



**40 YEARS
YOUNG**
1982.2022

lika[®]

Smart encoders & actuators



Displays & interfaces



POSICONTROL Displays & Signal converters, Encoder interfaces	Page
Overview	6-9
Operating principle	10-13
LD120	14-15
LD112	16-17
LD140 • LD142	18-19
LD200	20-21
LD350 • LD355	22-23
LD360 • LD365	24-25
LD210	26-27
LD220	28-29
IF09	30
IF10	31
IF11	32
IF20	33
IF30	34
IF40	35
IF41	36
IF42	37
IF55	38-39
IF60 • IF61	40
IF62 • IF63	41
IFS-10	42-43



ROTAPULS • ROTACOD
Rotary encoders



ROTAMAG
Bearingless encoders & Kit-encoders



LINEPULS • LINECOD
Linear encoders



DRAW-WIRE
Draw-wire encoders



COUPLINGS
Flexible & transmission couplings



TILTCOD
Inclinometers



DRIVECOD
Rotary actuators



POSICONTROL
Signal converters, Encoder Interfaces



POSICONTROL
Displays

An international family company, corporate profile

Lika Electronic stands for **innovative rotary and linear encoders** for motion control and positioning systems.

Since its inception in 1982, Lika develops and manufactures incremental and absolute encoders based on optical and magnetic sensing technologies.

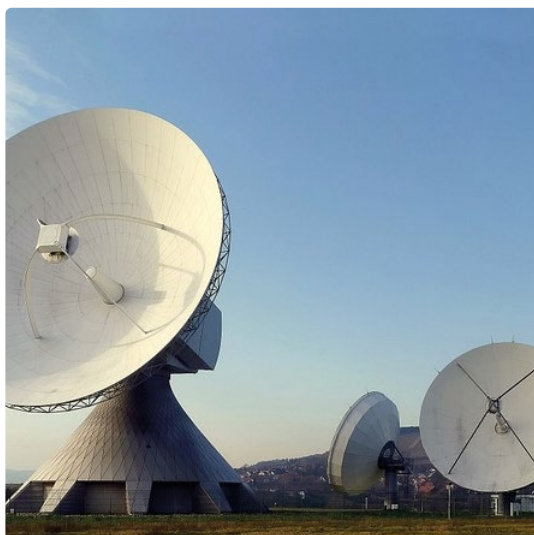
The product portfolio is completed by **rotary actuators, inclinometers, position displays, encoder interfaces, and signal converters**.

Close cooperation with customers and long-lasting relationships are a key element of the company's culture and often lead to the design of important special projects in which Lika's expertise and flexibility can excel.

To better support the more and more frequent client and market requirements for customization Lika has built up **Lika Lab, a business unit expressly focused on developing and manufacturing special products**.

Lika operates globally with branches and an efficient distribution network and provides qualified customer service and technical support.

A wide range of industries rely on Lika's solutions such as packaging machines, robotics, medical technology, motors, aerospace, and many other sectors.





The logo for Lika, featuring the word "lika" in a bold, lowercase sans-serif font. The letter "i" is colored teal, while the remaining letters "l", "k", "a", and "a" are black.The logo for Lika Lab, featuring the word "lika" in a bold, lowercase sans-serif font. The letter "i" is colored teal, and the remaining letters "l", "k", "a", and "a" are black. To the right of "lika" is a teal square containing the word "lab" in white lowercase letters. Below the logo is the tagline "your customization" in a bold, lowercase sans-serif font.

POSICONTROL

Displays and interfaces

Position displays for magnetic sensors

- Battery powered displays for stand-alone applications
- Variety of display modes: linear, angular and inch
- RS232 and RS485 serial interfaces

				
	LD120	LD112	LD111 • LD141	LD140 • LD142
Description	<ul style="list-style-type: none"> • LED position display • Direct sensor connection • Quasi-absolute battery input 	<ul style="list-style-type: none"> • Quasi-absolute LCD position display • Integrated battery supply • Direct sensor connection 	<ul style="list-style-type: none"> • OEM version • Quasi-absolute LCD position display • Integrated battery supply • Direct sensor connection 	<ul style="list-style-type: none"> • Quasi-absolute LCD position display • Integrated battery supply • Pluggable & direct sensor connection
Functionality	Linear position display. Preset/Offset values. Relative/absolute display. mm/inch measurements.	Linear & angular pos. display. Preset/Offset values. Relative/absolute display. mm/inch measurements.	Linear & angular pos. display. Preset/Offset values. Relative/absolute display. mm/inch measurements.	Linear & angular pos. display. Preset/Offset values. Relative/absolute display. mm/inch measurements.
Display	LED 5 digit	LCD 6 digit	LCD 6 digit	LCD 6 digit
Outputs / Interface	RS485	-	-	RS232
Power supply	+10Vdc +30Vdc +5V backup battery	Battery	Battery	Battery
Dimensions	72 x 36 x 62 mm	72 x 48 x 31 mm	61 x 39 x 29 mm 87 x 61 x 39 mm	97 x 73 x 47 mm
Protection	IP65 front	IP65 front	IP00	IP65 front





POSICONTROL

Displays and interfaces

Position displays and counters

- Variety of display modes: linear, angular and inch
- Incremental and absolute encoder input
- Serial interface RS232 or RS485



				
	LD200	LD210	LD220	LD350/LD360 • LD355/LD365
Description	<ul style="list-style-type: none"> • Universal LED position display • 8 digits display with sign • Absolute & incremental encoder input • Preconfigured menu 	<ul style="list-style-type: none"> • Multifunction for position & process • 3 colour Touchscreen display • Analogue mA or V sensor input • Intuitive text menu 	<ul style="list-style-type: none"> • Multifunction for position & process • 3 colour Touchscreen display • Absolute SSI encoder input • Intuitive text menu 	<ul style="list-style-type: none"> • Multifunction for position & process • 3 colour Touchscreen display • Incremental HTL or TTL encoder input • Intuitive text menu
Functionality	Linear/angular pos. display. Preset/Offset values. Relative/absolute display. mm/inch/fractional measurements.	Position & process data display. Dual/cross calculated input function. Linearization function. Total/tare/average filter.	Position & process data display. Master/Slave mode. Scaling & bit blanking function. Linearization function.	Position, speed, counter, time display. Scaling & linearization function. Configurable digital outputs.
Display	LED 8 digit	LCD 8 digit	LCD 8 digit	LCD 8 digit
Encoder input	ABO, ABO /ABO sin/cos 1Vpp SSI	2 inputs $\pm 10V$, 0-10V, 0-20mA or 4-20mA	SSI input up to 32 bits	LD350: AB LD355: AB /AB
Outputs / Interface	RS232 3 digital outputs	RS232, RS485 Modbus, 4 digital outputs, 2 relais outputs, 1 analogue output	RS232, RS485, 4 digital outputs, 2 relais outputs, 1 analogue output	RS232, RS485, 4 digital outputs, 2 relais outputs, 1 analogue output
Power supply	24Vdc	+18 +30Vdc 115/230 Vac	+18 +30Vdc 115/230 Vac	+18 +30Vdc 115/230 Vac
Counting frequency max.	1 MHz	-		1 MHz
Dimensions	96 x 48 x 49 mm	96 x 48 x 105 mm	96 x 48 x 105 mm	96 x 48 x 105 mm
Protection	IP65 (front)	IP65 (front)	IP65 (front)	IP65 (front)

POSICONTROL

Interfaces

Signal converters for incremental and absolute encoders

- High quality and speed of signal conversion
- Easy setup through DIP-switches and teach-in buttons
- Easy and comfortable DIN rail mounting



IF10



IF20



IF30



IF40

Description	<ul style="list-style-type: none"> • Level converter • Signal splitter 	<ul style="list-style-type: none"> • Level converter • Signal amplifier 	<ul style="list-style-type: none"> • Sine/cosine interpolator 	<ul style="list-style-type: none"> • Incremental to analogue converter • RS232/RS485 interface
Functionality	Adjustable signal levels (in/out). Contactless switch-over.	Conversion of signal levels. Input/Output galvanically separated. UP/DOWN output.	Adjustable interpolation rate up to x50. Adjustable pulse divider. Filtering functions.	Incremental to analogue conversion. Scaling. A + B linkage. Linearization of output.
Encoder input	2 inputs HTL or TTL / RS422	HTL or TTL / RS422	1Vpp	HTL or TTL / RS422
Serial interface / Outputs	2 outputs HTL or TTL / RS422	HTL or TTL / RS422	HTL (AB0) RS422 (AB0 /AB0)	± 10 V 0-20 mA 4-20 mA
Power supply	+12 +30Vdc	+5 +30Vdc	+18 +30Vdc	+18 +30Vdc
Counting frequency	1 MHz	500 kHz	400 kHz	1 MHz
Electrical connections	terminal block	terminal blocks DSub connectors	terminal blocks DSub connectors	terminal blocks mini USB
Protection	IP20	IP40	IP40	IP20
Dimensions	102 x 102 x 23 mm	102 x 102 x 23 mm	91 x 79 x 40 mm	102 x 102 x 23 mm

POSICONTROL

Interfaces

Gateways & safety motion monitors

- Safety motion controller for standard sensors & encoders
- SSI to fieldbus gateways with robust housing
- Optical fibre modules for encoders



IF41 • IF42

- Signal converter
- IF41: SSI to Analogue
- IF42: SSI and Incremental to Parallel



IF55

- Gateway for SSI encoders
- Metal housing
- High protection



IF60/IF61 • IF62/IF63

- Fibre-optic transmitters
- Incremental and SSI version



IFS10



- Motion controller
- SIL3/PLe certified
- For standard encoders

Description

Functionality

Encoder input

Serial interface / Outputs

Power supply

Counting frequency max.

Electrical connections

Protection

Dimensions

SSI to analogue conversion. Master or slave operation. Scaling and bit suppression. Round loop function. Linearization of output.

SSI to fieldbus converter. Position, scaling, counting direction, diagnostic.

Safe signal transmission up to 2000 m. Suitable for explosive areas and environments with extremely high electromagnetic fields.

Speed and still-stand controller signal splitter. Safety functions: STO, SS1, SS2, SOS, SLS, SDI, SSM.

SSI (up to 25 bit)

SSI (up to 25 bit)

HTL or TTL / RS422 SSI

1Vpp RS422 HTL

RS232, RS485

EtherCAT, Ethernet-IP Profibus CANopen Modbus TCP POWERLINK, Profinet

RS232, USB

+18 +30Vdc

+10 +30Vdc

+5Vdc ±5% +10 +30Vdc

+18 +30Vdc

1 MHz

-

-

500 KHz

terminal blocks mini USB

M12 connectors

terminal block DSub connectors

IP20

IP65

IP40

IP20

102 x 102 x 23 mm

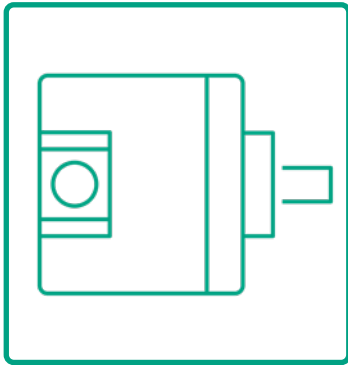
78 x 60 x 48 mm

111 x 93 x 19 mm

180 x 120 x 50 mm

All devices that combine with LD displays and IF interfaces

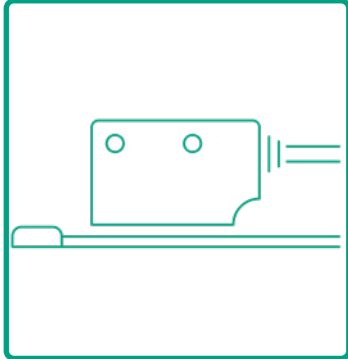
Incremental and absolute rotary encoders



I41, I58 series
C82, C85, C100, C101 series
EM58, HM58 series

See ROTAPULS & ROTACOD product families

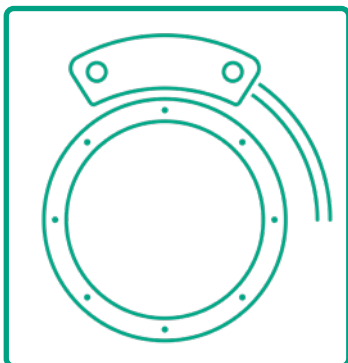
Incremental and absolute linear encoders



SME series
SMA series

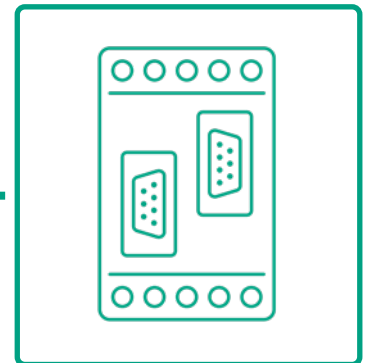
See LINEPULS & LINECOD product families

Bearingless encoders



SMAB, SMRA series

See ROTAMAG product family



SSI to Ethernet/fieldbus IF55 converters

IF55 converters are especially designed to interface SSI serial encoders, both rotary and linear, and integrate them easily into the most popular industrial Ethernet networks (Profinet, EtherNet/IP, EtherCAT, POWERLINK, MODBUS-TCP) as well as into conventional fieldbuses, such as CANopen and Profibus.

They are ideally suited when it comes to retrofit outdated plants.

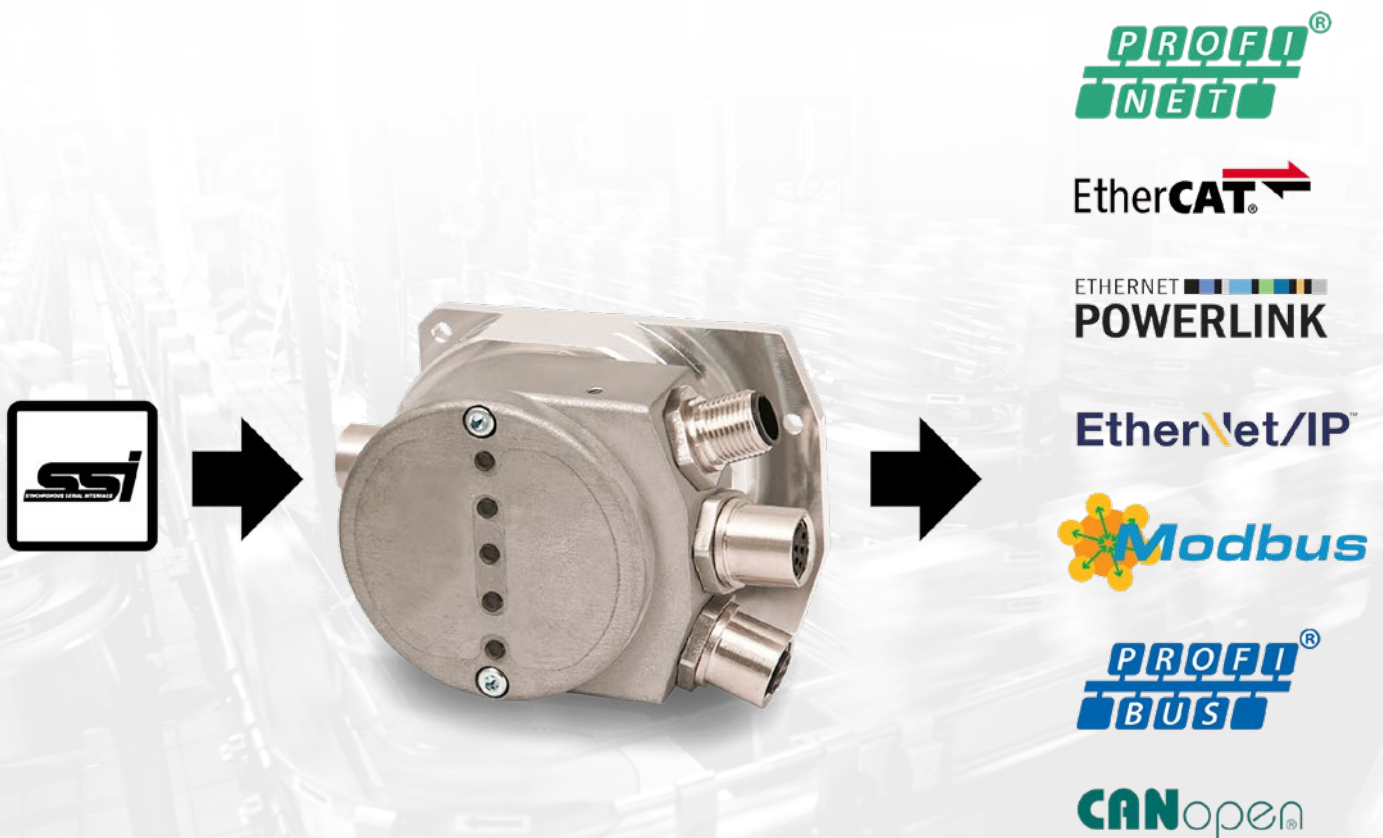
In the case of a plant retrofit project, instead of being discarded an existing SSI serial interface encoder can be converted and reused in a more modern and integrated communication system. They are also perfect where narrow spaces do not permit the installation of larger standard Ethernet/fieldbus rotary encoders. Because of their electronics, Ethernet/fieldbus encoders have larger dimensions than an SSI model and come from a minimum 58 mm flange design.

Today it is finally possible to install even small 36 mm flange encoders and connect them to the Ethernet/fieldbus network through the gateway. Furthermore, IF55 converters allow to integrate also minimum footprint linear encoders and bearing encoders that cannot be installed in such applications due to their physical characteristics.

SSI encoders can have singleturn resolution up to 16 bits and multiturn resolution up to 30 bits, MSB Left Aligned or LSB Right Aligned protocols and binary or Gray output codes. Either singleturn and multiturn rotary encoders or linear encoders can be connected. In addition there is no need to make any changes in the hardware or in the software of the SSI encoders, only the converter needs few simple parameters to be programmed. The SSI encoders are configured as Slave devices and are able to communicate in the network in a complete and efficient manner.

IF55 converters are easy and quick to install and set up. They have a metal enclosure with IP65 protection rate and clips for DIN TS35 rail mounting and implement the full set of information and configuration parameters: position readout, full scaling, preset, code sequence, extensive diagnostics. LEDs for visual diagnostic information (operating status of the interface and the device) in compliance with protocol specifications are installed.

IF55 converters use connectors and cables that fully meet the specifications of each protocol.



Displays for incremental & absolute encoders

Compact, easy-to-integrate and user-friendly.

Lika Electronic designs, manufactures and markets a wide range of multi-function electronic counters and position controllers with either **LCD or LED display**.

Whether you need to achieve information about distance, stroke, rotation, quantity and time or to monitor position, angle, speed, rate, frequency, **POSICONTROL displays offer the right solution for your any application.**

They are easy-to-read, simple and versatile, support multiple operating modes and are able to suit the most diverse requirements in any kind of transducer installation.

POSICONTROL display series provides a great deal of benefits:

- Multi line up to 8-digit LED or LCD displays for simultaneous readout
- Crisp, clear visualisation with effective, eye-catching brightness
- Counting frequency up to 1 MHz
- Universal models for different devices and multi-purpose applications
- Dedicated parameters for either rotary encoders or linear sensors, incremental or absolute information
- Fully programmable (scaling factor, frequency, resolution, counting direction, preset, offset, filter, etc.) to best suit specific needs
- Extra functions such as linearisation, Teach-IN, security code and more
- Free outputs available



Comprehensive industrial communication & integration solutions

Nowadays a wide variety of data transmission types and interfaces is available to industrial processes.

There is nothing unusual that devices having different communication standards need to be installed and communicate in the same system, especially in existing industrial installations.

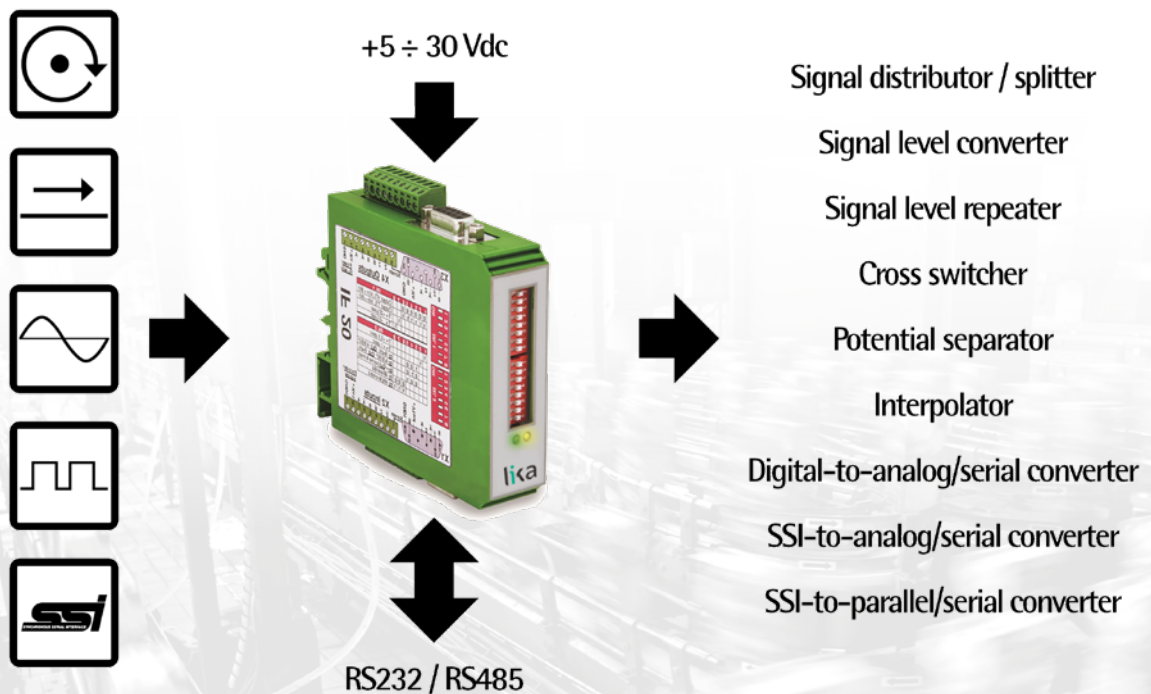
The need for integration of components with bad compatibility has recently grown and led both problems and costs to a significant increase.

To solve this matter today Lika Electronic has developed a comprehensive range of valuable and affordable solutions intended to meet a variety of practical and unique demands in encoder signal conversion, interpolation and transmission. Your advantage: no need for expensive replacements of equipment and cables, you can connect your varied automation components without any problems thus saving both time and money.

POSICONTROL interfaces are the efficient and low-cost industrial communication solutions designed to fulfil the integration requirements of your most diverse applications.

They always allow modern and outdated industrial devices to reliably and safely communicate in the same system.

- Versatile, reliable and universal units for your any incremental and absolute requirements in industrial applications
- Incremental to analogue; sin/cos to incremental; SSI to analogue; SSI to parallel and much more
- From most basic up to fully programmable modules (scaling factor, digital filtering, SSI settings, etc.)
- Extra functions such as linearisation and Teach-IN procedures
- Fibre-optic signal converters for both incremental and absolute encoders up to 1500 m (5,000 ft)
- DIN rail mounting



- Compact 5 digit LED display
- Max. display accuracy 0,01 mm
- Actual value memory
- Panel mount housing
- Reading distance sensor/tape up to 2 mm
- RS485 interface
- 5V backup input
- Works with SM5 magnetic sensors



LD120

PARAMETERS

3 offset values, Preset value, mm/inch display, Relative/absolute measurement

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	0°C to +50°C (+32°F to +122°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP60 front, IP40 back

MECHANICAL SPECIFICATIONS

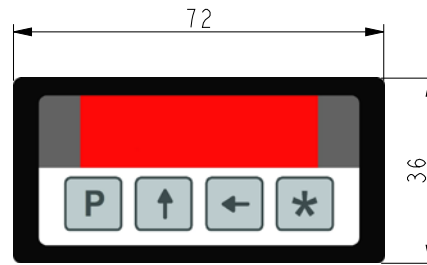
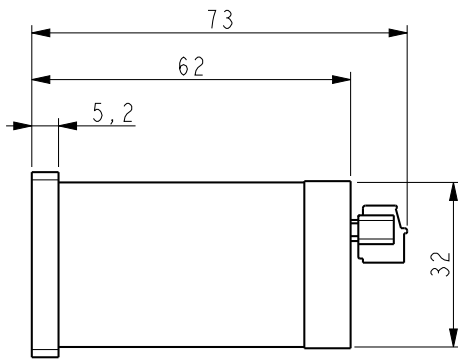
Display resolution:	max. 0,01 mm
System accuracy:	± 0,05 mm typ.
Repeat accuracy:	± 1 digit
Display range:	-99999 to 99999
Measurement speed:	max. 5 m/s
Magnetic sensor:	SM5 (connectable)
Reading distance sensor/tape:	0,1 - 2,0 mm
Dimensions:	see drawing
Cut out:	68 x 33 mm ²
Connections:	Terminal strip MiniDIN for sensor

ELECTRICAL SPECIFICATIONS

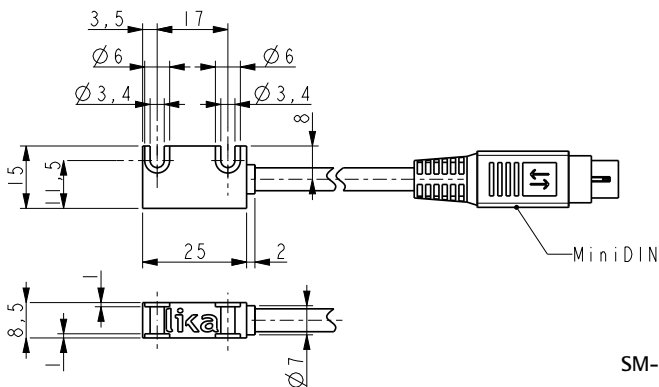
Power supply:	+10Vdc ÷ +30Vdc
Consumption:	800 mW, 100 mW backup mode
Interface:	RS485 (optional)

ACCESSORIES

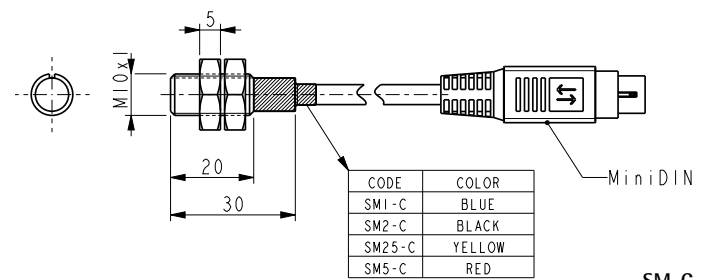
SM5:	Magnetic sensor
MT50:	Magnetic tape
PS1:	Protection profile



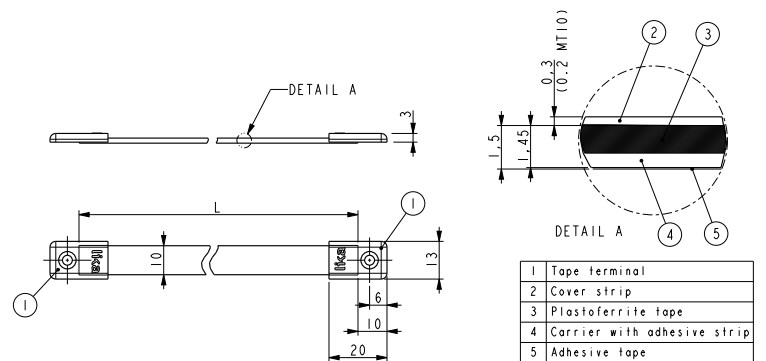
LD120



SM-R



SM-C



MT50

Order code - Display

LD120	-	XX ⓐ	-	XX ⓑ
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ⓐ INPUT M7 = magnetic sensor	ⓑ INTERFACE I4 = RS485
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Order code - Sensor

SM5	-	X ⓐ	XX ⓑ
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ⓐ SENSOR R = rectangular C = circular	ⓑ CABLE LENGTH 2 = cable 2 meters X = cable X meters (10 meters max.)
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Order code - Tape

MT50	-	XX ⓐ	-	XXX ⓑ	-	X ⓒ
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ⓐ LENGTH 1 = 1,0 m 2 = 2,0 m 4 = 4,0 m 10 = 10,0 m 20 = 20,0 m 30 = 30,0 m	ⓑ ACCURACY CLASS 100 = ± 85 µm/m 50 = ± 35 µm/m (up to 30 m)	ⓒ COVER STRIP 1 = included
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- Quasi-absolute LCD display
- Max. display accuracy 0,01 mm or 1/64 inch
- Actual value memory
- Linear and Angular display mode
- Panel mount housing
- Reading distance sensor/tape up to 1 mm



LD112



LD111 OEM version available on request

PARAMETERS

3 offset values, Preset value, Linear and angular display mode, mm/inch display, Relative/absolute measurement

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	0°C to +50°C (+32°F to +122°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP60 front, IP40 back

MECHANICAL SPECIFICATIONS

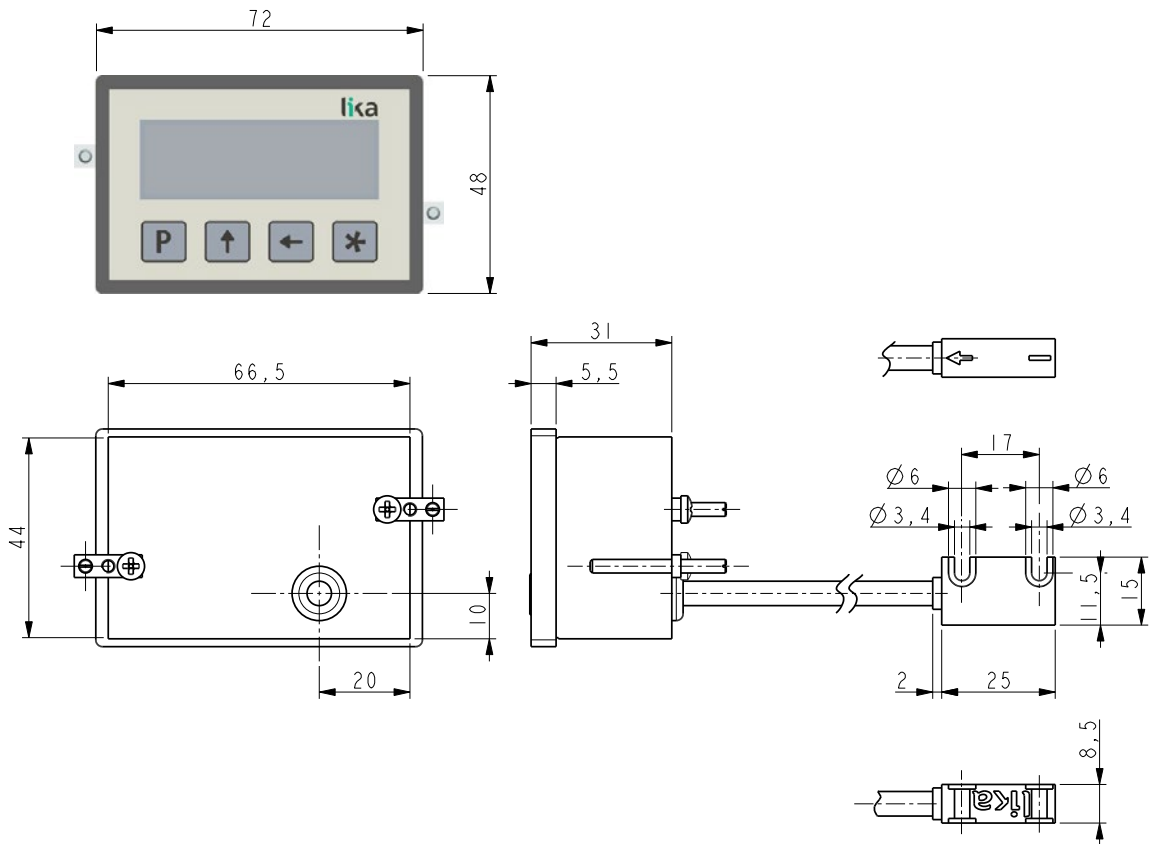
Display resolution:	max. 0,01 mm or 1/64 inch
System accuracy:	± 0,05 mm typ.
Repeat accuracy:	± 1 digit
Display range:	-999999 to 999999
Measurement speed:	max. 5 m/s
Magnetic sensor:	SM25
Reading distance sensor/tape:	0,1 - 1,0 mm
Dimensions:	see drawing
Cut out:	67,5 x 45 mm ²
Connections:	Battery holder (AAA type) Cable for sensor

ELECTRICAL SPECIFICATIONS

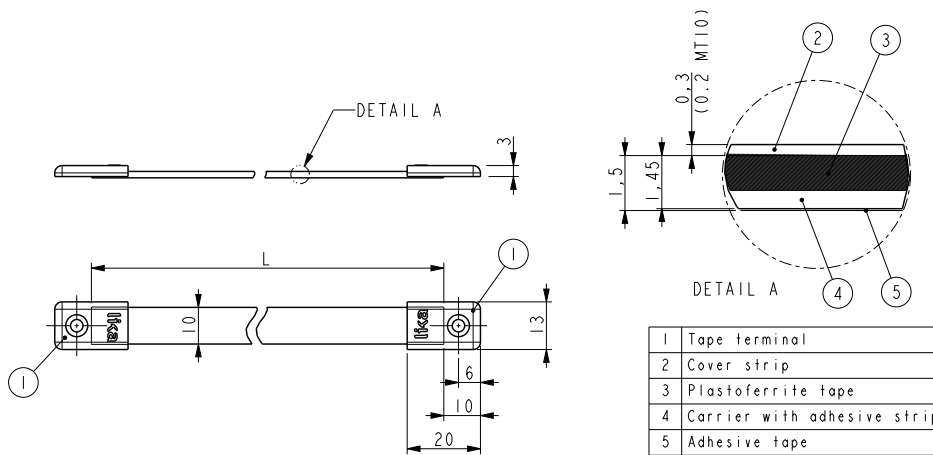
Power supply:	Integrated batteries (2 x 1,5V)
Consumption:	220 µA

ACCESSORIES

MT25:	Magnetic tape
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LD112



MT25

Order code - Display

LD112	-	XX a	X b	XX c
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Order code - Tape

MT25	-	XX a	-	XXX b	-	X c
------	---	---------	---	----------	---	--------

a INPUT

M7 = magnetic sensor

b SENSOR

R = rectangular

c CABLE LENGTH

0,2 = cable 0,2 meters

1 = cable 1 meter

X = cable X meters
(5 meters max.)

a LENGTH

1 = 1,0 m

2 = 2,0 m

4 = 4,0 m

10 = 10,0 m

20 = 20,0 m

30 = 30,0 m

b ACCURACY CLASS

100 = ± 85 µm/m

50 = ± 35 µm/m (up to 30 m)

b COVER STRIP

1 = included

- Quasi-absolute LCD display, 14 mm height
- Max. display accuracy 0,01 mm or 1/64 inch
- Actual value memory
- Linear & Angular display mode
- Panel mount housing
- Fixed or pluggable sensor
- Reading distance sensor/tape up to 1 mm
- RS232 interface (optional)



LD140 • LD142



LD141 OEM version available on request

PARAMETERS

3 offset values, Preset value, Linear and angular display mode, mm & fractional inch display, Relative/absolute measurement

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	0°C to +50°C (+32°F to +122°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP60 front, IP40 back

MECHANICAL SPECIFICATIONS

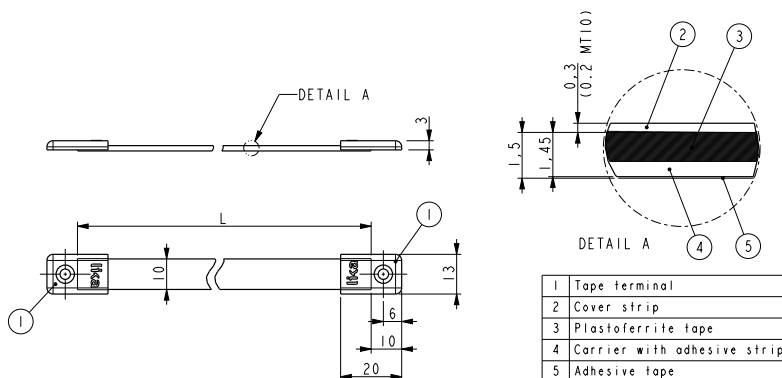
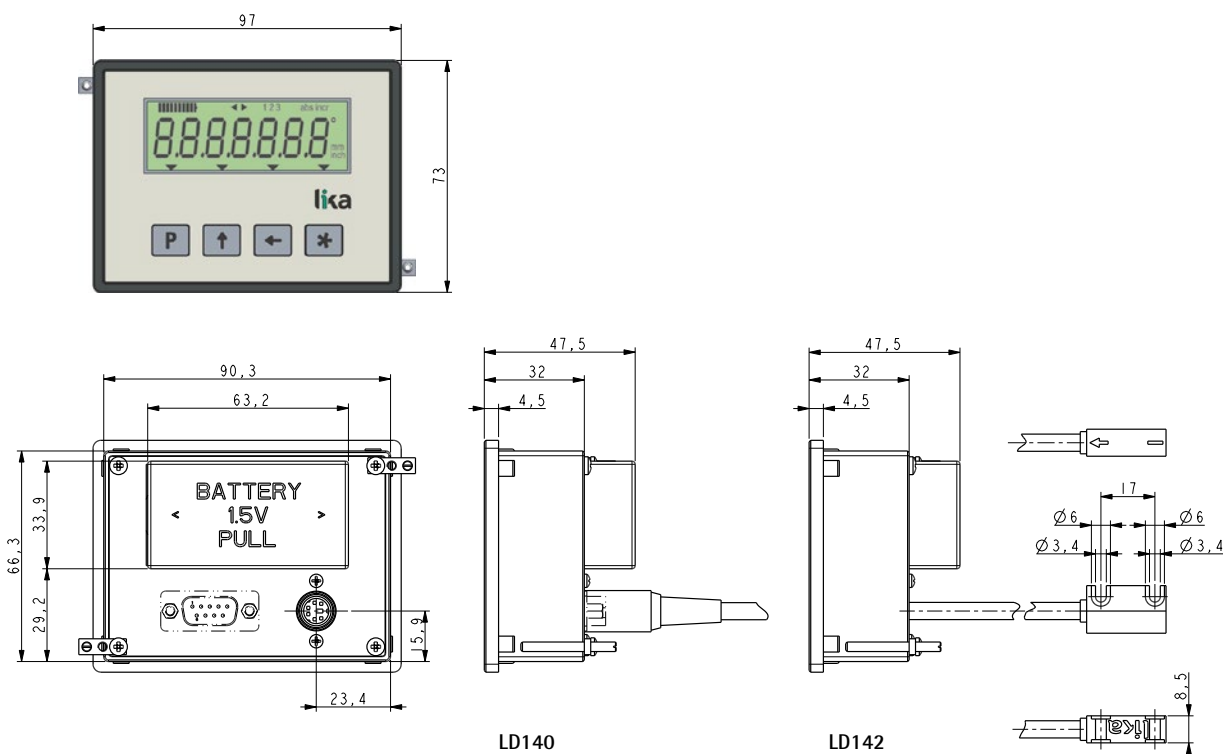
Display resolution:	max. 0,01 mm or 1/64 inch
System accuracy:	± 0,05 mm typ.
Repeat accuracy:	± 1 digit
Display range:	-999999 to 999999
Measurement speed:	max. 5 m/s
Magnetic sensor:	SM25
Reading distance sensor/tape:	0,1 - 1,0 mm
Dimensions:	see drawing
Cut-out:	91,5 x 67,5 mm ²
Connections:	Battery holder (C type) Cable (sensor) DSub 9 pin (RS232)

ELECTRICAL SPECIFICATIONS

Power supply:	Integrated 1,5V battery
Consumption:	~ 700 µA
Interface:	RS232 (optional)

ACCESSORIES

SM25:	Magnetic sensor
MT25:	Magnetic tape
PF4012:	Fixing support



MT25

Order code - Display

LD140	-	XX	-	XX
		(a)		(b)

(a) INPUT	(b) INTERFACE
M7 = magnetic sensor	I1 = RS232

Order code - Display

LD142	-	XX	X	XX	-	XX
		(a)	(b)	(c)		(d)

(a) INPUT	(b) SENSOR	(c) CABLE LENGTH	(d) INTERFACE
M7 = magnetic sensor	R = rectangular	0,2 = cable 0,2 m X = cable X meters (5 meters max.)	I1 = RS232

Order code - Sensor

SM25	-	R	XX
		(a)	(b)

(a) SENSOR	(b) CABLE LENGTH
R = rectangular	0,2 = cable 0,2 meter 1 = cable 1 meter X = cable X meters (5 meters max.)

Order code - Tape

MT25	-	XX	-	XXX	-	X
		(a)		(b)		(c)

(a) LENGTH	(b) ACCURACY CLASS
1 = 1,0 m 2 = 2,0 m 4 = 4,0 m 10 = 10,0 m 20 = 20,0 m 30 = 30,0 m	100 = ± 85 µm/m 50 = ± 35 µm/m (up to 30 m)
	(b) COVER STRIP
	1 = included

- Universal display with multiple inputs
- Works with HTL, TTL, SSI and sine/cosine encoders
- High brightness LEDs, 8 digits, 10 mm
- RS232 interface
- Dedicated menus for angular & linear encoders
- mm, inch & fractional inch display



LD200

PARAMETERS

Offset value, Preset, mm/inch/fractional inch display, Angular display mode (360°), Limit switches

ENVIRONMENTAL SPECIFICATIONS

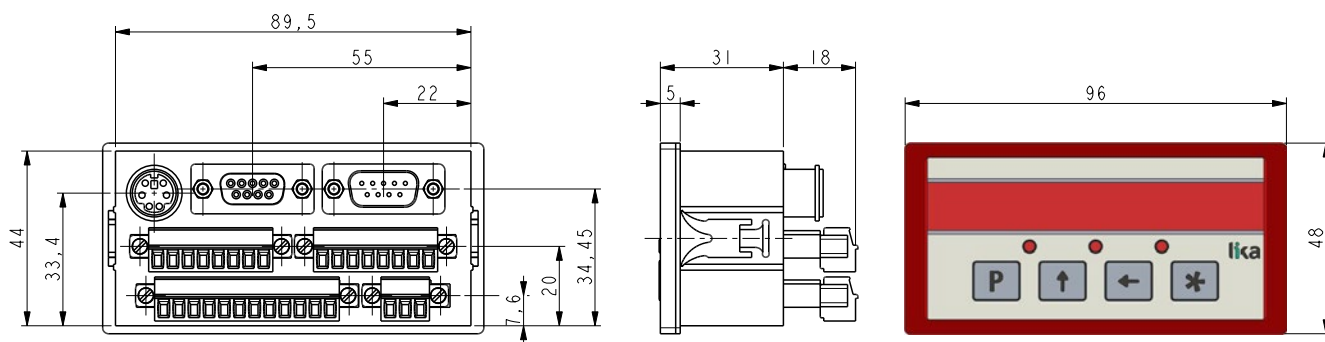
Operating temperature range:	0°C to +70°C (+32°F to +158°F)
Storage temperature range:	-20°C to +80°C (-4°F to +176°F)
Protection:	IP65 front, IP20 overall

MECHANICAL SPECIFICATIONS

Display range:	-99999999 to 99999999
Dimensions:	see drawing
Cut-out:	90 x 44 mm ²
Connections:	Terminal blocks DSub 9 pin (RS232) MiniDIN (SM sensors)

ELECTRICAL SPECIFICATIONS

Power supply:	24Vdc ±20%
Consumption:	2,5 W (without sensor)
Counting frequency:	1 MHz for incremental signals 6 kHz for sine/cosine signals
Sensor input:	Push-Pull (HTL), RS422 (TTL), 1Vpp, SSI SM5/SM2 magnetic sensors
Interface:	RS232
Outputs:	3 x 24V @ 23 mA max.
Inputs:	1 x Vin 30V max.



LD200

Order code

LD200	-	XX ⓐ
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<p>ⓐ POWER SUPPLY P8 = 24 Vdc ± 20%</p>



- Multi-function unit for incremental encoders
- Position display, tachometer, counter, stopwatch or timer
- Touchscreen and graphic display
- Full text menu for intuitive setup
- Universal inputs (HTL, TTL, RS422) for NPN, PNP and Namur sensors
- 4 digital control outputs & serial interface (option)
- 16 bit analog output, $\pm 10V$, 4-20mA (option)
- 2 relays outputs (option)



LD350 • LD355

LD350: AB input

LD355: AB /AB input

FUNCTIONS

Position indicator, counter, time or stopwatch display, speed display, linearization function (24 points), filtering, start/stop suppression, scaling

ENVIRONMENTAL SPECIFICATIONS

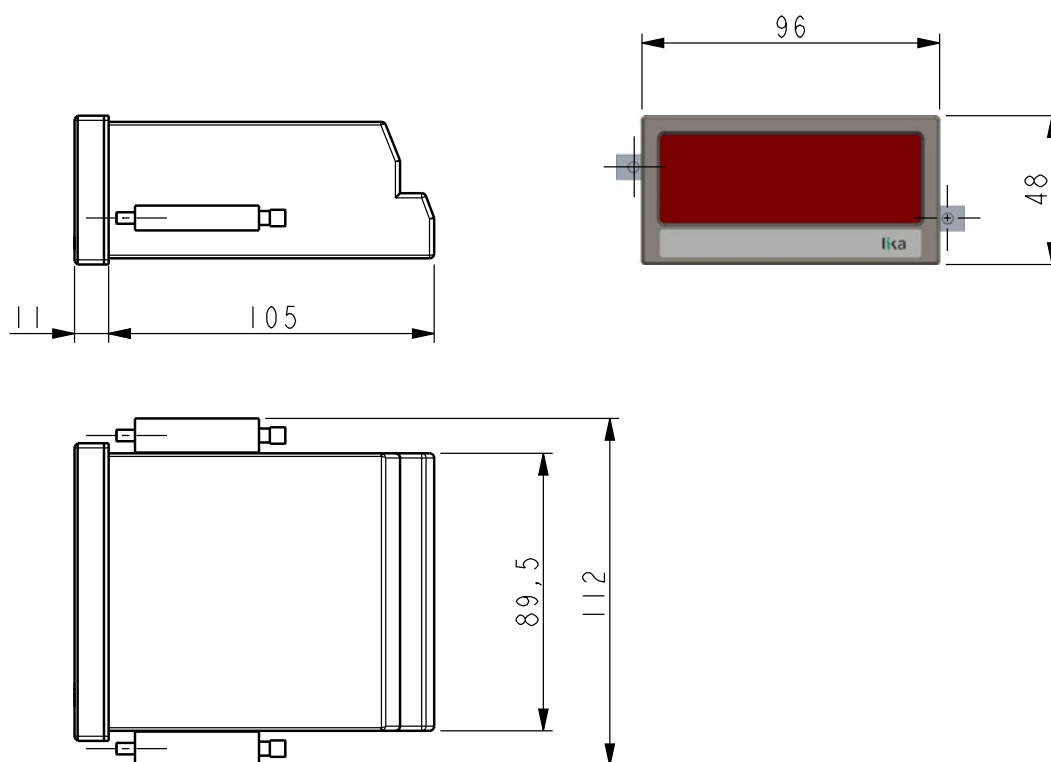
Operating temperature range:	-20°C +60°C (-4°F, +140°F)
Storage temperature range:	-25°C +70°C (-13°F, +158°F)
Protection:	IP65 front, IP20 back

MECHANICAL SPECIFICATIONS

Dimensions:	96 x 48 x 116 mm ³
Cut out:	91 x 43 mm ²
Display:	LCD backlight, touchscreen 8 digits (-99999999 ÷ 99999999) switchable colour (red, green, yellow)

ELECTRICAL SPECIFICATIONS

Power supply:	18Vdc +30Vdc 115 ÷ 230 Vac (option PM)
Consumption:	100 mA without sensor 3 VA with option PM)
Counting frequency:	250 kHz max. (encoder inputs) 1 MHz max. in differential mode 10 kHz max. (control inputs)
Encoder inputs:	LD350: AB (2 x PNP, NPN, or Namur/HTL) LD355: AB /AB (4 x TTL, HTL, RS422, HTL diff.)
Control inputs:	3 x HTL, PNP, max. 10 kHz
Serial interface:	RS232, max 38400 baud (option AVI1, DO1) RS485, max 38400 baud (option AVI2, DO2)
Outputs:	4 digital outputs, PNP, 5÷30V max. 200 mA (option DO1, DO2) 2 relays outputs, potential free changeover, max. 250 Vac/150Vdc (option RO) 1 analogue output, 16 bit, $\pm 10V$ or 0/4-20 mA (option AVI1, AVI2)



LD350 • LD355

Order code

LD350	-	XX	-	XXXX	-	XX
LD355		Ⓐ		Ⓑ		Ⓒ

Ⓐ POWER SUPPLY

P8 = +18 +30Vdc
 PM = 115 ÷ 230 Vac (option)

Ⓑ OUTPUT

- = no option
 AVI1 = ±10V/4-20mA output
 4 digital outputs
 RS232 interface
 AVI2 = ±10V/4-20mA output
 4 digital outputs
 RS485 interface
 DO1 = 4 digital outputs
 RS232 interface
 DO2 = 4 digital outputs
 RS485 interface

Ⓒ RELAIS OUTPUT

- = no option
 RO = 2 relays outputs

- Dual multifunction display
- Combined position/speed/counter, etc. display
- Touchscreen and graphic display
- Full text menu for intuitive setup
- Universal inputs (HTL, TTL, RS422) for NPN, PNP and Namur sensors
- 4 digital control outputs & serial interface (option)
- 16 bit analog output, $\pm 10V$, 4-20mA (option)
- 2 relays outputs (option)

LD360: 2 x AB input

LD365: 2 x AB /AB input



LD360 • LD365

FUNCTIONS

Combined two lines display of position, speed, frequency, counter, linearization function (24 points), filtering, start/stop suppression, scaling

ENVIRONMENTAL SPECIFICATIONS

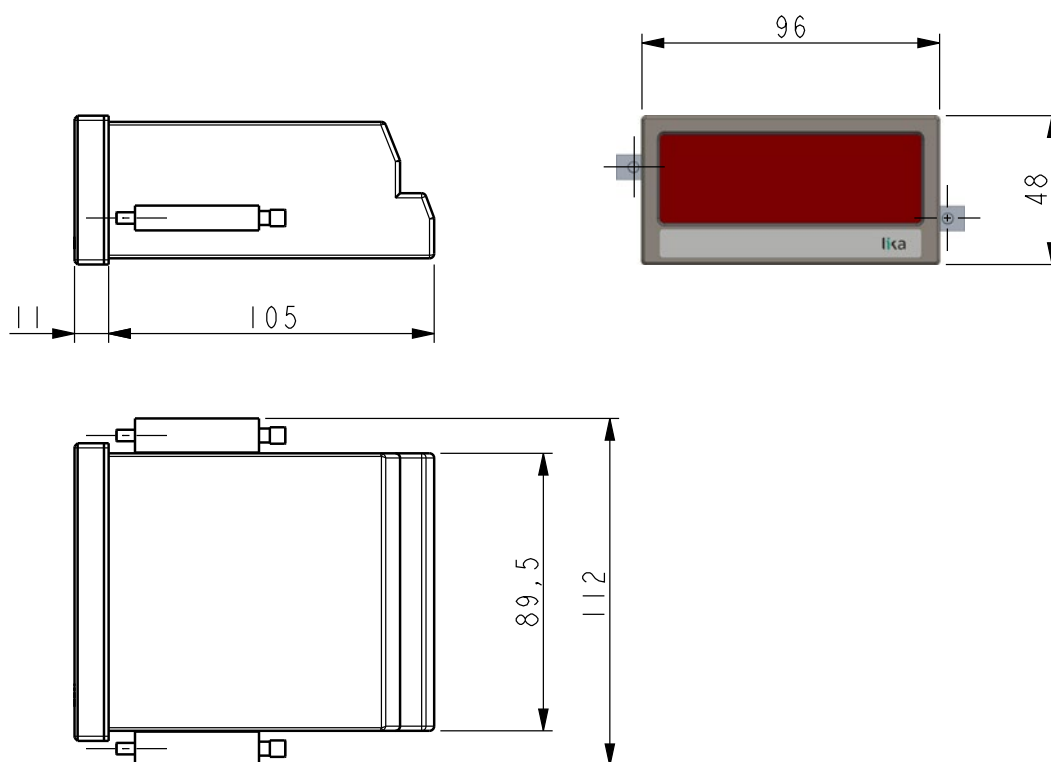
Operating temperature range:	-20°C +60°C (-4°F, +140°F)
Storage temperature range:	-25°C +70°C (-13°F, +158°F)
Protection:	IP65 front, IP20 back

MECHANICAL SPECIFICATIONS

Dimensions:	96 x 48 x 116 mm ³
Cut out:	91 x 43 mm ²
Display:	LCD backlight, touchscreen 8 digits (-99999999 ÷ 99999999) switchable colour (red, green, yellow)

ELECTRICAL SPECIFICATIONS

Power supply:	18Vdc +30Vdc 115 ÷ 230 Vac (option PM)
Consumption:	100 mA without sensor 3 VA with option PM)
Counting frequency:	LD360: 250 kHz max. LD365: 1 MHz max. 10 kHz max. (control inputs)
Encoder inputs:	LD360: 2 x AB (PNP, NPN, HTL, Namur) LD365: 2 x AB /AB (RS422, HTL differential)
Control inputs:	3 x HTL, PNP, max. 10 kHz
Serial interface:	RS232, max 38400 baud (option AVI1, DO1) RS485, max 38400 baud (option AVI2, DO2)
Outputs:	4 digital outputs, PNP, 5÷30V max. 200 mA (option DO1, DO2) 2 relays outputs, potential free changeover, max. 250 Vac/150Vdc (option RO) 1 analogue output, 16 bit, $\pm 10V$ or 0/4-20 mA (option AVI1, AVI2)



LD360 • LD365

Order code

LD360 LD365	-	XX Ⓐ	-	XXXX Ⓑ	-	XX Ⓒ
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Ⓐ POWER SUPPLY

P8 = +18 +30Vdc
PM = 115 ÷ 230 Vac (option)

Ⓑ OUTPUT

- = no option
AVI1 = ±10V/4-20mA output
4 digital outputs
RS232 interface
AVI2 = ±10V/4-20mA output
4 digital outputs
RS485 interface
DO1 = 4 digital outputs
RS232 interface
DO2 = 4 digital outputs
RS485 interface

Ⓒ RELAIS OUTPUT

- = no option
RO = 2 relays outputs



- Multi-function unit for analogue sensors
- Touchscreen and graphic display
- Full text menu for intuitive setup
- 2 analogue inputs (16 bit) $\pm 10V$, 0-10V, 0/4-20mA
- 4 digital control outputs & serial interface (option)
- 16 bit analog output, $\pm 10V$, 4-20mA (option)
- 2 relays outputs (optional)



LD210

FUNCTIONS

Indicator for single, dual or cross calculated inputs
 Totalization, tare, average filter
 Sum/difference of inputs
 Linearization function (24 points)

ENVIRONMENTAL SPECIFICATIONS

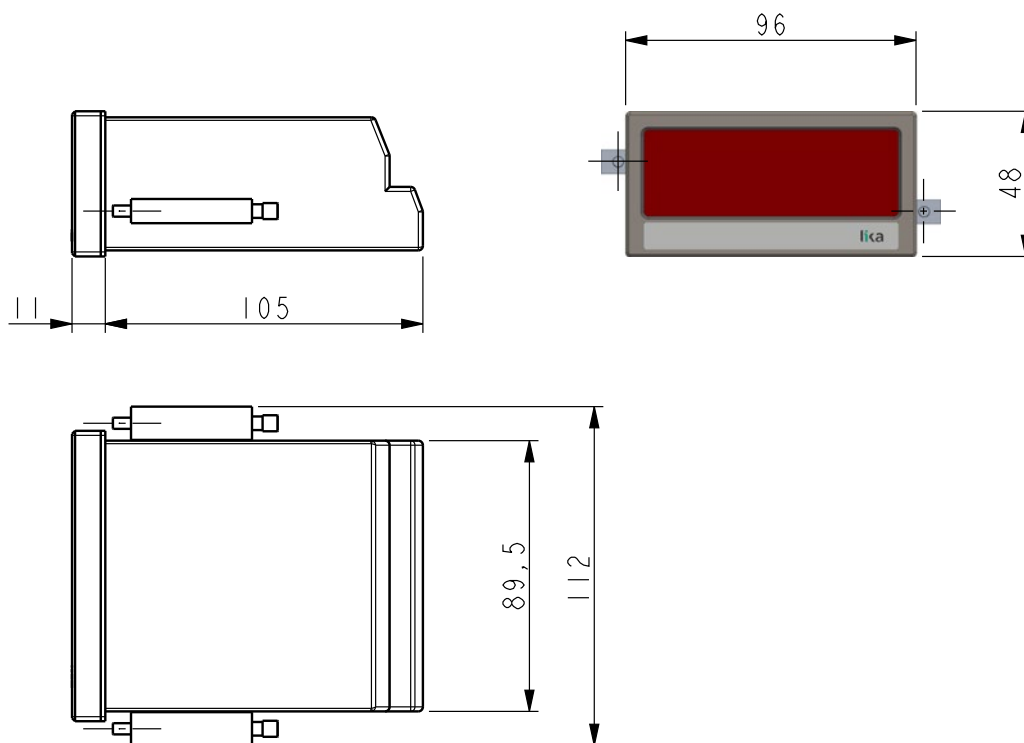
Operating temperature range: -20°C +60°C (-4°F, +140°F)
 Storage temperature range: -25°C +70°C (-13°F, +158°F)
 Protection: IP65 front, IP20 back

MECHANICAL SPECIFICATIONS

Dimensions: 96 x 48 x 116 mm³
 Cut out: 91 x 43 mm²
 Display: LCD backlight, touchscreen
 8 digits (-99999999 ÷ 99999999), 13 mm height
 switchable colour (red, green, yellow)

ELECTRICAL SPECIFICATIONS

Power supply: 18Vdc +30Vdc
 115 ÷ 230 Vac (option PM)
 Consumption: 100 mA without sensor
 (3 VA with option PM)
 Analogue input: 2 inputs $\pm 10V$, 0-10V, 0-20mA or 4-20mA
 resolution 16 bit, accuracy $\pm 0,1\%$
 (reference output 10V $\pm 0,1\%$)
 Control inputs: 3 x HTL, PNP, max. 10 kHz
 Serial interface: RS232, max 38400 baud (option AVI1, DO1)
 RS485 Modbus, max 38400 baud (option AVI2, DO2)
 Outputs: 4 digital outputs, PNP, 5÷30V max. 200 mA (option DO1, DO2)
 2 relays outputs, potential free changeover, max. 250 Vac/150Vdc (option RO)
 1 analogue output, 16 bit, $\pm 10V$ or 0/4-20 mA (option AVI1, AVI2)



LD210

Order code

LD210	-	XX Ⓐ	-	XXXX Ⓑ	-	XX Ⓒ
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Ⓐ POWER SUPPLY

P8 = +18 +30Vdc
PM = 115 ÷ 230 Vac

Ⓑ OUTPUT

- = no option
AVI1 = ±10V/4-20mA output
4 digital outputs
RS232 interface
AVI2 = ±10V/4-20mA output
4 digital outputs
RS485 interface
DO1 = 4 digital outputs
RS232 interface
DO2 = 4 digital outputs
RS485 interface

Ⓒ RELAIS OUTPUT

- = no option
RO = 2 relays outputs



- Multi-function unit for absolute SSI encoders
- Touchscreen and graphic display
- Full text menu for intuitive setup
- SSI input up to 32 bits
- Master or Slave operation
- 4 digital control outputs & serial interface (option)
- 16 bit analog output, $\pm 10V$, 4-20mA (option)
- 2 relays outputs (optional)



LD220

FUNCTIONS

Absolute position indicator, master & slave mode, scaling, bit blanking, linearization (24 points)

ENVIRONMENTAL SPECIFICATIONS

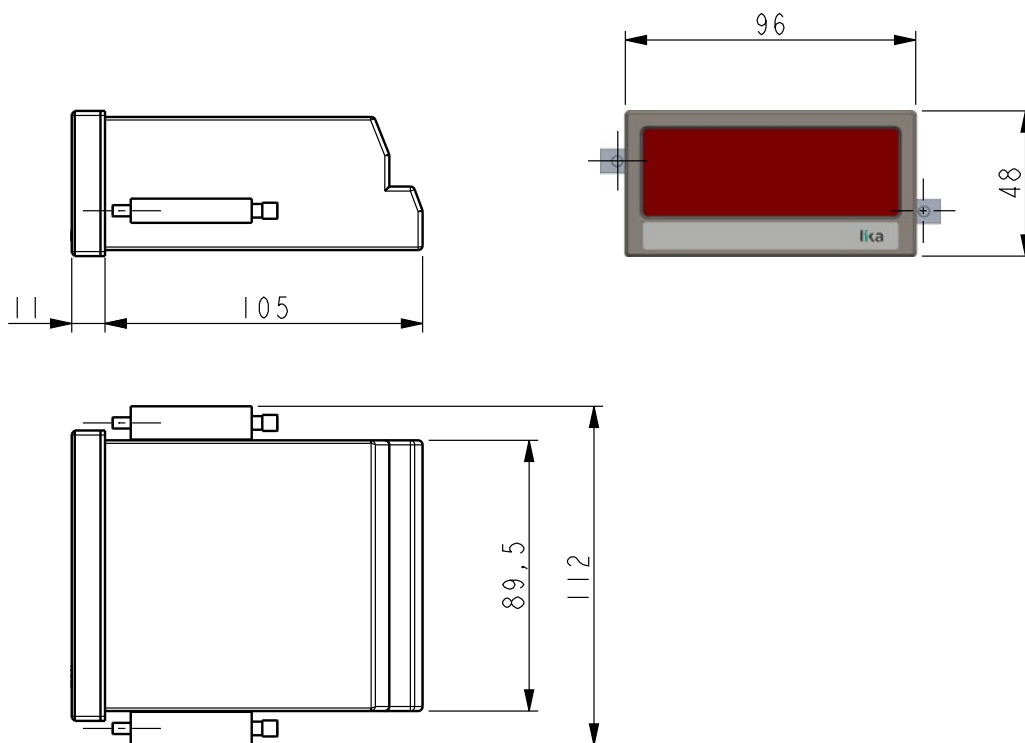
Operating temperature range:	-20°C +60°C (-4°F, +140°F)
Storage temperature range:	-25°C +70°C (-13°F, +158°F)
Protection:	IP65 front, IP20 back

MECHANICAL SPECIFICATIONS

Dimensions:	96 x 48 x 116 mm ³
Cut out:	91 x 43 mm ²
Display:	LCD backlight, touchscreen 8 digits (-99999999 ÷ 99999999), 13 mm height switchable colour (red, green, yellow)

ELECTRICAL SPECIFICATIONS

Power supply:	18Vdc +30Vdc 115 ÷ 230 Vac (option PM)
Consumption:	100 mA without sensor (3 VA with option PM)
Inputs:	SSI, 10 to 32 bit Binary or Gray coded clock freq. 1MHz
Control inputs:	3 x HTL, PNP, max. 10 kHz
Serial interface:	RS232, max 38400 baud (option AVI1, DO1) RS485, max 38400 baud (option AVI2, DO2)
Outputs:	4 digital outputs, PNP, 5÷30V max. 200 mA (option DO1, DO2) 2 relays outputs, potential free changeover, max. 250 Vac/150Vdc (option RO) 1 analogue output, 16 bit, $\pm 10V$ or 0/4-20 mA (option AVI1, AVI2)



LD220

Order code

LD220	-	XX Ⓐ	-	XXXX Ⓑ	-	XX Ⓒ
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Ⓐ POWER SUPPLY

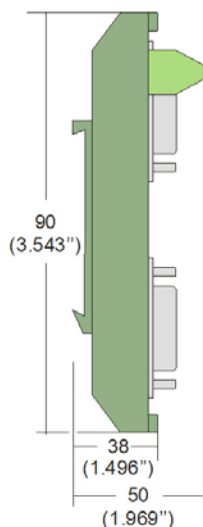
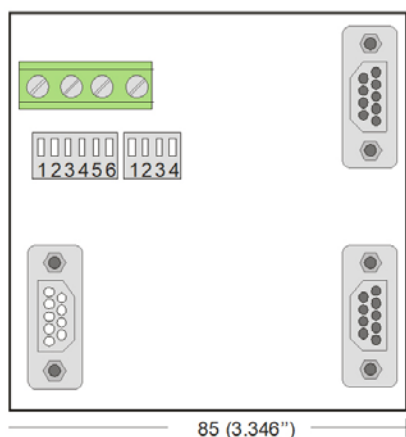
P8 = +18 +30Vdc
PM = 115 ÷ 230 Vac (option)

Ⓑ OUTPUT

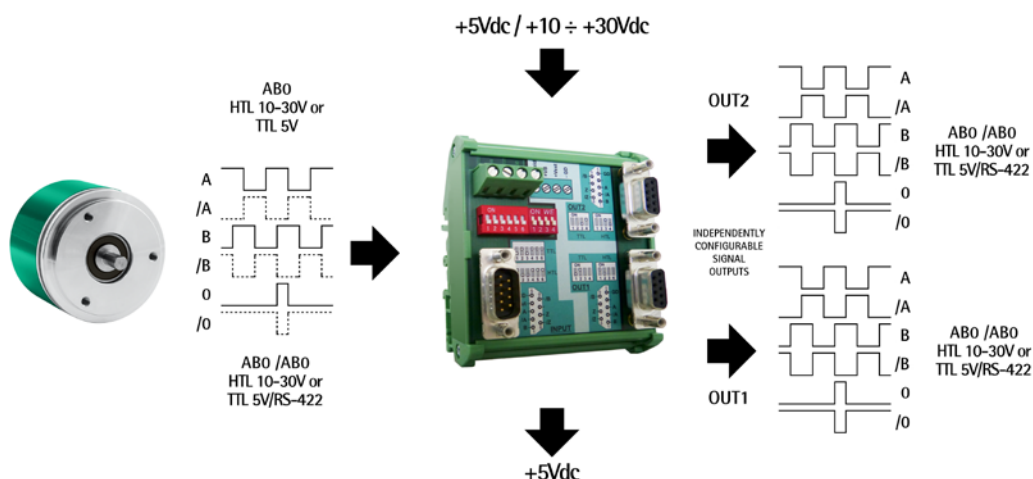
- = no option
AVI1 = ±10V/4-20mA output
4 digital outputs
RS232 interface
AVI2 = ±10V/4-20mA output
4 digital outputs
RS485 interface
DO1 = 4 digital outputs
RS232 interface
DO2 = 4 digital outputs
RS485 interface

Ⓒ RELAIS OUTPUT

- = no option
RO = 2 relays outputs



Order code: IF09



FUNCTIONS

Encoder signal splitter, signal level converter/repeater and encoder cross switcher

ENVIRONMENTAL SPECIFICATIONS

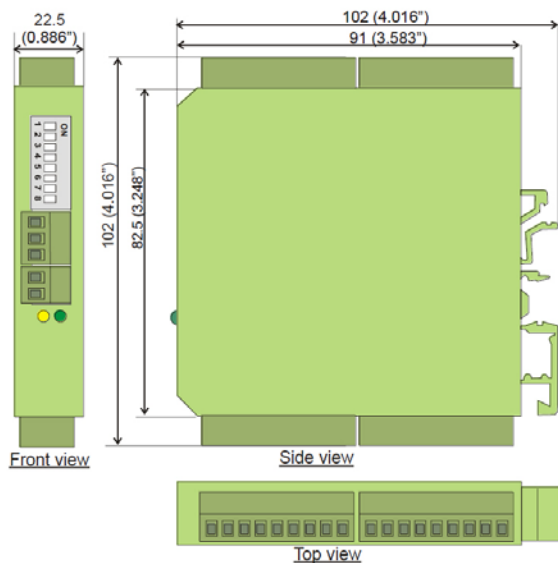
Operating temperature range: 0°C +45°C (+32°F +113°F)
Storage temperature range: -30°C +75°C (-22°F +167°F)
Protection: IP20

MECHANICAL SPECIFICATIONS

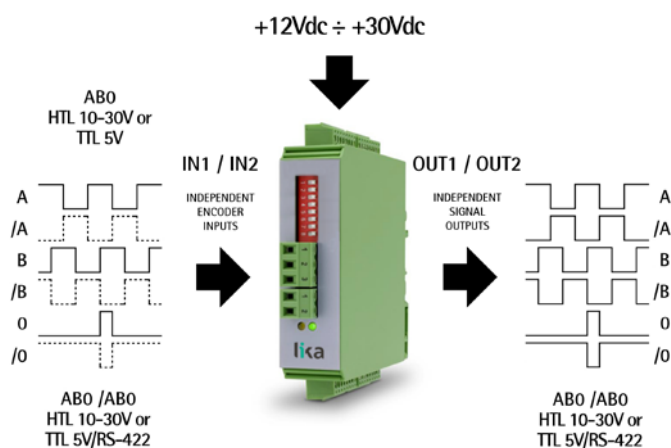
Dimensions: see drawing
Electrical connections: screw terminals
Weight: ~ 0,1 Kg (3,5 oz)

ELECTRICAL SPECIFICATIONS

Power supply: +5Vdc or +10Vdc +30Vdc
Consumption: 50 mA (without sensor)
Counting frequency: RS422 or TTL differential: 750 kHz
HTL: 300 kHz
Sensor input: see diagram
Output current: max. 30 mA (per output)



Order code: IF10



FUNCTIONS

Encoder signal splitter, signal level converter/repeater and encoder cross switcher

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	-20°C +60°C (-4°F +140°F)
Storage temperature range:	-30°C +75°C (-22°F +167°F)
Protection:	IP20

MECHANICAL SPECIFICATIONS

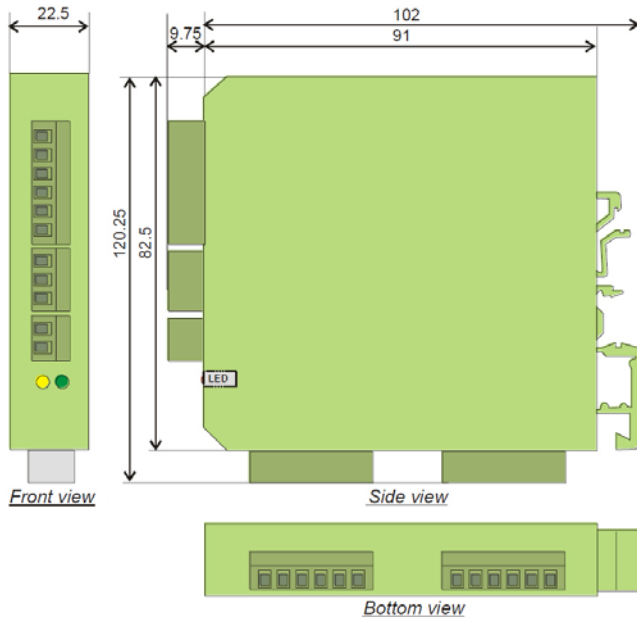
Dimensions:	see drawing
Electrical connections:	screw terminals
Weight:	~ 0,1 Kg (3,5 oz)

ELECTRICAL SPECIFICATIONS

Power supply:	+12Vdc +30Vdc
Consumption:	50 mA (without sensor)
Counting frequency:	RS422 or TTL differential: 1 MHz HTL or TTL: 250 kHz
Sensor input:	see diagram
Output current:	RS422/TTL: 50 mA HTL: max. 30 mA (per output)

Series

IF11



Order code: IF11



FUNCTIONS

- Changeover switch for two SSI encoders with a common SSI Master
- Automatic synchronization of changeover point
- Cascadable for more SSI encoders
- DIN rail mounting

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	0°C +45°C (+32°F +113°F)
Storage temperature range:	-25°C +70°C (-13°F +158°F)
Protection:	IP20

MECHANICAL SPECIFICATIONS

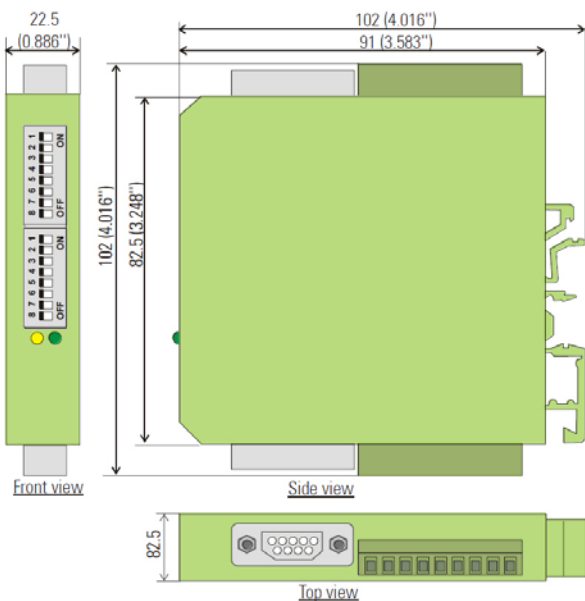
Dimensions:	see drawing
Electrical connections:	screw terminals, 1.5 mm ² / AWG 16
Weight:	~ 0,1 Kg (3,5 oz)

ELECTRICAL SPECIFICATIONS

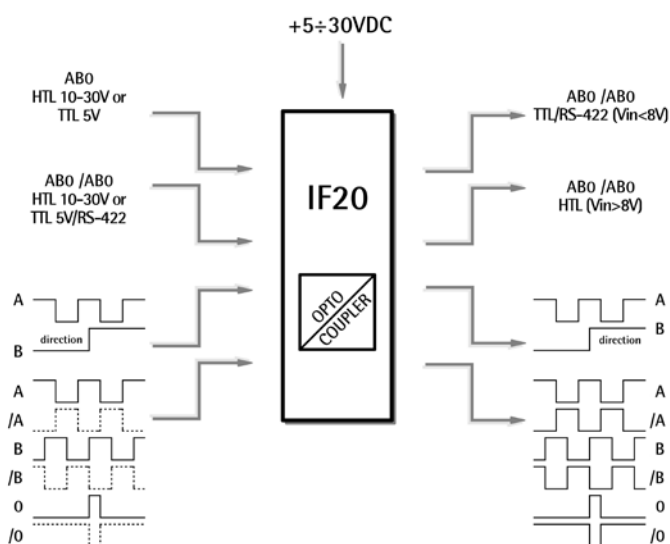
Power supply:	+12Vdc +30Vdc, reverse polarity protection, ripple ≤10% at 24Vdc
Consumption:	50 mA (without sensor)
Encoder supply:	2 outputs (output voltage = Vin-2V) max. 125 mA ea.
SSI inputs:	2 inputs (RS422) clock rate 100 kHz ÷ 1MHz (for swithover of SSI encoders)
Control input:	HTL, 24V
SSI output:	1 output (RS422)
Processing data:	Delay time output/ <-> input 100 ns, 25µs Tp min.

Series

IF20



Order code: IF20



FUNCTIONS

Encoder signal splitter, signal level converter and potential separator

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range: 0°C +50°C (+32°F +113°F)
 Storage temperature range: -25°C +75°C (-13°F +158°F)
 Protection: IP40

MECHANICAL SPECIFICATIONS

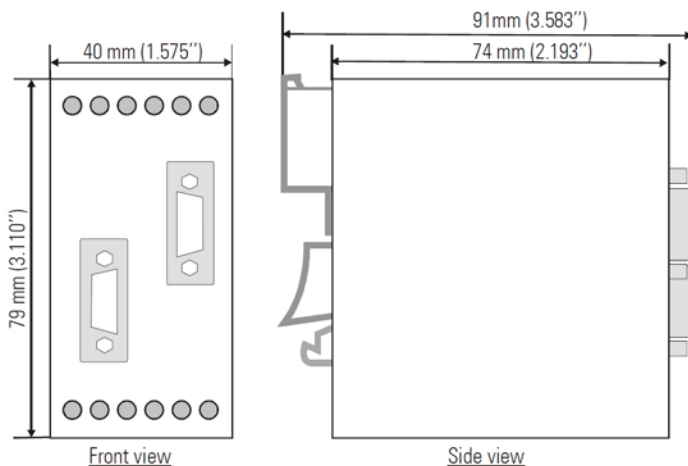
Dimensions: see drawing
 Electrical connections: screw terminals, DSub connectors
 Weight: ~ 0,1 Kg (3,5 oz)

ELECTRICAL SPECIFICATIONS

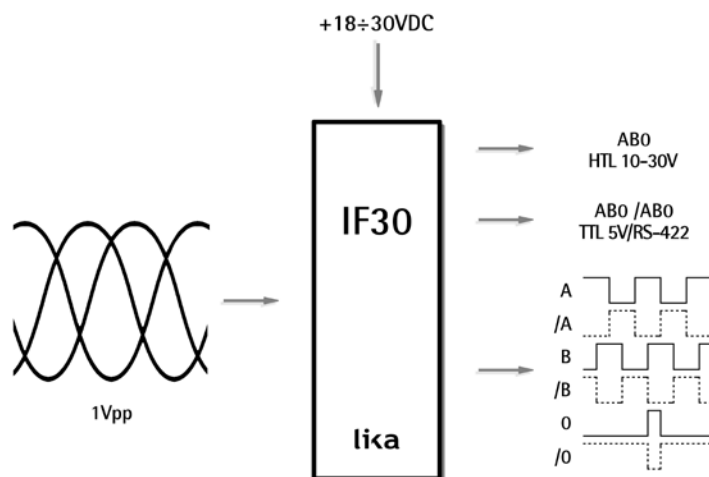
Power supply: +5Vdc +30Vdc
 Consumption: 50 mA (without sensor)
 Counting frequency: RS422: 500 kHz
 HTL: 300 kHz
 Sensor input: see diagram
 Interface: RS232
 Outputs: HTL, TTL, Push-Pull ABO, /ABO 5-30V @ 30 mA

Series

IF30



Order code: IF30



FUNCTIONS

Adjustable interpolation rate 5÷50, Divider function 1:1 ÷ 1:128 (to reduce output frequency), Filtering functions, adjustable output signal level

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	0°C +50°C (+32°F +113°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40

MECHANICAL SPECIFICATIONS

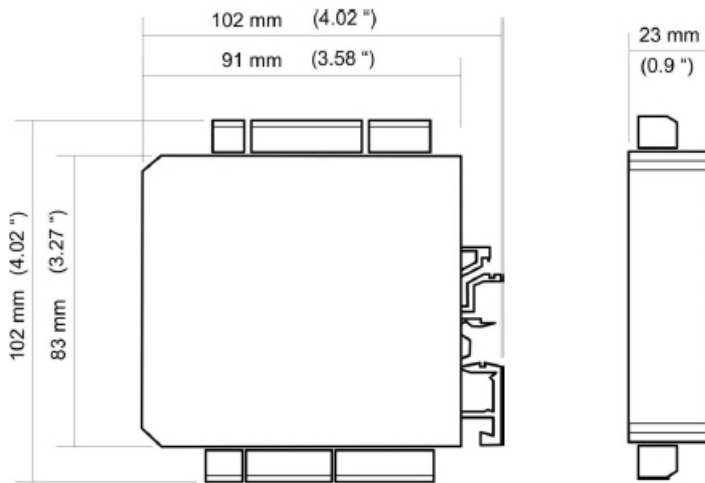
Dimensions:	see drawing
Electrical connections:	screw terminals, Dsub connectors
Weight:	~ 200 g

ELECTRICAL SPECIFICATIONS

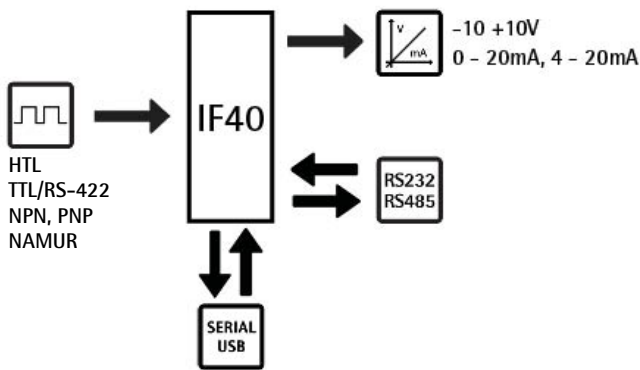
Power supply:	+18Vdc +30Vdc
Consumption:	150 mA max. (without sensor)
Sensor input:	sine/cosine 1Vpp (0,8 ÷ 1,2 Vpp)
Output:	HTL: Vin - 4V, TTL acc. to RS422

Series

IF40



Order code: IF40



FUNCTIONS

- Parameter setting via USB serial interface
- Incremental to analogue conversion
- Scaling
- A + B linkage
- Linearization of output

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	-20°C +60°C (-4°F +140°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
MTBF:	59,1 years @60°C
Protection:	IP20

MECHANICAL SPECIFICATIONS

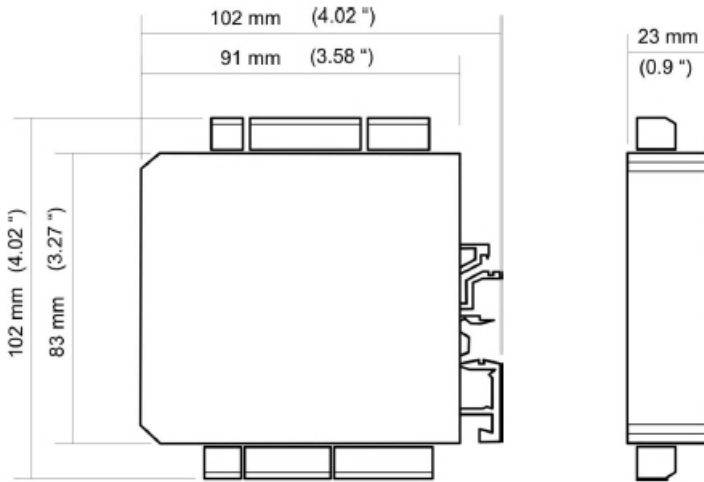
Dimensions:	see drawing
Mounting:	35 mm DIN rail
Electrical connections:	screw terminals, 1.5 mm ² / AWG 16
Weight:	~ 100 g

ELECTRICAL SPECIFICATIONS

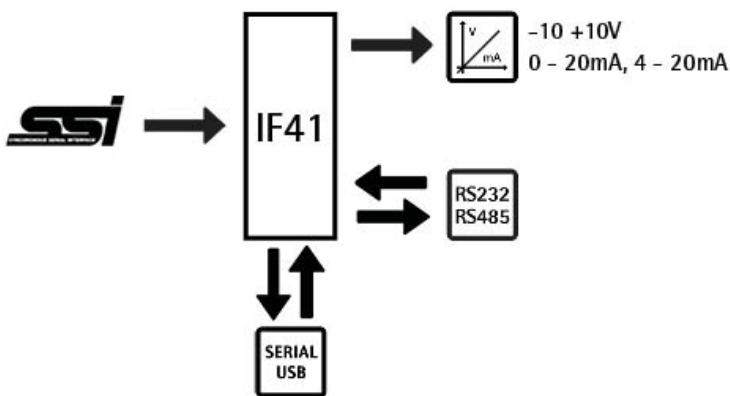
Power supply:	+18Vdc +30Vdc
Consumption:	50 mA max. (without sensor)
Sensor input:	AB /AB RS422, TTL, HTL, NPN, PNP, NAMUR
Counting frequency:	RS422 differential 1 MHz max. HTL differential 500 kHz max. others 250 kHz
Serial interface:	RS232, RS485, mini-USB
Analogue outputs:	±10V (max. 2mA), 0/4÷20 mA (max. 270 Ω), resolution 16 bit, cycle time 1ms
Digital outputs:	6 x 5÷30Vdc, PNP (200 mA max.)

ACCESSORIES

EC-USB/RS232:	USB / RS-232 programming cable
OS:	set-up software (freeware)



Order code: IF41



FUNCTIONS

- Parameter setting via USB serial interface
- SSI to analogue conversion
- Master or slave operation
- Scaling and bit suppression
- Round loop function
- Linearization of output

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	-20°C +60°C (-4°F +140°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
MTBF:	59,1 years @60°C
Protection:	IP20

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Mounting:	35 mm DIN rail
Electrical connections:	screw terminals, 1.5 mm ² / AWG 16
Weight:	~ 100 g

ELECTRICAL SPECIFICATIONS

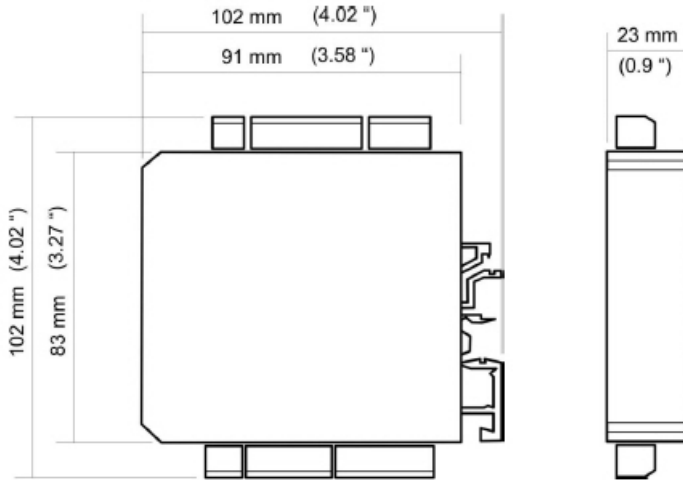
Power supply:	+18Vdc +30Vdc
Consumption:	50 mA max. (without sensor)
Sensor input:	any SSI protocol: 10 to 32 bit, binary or gray coded, clock max. 1MHz
Clock output:	differential (acc. to RS422), max. 1 MHz
Serial interface:	RS232, RS485, mini-USB
Analogue outputs:	±10V (max. 2mA), 0/4÷20 mA (max. 270 Ω), resolution 16 bit, cycle time 1ms
Digital outputs:	6 x 5÷30Vdc, PNP (200 mA max.)

ACCESSORIES

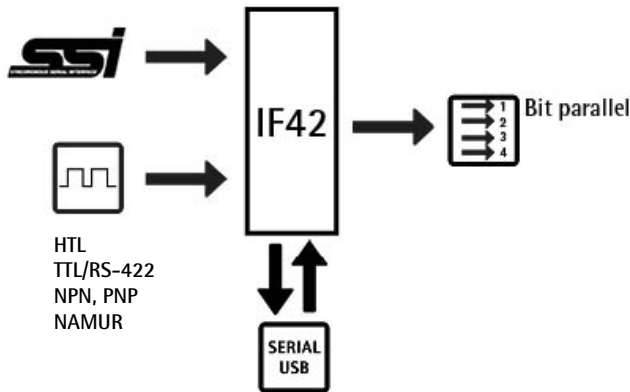
EC-USB/RS232:	USB / RS-232 programming cable
OS:	set-up software (freeware)

Series

IF42



Order code: IF42



FUNCTIONS

- Parameter setting via USB serial interface
- SSI and incremental to bit parallel
- Master or slave operation
- Scaling and bit suppression
- Round loop function
- Linearization of output

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	-20°C +60°C (-4°F +140°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
MTBF:	59,1 years @60°C
Protection:	IP20

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Mounting:	35 mm DIN rail
Electrical connections:	screw terminals, 1.5 mm ² / AWG 16
Weight:	~ 100 g

ELECTRICAL SPECIFICATIONS

Power supply:	+18Vdc +30Vdc
Consumption:	50 mA max. (without sensor)
Sensor input:	any SSI protocol: 10 to 32 bit, binary or gray coded, clock max. 1MHz incremental: AB /AB, RS422, TTL, HTL, NPN, PNP, NAMUR
Clock output:	differential (acc. to RS422), max. 1 MHz HTL differential 500 kHz max. others 250 kHz
Serial interface:	Mini-USB
Bit parallel output:	25 x push-pull (short circuit proof) Gray, Binary or BCD code
Control inputs:	3 x HTL, PNP

ACCESSORIES

OS: set-up software (freeware)



- SSI linear & rotary encoder gateway and converter
- All typical encoder functions available
- Position output
- Selectable encoder supply 5, 24Vdc
- Robust metal housing, IP65 protection
- DIN-rail snap-on installation possible



IF55



FUNCTIONS

Position output, scaling function, preset, offset, counting direction, diagnostics

ENVIRONMENTAL SPECIFICATIONS

Shock:	250 g, 6 ms acc. to CEI EN 60068-2-27
Vibrations:	10 g, 5-2000 Hz acc. to CEI EN 60068-2-6
Protection:	IP65
Operating temperature range:	-25°C +85°C (-13°F +185°F)
Storage temperature range:	-25°C +85°C (-13°F +185°F)

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Electrical connections:	SSI input M12 8 pin connector (female) Output with PG or M12 connectors according to bus specifications
Weight:	~ 250 g

ELECTRICAL SPECIFICATIONS

Output power supply (for encoders):	10Vdc +30Vdc, 5Vdc selectable
Output current:	with output voltage set to 5Vdc: 500 mA with output voltage set to 10Vdc: 1000 mA(*) (* output voltage is equal to power supply)
Power consumption (excl. sensor):	1,5 W max. interface CB, PB, EC 2,5 W max. interface EP, PL, PT, MT
SSI input:	single turn: 18 bit max. multi turn: 16 x 16 bit, max. 30 bit linear sensors: 30 bit max., resolution 1µm ÷ 5000µm code: binary or gray, LSB or MSB aligned protocol, max. 32 clock clock frequency: 500 ÷ 600 kHz
Output interfaces:	CANopen: device profile for encoders class 2 (DS301, DS406) Profibus: Profibus-DP V0 slave class 1, class 2 DeviceNet C/P EtherCAT: ETG.1000, CoE, FoE, EtherCAT state machine Profinet IRT/RT Ethernet Powerlink V2.0, Profile 1.2.0 Ethernet/IP Vol. 2 Ed.1.22 Ethernet Modbus TCP/IP

ACCESSORIES - Ex58/Hx58 EtherNet

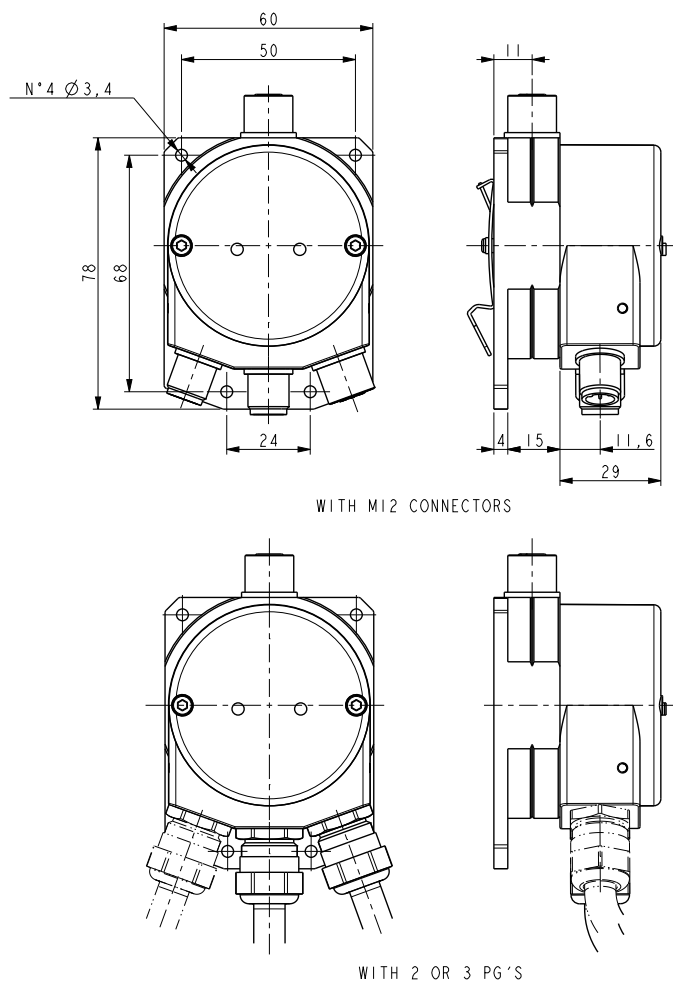
EC-M12ME-EC-GN-5:	M12 bus in/out cordset 5 m
EC-M12ME-EC-GN-10:	M12 bus in/out cordset 10 m
EXC-M12ME-EC-GN-5-RJ:	M12 + RJ bus in/out cordset 5 m
EXC-M12ME-EC-GN-10-RJ:	M12 + RJ bus in/out cordset 10 m
EC-M12PP-LK-PBS-5:	M12 Pwr cordset 5 m
EC-M12PP-LK-PBS-10:	M12 Pwr cordset 10 m
E-M12FC:	M12 connector (power supply)
E-M12MEC:	2 x M12 connector (bus IN/OUT)

ACCESSORIES - Ax58 Profibus

EC-M12MP-LK-PB-5:	M12 plug cordset with 5 m cable
EC-M12MP-LK-PB-10:	M12 plug cordset with 10 m cable
EC-M12FP-LK-PB-5:	M12 plug cordset with 5 m cable
EC-M12FP-LK-PB-10:	M12 plug cordset with 10 m cable
EC-M12PP-LK-PBS-5:	M12 Pwr cordset 5 m
EC-M12PP-LK-PBS-10:	M12 Pwr cordset 10 m
CC-PB-CON:	Kit of 3 mating conn. for PB

ACCESSORIES - Ax58 CANopen / DeviceNet

EC-M12MP-LK-CB-5:	M12 plug cordset with 5 m cable
EC-M12MP-LK-CB-10:	M12 plug cordset with 10 m cable
EC-M12FP-LK-CB-5:	M12 plug cordset with 5 m cable
EC-M12FP-LK-CB-10:	M12 plug cordset with 10 m cable
CC-PB-CON:	Kit of 2 mating conn. for CB



The number and type of connectors and LEDs change depending on the output interface

IF55

Recommended encoder series

Linear encoder, up to 0.001mm:	SMA2 series
Rotary miniature encoder:	AM36, MM36 series
Bearingless encoder:	SMRA / MRA series
Contactless encoder for round axes:	SMLA

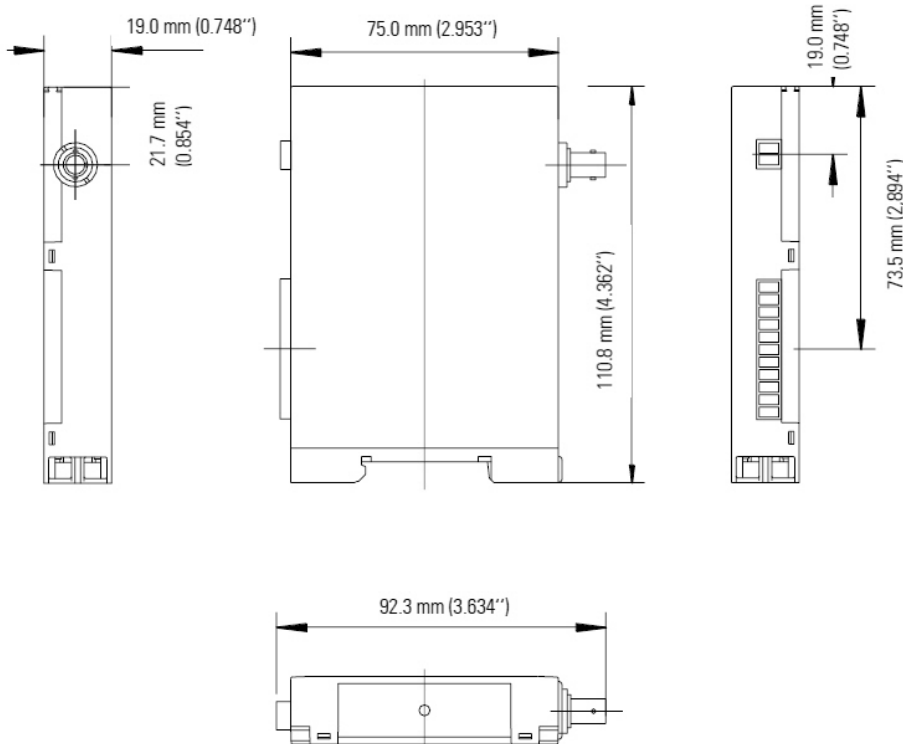
Order code

IF55	XXX Ⓐ	XX Ⓑ
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<p>Ⓐ INPUT</p> <p>ROT = rotary sensors LIN = linear sensors</p>	<p>Ⓑ OUTPUT</p> <p>PB = Profibus-DP with 3 x PG PB-C = Profibus-DP with 3 x M12 CB = CANopen with 2 x PG CB-C = CANopen with 2 x M12 FD = DeviceNet with 3 x PG FD-C = DeviceNet with 3 x M12 EC = EtherCAT with 3 x M12 PT = Profinet with 3 x M12 EP = Ethernet/IP with 3 x M12 MT = Modbus TCP/IP with 3 x M12 PL = Powerlink with 3 x M12</p>
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Series

IF60 • IF61



IF60 - IF61

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	-10°C +70°C (+14°F +158°F)
Storage temperature range:	-25°C +75°C (-13°F +158°F)
Protection:	IP40 / screw terminal: IP20

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Optical fiber connection:	ST connector ø 9 mm
Glass fibre:	2,5 mm ² max., multimode, 50/125 µm, 62.5/125 µm
Weight:	~ 80 g

ELECTRICAL SPECIFICATIONS

Power supply:	+5Vdc ±5%, 10-30 Vdc
Consumption:	< 2 W (per module)
Encoder input:	TTL/RS422, HTL
Input/output frequency:	1 MHz max.
Signal sampling rate:	10 M samples/sec.

Order code

IF60 transmitter

IF60	XX-X Ⓐ
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Order code

IF61 receiver

IF61	XX-X Ⓐ
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Ⓐ INTERFACE - POWER SUPPLY

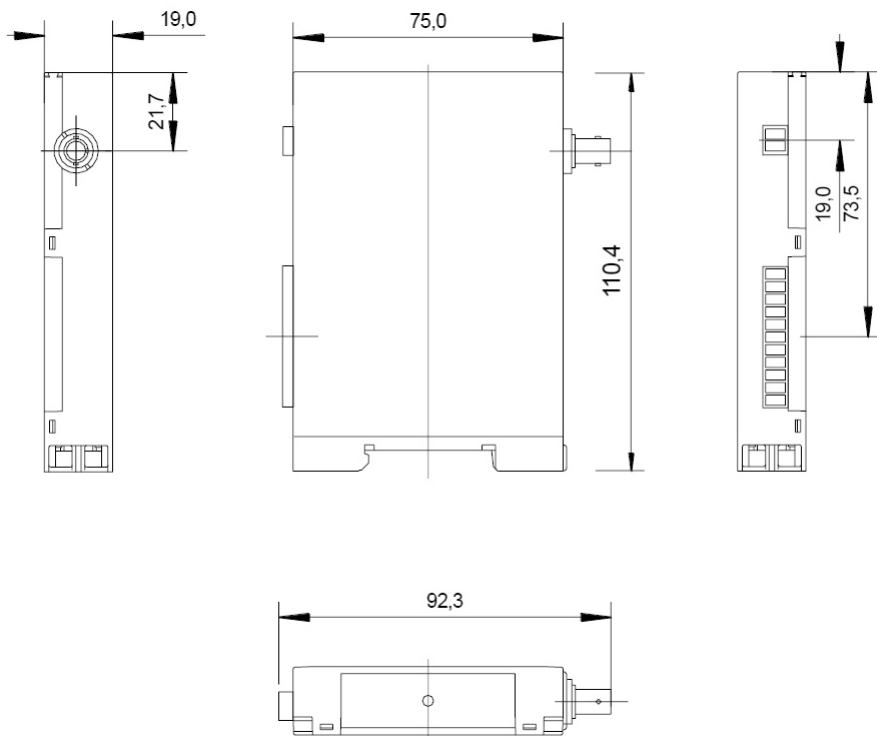
L-1 = RS422, +5Vdc ± 5%
 L-2 = RS422, +10Vdc +30Vdc
 YC-2 = HTL/Push-Pull (ABO /ABO), +10Vdc +30Vdc
 Y-2 = HTL/Push-Pull (ABO), +10Vdc +30Vdc

Ⓐ INTERFACE - POWER SUPPLY

L-1 = RS422, +5Vdc ± 5%
 L-2 = RS422, +10Vdc +30Vdc
 YC-2 = HTL/Push-Pull, +10Vdc +30Vdc

Series

IF62 • IF63



IF62 - IF63

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	-10°C +70°C (14°F +158°F)
Storage temperature range:	-10°C +70°C (14°F +158°F)
Protection:	IP40 / screw terminal: IP20

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Optical fiber connection:	ST connector, 13 mm, Ø 9 mm
Glass fibre:	2,5 mm ² max., multimode, 50/125 µm, 62.5/125 µm
Weight:	~ 80 g

ELECTRICAL SPECIFICATIONS

Power supply:	+5Vdc +5%, 10-30 Vdc
Consumption:	< 1 W (per module)
Encoder input:	SSI (clock +/-, data +/-)
Clock rate:	500 kHz max.
Optical transmission rate:	120 MBit/s

Order code

IF62 transmitter

IF62	XX-X Ⓐ
------	-----------

Order code

IF63 receiver

IF63	XX-X Ⓐ
------	-----------

Ⓐ INTERFACE - POWER SUPPLY

S-1 = SSI (RS422), +5Vdc ± 5%
S-2 = SSI (RS422), +10Vdc +30Vdc

Ⓐ INTERFACE - POWER SUPPLY

S-1 = SSI (RS422), +5Vdc ± 5%
S-2 = SSI (RS422), +10Vdc +30Vdc



- Monitors overspeed, underspeed, standstill and counting direction
- Safety function acc. to EN61800-5-2 (SS1, SS2, SOS, SLS, SDI, SSM)
- SIL3 / PLe certified
- Inputs for 2 standard encoders (HTL/PNP, RS422 or sin/cos)
- Safety outputs (1 x relays, 1x analogue, 4x HTL)
- Encoder signal splitter function, for sin/cos and RS422
- Removable programming display IFS10-PM
- USB setup interface
- DIN rail mounting



IFS-10

FUNCTIONS

Monitors overspeed, underspeed, standstill and counting direction.
Encoder signal splitter function (for sin/cos & RS422)

Safety features: SIL3 / PLe (depending on used encoders)
Dual-channel, cat. 3 / HFT = 1
DC (avg): 97,07%, SFF: 99,2%
MTTF_d: 38,1 years
PFH: 3,76*10⁻⁸/h
 $\lambda_{SD}/\lambda_{SU}/\lambda_{UD}/\lambda_{DU}$: 1,93*10⁻⁶/h / 4,64*10⁻⁸/h / 2,94*10⁻⁶/h / 6,14*10⁻⁸/h
EN61800-5-2 for SS1, SS2, SOS, SLS, SDI, SSM (dep. on used encoders)

ENVIRONMENTAL SPECIFICATIONS

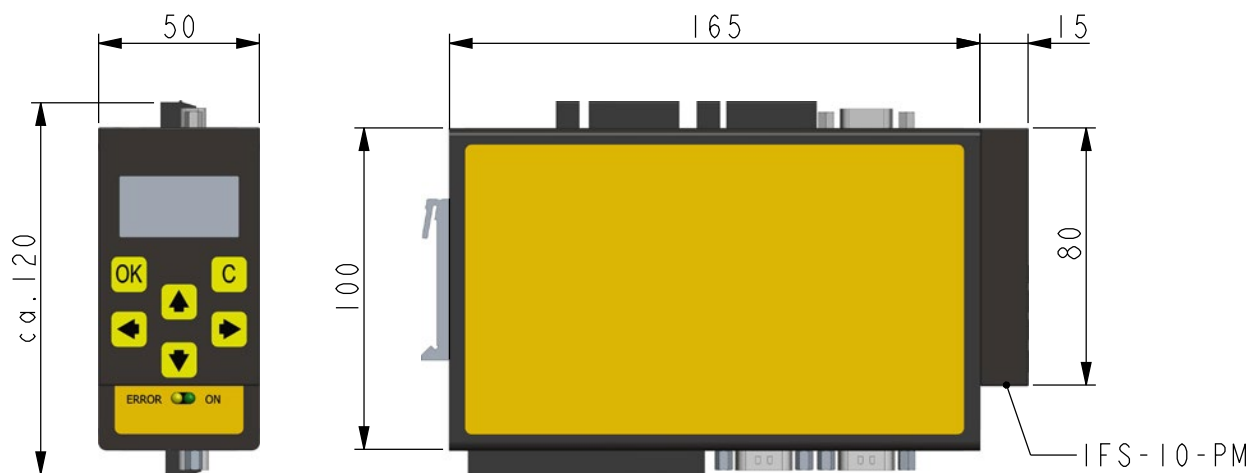
Operating temperature range: -25°C +55°C (-13°F +131°F)
Storage temperature range: -25°C +70°C (-13°F +158°F)
Protection: IP20

MECHANICAL SPECIFICATIONS

Dimensions: see drawing
Electrical connections: DSub 9 pin connector (sin/cos encoder in/out)
Screw terminals (power supply, RS422 encoder in/out, control in/outs)
Housing material: Plastic
Weight: ~ 390 g

ELECTRICAL SPECIFICATIONS

Power supply: +18Vdc +30Vdc (max. 10% ripple @ 24Vdc)
Protection: against inversion of polarity
Consumption: 150 mA max. (without sensors)
Power supply for sensors: Vout = Vin - 2Vdc
Sensor inputs: 2 x RS422 (AB /AB), max. 500 kHz
2 x sin/cos 1Vpp (AB /AB), max. 500 kHz
Control inputs: 2 x HTL/PNP + 10Vdc +30Vdc (AB /AB)
max. 150mA, 250 kHz (if used as encoder input)
1 kHz (if used as control input)
Encoder output (safety): AB /AB RS422 splitter output (sin/cos, RS422 or HTL)
Analogue output (safety): 4-20 mA (14 bit resolution, acc. 0,1% fs)
Control outputs (safety): 4 (with inverted signals) Push-Pull, max. 30 mA (ea output)
Relays output: 2 NO in series (forced guided contacts), 5Vdc 36Vdc - 5mA 5A



IFS-10

Order code

Order code	Description
IFS-10	Version with all inputs, outputs and encoder signal splitter function
IFS-10A	Version with all inputs, outputs without encoder signal splitter function
IFS-10S	Version with 1 sin/cos input (SIL3/PLe), 2 control inputs, all outputs and splitter function
IFS-10SA	Version with 1 sin/cos input (SIL3/PLe), 2 control inputs, all outputs, without splitter function
IFS-10-PM	Removable programming display with touchscreen

Recommended encoder types

Type	Description
1 x SGSD-L-2-...-N-... + MRI/72	Redundant magnetic ring encoder with contactless sensing, IP67. Line Driver 24/5V
2 x I58x-L-xxx2..	Standard incremental shaft encoder with Line Driver 24/5V
2 x CK58x-L-xxx2..	Standard incremental hollow shaft encoder with Line Driver 24/5V

Please ask our customer service for further advice and recommended encoder types

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