

# Valve Terminal Size 1, with Multi-Pin Plug Connector or Field Bus Interface



Pressure port: G 1/8  
Working port: Plug connection ID 4 mm

Catalog Register  
P 6

Publication 7503114.06.08.95

**OBSOLETE  
DOCUMENT**  
Technical  
Reference  
Only

## Description

Valve terminal integrated in manifold system. 3/2 directional control valves are mounted on a common base. The number of valves can be deliberately chosen between 4 and 28 units. The degree of protection is IP 40 or IP 65. Control via multi-pin plug connector or E-box (Interbus-S, Sinec L2 DP) which can be installed separately or directly attached to the terminal. Sensors and actuators can be integrated via I/O boxes or the ASI system.

## Features

- Valve terminal integrated in manifold system
- Number of valves: Min. 4 units  
Max. 16 (28) units
- Function: Monostable
- Easy to connect:
  - Pneumatic plug-in type connection
  - Electric connector
- Mounting position: Optional

## Technical data:

### Electrical

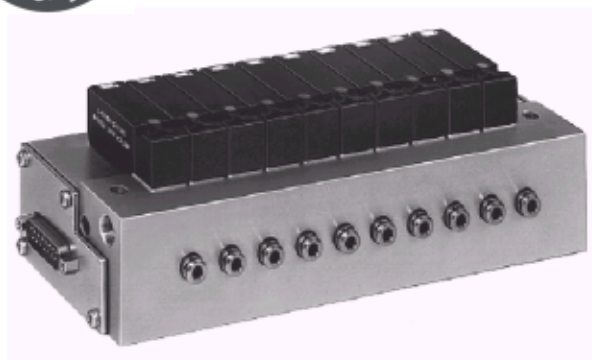
- Various bus systems available
  - Interbus-S
  - Sinec L2 DP or Profibus DP
  - ASI (on request)
- Multi-pin plug connector, degree of protection IP 40 or IP 65
- Current draw per valve less than 2 W
- 24 VDC

### Mechanical

- Pressure port G 1/8
- Working port plug-in type, internal dia. = 4 mm for hoses with external dia. = 4 mm
- Material:
  - Manifold bar: Aluminium
  - Valves: Synthetic

### Pneumatic

- Flange-mounting valve series, 15 mm wide
- 3/2 directional control valve, with rest position
- Pressure range between 0 to 10 bar
- Flow rate of valve terminal approx. 30 l/min
- Temperature range -10 to +50°C



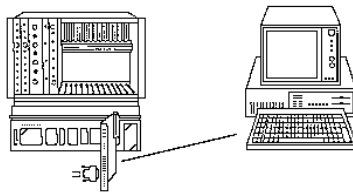
Valve terminal Size 1, with multi-pin plug connector IP 40, equipped with ten 3/2 directional control valves






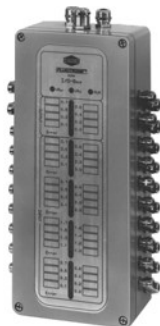

E-box for external installation



## System summary



- Computer
- SPC

Valve terminals	Control	Sensory equipment
<p><b>Size 1</b> Flow rate approx. 30 l/min Pressure range from 0 to 10 bar</p> 	<p>Multi-pin plug connectors</p> <ul style="list-style-type: none"> <li>– IP 40</li> <li>– IP 65</li> </ul>  <p><b>E-box external</b></p>  <ul style="list-style-type: none"> <li>– Interbus-S</li> <li>– Sinec L2DP</li> <li>– ASI</li> <li>– with or without inputs/outputs</li> </ul>	<p>I/O-box with conduit-thread connector or M 12 plug-in type connectors</p>  <ul style="list-style-type: none"> <li>– 8 outputs</li> <li>– 8 inputs</li> <li>– 16 inputs</li> <li>– 16 inputs, 8 outputs</li> <li>– 32 inputs, 8 outputs</li> </ul> <p>For connection of</p> <ul style="list-style-type: none"> <li>– cylinder sensors</li> <li>– light barriers</li> <li>– external valves, etc.</li> </ul> <p><b>Sensor module</b></p>  <ul style="list-style-type: none"> <li>– 8 inputs/M 12</li> </ul> <p>For connection of</p> <ul style="list-style-type: none"> <li>– cylinder sensors</li> <li>– light barriers, etc.</li> </ul>

Further technical information available on request

Publication No.

Modular valve terminals with field bus interface or multi-pin plug connector

7503034

ISO valve terminals with field bus interface

7502947

Input / output box

7503065

I/O box for valve terminal Interbus-S

7503088

Proportional valves with field bus interface

7502952

Valve terminal size 1, with multi-pin plug connector or field bus interface

7503114

Valve terminal Model Tio, size 4, with multi-pin plug connector or field bus interface

7503116

ASI valve terminal with 2 to 4 units, with multi-pin plug connector or field bus interface

7503117



Valve terminal with multi-pin plug connector, degree of protection IP 40/IP 65

Features

- Valve terminal with at least 4 solenoids
  - Max. (standard connectors, IP 40) = 28 solenoids
  - Max. (plug-in type connector, IP 65) = 16 solenoids
- Pressure port G 1/4
- Working port, plug-in type, internal dia. = 4 mm, for hoses with external dia. = 4 mm
- Design with multi-pin connector
- Mounting position optional
- Pressure range from 0 to 10 bar
- Temperature range –10 to +50°C



Valve terminal, Size 1, with multi-pin plug connector, IP 40, with ten 3/2 directional control valves

Solenoid valve

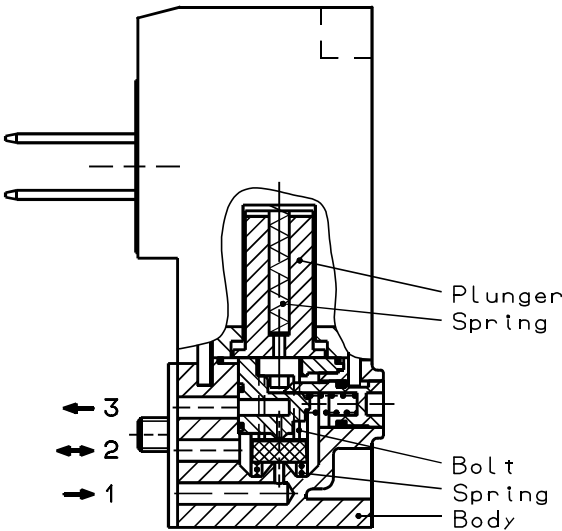
Solenoid valve for filtered air, lubricated or unlubricated

- Flow direction: Fixed  
Temperature range: –10 to +50°C  
Material:  
– Body: Synthetic  
– Seals: NBR (Perbunan)

Features

- 3/2 directional control valves, closed in 0-position, electromagnetically actuated
- Poppet valve
- Standard manual override
- Width 15 mm
- Low current draw
- Degree of protection: IP 65
- 24 VDC

Sectional drawing

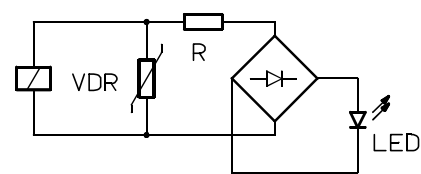


Parameters

ND	Connection	Operating pressure [bar]		Switching time at 6 bar [ms]		Flow rate Q <sub>N</sub> [l/min.]	Cat. No.
		min.	max.	ON	OFF		
1.1	Flange	0	10	8 ... 10	6 ... 8	30	8010206.9000



**Wiring of solenoid coils**



**Connection diagram for multi-pin version, IP 40/IP 65**

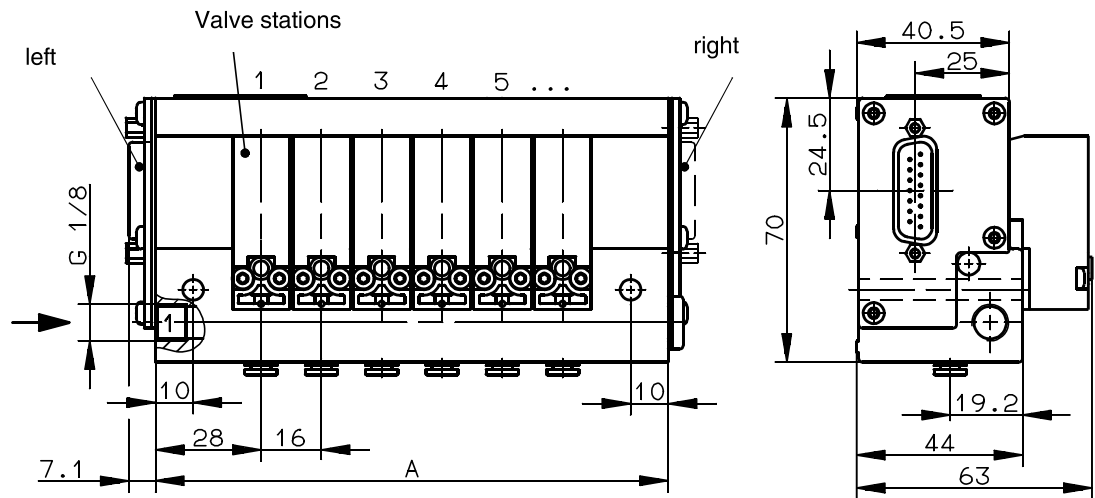
**Plug arrangement**

Symbol			
	Multi-pin connection IP 65 for 17-pin connector	Multi-pin connection IP 40 for 15-pin D-SUB (left)	Multi-pin connection IP 40 for 15-pin D-SUB (right)
Pin terminal	Terminal pin	Terminal pin	Terminal pin
1	1	1	
2	2	2	
3	3	3	
4	4	4	
5	5	5	
6	6	6	
7	7	7	
8	8	8	
9	9	9	
10	10	10	
11	11	11	
12	12	12	
13	13	13	
14	14	14	
15	15		1
16	16		2
17			3
18			4
19			5
20			6
21			7
22			8
23			9
24			10
25			11
26			12
27			13
28			14
0 volt	17	15	15



Valve terminal Size 1, with multi-pin connector, IP 40

Dimensional drawing [mm]



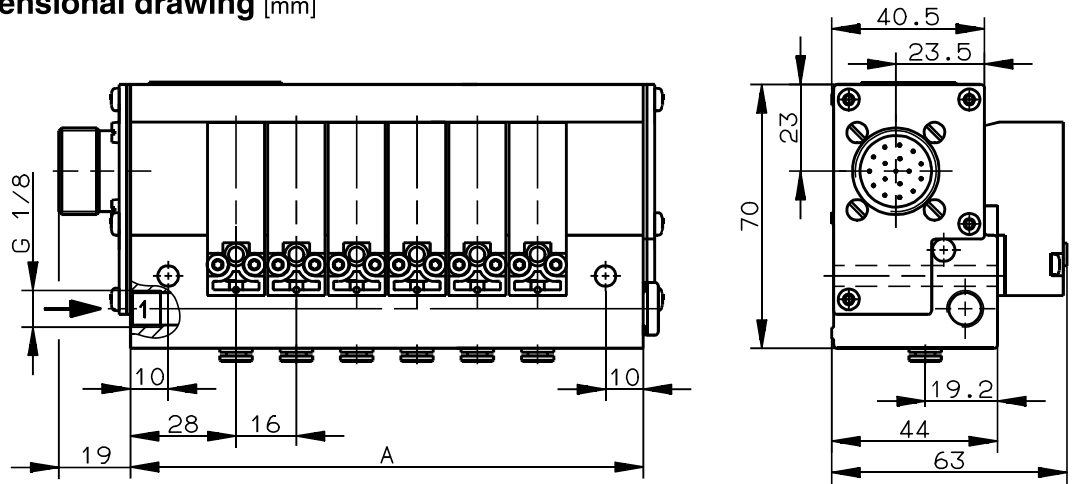
Dimensional table [mm]

Number of valve stations	A	D-SUB connector
4	104	left
6	136	left
8	168	left
10	200	left
12	232	left

Number of valve stations	A	D-SUB connector
16	296	left and right
18	328	left and right
20	360	left and right
22	392	left and right
24	424	left and right
26	456	left and right
28	488	left and right

Valve terminal Size 1, with multi-pin connector IP 65

Dimensional drawing [mm]



Dimensional table [mm]

Number of valve stations	A	Connector
4	104	17-pin
6	136	17-pin
8	168	17-pin
10	200	17-pin

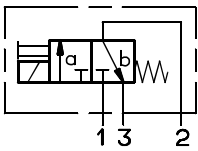
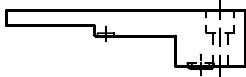

Number of valve stations	A	Connector
12	232	17-pin
14	264	17-pin
16	269	17-pin



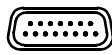

**Valve terminal Size 1, with multi-pin connector, IP 40/IP 65**

**Range of available functions**

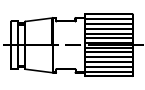
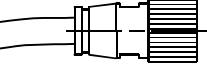
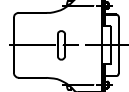
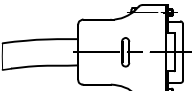
**Valve**

Code	Symbol	Description
<b>1</b>		3/2 directional control valve, in 0-position closed
<b>0</b>		Blind plate
<b>W</b>		Separator stud for two different pressure ranges

**Multi-pin connection**

Code	Symbol	Description
<b>J</b>		Multi-pin connection Degree of protection IP 40
<b>M</b>		Multi-pin connection Degree of protection IP 65

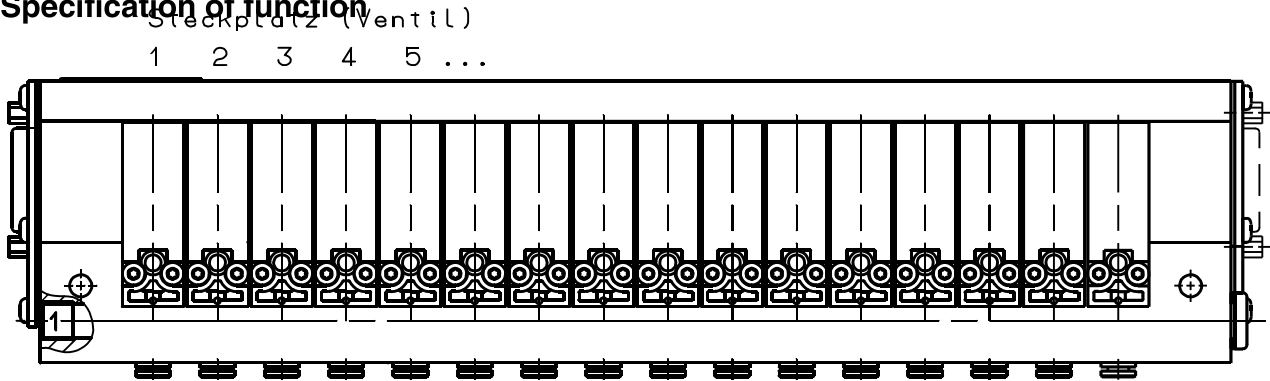
**Accessories**

Code	Symbol	Description
<b>G</b>		17-pin plug connector, without cable, with crimp contacts
<b>G1</b>		17-pin plug connector, with cable, 3 m long
<b>H</b>		15-pin D-SUB, without cable, with crimp contacts
<b>H1</b>		15-pin D-SUB, with cable, 3 m long



Valve terminal Size 1, with multi-pin connector, IP 40/IP 65

Specification of function



Order code

Terminal size		Min. 4 valves													
Terminal type	Multi-pin connector	Valve stations													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Type Size 1															
Code															
Separator stud for 2 pressures (max. 1 piece)															

Terminal size		Max. 28 valves (14 + 14)													
Terminal type	Multi-pin connector	Valve stations													
		17	18	19	20	21	22	23	24	25	26	27	28	+ Accessories	
Type Size 1															
Code															
Separator stud for 2 pressures (max. 1 piece)															

Example of order

Terminal size		Min. 4 valve													
Terminal type	Multi-pin connector	Valve stations													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Type Size 1	J-	1	1	1	1	1	1	1	1	1	1	1	1	0	0
Code															
Separator stud for 2 pressures (max. 1 piece)						W									

Example of order: Type Size 1- J- 1,1,1,1,1,1,1,1,1,1,1,1,0,0,W + H1 (2x)

Terminal type Multi-pin connector Valve stations Accessories

Valve terminal Size 1, 16 valve stations	
Code	Description
J	Multi-pin connector IP 40
1	3/2 directional control valve, in 0-position closed
0	Blind-plate
W	Separator stud for two different pressure ranges
H1	15-pin D-SUB, with cable, 3 m long

The data enclosed by commas represent the function of one valve station.



## Valve terminal Size 1, with field bus interface

### Description of E-box for Interbus-S

Within the valve terminal system, the E-box represents the actual interface to the remote Interbus-S bus and remote installation bus.

The E-box includes power drivers to control the solenoid valves on the valve terminal.

The E-box can be connected to the HERION I/O-box via an additional built-in interface. The I/O-box makes it possible to interrogate proximity switches and control external actuators.

### Note

In choosing an E-box, you must take the following decisions:

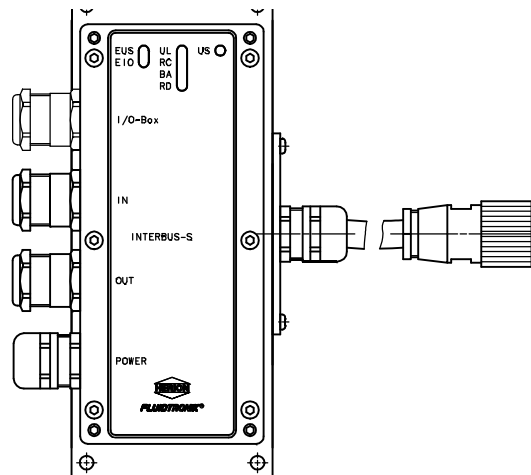
- E-box with or without connection for I/O-box
- E-box for remote bus or remote installation bus



### Technical data

<b>Ambient temperature range</b>	0 ... 50 [°C]
<b>Degree of protection to DIN 40050</b> (in installed state)	IP 65
<b>Electromagnetic compatibility</b>	Acc. to IEC 801.1 up to IEC 801.4 Severity degree 3
<b>Supply voltage for bus logic</b>	18 ... 32 VDC
Residual ripple	Max. 10%
Current consumption	Max. 100 mA
<b>Supply voltage for solenoids</b>	24 VDC $\pm$ 10%
Residual ripple	Max. 10%
Current consumption (without solenoid coils)	Max. 30 mA
<b>Solenoid valve output voltage</b>	Supply voltage - 0,6 V
<b>Solenoid valve output current per solenoid coil</b>	150 mA
<b>Electric isolation</b>	Between bus power supply and bus logic
	Between bus logic and peripherals
	Insulating voltage 500 VAC
<b>Bus protocol</b>	Interbus-S 2-wire remote bus
Transmission rate	500 kbit/s
Transmission medium	2 x RS 485

### External E-box





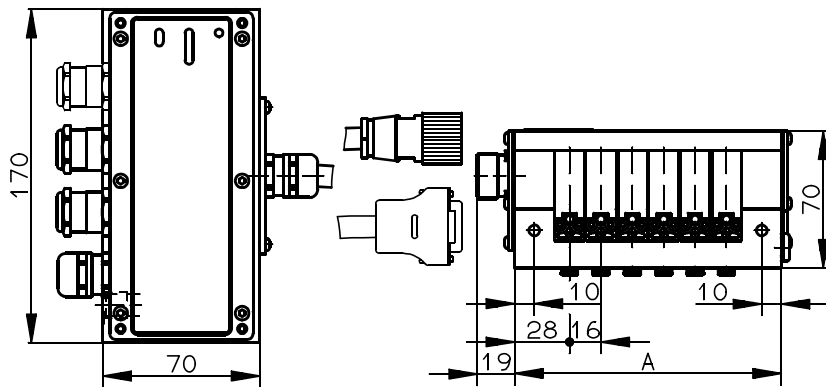
## Valve terminal Size 1, with field bus interface, external E-box

## Features

- Design
  - with **external** E-box
  - Connection to valve terminal by cable plug connector
- Valve unit with max. 16 outputs  
(16 x 3/2 directional control valves)
- Cable length approx. 1.5 m between E-box and valve terminal

## Valve terminal, external E-box

## Dimensional drawing [mm]



Height of E-box approx. 155 mm

### Dimensional table [mm]

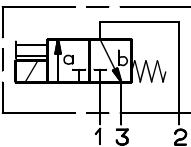


Number of valve stations	A	Connector
4	104	17 pins
6	136	17 pins
8	168	17 pins
10	200	17 pins

Number of valve stations	A	Connector
12	232	17 pins
14	264	17 pins
16	269	17 pins

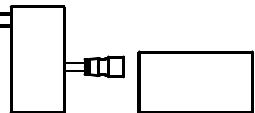
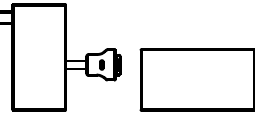


## Valve terminal Size 1, with field bus interface, external E-box

### Range of available functions

Valve		
Code	Symbol	Description
<b>1</b>		3/2 directional control valve in 0-position closed
<b>0</b>		Blind plate
<b>W</b>		Separator stud for two different pressure ranges

### Valve terminal version

Code	Symbol	Description
<b>X1</b>		External bus module with 17-pin connector
<b>X2</b>		External bus module with 15-pin D-SUB

### Interbus-S (remote bus)

Code	Max. number of solenoids	I/O-box possible:
<b>I</b>	16	No
<b>IA</b>	32	No
<b>IB</b>	16	Yes
<b>IC</b>	32	Yes

### Interbus-S (installation remote bus)

<b>ID</b>	16	No
<b>IE</b>	32	No
<b>IF</b>	16	Yes
<b>IG</b>	32	Yes

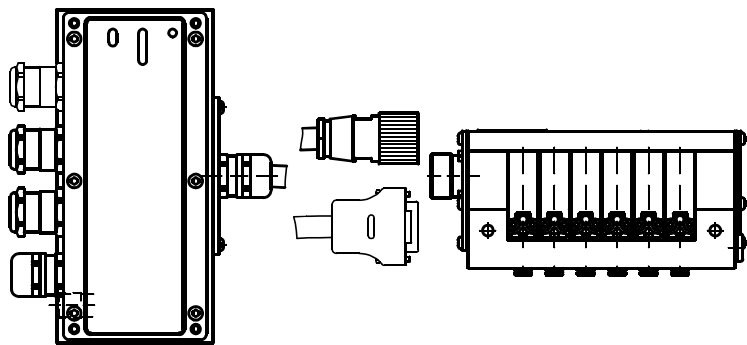
### Sinec L2 DP

<b>S</b>	16	No
<b>SA</b>	32	No



Valve terminal Size 1, with field bus interface, external E-box

Specification of functions



Order code

Terminal size						Min. 4 valves				Max. 16 (14) valves											
Terminal type	Terminal model	Field bus type	Valve stations																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Type Size 1 Code																					
Separator stud for 2 pressures (max. 1 piece)																					

Example of order

Terminal size						Min. 4 valves				16 valves											
Terminal type	Terminal model	Field bus type	Valve stations																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
<b>Type Size 1</b> <b>Code</b>	<b>X1</b>	<b>IA</b>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0			
Separator stud for 2 pressures (max. 1 piece)							W														

Example of order: Type Size 1- X1- IA- 1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,W

Terminal type Terminal version Field bus type Valve stations

Valve terminal Size 1, 16 valve stations	
Code	Description
X1	External bus module with 17-pin connector
IA	Remote bus Interbus-S
1	3/2 dirctional control valve, in 0-position closed
0	Blind plate
W	Separator stud for two different pressure ranges

The data enclosed by commas represent the function of one valve station.



Valve terminal Size 1, with field bus interface

System summary

External E-box

Interbus-S/Sinec L2 DP

