V for NSSHöU

Cable length outside
6 m[1)]

Core length inside
0.15 m[1)]

Dimensions



Selection chart

Thread a	Dimensions in mm			Connection [2)] number of cores x cross section	Cable [2)]	Voltage	Order no.
	l_1	l_2	AF				
M36 x 1.5	85	45	41	7 x 4			**on request**
				4 x 4	NSSHöU	500 V	**37-9208-K044/2000**
				7 x 2.5	NSSHöU	500 V	**37-9208-J074/2000**
				4 x 2.5	NSSHöU	500 V	**37-9208-J044/2000**
M24 x 1.5	75	35	30	3 x 2.5	NSSHöU	500 V	**37-9208-J032/2000**
				4 x 1.5	NSSHöU	500 V	**37-9208-H042/2000**

Other versions on request. Please use the customer requirements form at the end of the chapter!
Technical data subject to change without notice.

03-0330-0187-10/2014-BCS-200663/3

Bushing conductor studs

Description

Industrial processes often take place within closed containers, under increased pressure or even vacuum conditions. It is therefore of utmost importance that no media leakages or pressure/vacuum drops occur when electrical power or signals are led through the container wall.

Our BARTEC pressure and vacuum sealed stud-type bushings provide a simple and cost-effective solution to this problem. The stud-type bushings essentially consist of a threaded metal sleeve and the stud forming one block by means of a creepage-proof insulation material.

The electrical connection can be made by the user himself with conventional connection systems. The seals can withstand pressures from 10 mbar abs. to 63 bar depending on the type used for the installation.

Depending on their field of application, BARTEC pressure and vacuum sealed stud-type bushings can be used at temperatures of -70 °C to +150 °C. Our BARTEC stud-type bushings can also be used under conditions that differ from the basic technical data listed below.

They are **not** approved for the use in hazardous areas.

Technical data

■ **Basic Version**

Nominal voltage
up to 1 000 V

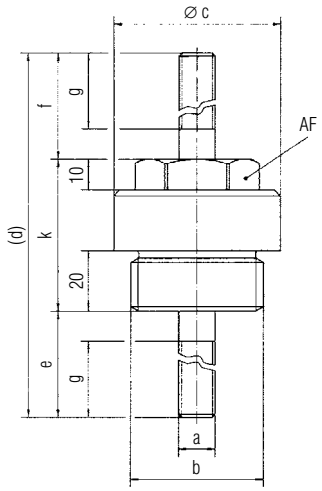
Stud thread
M3 to M30

Temperature range
-70 °C to +150 °C

Nominal pressure
up to 63 bar at RT (RT = +25 °C) [1)]

Test pressure
80 bar at RT

Dimensions



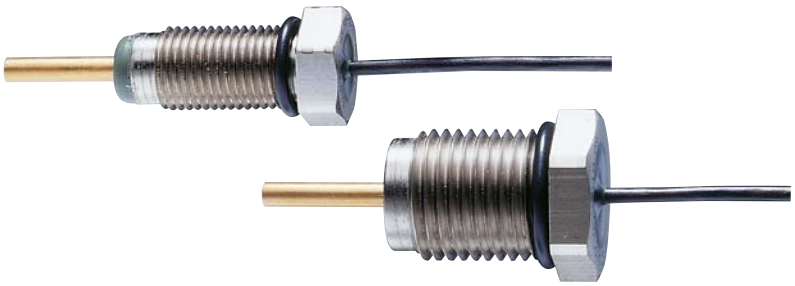
Selection chart

Nominal current			
at +25 °C ambient temperature	100 A	250 A	315 A
Dimensions in mm			
a	M8	M12	M16
b	R 1"	R 1 1/4"	R 1 1/2"
c	41	55	60
d	100	150	160
e	35	50	55
f	30	50	55
g	22	40	40
SW	30	36	36
k	35	50	50
Order no.	**37-9119-A019/70E2**	**37-9119-A019/70E1**	**37-9119-A019/70E4**

[1)] depending on outer seal

Other versions on request. Please use the customer requirements form at the end of the chapter!
Technical data subject to change without notice.

03-0330-0187-10/2014-BCS-200663/4



Electrode line bushings with threaded sleeve

Description

In submersible sewage pumps, motor and pump assembly are often separated by an oil chamber sealed with mechanical seals.

To prevent motor malfunctions or breakdowns it is absolutely necessary to detect possible leakages of the shaft seals and to carry out maintenance works in due time. Our BARTEC electrodes help you solve this problem most cost effectively.

The electrode essientially consists of a threaded metal sleeve and a metal sensor rod forming one block by means of a creepage-proof insulation material. An appropriate evaluation unit indicates any existing leak or due maintenance in good time.

Depending on type and application, BARTEC electrodes can be used for temperatures from -25 °C to +150 °C. They can also be used under conditions that deviate from the following basic technical data.

Technical data

■ **Basic version**

Nominal voltage
≤ 30 V

Temperature range
-25 °C to max. +150 °C
depending on the core wire used

Rated uninterrupted current
< 1 A

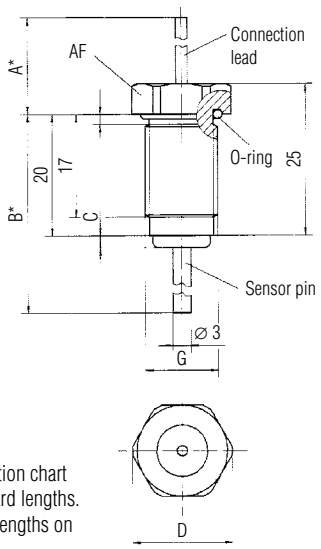
Materials

Threaded sleeve:	Nickel-plated brass or stainless steel
Sensor rod:	Brass or stainless steel
Connection core:	0,5 mm² to 1,5 mm²
Encapsulation:	Epoxy resin
O-ring:	VITON

Versions deviating from the basic technical data on request.

Please use the customer requirements form at the end of the chapter!

Dimensions



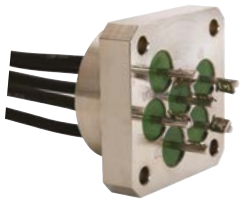
See selection chart for standard lengths. Different lengths on request.

Selection chart

Dimensions in mm							Order no.
G	**C**	**D**	**AF**	**A**	**B**	**O-ring**	
M10 x 1	2	14.5	13	500	36	9 x 1.5	**37-9A05-1250/1000**
M12 x 1	2	16.5	15	500	36	10 x 1.5	**37-9A05-125B/1000**
M16 x 1.5	2	21.0	19	500	36	14 x 2	**37-9A05-125D/1000**

Technical data subject to change without notice.

Special versions

Illustration	Description
	**Stud plate** Stud insulated in glass e. g. as pressure-proof motor connection
	**Line bushings** with flat-pin plug
	**Prestressed-glass line bushings** electrical

03-0330-0184-10/2014-BCS-200660/3

Customer

Company

Street

Postcode/City

Country

Contact person

E-mail

Phone Fax

BARTEC

Sales employee

☐ **Offer** ☐ **Order**

Project name/Application number

Customer number

Order value

Deadline Offer

Delivery

Conditions of use

Current _____ A **Spannung** _____ V

Peak voltage _____ V **Frequency** _____ Hz

Pressure

Nominal pressure _____ bar ☐ Boss side ☐ Sleeve side

Test pressure _____ bar

Leckage rate _____ mb * l * s^{-1}

Medium

Boss side _____

Sleeve side _____

aggressive components of the medium _____

Ambient temperature _____ °C

Ex area (Zone) _____

max. permissible heating at the conductor

max. conductor temperature _____ °C

Type of protection _____

Other points _____

Installation site sketch

Cable entry/line bushing
Cable description

Boss side

☐ Shielded cable ☐ Core

☐ not shielded ☐ shielded

☐ Shield connected to ground

☐ Shield run through

☐ Shield insulated

Designation lead/core _____

Length _____ mm

Sleeve side

☐ Shielded cable ☐ Core

☐ not shielded ☐ shielded

☐ Shield connected to ground

☐ Shield run through

☐ Shield insulated

Designation lead/core _____

Length _____ mm

Number of cores _____ piece

Core cross section _____ mm²

Bolt bushing
Bolt description

Connection Boss side Sketch

Connection Sleeve side Sketch

Bolt material _____

Electrode line bushing

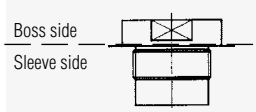
Length of sensor pin _____

Material of sensor pin _____

Sketch

Version

Threaded sleeve



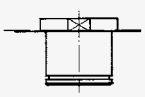
Quantity _____

Thread name _____

Thread size _____

Sleeve material _____

Non-threaded sleeve



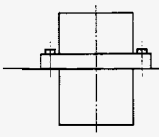
Quantity _____

Sleeve size _____

Length of gap _____

Sleeve material _____

Non-threaded sleeve with mounting flange



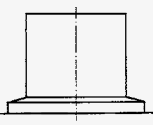
Quantity _____

Sleeve size _____

Length of gap _____

Sleeve material _____

Small flange



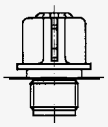
Quantity _____

Diameter ∅ _____

Length of gap _____

Sleeve material _____

Line bushing with terminals



Quantity _____

Thread name _____

Thread size _____

Sleeve material _____

BARTEC

BARTEC

Signalling devices/Work light

Flashing lamp 15 J

Features

- Set in Zone 1 and 2, Zone 21 and 22
- Maintenance-free
- Compact design
- Very sturdy
- Low power demand due to high lamp efficiency
- Easy installation

Description

Plant and machinery are fitted with visual alarms to give timely warning of dangerous situations and to enable machinery to be shut down before damage occurs.

BARTEC flashing lamps are designed for continuous operation. The LED flashing lamp can be set on 4 different modes: flashing, flash, permanent and rotating light.

BARTEC's flashing lamps provide information, warnings and alarms on machinery and plant in explosion-endangered areas in Zone 1 and Zone 2, Zone 21 and 22.

Function

The flashing lamp is made of an aluminium Ex d enclosure with a dome made of Borosilikal glass.

The connection compartment was designed in the "increased safety" type of protection in conformance to EN 60079-7.

An M20 x 1.5 gland is available to facilitate the insertion of the cable.

Explosion protection

Ex protection type

ATEX Ⓔx II 2G Ex d e IIC T5, T6 Gb
Ⓔx II 2D Ex tb IIIC T95 °C, T80 °C Db

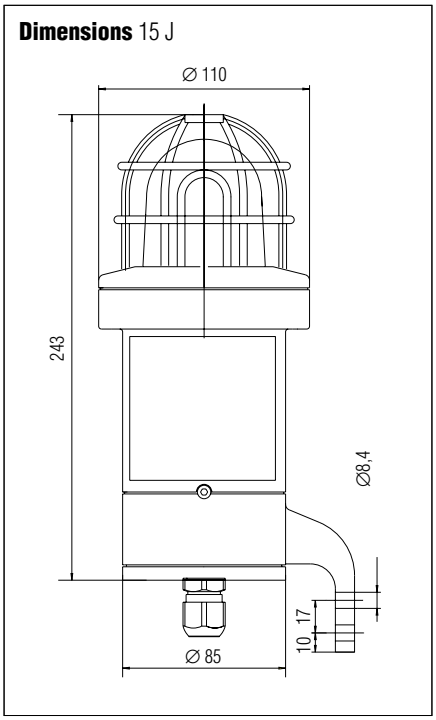
Certification
PTB 00 ATEX 1013

IECEx Ex d e IIC T5, T6 Gb
Ex tb IIIC T95 °C, T80 °C Db

Certification
IECEx PTB 12.0059

Other approvals and certificates, see www.bartec-group.com

Dimensions 15 J



Technical data

Protection class
IP 66/IP 67 according to IEC 60529

Enclosure material
Aluminium, powder-coated
with hardened glass dome and
with protective cage

Electrical data

Rated voltage
AC 230 V
DC 24 V

Flash energy
15 J

Flash frequency
ca. 60/min (1 Hz)

Operating mode
Continuous operation S 1 after IEC60034-1;
DIN EN 60034-1; VDE 0530 level 1

Activation
by connecting with the rated voltage

Temperature range
Service:
-55 °C ≤ T_a ≤ +40 °C (T6) (T80 °C)
-55 °C ≤ T_a ≤ +55 °C (T5) (T95 °C)
Storage:
-60 °C to + 80 °C

Selection chart

Description	Nominal voltage	Code no.	Signal colour	Code no.
Flashing lamp 15 J	AC 230 V	**1**	yellow	**3**
			red	**4**
	DC 24 V	**8**	green	**5**

Complete order no. 07-4838-31 ☐☐

Please enter code number. Technical data subject to change without notice.

03-0330-0193/B-10/2014-BCS-200870/2

Flashing lamps

TNFCD
TNFAD
TNFCDM

Features

- Seawater-resistant
- Customized version

Description

BARTEC TECHNOR's flashing beacon is an efficient solution for use in Ex-zones offshore as well as onshore, and has been supplied to installations in the demanding environments of the North Sea for more than 25 years.

TNFCD/TNFAD flashing lights are available as Ex de, Ex d or non-Ex. TNFCDM is Ex d only.

Beacon operates when power is applied. TNFCD/TNFAD can optionally use external trigging, and can be supplied with a siren card for acoustic warning.

Explosion protection

Ex protection type
TNFCD/TNFAD
Ⓔx II 2G Ex d IIC T4 or Ex de IIC T4

TNFCDM
Ⓔx II 2G/II 2D Ex d IIC T4

Certification
NEMKO 01 ATEX 430

Other approvals and certificates, see www.bartec-group.com

Ambient temperature
-50 °C to +60 °C

Technical data

Material
TNFCD/TNFCDM stainless steel 316L/CF-3M
TNFAD seawater resistant aluminium

Surface treatment SS316L
shot blasted/machined

Earthing
inside and outside

Cable entry

TNFCD/TNFAD	Standard M25
TNFCDM	Standard M25, M20 or flying lead on request

Real humidity
100 %

Dome colours
red, yellow, blue, green, orange, clear

Flash frequency
1 Hz

Flash energy

TNFCD/TNFAD	10 joule
TNFCDM	5 joule

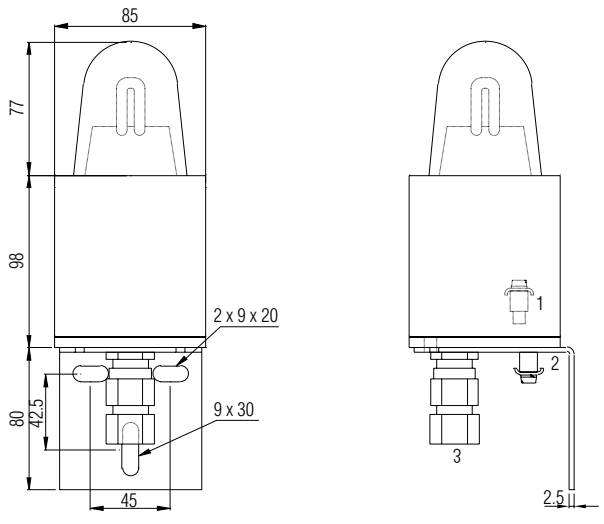
Weight

TNFCD	5.1 kg
TNFAD	2.5 kg
TNFCDM	2.5 kg

Protection class
IP 66 (IP 67 upon request)

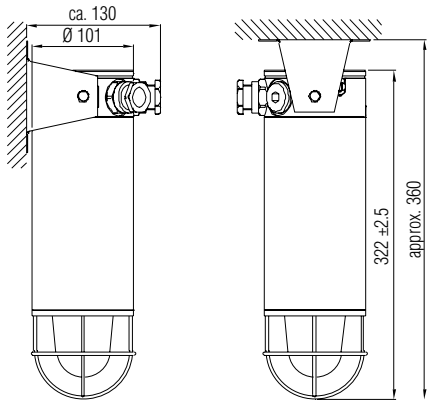
Guidelines
EN/IEC: 60079-0, 60079-1, 60079-7, 50281-1-1

Dimensions



1 Internal earth
2 External earth
3 Ex d approved cable gland must be used

Dimensions



Selection chart TCNFCD/TNFAD

Rated voltage	Voltage range	Rated current	Power consumption	Supply frequency	Typical start current	Triggering	Fuse	Siren card for acoustic warning
AC 220 to 254 V	±10 %	110 mA	24 VA	50/60 Hz	>1 A in max. 1 msec.	direct, telephone, DC 24 to 48 V, fail safe	1 to 2 A < time-lag fuse is recommended	8 W, 20 W or 25 W for Ex loudspeaker (8 ohm, 20 ohm or 100 V line)
AC 110 to 120 V	±10 %	220 mA	24 VA	50/60 Hz				
DC 24 to 48 V	±10 %	DC 24 V/670 mA DC 48 V/330 mA	16 VA					

Selection chart TCNFDM

Rated voltage	Voltage range	Power consumption	Typical start current	Triggering
AC 220 to 254 V	AC 190 to 272 V	100 mA	1 A in max. 1 msec	direct
AC 110 to 127 V	±20 %	100 mA		
DC 24 V	±10 %	380 mA		
DC 48 V	±10 %	200 mA		

Signal horn

Features

- Set in Zone 1 and 2, Zone 21 and 22
- Protection class IP 65
- Sound level 105 dB
- Temperature range -40 °C to +50 °C
- Easy to install

Description

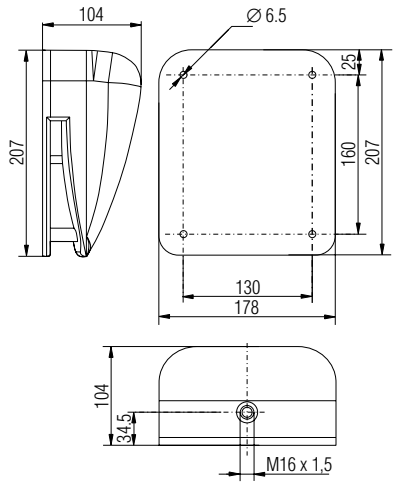
Machines and equipment are provided with acoustic warning and emergency devices for the protection of people and the environment. These devices signal hazardous situations and thus allow for instant safety measures to be taken.

BARTEC provides a loud signal horn with continous tone in attractive design.

The device is suitable for applications in potentially explosive gas and dust atmospheres without further accessories.

The signal horn reliably warns against hazards in a wide temperature range of -40 °C up to +50 °C outdoors and indoors.

Dimensions in mm



Explosion protection

Ex protection type

Ex II 2G Ex e mb IIC T5 Gb
Ex II 2D Ex tb IIIC T70 °C Db

Certification

BVS 05 ATEX E113 X

Other approvals and certificates, see www.bartec-group.com

Technical data

Dimensions

207 mm x 178 mm x 104 mm

Mounting dimensions

160 mm x 130 mm

Enclosure

PC

Connection

terminal screw max. 2.5 mm²

Cable entry

cable gland M16 x 1.5
cable diameter 5 to 9 mm

Mounting

wall mounting and floor mounting

Electrical data

Rated voltage

see selection chart

Sound level

max. 105 db (A)

Type of tone

continuous tone

Selection chart Signal horn

Rated voltage	Code no.
DC 24 V	1
AC 24 V, 50 Hz	2
AC 42 - 48 V, 50 Hz	3
AC 115 V, 50/60 Hz AC 120 V, 60 Hz	4
AC 230 V, 50 Hz	5

Complete order no. 07-4602-1 ☐ 12

Please insert correct code.

Technical data subject to change without notice.

Features

- Rechargeable batteries
- High IP rating (IP 66)
- High luminosity
- Long service life

Description

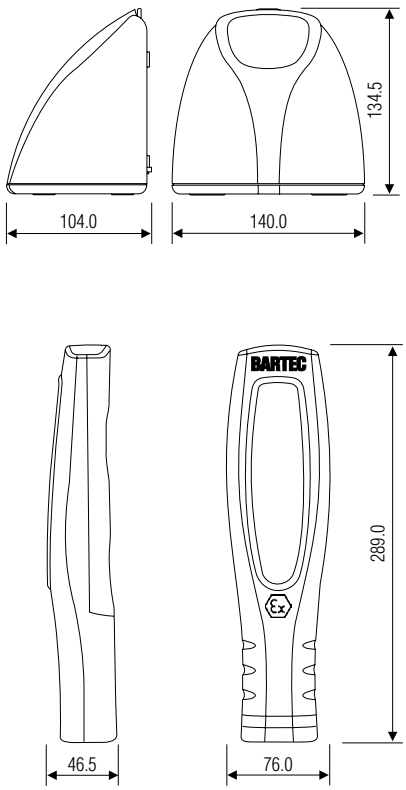
This LED work light is exceptionally efficient and sturdy and still very manageable, having a net weight of just 600 g. 30 high-power LEDs generate a light output of over 600 lux and help increase safety at the workplace. You can choose the form of the fixing hook yourself, closed or open.

This mobile LED work light with rechargeable battery technology serves to illuminate workplaces in hazardous environments.

The work lights can be used in hazardous areas in Zone 0, 1 and 2 in compliance with the gas-subgroups IIA, IIB and IIC and the temperature class T4 as well as in Zone 20, 21 and 22 in conformance to the certified maximum surface temperature.

Work light

Dimensions in mm



03-0330-0567-10/2014-BCS-300725

Work light

Explosion protection

Ex protection type

ATEX II 1G Ex ia op is IIC T4 Ga
II 1D Ex ia IIIC T100 °C Da
I M1 Ex ia I Ma

Certification
IBExU 09 ATEX 1087

IECEx Ex ia op is IIC T4 Ga
Ex ia IIIC T100 °C Da
Ex ia I Ma

Certification
IECEx IBE 09.0012

Other approvals and certificates, see www.bartec-group.com

Technical data

Ambient temperature for operation
-20 °C to +60 °C

Ambient temperature for storage and transport
-25 °C to +70 °C

Illuminance
> 600 lux with 30 high-power LEDs

Light duration
> 6 hours in continuous operation

Protection class
IP 66 in conformance to IEC 60529

Weight
615 g

Charging station including power pack

Explosion protection

Restriction
may not be used in a hazardous environment

Technical data

Supply voltage
AC 200 V to 250 V
DC 12 V to 24 V

Type of connection
AC/DC adapter
plug-in charger

Power consumption
AC 16 W, DC 12 W

Ambient temperature for operation
0 °C to +40 °C

Ambient temperature for storage and transport
-25 °C to +75 °C

Charging duration
max. 3 hours to 100 % loading,
80 % after one hour

Weight
(charging station incl. power supply unit)
425 g

Order data

Work light with open swivel fixing hook
07-5051-3111-1000

Work light with closed swivel fixing hook
07-5051-3111-2000

Technical data subject to change without notice.

BARTEC

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BARTEC

BARTEC

Safe.t® Solutions Safe.t® Components Safe.t®
Safe.t® Systems Safe.t® Technology Safe.t® Seminars
Safe.t® Solutions Safe.t® Components Safe.t
Safe.t® Systems Safe.t® Technology Safe.t® Seminars
Safe.t® Seminars Safe.t® Solutions Safe.t® Components

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www.bartec-group.com

UK-D-BCS080805-10/2014-BARTECWerbeAgentur-240346