

Customized Pneumatic Systems Solutions for the Processing Industries

Mounting dimension 11; 19; 33 mm;
Flow rates: 130 l/min - 1300 l/min



Advantages / Benefits

- ▶ Optimal system solutions due to the high level of modularity
- ▶ Long service life even with non-lube conditions
- ▶ Pre-tested and supplied "easy to connect"
- ▶ No individual valve wiring
- ▶ Separate electrical circuits for the electronics and the valves.
- ▶ Low installation costs
- ▶ Common air exhaust
- ▶ Corrosion resistant

Construction/Function

The valve module system is suitable for a wide variety of complex control applications, with the logical, modular construction in respect of its electrical and fluid interfaces. The electrical connections can be made either via common connections, Multipole or field bus interfaces.

The valve range allows many different application possibilities with regard to controller, dimensions, flow and performance. The valves can be easily interchanged.

The housing and connecting modules are made of high quality plastic, and are simple to connect or disconnect with the integrated latching technique.

Applications

- Food and beverage
 - Dairy installations
 - Brewery installations
- Pharmaceutical processing equipment
- Cosmetic processing equipment
- Textile dyeing / drying machines
- Sterilizers
- Water treatment / Processing equipment
- Pulp and paper processing equipment

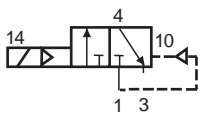
bürkert
Easy Fluid Control Systems

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Technical Data

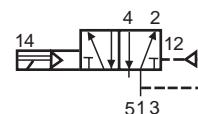
Function C

3/2 way valve, in de-energized position
port 4 to atmosphere



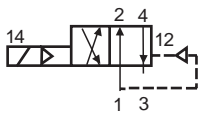
Function H

5/2 way valve, in de-energized position
pressure port 1 connected to port 2,
port 4 vented.



Function G

4/2 way valve, in position
Pressure port 1 connected to port 2,
port 4 vented



Valve characteristics

Mounting dimension	Function ¹⁾	Valve-Type	Flow rate	Pressure range	Rated current at 24 V DC	No. of possible valve stations	Response Times	
							opening	closing
[mm]			[l/min]	[bar]	[mA]/(Power)		[ms]	[ms]
11	C (3/2)	6510	130	2,5- 7	40/ (1 W)	2-24	30	30
	H (5/2)	6511	130	2,5- 7	40/ (1 W)	2-24	30	30
19	C (3/2)	5470	300	2 - 8	80/ (1 W)	2-24	30	20
	G (4/2)	5470	300	2 - 8	80/ (1 W)	2-24	30	20
33	C (3/2)	6516	1300	2 - 8	80/ (1 W)	2-24	30	40
	H (5/2)	6517	1300	2 - 8	80/ (1 W) ²⁾	2-24	40	90

¹⁾ Impuls valves on request

²⁾ with 2 W-coil (on request) opening 30 ms, closing 40 ms

Specification

Construction	Modular technology
Enclosure material	PA/ABS
Ambient temperature in operation	0 to +50 °C
storage / transport	-20 to +60 °C
Media	Filtered compressed air, lubricated or unlubricated
Valve port connection	11 mm Legris ø4 "Push-in fitting", M5 19 mm Legris ø6, G1/8, NPT1/8 33 mm G1/4, NPT1/4
Module port connection	11 mm Legris ø8, G1/8, NPT1/8 19 mm G1/8, NPT1/8, G1/4, NPT1/4 33 mm G1/2, NPT1/2
Module connection	Inter Locking
Valve mounting	Push-in / screwed
Valve module mounting	Standard rails and wall mounting
Configuration	to customer requirement

Electro-magnetic Compatibility (EMC)

Resistance to interference

- Discharge of static electricity (to IEC 801 / Part 2)
- Interference impulse package/ burst (to IEC 801-4)
 - on operational supply line 2 kV
 - on field bus connection voltage 1 kV

Interference suppression to EN 55 014 (corresponds to VDE 0875, rating class B)

Overall current requirem.:

$$I_{\text{Total}} = 500 \text{ mA} + n (I_{\text{nominal}}) + m (20 \text{ mA})$$

n: No. of valves
m: No. of indicators (max. 20 mA per indicator)

I_{nominal} : Rated current of the solenoid

Electrical Operating Data

Solenoids ³⁾

Nominal voltage	24 V DC
Permissible voltage tolerance	±10 %
Residual ripple	11 mm 5 V _{ss} 19, 33 mm tech. direct voltage

Electrical connection

Multipole	25-pole Sub D
Field Bus	9-pole Sub D

Control Electronics ³⁾

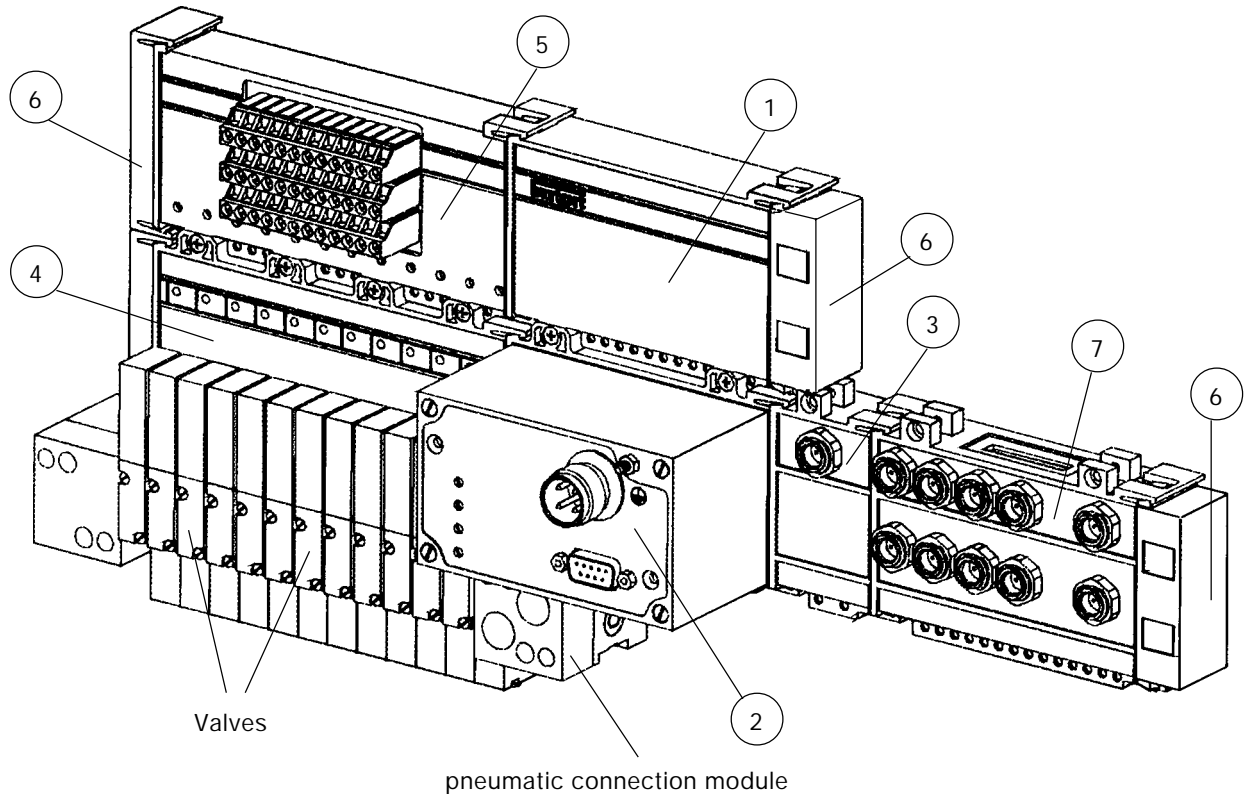
Operating voltage	24 V DC
permissible voltage tolerance	±15 %
Residual ripple	1 V _{ss}
Current consumption	max. 500 mA
Electrical Power max.	12 W
Power supply connection	M12 round plug also with screw plug terminals
Protection class	11 mm IP 20 19, 33 mm IP 20 or IP 65
Signal interface	<ul style="list-style-type: none"> Common connection Multipole Internal bus extension Profibus DP CAN bus InterBus S DEVICE Net ASI bus (on request)

³⁾ The power supply for the solenoids and the control electronics takes place via separately-fused circuits.

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Construction and Components

Example of a valve module assembly



Composition of a valve module

The configuration of a valve module is customer-specific, depending on the application. The required valve module is put together from the extensive range of valves and electrical connections with fixed or freely-selectable numbers of inputs and outputs. The overall configuration takes place with PC support. In this way the required fluid components are automatically updated - compatible with the selected electrical / electronic components.

Note: In standard assemblies, only valves with the same mounting dimensions can be combined in a valve module (special solutions on request).

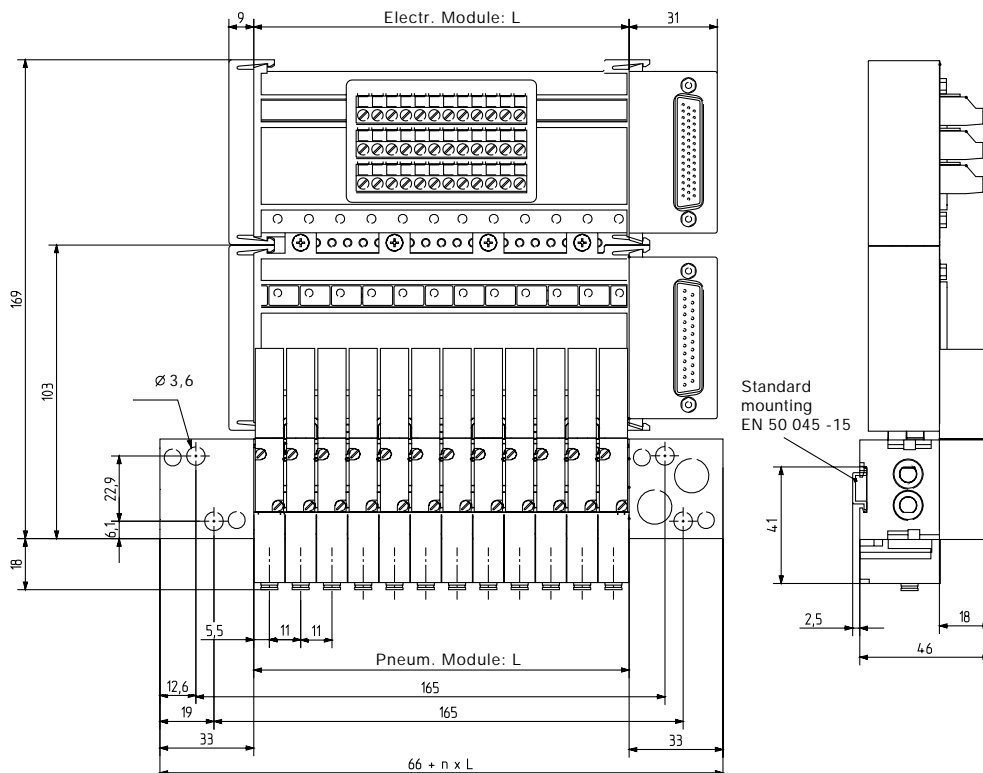
Legend for the electrical connection techniques

<p>1. Conventional Connection Techn.</p> <ul style="list-style-type: none"> - Common connection module - Multipole circuit valve outputs - Multipole circuit - Inputs <p>2. Field bus technique</p> <ul style="list-style-type: none"> - Field bus module Profibus DP - Field bus module Interbus S - Field bus module CAN - Field bus module ASI - Field bus module Device Net - Extension module, Inputs <p>3. Internal bus extension</p> <ul style="list-style-type: none"> - Remote I/O interface intermediate module - Remote I/O interface terminating module 	<p>4. Electrical Base Module, Output</p> <ul style="list-style-type: none"> - Common connection 11 mm (6 and 12 valve spaces) - Common connection 19 mm (2 and 5 valve spaces) - Common connection 33 mm (2, 3 and 4 valve spaces) <ul style="list-style-type: none"> - Valve outputs 11 mm (6 and 12 outputs) - Valve outputs 19 mm (2 and 5 outputs) - Valve outputs 33 mm (2, 3 and 4 outputs) <ul style="list-style-type: none"> - 6 and 12 valve outputs 11 mm with manual/automatic switch-over 	<p>5. Electrical Base Module, Input</p> <ul style="list-style-type: none"> - Terminal inputs 11 mm (6 and 12 inputs) - Terminal inputs 19 mm (4 and 10 inputs) - Terminal inputs 33 mm (4 inputs) <p style="text-align: right;">} IP20</p> <ul style="list-style-type: none"> - Plug inputs 19 mm (4 and 10 inputs) - Plug inputs 33 mm (6 and 8 inputs) <p style="text-align: right;">} IP65</p> <p>6. Terminating module</p> <ul style="list-style-type: none"> - Terminating module, left - Terminating module, right <p>7. Free Inputs / Outputs</p> <p>SLIO additional module with free</p> <ul style="list-style-type: none"> - Digital Inputs / Outputs - Analog Inputs / Outputs
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Dimensions [in mm]

11 mm Valve module, Multipole



Electrical Modules with
different lengths L:
L = 132 mm -12-fold
= 66 mm - 6-fold

Pneumatic Modules with
different lengths L:
L = 132 mm -12-fold
= 33 mm - 3-fold
= 22 mm - 2-fold

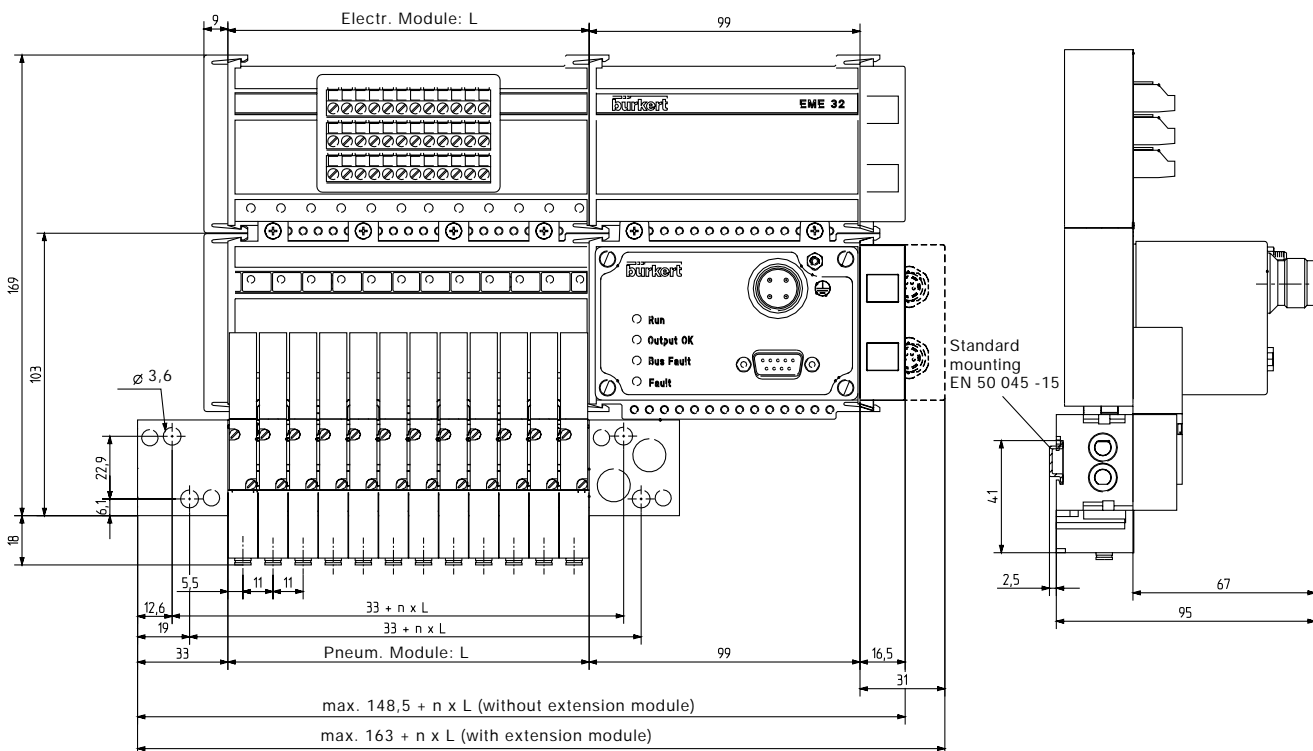
n = number of modules

Example:

1 Module with L = 132 mm

$66 + n \times L = \text{Total length}$
 $66 + 1 \times 132 = 198 \text{ mm}$

11 mm Valve module, Fieldbus



Electrical Modules with
different lengths L:
L = 132 mm -12-fold
= 66 mm - 6-fold

Pneumatic Modules with
different lengths L:
L = 132 mm -12-fold
= 33 mm - 3-fold
= 22 mm - 2-fold

n = number of modules

Example:

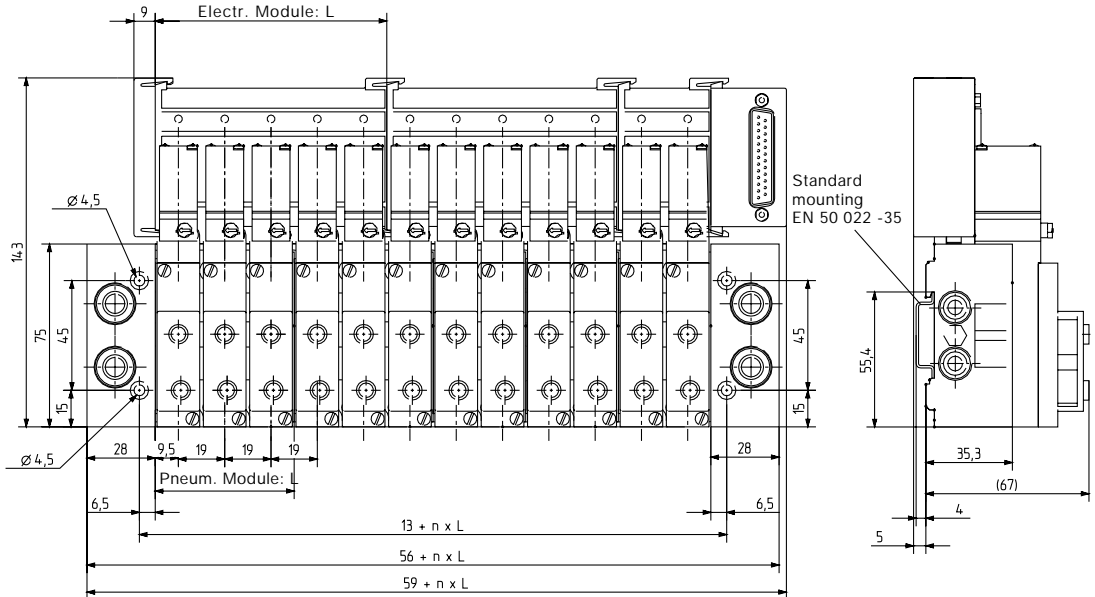
1 Module with L = 132 mm

$163 + n \times L = \text{Total length}$
 $163 + 1 \times 132 = 295 \text{ mm}$

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Dimensions [in mm]

19 mm Valve module, Multipole



Electrical Modules with different lengths L:
 L = 95 mm - 5-fold
 = 38 mm - 2-fold

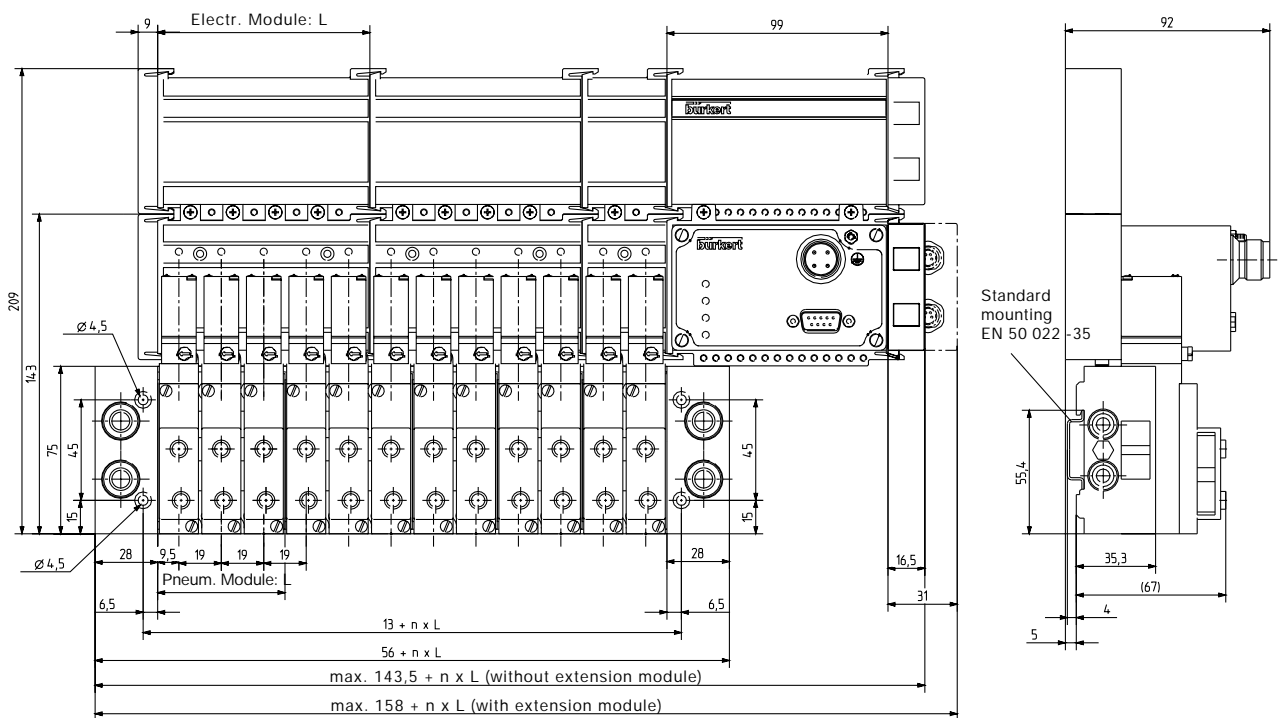
Pneumatic Modules with different lengths L:
 L = 57 mm - 3-fold
 = 38 mm - 2-fold

n = number of modules

Example:
 2 x Electr. Modules with L = 95 mm and
 1 x Electr. Module with L = 38 mm

$158 + (n \times L) = \text{Total length}$
 $158 + (2 \times 95) + 38 = 386 \text{ mm}$

19 mm Valve module , Fieldbus



Electrical Modules with different lengths L:
 L = 95 mm - 5-fold
 = 38 mm - 2-fold

Pneumatic Modules with different lengths L:
 L = 57 mm - 3-fold
 = 38 mm - 2-fold

n = number of modules

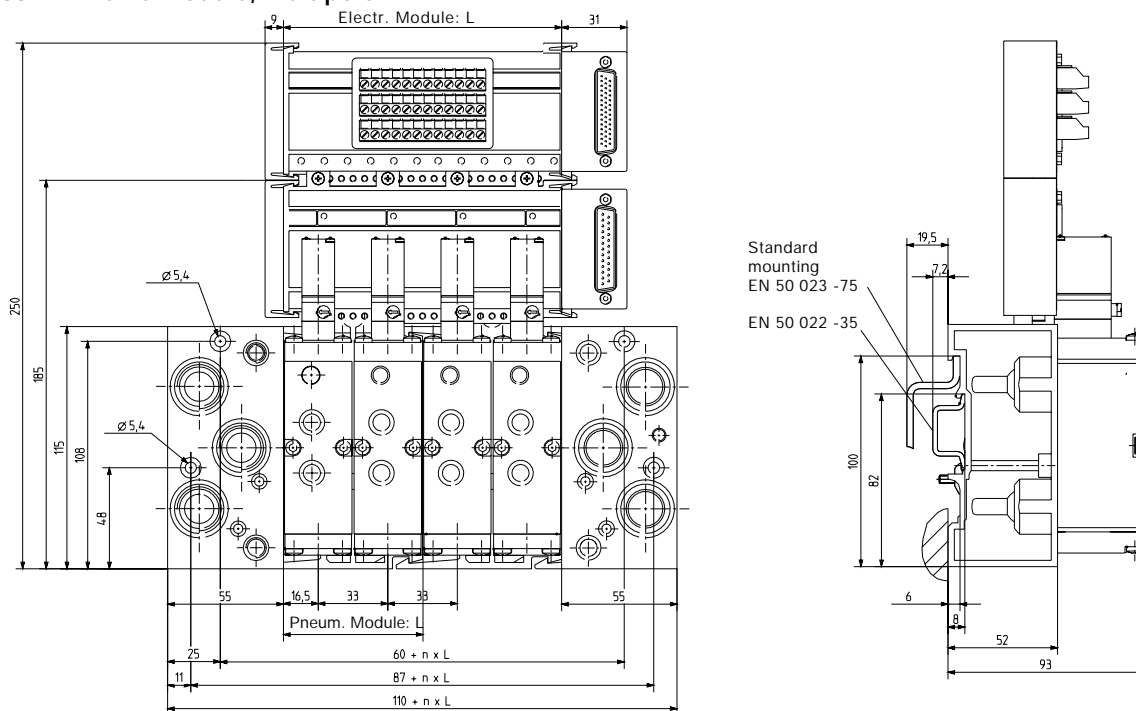
Example:
 2 x Electr. Modules with L = 95 mm and
 1 x Electr. Module with L = 38 mm

$158 + (n \times L) = \text{Total length}$
 $158 + (2 \times 95) + 38 = 386 \text{ mm}$

Customized Pneumatic Systems Solutions for the Processing Industries

Dimensions [in mm]

33 mm Valve module, Multipole



Electrical Modules with different lengths L:
 L = 132 mm - 4-fold
 = 99 mm - 3-fold
 = 66 mm - 2-fold

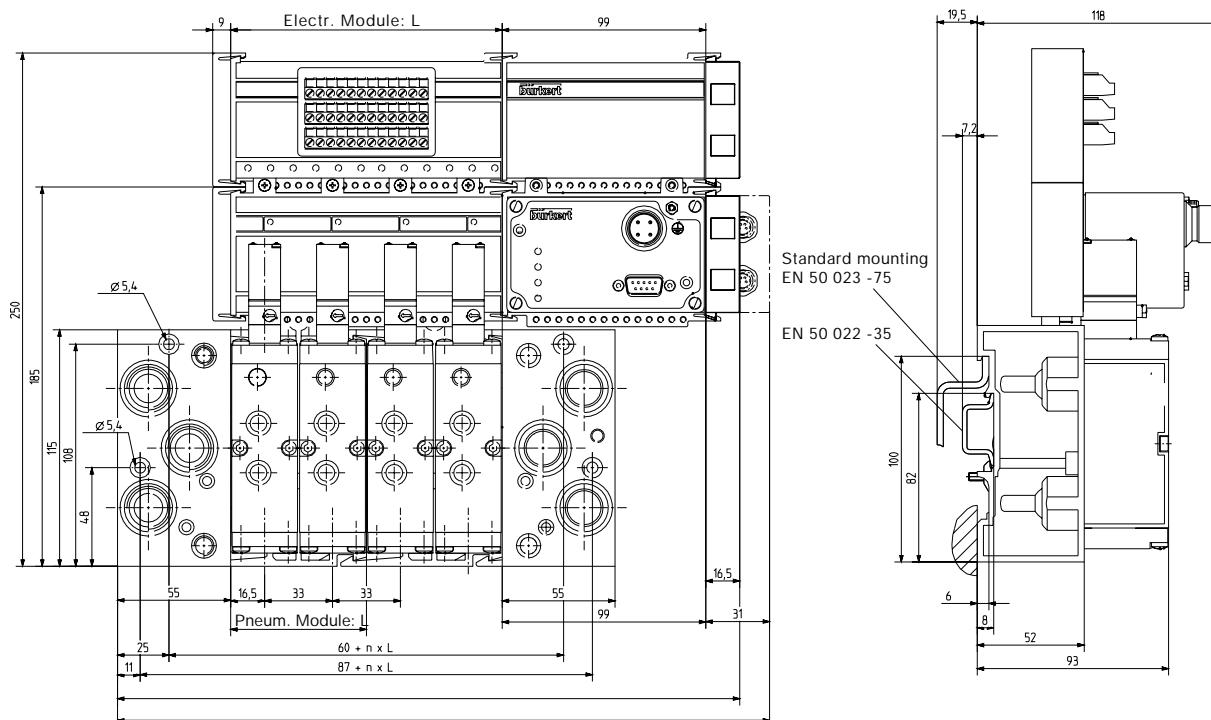
Pneumatic Modules with different lengths L:
 L = 99 mm - 3-fold
 = 66 mm - 2-fold

n = number of modules

Example:
 1 Module with L = 132 mm

$110 + (n \times L)$ = Total length
 $110 + (1 \times 132) = 243$ mm

33 mm Valve module, Fieldbus



Electrical Modules with different lengths L:
 L = 132 mm - 4-fold
 = 99 mm - 3-fold
 = 66 mm - 2-fold

Pneumatic Modules with different lengths L:
 L = 99 mm - 3-fold
 = 66 mm - 2-fold

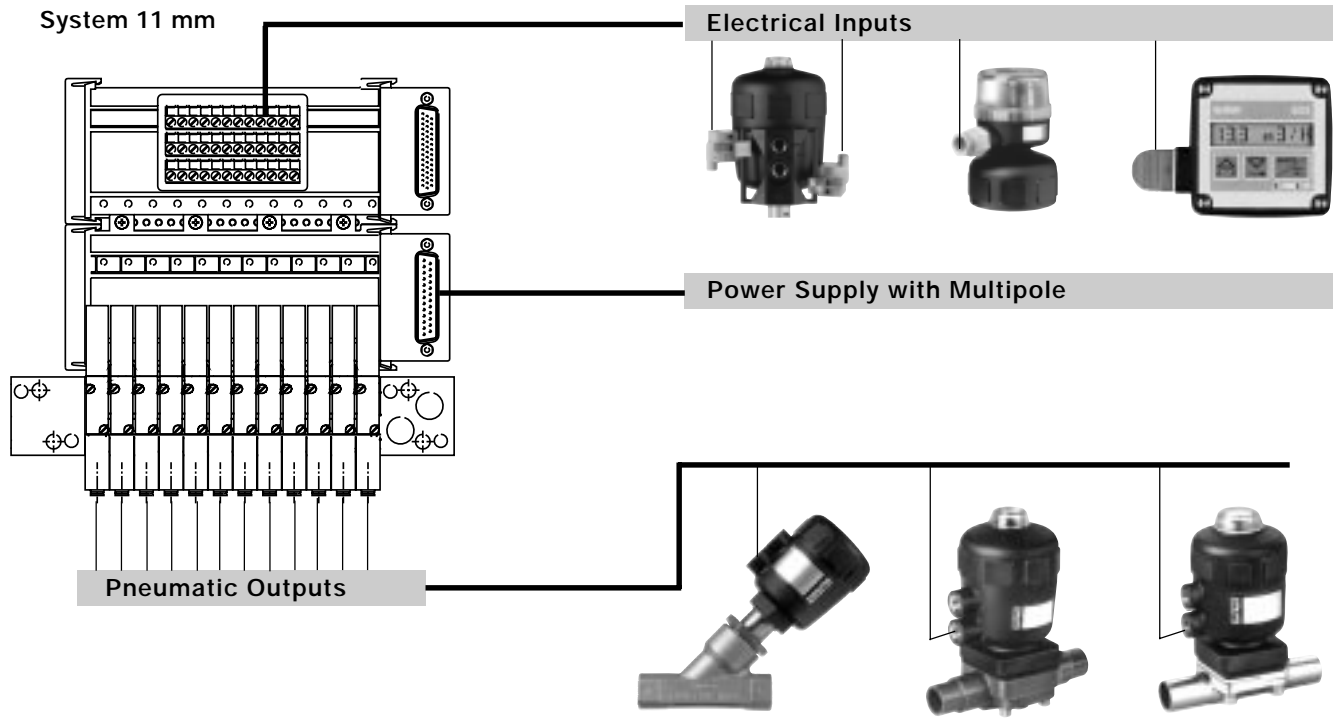
n = number of modules

Example:
 1 Module with L = 132 mm

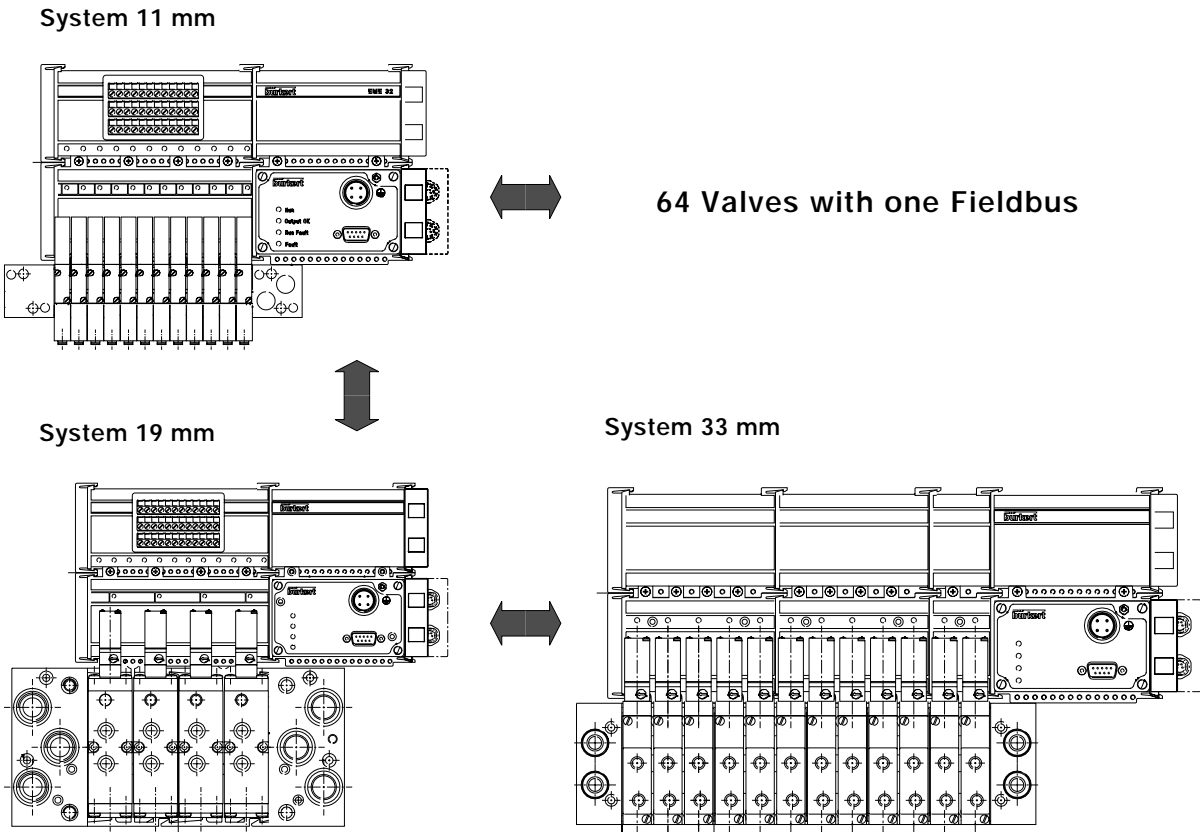
$185 + (n \times L)$ = Total length
 $185 + (1 \times 132) = 317$ mm

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Multipole-Customized Pneumatic Systems Solutions



Fieldbus-Customized Pneumatic Systems Solutions



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Information Request / Order Form for Valve Modules

If you are interested in, or wish to order, our products, please make a copy of this order form and mark the connection technique desired. Send the completed form to your authorised

BURKERT sales subsidiary

in
for the attention of.

From:	Company Contact person Street / number Telephone Fax
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Please send us a detailed configuration proposal for a valve module with the following connection technique.

1. Valve Assembly

Note! – In the standard assemblies, only valves with the same mounting dimensions are mounted on a valve module ¹⁾ – Please note the maximum number of valves in a valve module (see Characteristics table)			
Mounting dimension [mm]	Valve type	Function	Number of valves required
11	6510	C (3/2)	
	6511	H (5/2)	
19	5470	C (3/2)	
	5470	G (4/2)	
33	6516	C (3/2)	
	6517	H (5/2)	

¹⁾ deviations from standard case on request.

3. Additional modules

	Number of inputs /outputs required
Terminal inputs	
Plug inputs	
Additional modules with free	
– analog inputs	
– analog outputs	
Additional modules with free	
– digital inputs	
– digital outputs	

Notes:

2. Electrical Connections

	Please mark with a cross
Common connection	
Multipole circuit	
– valve outputs	
– valve inputs	
Field bus connection	
– Profibus DP	
– Interbus S	
– Device Net	
– Expansion module inputs	
Internal bus extensions	
– RIO intermediate module	
– RIO terminating module	
– RIO valve outputs	
Terminating module left	
Terminating module right	