

## Valve terminals type 80 CPV-SC, Smart Cubic

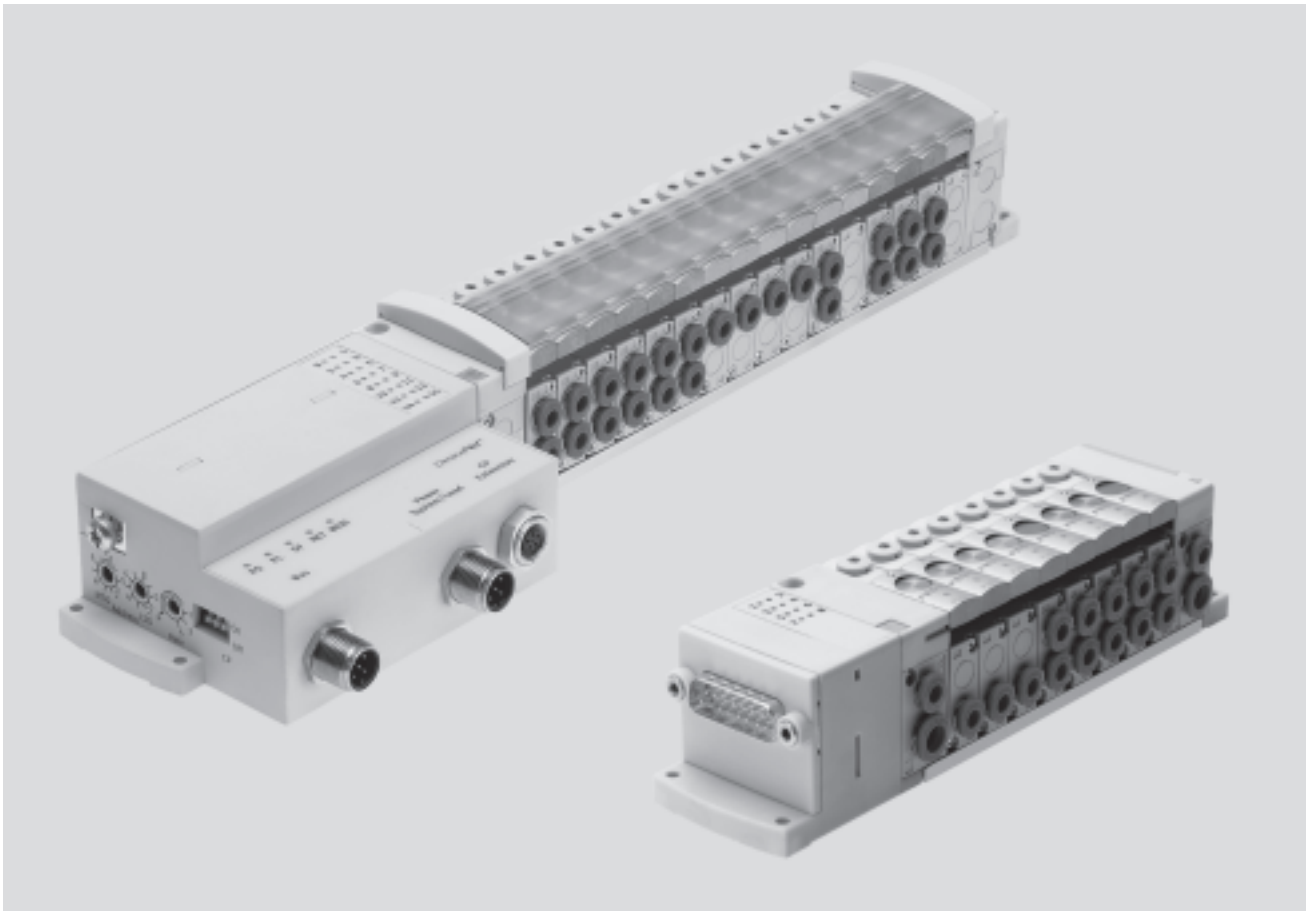
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# Valve terminals type 80 CPV-SC, Smart Cubic

Key features

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## Innovative

- Small, compact valve terminal for a wide range of pneumatic applications
- Enormous flexibility during planning, assembly and operational use
- Multi-pin plug connection and fieldbus interface
- Wide range of selectable valve functions; 5/2-way, 3/2-way and 2/2-way functions
- With flow rates of up to 170 l/min, CPV-SC offers outstanding pneumatic performance for a wide range of applications
- Low weight

## Versatile

- Provides 2 ... 16 valve positions on one terminal
- Ideally suited for operating small pneumatic drives in tight spaces
- The flexibility of the pneumatic working ports provides a practical solution to different requirements
- Round silencers, integrated flat plate silencers or screw/plug connection for ducted exhaust air
- Suitable for vacuum
- Enables multiple pressure zones on a single valve terminal

## Reliable

- Manual override
- Durable thanks to the use of tried and tested piston spool valves
- Sturdy thanks to metal housing and connecting thread
- Fast troubleshooting thanks to an LED on each valve and diagnostics via fieldbus

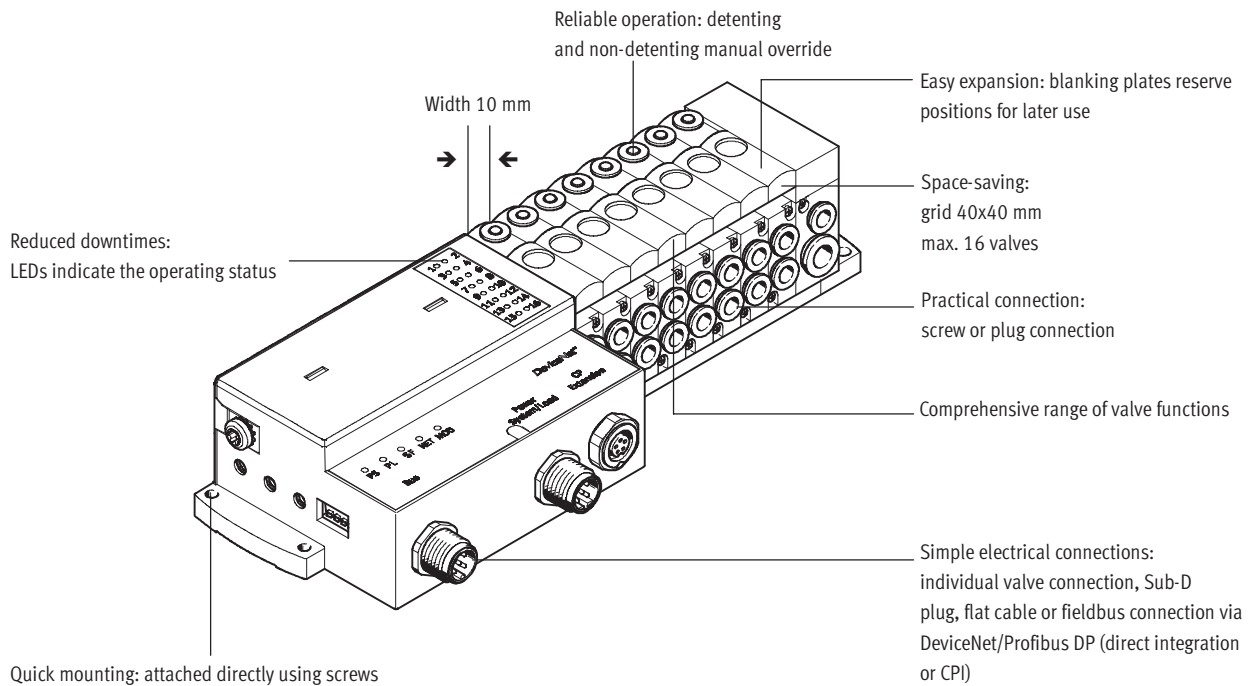
## Easy to mount

- Fully assembled and tested valve terminal
- Less complicated when ordering, installing and commissioning
- Suitable for direct mounting even on moving system components

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Key features

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## Equipment options

### Valve functions

- 5/2-way valve, single solenoid
- 5/2-way valve, double solenoid
- 3/2-way valve, normally open
- 3/2-way valve, normally closed
- 2/2-way valve, normally closed

### Separator plate with additional compressed air supply

- Compressed air channel (1) closed
- Compressed air channel (1) and exhaust duct (3/5) closed

### Blanking plate

- Plate without valve function for reserving a valve position

## Electrical connection options

### Individual connection

- 2 ... 16 valve positions/ max. 16 solenoid coils
- Individual connection, horizontal (H)
- Individual connection, vertical (T)

### Multi-pin plug

- 4 ... 16 valve positions/ max. 16 solenoid coils
- Sub-D
- Flat cable

### Fieldbus Direct

- 4 ... 16 valve positions/ max. 16 solenoid coils
- Profibus
- DeviceNet

### CP string extension

- Further valve terminals CPV-SC-CPI or from the CPV/CPA range
- Electrical I/O modules

### CPI interface

- 4 ... 16 valve positions/ max. 16 solenoid coils
- Further valve terminals CPV-SC-CPI or from the CPV/CPA range

## Valve terminals type 80 CPV-SC, Smart Cubic

Key features

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### Valve terminal configurator

Online via: → [www.festo.com/us/engineering](http://www.festo.com/us/engineering)

Selecting a CPV-SC valve terminal using the online catalogue is quick and easy thanks to the convenient valve terminal configurator provided. This makes it much easier to order the right product. The valve terminals are assembled according to your order specifications and are individually tested. This reduces the assembly and installation time to a minimum. The valve terminal type 80 is ordered using the order code.

Ordering system for type 80

→ Internet: type 80

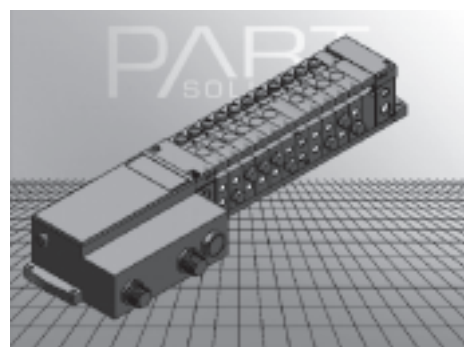


### 2D/3D CAD data

Online via: → [www.festo.com/us/engineering](http://www.festo.com/us/engineering)

You can request the CAD data for a valve terminal you have configured. To do so, perform the product search as described above. Go to the shopping basket and click on the CAD icon

(compass). On the next page you can generate a 3D preview or request another data format of your choice by e-mail.

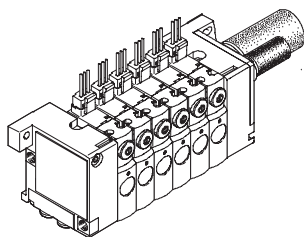


# Valve terminals type 80 CPV-SC, Smart Cubic

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## Individual connection



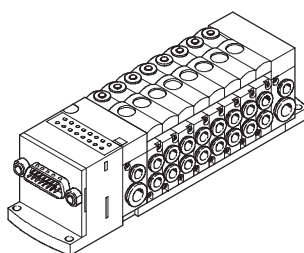
Connection is independent of the control technology used and is flexible thanks to ready to install cables. This ensures correct polarity during installation.

Valves with integrated LED (CPVSC1-M1LH- ...) are available as an option for switching status display. Individual connection permits the selection of 2 to 16 solenoid coils (divided between 2 to 16 valve positions).

Variants

- Individual connection, horizontal
- Individual connection, vertical
- 2 to 16 solenoid coils

## Multi-pin plug connection



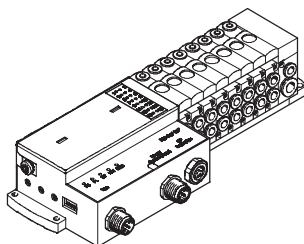
Control signals to the valve terminal are transmitted via a pre-assembled multi-core cable, which substantially reduces installation time.

The multi-pin plug connection enables the selection of 4 to 16 solenoid coils (divided between 4 to 16 valve positions).

Variants

- Sub-D connection
- Flat cable connection
- 4 to 16 solenoid coils

## Fieldbus Direct



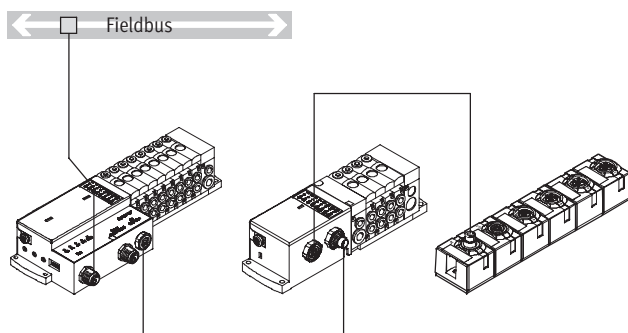
An integrated fieldbus node manages the communication connection to a higher-order PLC. This enables a space-saving pneumatic and electronic solution.

The fieldbus connection enables the selection of 4 to 16 solenoid coils (divided between 4 to 16 valve positions).

Variants

- DeviceNet connection (CP functionality)
- Profibus connection (CPI functionality)
- 4 to 16 solenoid coils

## Fieldbus Direct with CP string extension



The optional string extension enables additional valve terminals and I/O modules to be connected to the fieldbus node of the CPV-SC. A CP string of the CPI installation system is integrated in the fieldbus node as an extension. Different input and output modules as well as CPV, MPA, CPV-SC, CPA valve terminals can be connected. The maximum length of the CP string extension is 10 metres, which means that the extension modules can be mounted directly on-site. All of the required electrical signals are transmitted via the CP cable, which in turn means that no further installation is needed on the extension module.

The CP string interface offers:

- Logic and sensor supply for the input modules
- Load voltage supply for the valve terminals
- Logic supply for the output modules

With CP functionality:

- 16 input signals
- 16 output signals for output modules 24 V DC or solenoid coils

With CPI functionality:

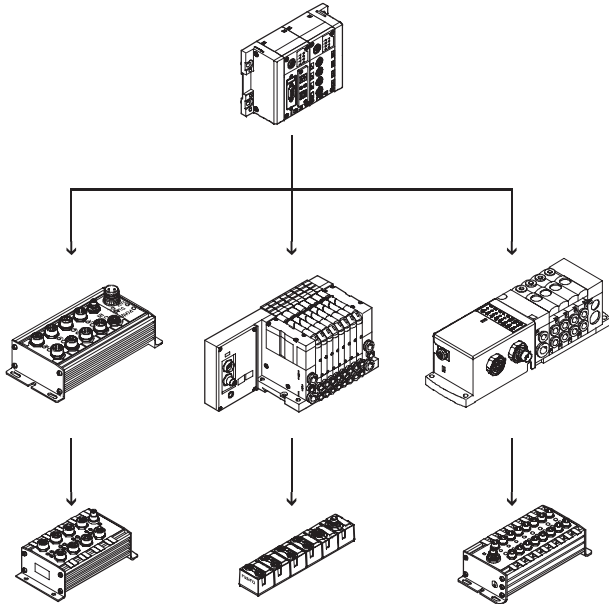
- 32 input signals
- 32 output signals for output modules 24 V DC or solenoid coils

# Valve terminals type 80 CPV-SC, Smart Cubic

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## CPI installation system



Valve terminal for CPI installation system:

Valve terminals with CP connection are intended for connection to higher-order fieldbus nodes or to control blocks. A fieldbus node or control block also enables the connection of decentralised input/output units. The following fieldbus protocols are supported:

- Festo fieldbus, ABB CS31, Moeller Suconet K
- Interbus
- Allen Bradley (1771 RIO)
- DeviceNet
- Profibus DP, 12 MBd
- CC-Link
- CANopen
- Modbus/TCP
- Ethernet
- PROFINET
- EtherCAT

Four strings with up to 32 inputs and outputs can be connected to a fieldbus node or control block. The connecting cables transmit the power supply for the input modules and the load voltage for the valves as well as control signals.

Further information

➔ Internet: ctec

# Valve terminals type 80 CPV-SC, Smart Cubic

Peripherals overview

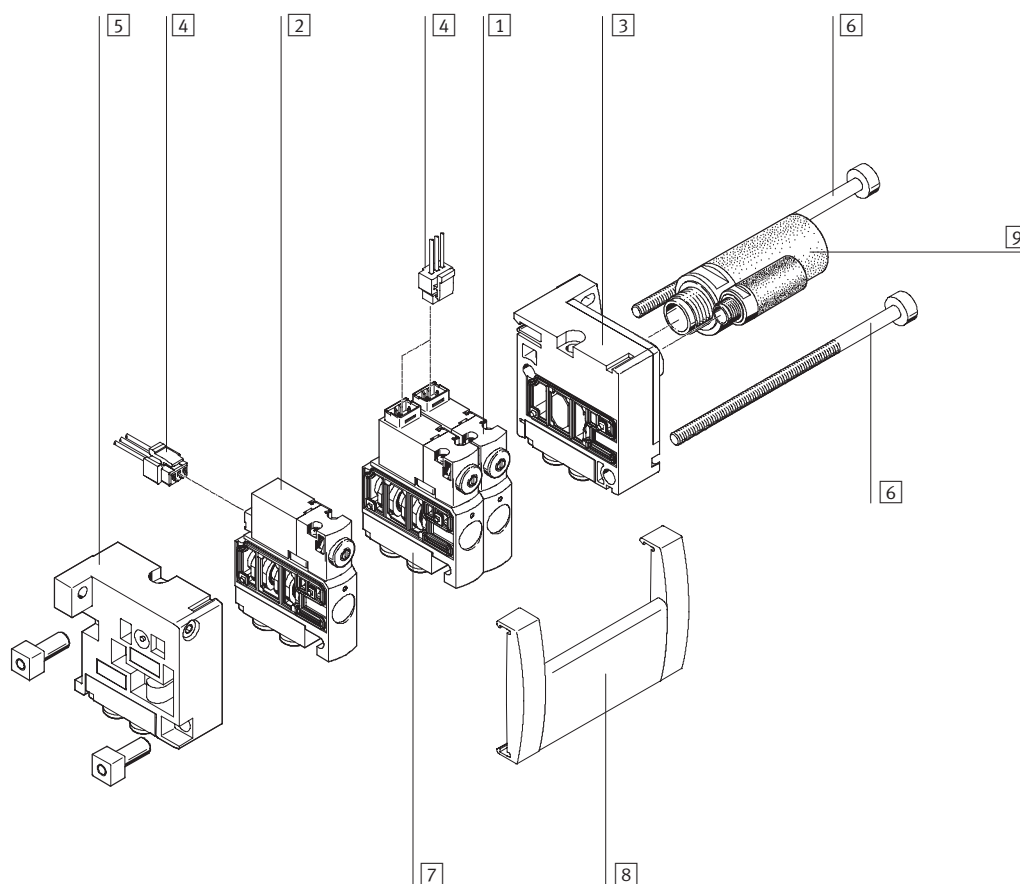
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## Overview – CPV-SC valve terminal

Valve terminal with individual electrical connections

- Vertical individual connection  
Code: T
- Horizontal individual connection  
Code: H

Valve terminals with individual electrical connection can be equipped with 2 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.



- 1 Valve with vertical individual connection
- 2 Valve with horizontal individual connection
- 3 Right-hand end plate for unducted exhaust air

- 4 Plug socket with cable for individual electrical connection of valves
- 5 Left-hand end plate for compressed air supply 1 or 12/14

- 6 Tie rod
- 7 Sub-base for working ports (push-in fitting or threaded)

- 8 Inscription label holder
- 9 Silencer

# Valve terminals type 80 CPV-SC, Smart Cubic

Peripherals overview

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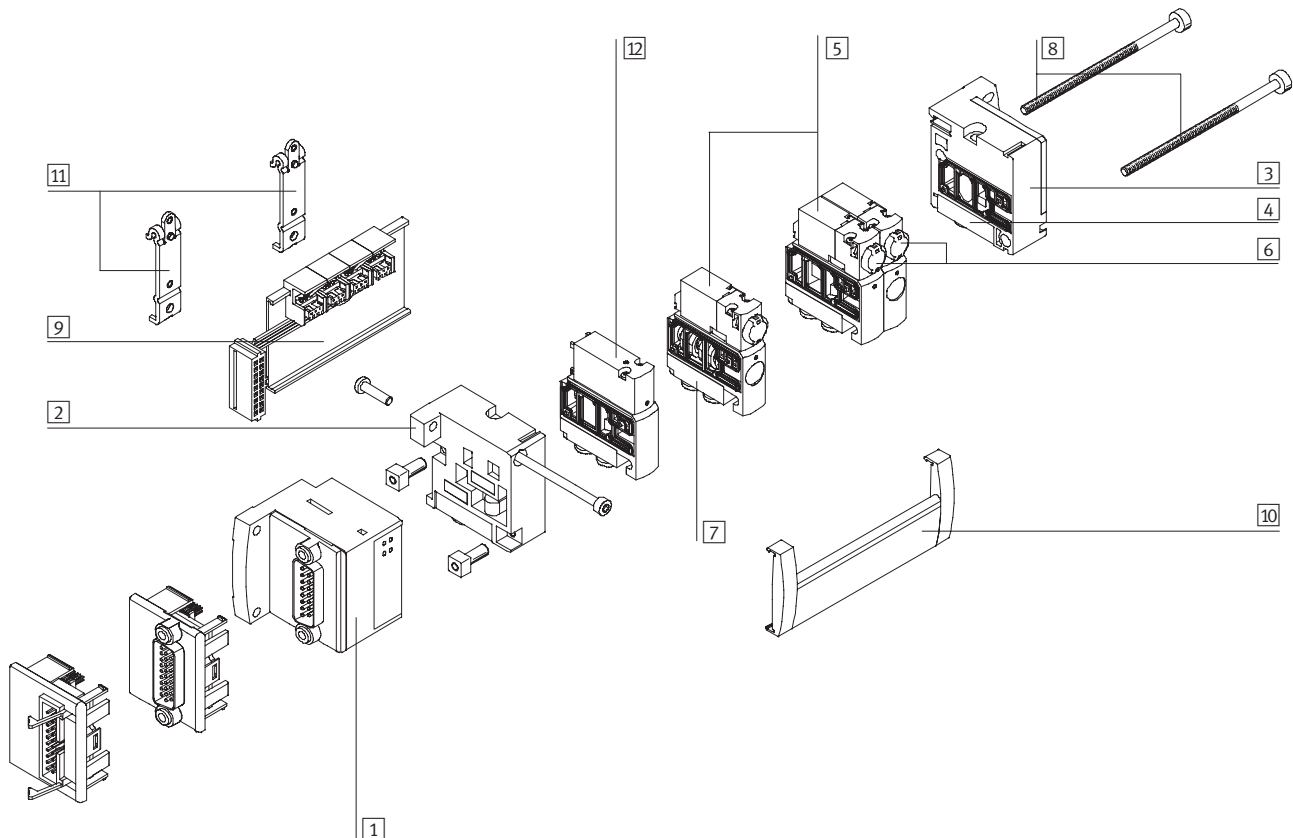
## Valve terminal with electrical multi-pin plug connection

- 15- and 26-pin Sub-D multi-pin plug connection  
Code: MS, MH
- or
- 20-pin multi-pin plug connection with connector for flat cable  
Code: MF

Valves and end plates are the basic pneumatic components of the valve terminal.  
The valve terminals are connected to the end plates using tie rods.

Valve terminals with electrical multi-pin plug connection can be equipped with 4 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.

The electrical connection is located on the left-hand side, thereby allowing flush mounting of the system.



- |   |  |  |                                       |
|---|--|--|---------------------------------------|
| 1 Electrical control unit (with LED switching status displays) for Sub-D plug or flat cable | 3 Right-hand end plate for ducted exhaust air or silencer (3/5 or 82/84) | 6 Cover for manual override (optional)                     | 9 Electrical valve linking module     |
| 2 Left-hand end plate for compressed air supply 1 or 12/14                                  | 4 Sub-base for ducted exhaust air (push-in fitting or threaded)          | 7 Sub-base for working ports (push-in fitting or threaded) | 10 Inscription label holder           |
|   | 5 Valve  | 8 Tie rod  | 11 H-rail mounting                    |
|   |  |  | 12 Blanking plate for vacant position |



# Valve terminals type 80 CPV-SC, Smart Cubic

Peripherals overview

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## Valve terminal with Fieldbus Direct

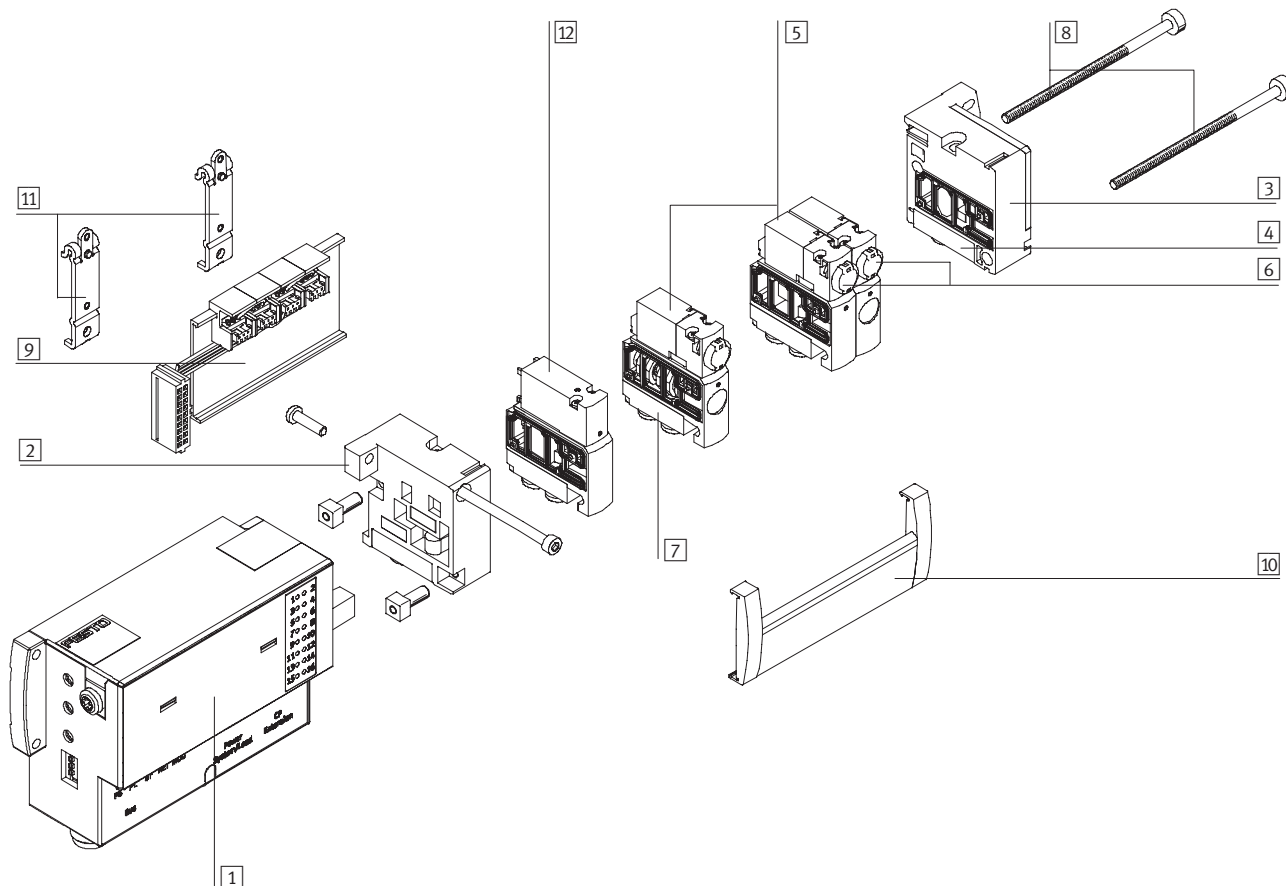
- M12 A-coded DeviceNet connection  
Code: DN  
or
- 9-pin Sub-D connection for Profibus  
Code: DP

Valves and end plates are the basic pneumatic components of the valve terminal.

The valve terminals are connected to the end plates using tie rods.

Valve terminals with Fieldbus Direct DeviceNet/Profibus DP can be equipped with 4 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.

The electrical connection is in the same direction as the tubing in order to save space.



- |   |  |   |  |
|---|--|---|--|
| <b>1</b> Fieldbus Direct  | <b>4</b> Sub-base for ducted exhaust air (push-in fitting or threaded) | <b>7</b> Sub-base for working ports (push-in fitting or threaded) | <b>10</b> Inscription label holder           |
| <b>2</b> Left-hand end plate for compressed air supply 1 or 12/14               | <b>5</b> Valve   | <b>8</b> Tie rod  | <b>11</b> H-rail mounting                    |
| <b>3</b> Right-hand end plate for ducted exhaust air or silencer (3/5 or 82/84) | <b>6</b> Cover for manual override (optional)                          | <b>9</b> Electrical valve linking module                          | <b>12</b> Blanking plate for vacant position |

# Valve terminals type 80 CPV-SC, Smart Cubic

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Peripherals overview

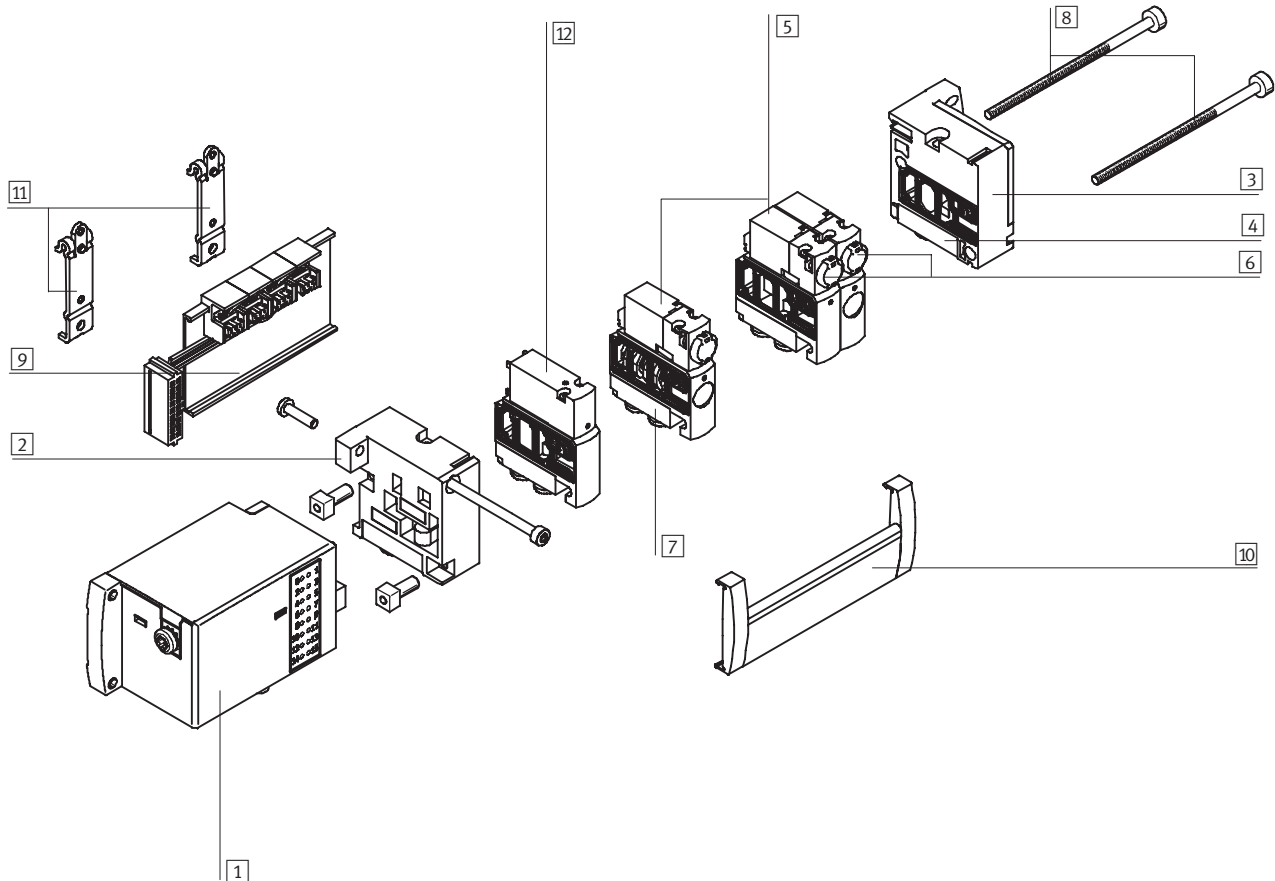
## Valve terminal with CPI connection

CP interface M9, 5-pin  
Code: CP

Valves and end plates are the basic pneumatic components of the valve terminal.  
The valve terminals are connected to the end plates using tie rods.

Valve terminals with CPI interface can be equipped with 4 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.

The electrical connection is in the same direction as the tubing in order to save space.



- |   |  |   |  |
|---|--|---|--|
| <b>1</b> CPI connection   | <b>4</b> Sub-base for ducted exhaust air (push-in fitting or threaded) | <b>7</b> Sub-base for working ports (push-in fitting or threaded) | <b>10</b> Inscription label holder           |
| <b>2</b> Left-hand end plate for compressed air supply 1 or 12/14               | <b>5</b> Valve   | <b>8</b> Tie rod  | <b>11</b> H-rail mounting                    |
| <b>3</b> Right-hand end plate for ducted exhaust air or silencer (3/5 or 82/84) | <b>6</b> Cover for manual override (optional)                          | <b>9</b> Electrical valve linking module                          | <b>12</b> Blanking plate for vacant position |

# Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Pneumatic components

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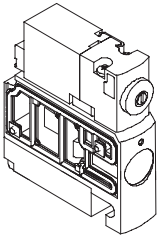
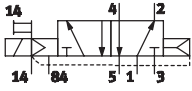
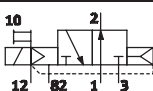

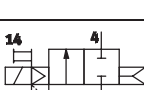
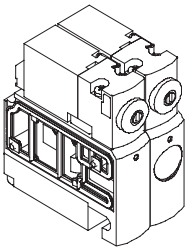

## Valves

CPVSC1 valves are valves with integrated sub-base, i.e. in addition to the valve function they contain all of the ducts for supply, exhaust and the

working ports. The supply ducts are a central component of the valve slices and enable a direct flow of air. This helps achieve maximum flow rates. All

valves have a pneumatic pilot control for optimising performance. The valve function is based on a piston spool system with a patented sealing

principle that guarantees its suitability for a wide range of applications as well as a long service life.

Valve functions	Code	Circuit symbol	Width 10 mm	Description
	M		■	5/2-way single solenoid valve • Pneumatic spring return
	N		■	3/2-way single solenoid valve • Normally open • Pneumatic spring return
	K		■	3/2-way single solenoid valve • Normally closed • Pneumatic spring return
	D		■	2/2-way single solenoid valve • Normally closed • Pneumatic spring return
	J		■	5/2-way double solenoid valve This valve consists of two valve housing units and therefore occupies two valve positions. The pilot control with coil 12 is located on the left and labelled "J12". If both coils are actuated, the signal at port "14" dominates in switching position.

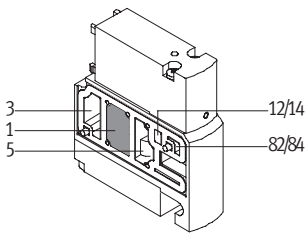
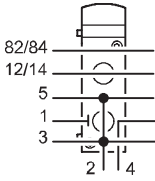
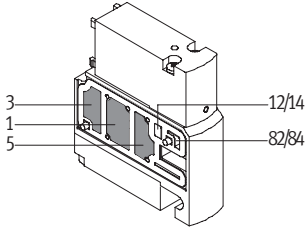
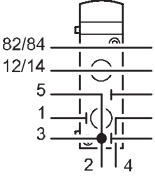
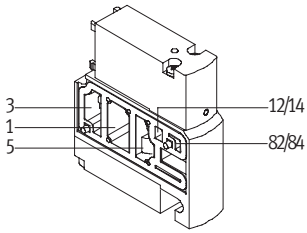
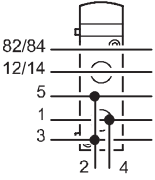
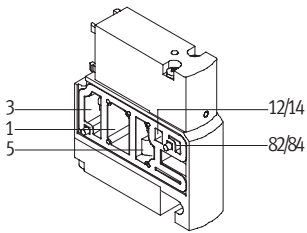
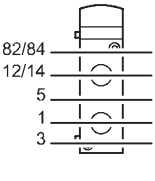
### Note

For vacuum operation valves require a filter. This is to avoid that foreign matter is drawn into the valve (e.g. when using a suction cup).

## Valve terminals type 80 CPV-SC, Smart Cubic

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Key features – Pneumatic components

Valves				
Valve functions	Code	Circuit symbol	Width 10 mm	Description
Pneumatic supply plate with duct separation				
 <p>3 12/14 1 82/84 5</p>	T	 <p>82/84 12/14 5 1 3 2 4</p>	■	Compressed air channel (1) closed For separating pressure zones with a common exhaust. (Using pressure zones → 14) Pneumatic connection: QS-4, M5
 <p>3 12/14 1 82/84 5</p>	S	 <p>82/84 12/14 5 1 3 2 4</p>	■	Compressed air channel (1) and exhaust duct (3/5) closed For separating pressure zones with a separate exhaust. (Using pressure zones → 14) Pneumatic connection: QS-4, M5
Pneumatic supply plate without duct separation				
 <p>3 12/14 1 82/84 5</p>	U	 <p>82/84 12/14 5 1 3 2 4</p>	■	Additional compressed air supply (1) and additional exhaust (3/5). Pneumatic connection: QS-4, M5
Blanking plate				
 <p>3 12/14 1 82/84 5</p>	L	 <p>82/84 12/14 5 1 3</p>	■	Plate without valve function for reserving a valve position. No pneumatic connection

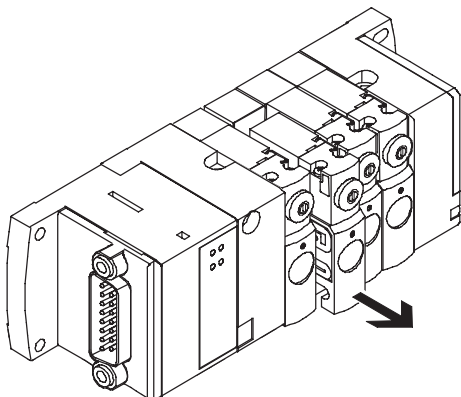
In the case of compressed air supply configuration code S or T (exhausting via flat plate silencer), a plug-in silencer UC-QS-4H is included with supply plates.

# Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Pneumatic components

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## Constructional design



### Valve replacement

Valves can be replaced quickly and easily in just a few movements. Separating seals between the valves are based on a metal support and are secured in place.

### Extension

Valves can be ordered as accessories and are available with fully assembled sub-bases with QS or threaded connections. The functionality of the valve terminal can therefore be extended by equipping vacant positions. For ordering purposes, valves have the valve code printed on the front and the product type on the back.

### Materials

The valve housing and thread in the sub-bases are metallic, while other housing sections are made from robust plastic materials.

### Note

The valve with the working sub-base has been tested by Festo for leak tightness.

## Pilot air supply

The port for the main pneumatic supply is located on the left-hand end plate.

The ports differ for the following types of pilot air supply:

- Internal
- External

### Internal pilot air supply

An internal pilot air supply can be selected if the terminal is working in an operating pressure range between 3 and 7<sup>1)</sup> bar.

The pilot air supply in the left-hand end plate is then branched from the compressed air supply 1 using an internal connection. The port 12/14 is closed using a blanking plug.

### External pilot air supply

If the terminal is working in an operating pressure range from –0.9 to 3 bar, you must operate your CPV-SC valve terminal using an external pilot air supply. The pilot air supply is also supplied via port 12/14 on the left-hand end plate in this case.

1) 8 bar upon request

## Creation of pressure zones and separation of exhaust air

The CPV-SC valve terminal can be operated with multiple pressure zones. After two zones, a supply with duct separation is required for each subsequent pressure zone. It always

occupies one valve position. An isolating disc T separates the compressed air supply of a valve group on the left from the compressed air supply of a valve group on the

right. The right-hand pressure zone is supplied at port 4 of the supply plate. Port 2 also allows the left-hand pressure zone to be exhausted. All of the exhaust ducts of the valve are

interconnected and are exhausted through the right-hand end plate. An isolating disc S also separates exhaust ducts 3 and 5 in addition to pressure duct 1.

### Note

Larger or simultaneously operating cylinders generate a back pressure in the exhaust duct of the valve terminal, the level of which depends on the exhaust capacity of the silencer. In order to prevent

interaction with adjacent valves, valves can be separated by means of duct separation using isolating disc S. The pressure zone located to the left of an isolating disc S is

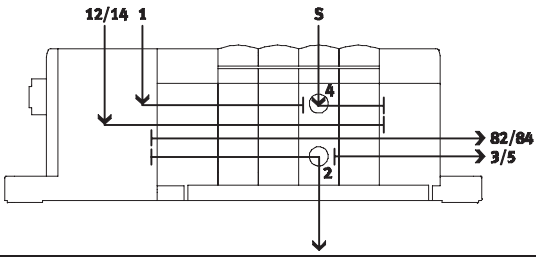
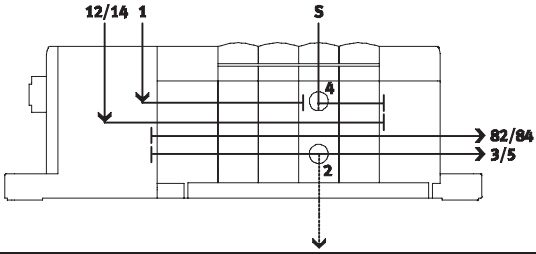
exhausted using the supplied plug-in silencer. Where there are more than two valves in such a pressure zone, an additional supply with additional exhaust may be required. It is

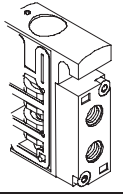
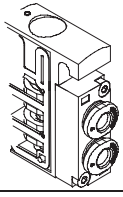
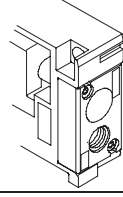
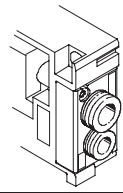
therefore useful to meet the higher exhaust requirements in the pressure zone that is exhausted by the right-hand end plate.

## Valve terminals type 80 CPV-SC, Smart Cubic

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Key features – Pneumatic components

Creating pressure zones		
	Code	Description
	S	Duct 1 and 3/5 separated
	T	Duct 1 separated

Pneumatic working ports		
	Code	Description
Working port		
	B	M5 threaded connection
	E	QS-3 push-in connector
	F	QS-4 push-in connector
Supply port, left-hand end plate		
	C	Threaded connection <ul style="list-style-type: none"> <li>• M7 (internal pilot air supply)</li> <li>• M5 and M7 (external pilot air supply)</li> </ul>
	G	Push-in connection <ul style="list-style-type: none"> <li>• QS-6 (internal pilot air supply)</li> <li>• QS-4 and QS-6 (external pilot air supply)</li> </ul>

## Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Pneumatic components

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### Ports for supply and exhaust

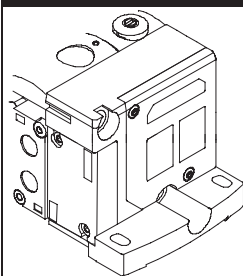
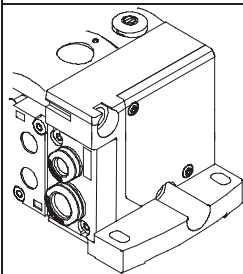
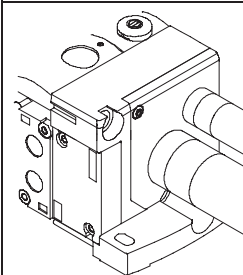
#### Supply and exhaust

A basic feature of a CPV-SC valve terminal are the two end plates.

The left-hand end plate is used to supply compressed air, while the right-hand end plate is used to exhaust the valve terminal.

Exhaust air escapes either via an integrated flat plate silencer, round silencer or via a push-in or threaded connection.

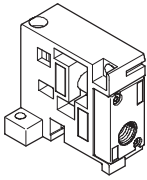
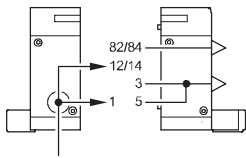
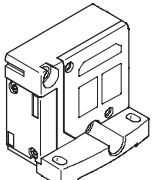
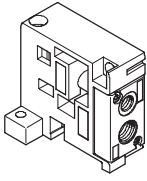
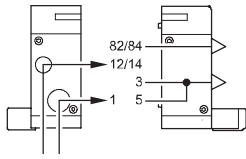
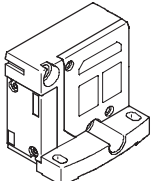
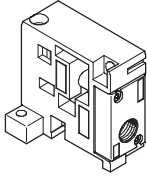
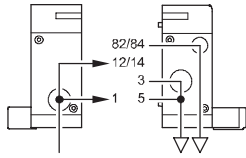
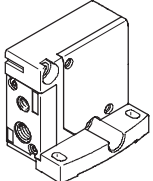
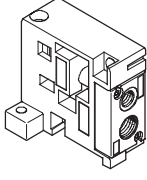
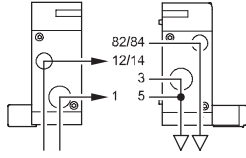
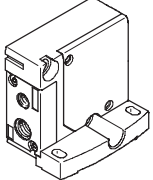
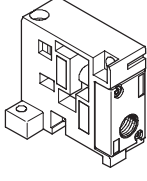
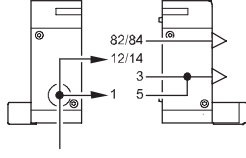
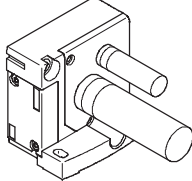
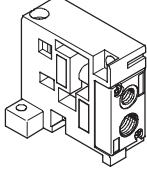
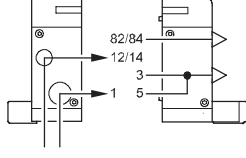
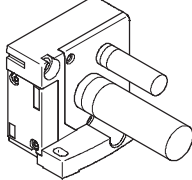
### Ports for exhaust

	Code	Description
	S	<ul style="list-style-type: none"> <li>Internal pilot air supply</li> <li>Exhaust from duct 3/5 as well as 82/84 is via a flat plate silencer</li> <li>Replacement part (insert) for flat plate silencer: Type CPVSC1-UA</li> </ul>
	T	<ul style="list-style-type: none"> <li>External pilot air supply</li> <li>Exhaust from duct 3/5 as well as 82/84 is via a flat plate silencer</li> <li>Replacement part (insert) for flat plate silencer: Type CPVSC1-UA</li> </ul>
	V	<ul style="list-style-type: none"> <li>Internal pilot air supply</li> <li>Exhaust from duct 3/5 as well as 82/84 is via ducted exhaust air</li> </ul>
	X	<ul style="list-style-type: none"> <li>External pilot air supply</li> <li>Exhaust from duct 3/5 as well as 82/84 is via ducted exhaust air</li> </ul>
	Y	<ul style="list-style-type: none"> <li>Internal pilot air supply</li> <li>Exhaust from duct 3/5 as well as 82/84 is via a round silencer</li> </ul>
	Z	<ul style="list-style-type: none"> <li>External pilot air supply</li> <li>Exhaust from duct 3/5 as well as 82/84 is via a round silencer</li> </ul>

## Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Pneumatic components

**FESTO**

Pneumatic supply		
End plate combination	Code	Description
  	S	<p>Internal pilot air supply, flat plate silencer</p> <p>For operating pressure in the range 3 ... 7 bar</p>
  	T	<p>External pilot air supply, flat plate silencer</p> <p>For operating pressure in the range -0.9 ... +7 bar</p>
  	V	<p>Internal pilot air supply, ducted exhaust air</p> <p>For operating pressure in the range 3 ... 7 bar</p>
  	X	<p>External pilot air supply, ducted exhaust air</p> <p>For operating pressure in the range -0.9 ... +7 bar</p>
  	Y	<p>Internal pilot air, round silencer</p> <p>For operating pressure in the range 3 ... 7 bar</p>
  	Z	<p>External pilot air supply, round silencer</p> <p>For operating pressure in the range -0.9 ... +7 bar</p>

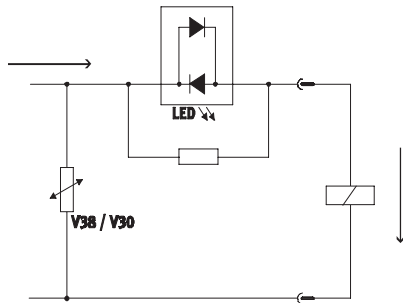


# Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Electrical components

**FESTO**

## Protective circuit



Each solenoid coil is protected with a spark arresting protection circuit as well as against polarity reversal.

## Electrical multi-pin plug connection

The following multi-pin plug connection types are offered for the valve terminal CPV-SC:

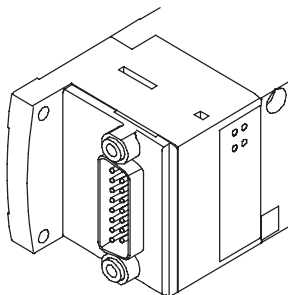
- Sub-D multi-pin plug connection (15- and 26-pin) or
- Multi-pin plug connection with connector for flat cable (20-pin)

CPV-SC is connected via a multi-pin plug connection with Sub-D or flat cable. Each pin of the multi-pin plug is assigned a maximum of one valve position and therefore one coil or one address.

Double solenoid valves “J” occupy two valve positions. The left-hand valve position with pilot control 12 is actuated by the less significant of the two addresses.

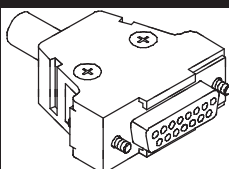
## Electrical multi-pin plug connection – Sub-D

Code MS, MH



With this electrical connection variant, all valves are centrally actuated via the 15 and 26-pin connector plug. The electrical connection is located on the left-hand side.

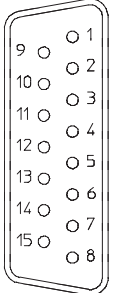
## Ordering data – Connecting cable Sub-D

	Code	Description	Cable length [m]	Type	Part No.
	CP	15-pin for 12 coils (code MS)	2.5	KMP6-15P-12-2,5	527543
	CQ	Material: PVC	5	KMP6-15P-12-5	527544
	CR		10	KMP6-15P-12-10	527545
	CP	26-pin for 16 coils (code MH)	2.5	KMP6-26P-16-2,5	527546
	CQ	Material: PVC	5	KMP6-26P-16-5	527547
	CR		10	KMP6-26P-16-10	527548

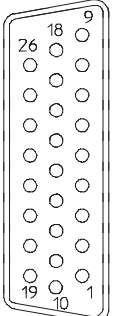
## Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Electrical components

FESTO

Pin allocation for 15-pin Sub-D (code MS)				
KMP6-15P-12-...	Description	Pin	Core colour	Address/coil
	Plug socket with cable for the CPV-SC valve terminal with max. 12 valve positions	1	White	Coil 0
		2	Brown	Coil 1
		3	Green	Coil 2
		4	Yellow	Coil 3
		5	Grey	Coil 4
		6	Pink	Coil 5
		7	Blue	Coil 6
		8	Red	Coil 7
		9	Black	Coil 8
	<b>Note</b>  The drawing shows a plan view of the Sub-D socket on the multi-pin cable KMP6-15P-12-....	10	Purple	Coil 9
		11	Grey-pink	Coil 10
		12	Red-blue	Coil 11
		13	White-green	n.c.
		14	Brown-green	0 V <sup>1)</sup>
		15	White-yellow	0 V <sup>1)</sup>

- 1) Pin 14 to pin 15 are bridged in the valve terminal.  
0 V for positive switching control signals; 24 V can be connected for negative switching control signals.

Pin allocation for 26-pin Sub-D (code MH)				
KMP6-26P-16-...	Description	Pin	Core colour	Allocation
	Plug socket with cable for the CPV-SC valve terminal with 16 valve positions	1	White	Coil 0
		2	Brown	Coil 1
		3	Green	Coil 2
		4	Yellow	Coil 3
		5	Grey	Coil 4
		6	Pink	Coil 5
		7	Blue	Coil 6
		8	Red	Coil 7
		9	Black	Coil 8
		10	Purple	Coil 9
		11	Grey-pink	Coil 10
		12	Red-blue	Coil 11
		13	White-green	Coil 12
		14	Brown-green	Coil 13
		15	White-yellow	Coil 14
		16	Yellow-brown	Coil 15
	<b>Note</b>  The drawing shows a plan view of the Sub-D socket on the multi-pin cable KMP6-26P-12-....	17	–	n.c.
		18	–	n.c.
		19	–	n.c.
		20	–	n.c.
		21	–	n.c.
		22	–	n.c.
		23	White-grey	0 V <sup>1)</sup>
		24	Grey-brown	0 V <sup>1)</sup>
		25	White-pink	0 V <sup>1)</sup>
		26	Pink-brown	0 V <sup>1)</sup>

- 1) Pin 17 to pin 22 are bridged in the valve terminal.  
0 V for positive switching control signals; 24 V can be connected for negative switching control signals.

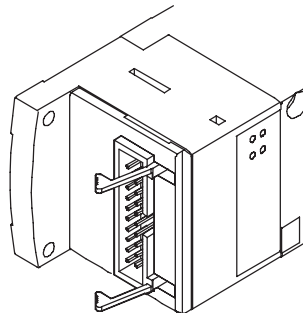
# Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Electrical components

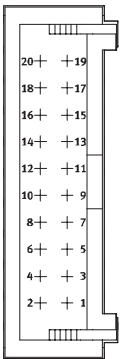


## Electrical multi-pin plug connection – Connector for flat cable

Code MF



With this electrical connection variant, all valves are centrally actuated via the 20-pin connector plug.  
The electrical connection is located on the left-hand side.

Pin allocation – Connector for flat cable (code MF)		
	Pin	Allocation
	1	Coil 0
	2	Coil 1
	3	Coil 2
	4	Coil 3
	5	Coil 4
	6	Coil 5
	7	Coil 6
	8	Coil 7
	9	Coil 8
	10	Coil 9
	11	Coil 10
	12	Coil 11
	13	Coil 12
	14	Coil 13
	15	Coil 14
	16	Coil 15
	17	0 V <sup>1)</sup>
	18	0 V <sup>1)</sup>
	19	0 V <sup>1)</sup>
	20	0 V <sup>1)</sup>
CPV-SC valve terminal with up to 16 valve positions and 20-pin multi-pin socket for flat cables to DIN 41561-1, -2 or IEC 60603-13-C020FD-7C1E-2G		
Contact surface gold		
Flat cable grid 1.27 mm		
Conductor cross section 0.13 mm <sup>2</sup>		

1) Pin 17 to pin 20 are bridged in the valve terminal.

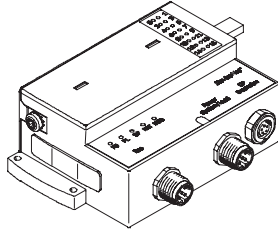
# Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Electrical components

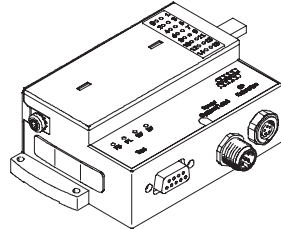
FESTO

## Fieldbus Direct

DeviceNet



Profibus DP



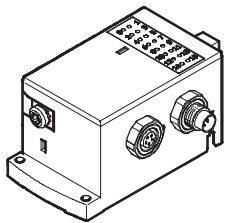
## Properties

Fieldbus Direct is a system for the compact connection of a valve terminal of various sizes to different fieldbus standards.  
The CP string extension option allows the functions and components of the CPI installation system to be used.

The I/O modules and cables for the CP string extension are ordered using the order code for the CPI installation system.

➔ Internet: ctec

## Fieldbus connection CP



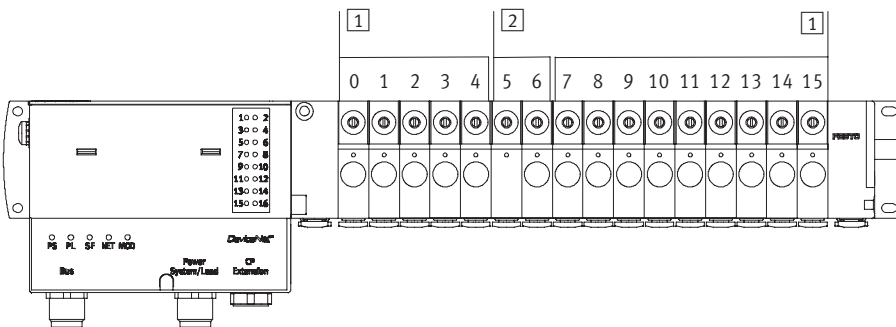
All CP valve terminals and CP modules are connected using a ready to install CP cable, and are attached to the CP interface. Four modules, for example one CPV-SC valve terminal and one to three CP input modules, make up an installation string that ends at the CP

interface. The installation system supports a maximum of 4 installation strings, which can be connected to a CP fieldbus node.  
The CP interface of CPV-SC is represented in the CP/CPI system by a module with 16 outputs.

### Note

Further information can be found in  
➔ Internet: ctec

## Address allocation – Solenoid coils



1 Single solenoid valves occupy one valve position

2 Double solenoid valves occupy two valve positions

### Example:

Valve terminal where valve positions 5 and 6 are prepared for double solenoid valves.

The addresses of the valve positions on the CPV-SC-DN/CPV-SC-DP are assigned from left to right. Each valve position has an address, regardless of whether or not a valve is mounted there.

Double solenoid valves “J” occupy two valve positions. The left-hand valve position with pilot control 12 is actuated by the less significant of the two addresses.

# Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Display and operation

## Display and operation

The switching status of every solenoid coil is displayed on the control unit LED. Inscription labels (type MH-BZ-80x) can be applied to each valve for labelling purposes.

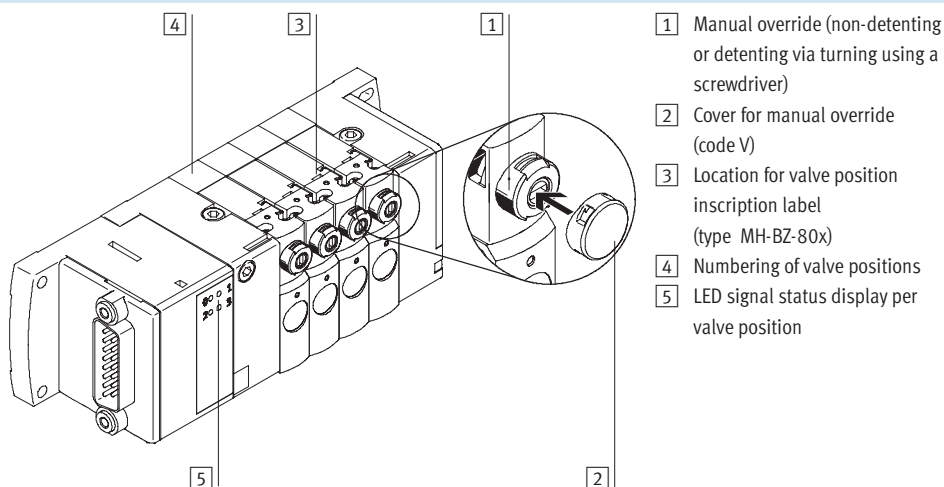
The manual override (MO) allows the valve to be activated without electronic control or power supply. The valve is activated by pushing the manual override. The set switching status can also be secured by rotating the manual override.

A cover can be fitted over the manual override to prevent it from being activated accidentally (code V).

### Note

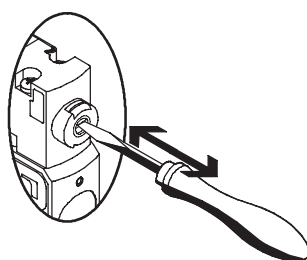
A manually activated valve (manual override) cannot be reset electrically. Conversely, an electrically activated valve cannot be reset using the manual override facility.

## Manual override (MO)



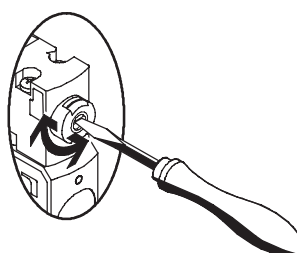
- 1 Manual override (non-detenting or detenting via turning using a screwdriver)
- 2 Cover for manual override (code V)
- 3 Location for valve position inscription label (type MH-BZ-80x)
- 4 Numbering of valve positions
- 5 LED signal status display per valve position

## Manual override with automatic return (non-detenting)



Manual override is actuated by pushing it with a pointed object or screwdriver and reset by spring force.

## Manual override set via turning (detenting)



Manual override remains active until it is reset with a screwdriver.

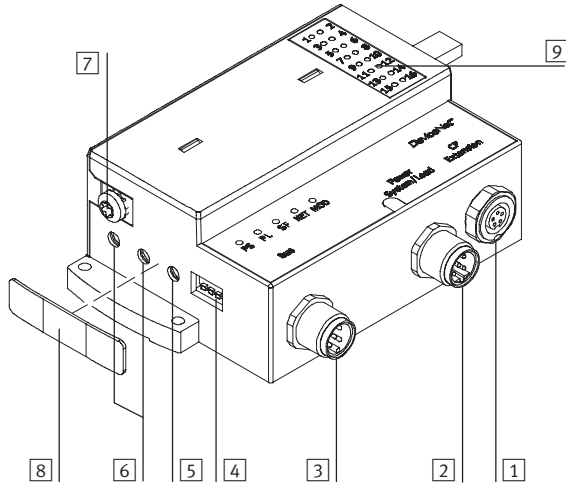
# Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Display and operation

FESTO

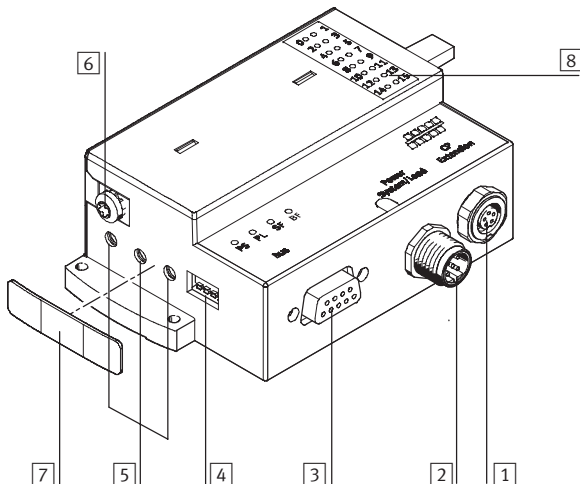
## Display and operation

Fieldbus Direct – DeviceNet



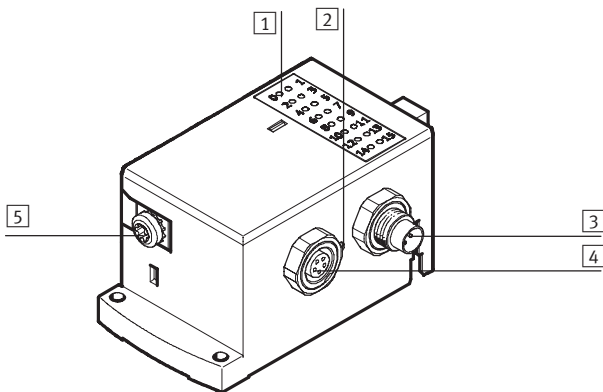
- 1 Connection for CP extension (with CP functionality)
- 2 Connection for power supply
- 3 Connection for fieldbus
- 4 DIL switch for CP extension
- 5 Rotary switch for baud rate
- 6 Rotary switch for station number
- 7 Earth terminal
- 8 Cover (for IP40 protection)
- 9 Switching status display per valve

Fieldbus Direct – Profibus DP



- 1 Connection for CP extension (with CPI functionality)
- 2 Connection for power supply
- 3 Connection for fieldbus
- 4 DIL switch for CP extension
- 5 Rotary switch for station number
- 6 Earth terminal
- 7 Cover (for IP40 protection)
- 8 Switching status display per valve

CP interface



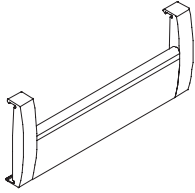
- 1 Status LEDs for valves
- 2 Status LED for CP communication
- 3 CP connection, incoming
- 4 CP connection, outgoing
- 5 Earth terminal

# Valve terminals type 80 CPV-SC, Smart Cubic

Key features – Display and operation

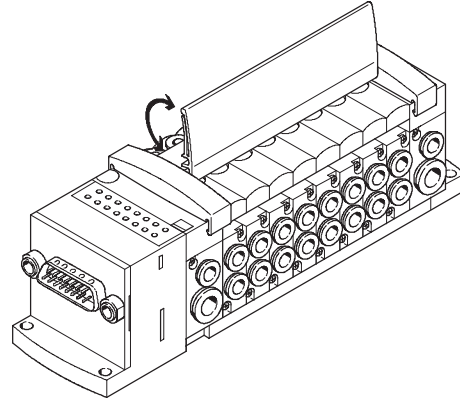
FESTO

## Inscription label holder



The transparent inscription label holder provides sufficient space for individually created labels on paper or foil.

Labelling templates are available on  
→ [www.festo.com](http://www.festo.com)



# Valve terminals type 80 CPV-SC, Smart Cubic

FESTO

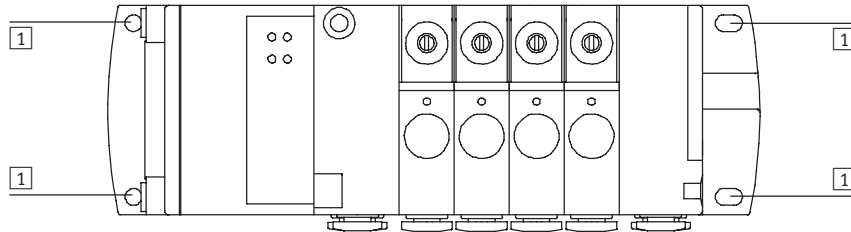
Key features – Mounting types

## Mounting – Valve terminal

Sturdy terminal mounting thanks to:

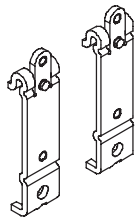
- Four through-holes for wall mounting
- H-rail mounting

### Wall mounting

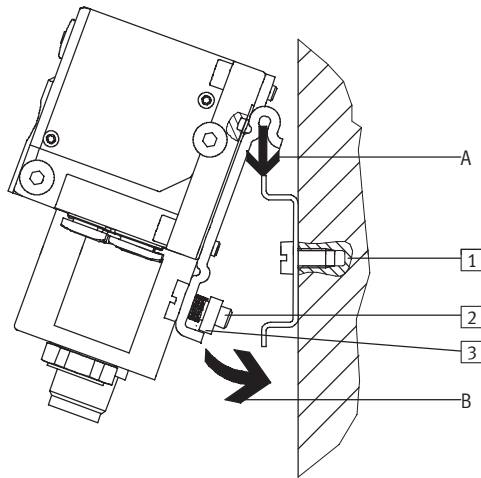


1 Mounting holes for screws M3

### H-rail mounting



The mounting CPVSC1-HS35 facilitates mounting on a H-rail to EN 60715.



The CPV-SC valve terminal is attached to the H-rail (see arrow A). The valve terminal is then swivelled on the H-rail and secured in place with the clamping component (see arrow B).

- 1 Holes for wall mounting
- 2 Self-tapping M4x10 screw of the H-rail clamping unit
- 3 Clamping component of the H-rail clamping unit



## Valve terminals type 80 CPV-SC, Smart Cubic

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Technical data

Flow rate

170 l/min

-  -

Valve width

10 mm

Voltage

5, 12, 24 V DC



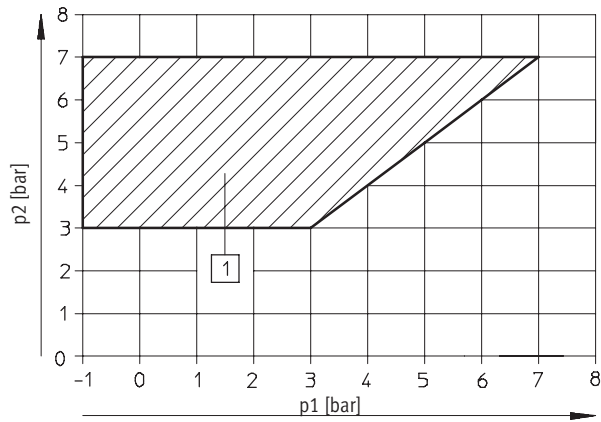
General technical data					
Valve	5/2-way valve		3/2-way valve		2/2-way valve
	Single solenoid	Double solenoid	Normally open	Normally closed	Normally closed
Valve function order code	M	J	N	K	D
Constructional design	Electromagnetically actuated piston spool valve				
Width [mm]	10		10		10
Nominal diameter [mm]	2.5		2.5		2.5
Standard nominal flow rate [l/min]	170		170		150
Lubrication	Life-time lubrication				
Type of mounting	Wall mounting				
Mounting position	Any				
Manual override	Non-detenting/detenting/blocked				
Pneumatic connections					
Supply	1	M7, QS-6			
Exhaust port	3/5	M7, QS-6, round silencer or integrated flat plate silencer			
Working ports	2/4	Depending on the connection type selected <ul style="list-style-type: none"><li>• M5</li><li>• QS-3</li><li>• QS-4</li></ul>			
Pilot air port	12/14	M5, QS-4			
Pilot exhaust air port	82/84	M5, QS-4, round silencer or integrated flat plate silencer			

# Valve terminals type 80 CPV-SC, Smart Cubic

Technical data

FESTO

Pilot pressure p2 as a function of operating pressure p1



1 Operating range for valves with external pilot air

Valve response times [ms]

Valve function order code		M	J	N	K	D
Response times	on	10	10	10	10	10
	off	10	–	10	10	10
	changeover	–	8	–	–	–

Operating and environmental conditions

Valve function order code		M	J	N	K	D
Operating medium		Filtered compressed air, lubricated or unlubricated, inert gases permissible → 28				
Grade of filtration	[µm]	40				
Paint-wetting impairment substances criterion		Yes (free of paint-wetting impairment substances)				
CE certification		Yes, with control unit to EMC regulations				
Certification		c UL us recognized (OL)				
Operating pressure	bar]	–9 ... +7				
Operating pressure for valve terminal with internal pilot air supply	bar]	3 ... 7				
Pilot pressure	bar]	3 ... 7				
Ambient temperature	[°C]	–5 ... +50				
Temperature of medium	[°C]	–5 ... +50				
Storage temperature	[°C]	–20 ... +40				
Corrosion resistance class CRC <sup>1)</sup>		1				
Note on materials		RoHS-compliant				

1) Corrosion resistance class 1 according to Festo standard 940 070

Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

# Valve terminals type 80 CPV-SC, Smart Cubic

FESTO

Technical data

Electrical data							
Valve function order code			M	J	N	K	D
Electromagnetic compatibility of the CPV-SC valve terminal with Sub-D or flat cable connection			Interference emission tested to DIN EN 61000-6-4, industry				
			Interference immunity <sup>1)</sup> tested to DIN EN 61000-6-2, industry				
Protection against electric shock (protection against direct and indirect contact to EN 60204-1/IEC 204)			By means of PELV power supply unit				
Nominal operating voltage of valve terminal	Multi-pin plug connection	[V DC]	24				
	Individual sub-base	[V]	5 , 12, 24				
Permissible voltage fluctuations		[%]	±10				
Coil characteristics	Nominal voltage	[V DC]	5 , 12, 22, 24				
	Electrical power consumption	[W]	1				
Duty cycle			100% at 40°C ambient temperature				
Protection class to EN 60529			IP40 (in assembled state and with detenting plug)				
Relative air humidity		[%]	90 at 40 °C, non-condensing				

1) The maximum signal line length is 10 m

Materials					
Valve function order code		M	J	N	K D
Electrical interface		Polymer			
End plate, electrical sub-base		Polymer			
Seals		Elastomer			
Valve slice		Die-cast aluminium			
Sub-base for working ports		Polyamide			

Product weight [g]					
Valve function order code		M	J	N	K D
5/2-way, 3/2-way valve		30.5			
5/2-way double solenoid valve		56.5			
Blanking plate		22.5			
Right-hand end plate		42.5			
Left-hand end plate		28			
Actuator housing		43			
Tie rod, 16-fold		29.6			
Electrical manifold module, 16-fold		64			
Control unit (fieldbus)		200			
Electrical interface CPI		150			

# Valve terminals type 80 CPV-SC, Smart Cubic

Technical data

FESTO

## Equipment

Operate your equipment with unlubricated compressed air if possible. Festo valves and cylinders are designed so that, if used as designated, they will not require additional lubrication and will still achieve a long service life. The quality of compressed air downstream from the compressor must correspond to that of unlubricated compressed air. If possible, do not operate all of your equipment with lubricated compressed air. The lubricators should, where possible, always be installed directly upstream of the cylinders used.

Incorrect additional oil and too high an oil content in the compressed air reduces the service life of a valve terminal.

Use Festo special oil OFSW-32 or the alternatives listed in the Festo catalogue (as specified in DIN 51524 HLP32; basic oil viscosity 32 CST at 40°C).

### Bio-oils

When using bio-oils (oils which are based upon synthetic or native ester, e.g. rapeseed oil methyl ester), the maximum residual oil content of 0.1 mg/m<sup>3</sup> must not be exceeded (see ISO 8573-1 Class 2).

### Mineral oils

When using mineral oils (e.g. HLP oils to DIN 51524, Parts 1 to 3) or similar oils based on poly-alpha-olefins (PAO), the maximum residual oil content of 5 mg/m<sup>3</sup> must not be exceeded (see ISO 8573-1 Class 4). A higher residual oil content irrespective of the compressor oil cannot be permitted, as the basic lubricant would be flushed out over time.

# Valve terminals type 80 CPV-SC, Smart Cubic

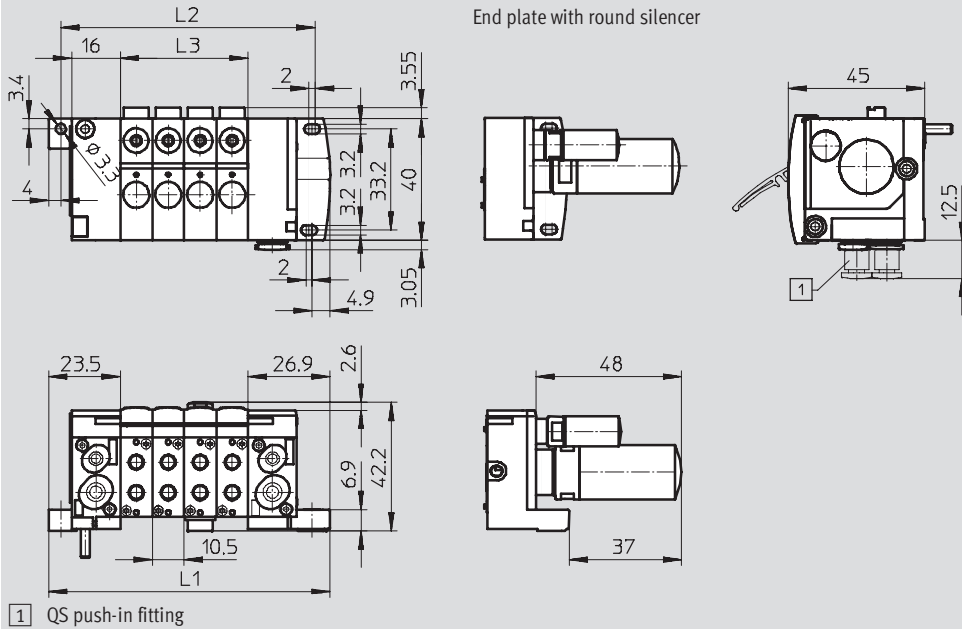
Technical data

**FESTO**

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

With individual connection



Valve positions n	L1	L2	L3
2	71.4	62.5	21
3	81.9	73	31.5
4	92.4	83.5	42
5	102.9	94	52.5
6	113.4	104.5	63
7	123.9	115	73.5
8	134	125.1	84
9	144.9	136	94.5
10	155.4	146.5	105
11	165.9	157	115.5
12	176.4	167.5	126
13	186.9	178	136.5
14	197.4	188.5	147
15	207.9	199	157.5
16	218.4	209.5	168

# Valve terminals type 80 CPV-SC, Smart Cubic

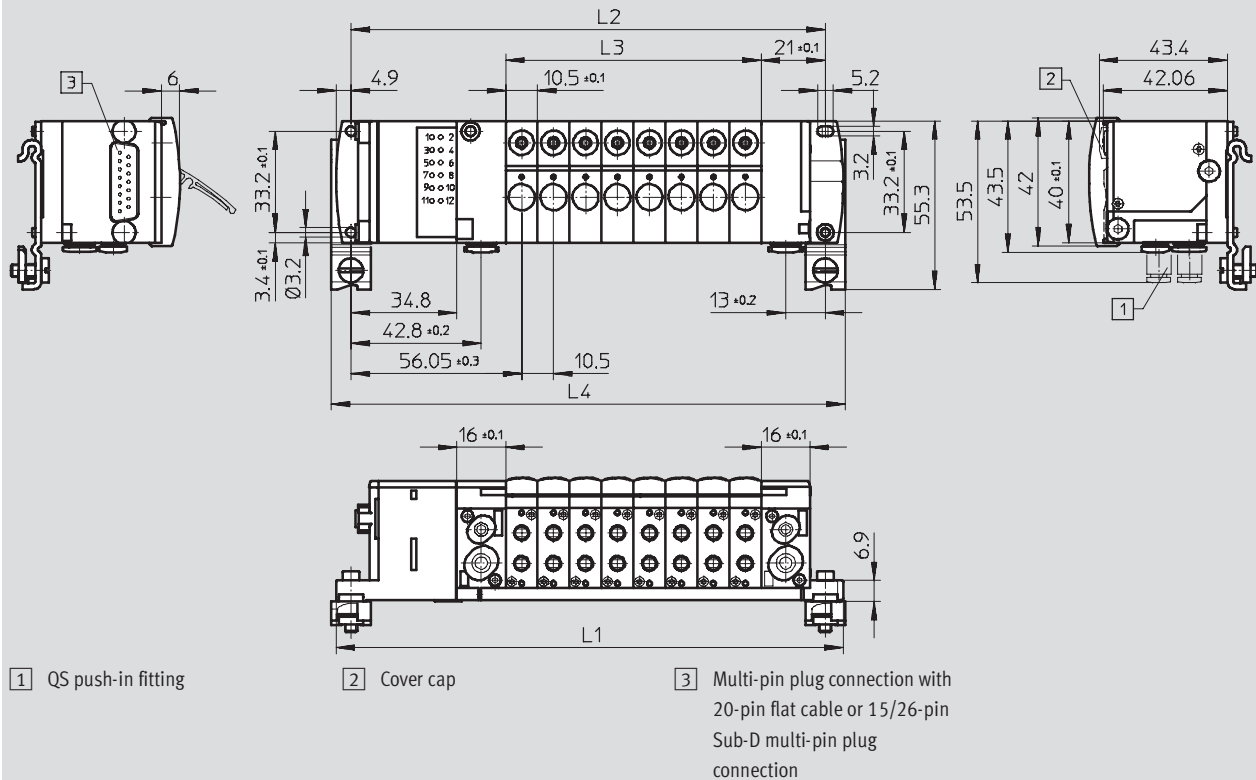
Technical data

FESTO

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

With multi-pin plug connection



Valve positions n	L1	L2	L3
4	125	114	42
5	135.5	124.5	52.5
6	146	135	63
7	146.5	145.5	73.5
8	167	156	84
9	177.5	166.5	94.5
10	188	177	105
11	198.5	187.5	115.5
12	209	198	126
13	219.5	208.5	136.5
14	230	219	147
15	240.5	229.5	157.5
16	251	240	168

# Valve terminals type 80 CPV-SC, Smart Cubic

Technical data



Dimensions – Sub-D plug with cable
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

1 15-/26-pin plug

Type	B1	D1	H1	L1	L2			Number of pins
KMP6-15P-12-...	16	8.5	40	34.5	2,500	5,000	10,000	15
KMP6-26P-16-...	16	8.6	40	34.5	2,500	5,000	10,000	26

# Valve terminals type 80 CPV-SC, Smart Cubic

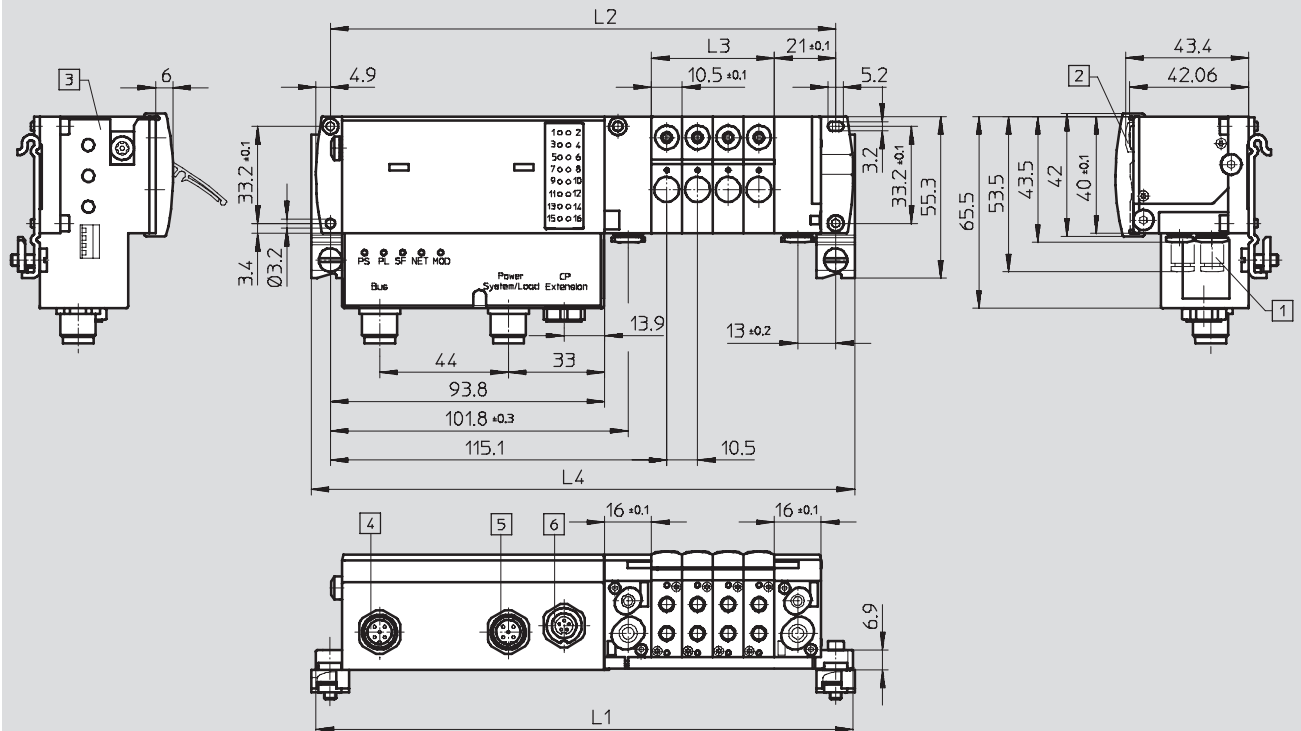
Technical data

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## Dimensions – Valve terminal

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

With fieldbus connection



- 1 QS push-in fitting
- 2 Cover cap
- 3 DeviceNet fieldbus connection (dimensions for Profibus DP are identical with the exception of the bus connection)

- 4 Bus connection M12
- 5 Power supply M12
- 6 CP connection M9

Valve positions n	L1	L2	L3	L4
4	183.6	172.8	42	185.4
5	194.1	183.3	52.5	195.9
6	204.6	193.8	63	206.4
7	215.1	204.3	73.5	216.9
8	225.6	214.8	84	227.4
9	236.1	225.3	94.5	237.9
10	246.6	235.8	105	248.4
11	257.1	246.3	115.5	258.9
12	267.6	256.8	126	269.4
13	278.1	267.3	136.5	279.9
14	288.6	277.8	147	290.4
15	299.1	288.3	157.5	300.9
16	309.6	298.8	168	311.4



# Valve terminals type 80 CPV-SC, Smart Cubic

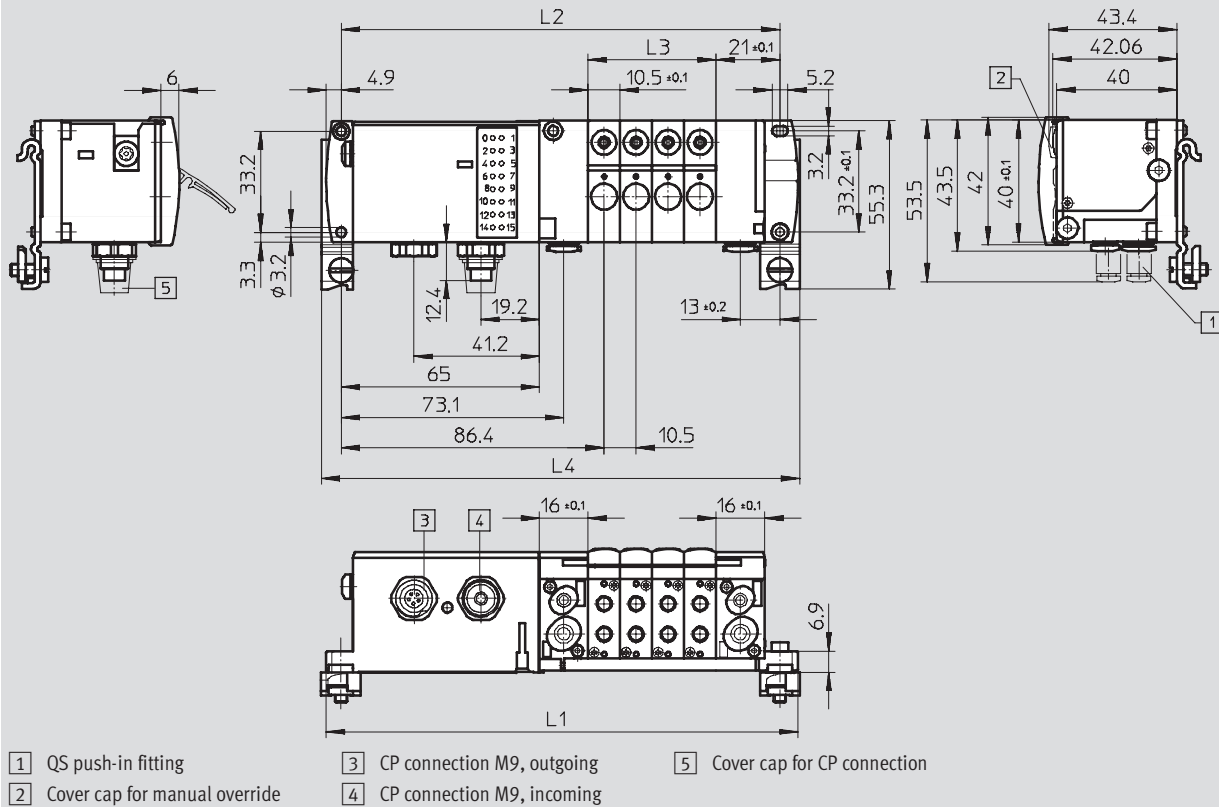
Technical data

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## Dimensions – Valve terminal

With CPI interface

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

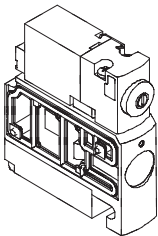
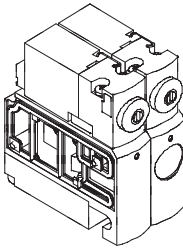
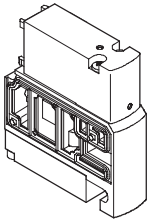
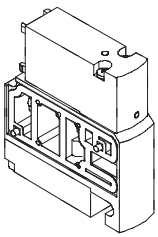




Valve positions n	L1	L2	L3	L4
4	154.9	144.1	42	156.7
5	165.4	154.6	52,5	167.2
6	175.9	165.1	63	177.7
7	186.4	175.6	73,5	188.2
8	196.9	186.1	84	198.7
9	207.4	196.6	94,5	209.2
10	217.9	207.1	105	219.7
11	228.4	217.6	115,5	230.2
12	238.9	228.1	126	240.7
13	249.4	238.6	136,5	251.2
14	259.9	249.1	147	261.7
15	270.4	259.6	157,5	272.2
16	280.9	270.1	168	282.7

# Valve terminals type 80 CPV-SC, Smart Cubic

Accessories

**FESTO**

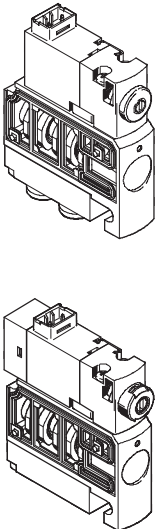
Ordering data – Valves with electrical plug-in connection				
Designation		Type	Part No.	
	Solenoid valve with M5 connections			
	5/2-way single solenoid valve	CPVSC1-M1H-M-P-M5	527550	
	5/2-way double solenoid valve	CPVSC1-M1H-J-P-M5	527553	
	3/2-way valve, normally open	CPVSC1-M1H-N-P-M5O	527551	
	3/2-way valve, normally closed	CPVSC1-M1H-K-P-M5C	527552	
	2/2-way valve, normally closed	CPVSC1-M1H-D-P-M5C	527554	
	Solenoid valve with QS-3 push-in connectors			
	5/2-way single solenoid valve	CPVSC1-M1H-M-P-Q3	527555	
	5/2-way double solenoid valve	CPVSC1-M1H-J-P-Q3	527558	
	3/2-way valve, normally open	CPVSC1-M1H-N-P-Q3O	527556	
	3/2-way valve, normally closed	CPVSC1-M1H-K-P-Q3C	527557	
2/2-way valve, normally closed	CPVSC1-M1H-D-P-Q3C	527559		
				
	Solenoid valve with QS-4 push-in connectors			
	5/2-way single solenoid valve	CPVSC1-M1H-M-P-Q4	527560	
	5/2-way double solenoid valve	CPVSC1-M1H-J-P-Q4	527563	
	3/2-way valve, normally open	CPVSC1-M1H-N-P-Q4O	527561	
	3/2-way valve, normally closed	CPVSC1-M1H-K-P-Q4C	527562	
	2/2-way valve, normally closed	CPVSC1-M1H-D-P-Q4C	527564	
		Blanking plates with integrated connections		
		Vacant position, with blanking plate	CPVSC1-RP-B	527527
		Supply plate M5		
		Duct 1 separated	CPVSC1-SP-P-M5	527528
Duct 1/3/5 separated		CPVSC1-SP-PRS-M5	527530	
Without duct separation		CPVSC1-SP-M5	527532	
Supply plate, QS-4 push-in connector				
Duct 1 separated		CPVSC1-SP-P-Q4	527529	
Duct 1/3/5 separated		CPVSC1-SP-PRS-Q4	527531	
Without duct separation		CPVSC1-SP-Q4	527533	
 		Cover for manual override		
	Non-detenting, 10 pieces	VMPA-HBT-B	540897	
	Covered, 10 pieces	VMPA-HBV-B	540898	

# Valve terminals type 80 CPV-SC, Smart Cubic

Accessories

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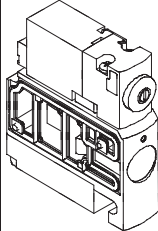
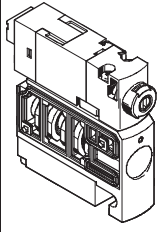
## Ordering data – Valves with individual electrical connection, detenting manual override, vertical plug, 24 V DC

Designation	Type	Part No.
	Solenoid valve with M5 connections	
	5/2-way single solenoid valve	CPVSC1-M1H-M-T-M5 547276
	5/2-way double solenoid valve	CPVSC1-M1H-J-T-M5 547277
	3/2-way valve, normally open	CPVSC1-M1H-N-T-M50 547275
	3/2-way valve, normally closed	CPVSC1-M1H-K-T-M5C 547274
	2/2-way valve, normally closed	CPVSC1-M1H-D-T-M5C 547273
	Solenoid valve with M5 connections and LED	
	5/2-way single solenoid valve	CPVSC1-M1LH-M-T-M5 547306
	5/2-way double solenoid valve	CPVSC1-M1LH-J-T-M5 547307
	3/2-way valve, normally open	CPVSC1-M1LH-N-T-M50 547305
	3/2-way valve, normally closed	CPVSC1-M1LH-K-T-M5C 547304
	2/2-way valve, normally closed	CPVSC1-M1LH-D-T-M5C 547303
	Solenoid valve with QS-3 push-in connectors	
	5/2-way single solenoid valve	CPVSC1-M1H-M-T-Q3 547281
	5/2-way double solenoid valve	CPVSC1-M1H-J-T-Q3 547282
	3/2-way valve, normally open	CPVSC1-M1H-N-T-Q30 547280
	3/2-way valve, normally closed	CPVSC1-M1H-K-T-Q3C 547279
	2/2-way valve, normally closed	CPVSC1-M1H-D-T-Q3C 547278
	Solenoid valve with QS-3 push-in connectors and LED	
	5/2-way single solenoid valve	CPVSC1-M1LH-M-T-Q3 547311
	5/2-way double solenoid valve	CPVSC1-M1LH-J-T-Q3 547312
	3/2-way valve, normally open	CPVSC1-M1LH-N-T-Q30 547310
	3/2-way valve, normally closed	CPVSC1-M1LH-K-T-Q3C 547309
	2/2-way valve, normally closed	CPVSC1-M1LH-D-T-Q3C 547308
	Solenoid valve with QS-4 push-in connectors	
	5/2-way single solenoid valve	CPVSC1-M1H-M-T-Q4 547286
	5/2-way double solenoid valve	CPVSC1-M1H-J-T-Q4 547287
	3/2-way valve, normally open	CPVSC1-M1H-N-T-Q40 547285
	3/2-way valve, normally closed	CPVSC1-M1H-K-T-Q4C 547284
	2/2-way valve, normally closed	CPVSC1-M1H-D-T-Q4C 547283
	Solenoid valve with QS-4 push-in connectors and LED	
	5/2-way single solenoid valve	CPVSC1-M1LH-M-T-Q4 547316
	5/2-way double solenoid valve	CPVSC1-M1LH-J-T-Q4 547317
	3/2-way valve, normally open	CPVSC1-M1LH-N-T-Q40 547315
	3/2-way valve, normally closed	CPVSC1-M1LH-K-T-Q4C 547314
	2/2-way valve, normally closed	CPVSC1-M1LH-D-T-Q4C 547313

# Valve terminals type 80 CPV-SC, Smart Cubic

Accessories

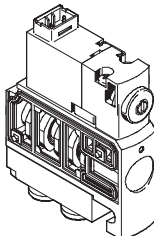
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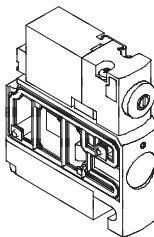
Ordering data – Valves with individual electrical connection, detenting manual override, horizontal plug, 24 V DC			
Designation		Type	Part No.
 	Solenoid valve with M5 connections		
	5/2-way single solenoid valve	CPVSC1-M1H-M-H-M5	547291
	5/2-way double solenoid valve	CPVSC1-M1H-J-H-M5	547292
	3/2-way valve, normally open	CPVSC1-M1H-N-H-M50	547290
	3/2-way valve, normally closed	CPVSC1-M1H-K-H-M5C	547289
	2/2-way valve, normally closed	CPVSC1-M1H-D-H-M5C	547288
	Solenoid valve with M5 connections and LED		
	5/2-way single solenoid valve	CPVSC1-M1LH-M-H-M5	547322
	5/2-way double solenoid valve	CPVSC1-M1LH-J-H-M5	547323
	3/2-way valve, normally open	CPVSC1-M1LH-N-H-M50	547321
	3/2-way valve, normally closed	CPVSC1-M1LH-K-H-M5C	547320
	2/2-way valve, normally closed	CPVSC1-M1LH-D-H-M5C	547318
	Solenoid valve with QS-3 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M1H-M-H-Q3	547296
	5/2-way double solenoid valve	CPVSC1-M1H-J-H-Q3	547297
	3/2-way valve, normally open	CPVSC1-M1H-N-H-Q30	547295
	3/2-way valve, normally closed	CPVSC1-M1H-K-H-Q3C	547294
	2/2-way valve, normally closed	CPVSC1-M1H-D-H-Q3C	547293
	Solenoid valve with QS-3 push-in connectors and LED		
	5/2-way single solenoid valve	CPVSC1-M1LH-M-H-Q3	547327
	5/2-way double solenoid valve	CPVSC1-M1LH-J-H-Q3	547328
	3/2-way valve, normally open	CPVSC1-M1LH-N-H-Q30	547326
	3/2-way valve, normally closed	CPVSC1-M1LH-K-H-Q3C	547325
	2/2-way valve, normally closed	CPVSC1-M1LH-D-H-Q3C	547324
	Solenoid valve with QS-4 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M1H-M-H-Q4	547301
	5/2-way double solenoid valve	CPVSC1-M1H-J-H-Q4	547302
	3/2-way valve, normally open	CPVSC1-M1H-N-H-Q40	547300
	3/2-way valve, normally closed	CPVSC1-M1H-K-H-Q4C	547299
	2/2-way valve, normally closed	CPVSC1-M1H-D-H-Q4C	547298
	Solenoid valve with QS-4 push-in connectors and LED		
5/2-way single solenoid valve	CPVSC1-M1LH-M-H-Q4	547332	
5/2-way double solenoid valve	CPVSC1-M1LH-J-H-Q4	547333	
3/2-way valve, normally open	CPVSC1-M1LH-N-H-Q40	547331	
3/2-way valve, normally closed	CPVSC1-M1LH-K-H-Q4C	547330	
2/2-way valve, normally closed	CPVSC1-M1LH-D-H-Q4C	547329	

# Valve terminals type 80 CPV-SC, Smart Cubic

Accessories

**FESTO**

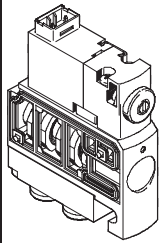
Ordering data – Valves with individual electrical connection, pushing manual override, vertical plug, 24 V DC			
Designation		Type	Part No.
	Solenoid valve with M5 connections		
	5/2-way single solenoid valve	CPVSC1-M1HT-M-T-M5	548037
	5/2-way double solenoid valve	CPVSC1-M1HT-J-T-M5	548038
	3/2-way valve, normally open	CPVSC1-M1HT-N-T-M50	548036
	3/2-way valve, normally closed	CPVSC1-M1HT-K-T-M5C	548035
	2/2-way valve, normally closed	CPVSC1-M1HT-D-T-M5C	548034
	Solenoid valve with QS-3 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M1HT-M-T-Q3	548043
	5/2-way double solenoid valve	CPVSC1-M1HT-J-T-Q3	548044
	3/2-way valve, normally open	CPVSC1-M1HT-N-T-Q30	548042
	3/2-way valve, normally closed	CPVSC1-M1HT-K-T-Q3C	548041
	2/2-way valve, normally closed	CPVSC1-M1HT-D-T-Q3C	548040
	Solenoid valve with QS-4 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M1HT-M-T-Q4	548048
	5/2-way double solenoid valve	CPVSC1-M1HT-J-T-Q4	548049
	3/2-way valve, normally open	CPVSC1-M1HT-N-T-Q40	548047
	3/2-way valve, normally closed	CPVSC1-M1HT-K-T-Q4C	548046
	2/2-way valve, normally closed	CPVSC1-M1HT-D-T-Q4C	548045

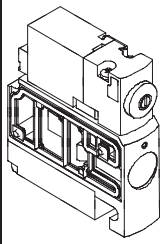
Ordering data – Valves with individual electrical connection, pushing manual override, horizontal plug, 24 V DC			
Designation		Type	Part No.
	Solenoid valve with M5 connections		
	5/2-way single solenoid valve	CPVSC1-M1HT-M-H-M5	548053
	5/2-way double solenoid valve	CPVSC1-M1HT-J-H-M5	548054
	3/2-way valve, normally open	CPVSC1-M1HT-N-H-M50	548052
	3/2-way valve, normally closed	CPVSC1-M1HT-K-H-M5C	548051
	2/2-way valve, normally closed	CPVSC1-M1HT-D-H-M5C	548050
	Solenoid valve with QS-3 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M1HT-M-H-Q3	548058
	5/2-way double solenoid valve	CPVSC1-M1HT-J-H-Q3	548059
	3/2-way valve, normally open	CPVSC1-M1HT-N-H-Q30	548057
	3/2-way valve, normally closed	CPVSC1-M1HT-K-H-Q3C	548056
	2/2-way valve, normally closed	CPVSC1-M1HT-D-H-Q3C	548055
	Solenoid valve with QS-4 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M1HT-M-H-Q4	548063
	5/2-way double solenoid valve	CPVSC1-M1HT-J-H-Q4	548064
	3/2-way valve, normally open	CPVSC1-M1HT-N-H-Q40	548062
	3/2-way valve, normally closed	CPVSC1-M1HT-K-H-Q4C	548061
	2/2-way valve, normally closed	CPVSC1-M1HT-D-H-Q4C	548060

## Valve terminals type 80 CPV-SC, Smart Cubic

Accessories

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Ordering data – Valves with individual electrical connection, detenting manual override, vertical plug, 12 V DC			
Designation		Type	Part No.
	Solenoid valve with M5 connections		
	5/2-way single solenoid valve	CPVSC1-M5H-M-T-M5	547367
	5/2-way double solenoid valve	CPVSC1-M5H-J-T-M5	547368
	3/2-way valve, normally open	CPVSC1-M5H-N-T-M50	547366
	3/2-way valve, normally closed	CPVSC1-M5H-K-T-M5C	547365
	2/2-way valve, normally closed	CPVSC1-M5H-D-T-M5C	547364
	Solenoid valve with QS-3 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M5H-M-T-Q3	547372
	5/2-way double solenoid valve	CPVSC1-M5H-J-T-Q3	547373
	3/2-way valve, normally open	CPVSC1-M5H-N-T-Q30	547371
	3/2-way valve, normally closed	CPVSC1-M5H-K-T-Q3C	547370
	2/2-way valve, normally closed	CPVSC1-M5H-D-T-Q3C	547369
	Solenoid valve with QS-4 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M5H-M-T-Q4	547377
	5/2-way double solenoid valve	CPVSC1-M5H-J-T-Q4	547378
	3/2-way valve, normally open	CPVSC1-M5H-N-T-Q40	547376
3/2-way valve, normally closed	CPVSC1-M5H-K-T-Q4C	547375	
2/2-way valve, normally closed	CPVSC1-M5H-D-T-Q4C	547374	

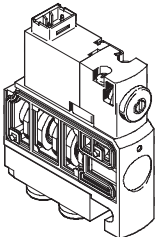
Ordering data – Valves with individual electrical connection, pushing manual override, horizontal plug, 12 V DC			
Designation		Type	Part No.
	Solenoid valve with M5 connections		
	5/2-way single solenoid valve	CPVSC1-M5H-M-H-M5	547382
	5/2-way double solenoid valve	CPVSC1-M5H-J-H-M5	547383
	3/2-way valve, normally open	CPVSC1-M5H-N-H-M50	547381
	3/2-way valve, normally closed	CPVSC1-M5H-K-H-M5C	547380
	2/2-way valve, normally closed	CPVSC1-M5H-D-H-M5C	547379
	Solenoid valve with QS-3 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M5H-M-H-Q3	547387
	5/2-way double solenoid valve	CPVSC1-M5H-J-H-Q3	547388
	3/2-way valve, normally open	CPVSC1-M5H-N-H-Q30	547386
	3/2-way valve, normally closed	CPVSC1-M5H-K-H-Q3C	547385
	2/2-way valve, normally closed	CPVSC1-M5H-D-H-Q3C	547384
	Solenoid valve with QS-4 push-in connectors		
	5/2-way single solenoid valve	CPVSC1-M5H-M-H-Q4	547392
	5/2-way double solenoid valve	CPVSC1-M5H-J-H-Q4	547393
	3/2-way valve, normally open	CPVSC1-M5H-N-H-Q40	547391
	3/2-way valve, normally closed	CPVSC1-M5H-K-H-Q4C	547390
	2/2-way valve, normally closed	CPVSC1-M5H-D-H-Q4C	547389

## Valve terminals type 80 CPV-SC, Smart Cubic

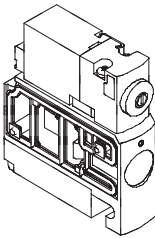
Accessories

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### Ordering data – Valves with individual electrical connection, detenting manual override, vertical plug, 5 V DC

Designation	Type	Part No.
	Solenoid valve with M5 connections	
	5/2-way single solenoid valve	CPVSC1-M4H-M-T-M5
	5/2-way double solenoid valve	CPVSC1-M4H-J-T-M5
	3/2-way valve, normally open	CPVSC1-M4H-N-T-M5O
	3/2-way valve, normally closed	CPVSC1-M4H-K-T-M5C
	2/2-way valve, normally closed	CPVSC1-M4H-D-T-M5C
	Solenoid valve with QS-3 push-in connectors	
	5/2-way single solenoid valve	CPVSC1-M4H-M-T-Q3
	5/2-way double solenoid valve	CPVSC1-M4H-J-T-Q3
	3/2-way valve, normally open	CPVSC1-M4H-N-T-Q3O
	3/2-way valve, normally closed	CPVSC1-M4H-K-T-Q3C
	2/2-way valve, normally closed	CPVSC1-M4H-D-T-Q3C
	Solenoid valve with QS-4 push-in connectors	
	5/2-way single solenoid valve	CPVSC1-M4H-M-T-Q4
	5/2-way double solenoid valve	CPVSC1-M4H-J-T-Q4
	3/2-way valve, normally open	CPVSC1-M4H-N-T-Q4O
	3/2-way valve, normally closed	CPVSC1-M4H-K-T-Q4C
	2/2-way valve, normally closed	CPVSC1-M4H-D-T-Q4C

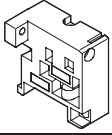
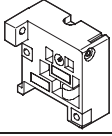
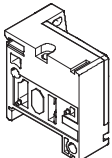
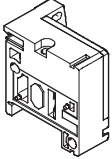
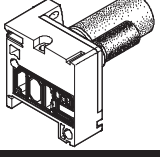
### Ordering data – Valves with individual electrical connection, pushing manual override, horizontal plug, 5 V DC

Designation	Type	Part No.
	Solenoid valve with M5 connections	
	5/2-way single solenoid valve	CPVSC1-M4H-M-H-M5
	5/2-way double solenoid valve	CPVSC1-M4H-J-H-M5
	3/2-way valve, normally open	CPVSC1-M4H-N-H-M5O
	3/2-way valve, normally closed	CPVSC1-M4H-K-H-M5C
	2/2-way valve, normally closed	CPVSC1-M4H-D-H-M5C
	Solenoid valve with QS-3 push-in connectors	
	5/2-way single solenoid valve	CPVSC1-M4H-M-H-Q3
	5/2-way double solenoid valve	CPVSC1-M4H-J-H-Q3
	3/2-way valve, normally open	CPVSC1-M4H-N-H-Q3O
	3/2-way valve, normally closed	CPVSC1-M4H-K-H-Q3C
	2/2-way valve, normally closed	CPVSC1-M4H-D-H-Q3C
	Solenoid valve with QS-4 push-in connectors	
	5/2-way single solenoid valve	CPVSC1-M4H-M-H-Q4
	5/2-way double solenoid valve	CPVSC1-M4H-J-H-Q4
	3/2-way valve, normally open	CPVSC1-M4H-N-H-Q4O
	3/2-way valve, normally closed	CPVSC1-M4H-K-H-Q4C
	2/2-way valve, normally closed	CPVSC1-M4H-D-H-Q4C

## Valve terminals type 80 CPV-SC, Smart Cubic

Accessories

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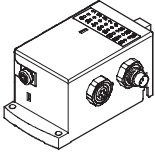
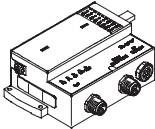
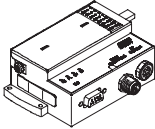
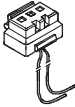
Ordering data – End plates			
Designation		Type	Part No.
Left-hand end plates			
	With external pilot air supply	CPVSC1-EPL-E	527585
	With internal pilot air supply	CPVSC1-EPL-I	527583
Right-hand end plates			
	With ducted exhaust air	CPVSC1-EPR-G	527587
	With unducted exhaust air and flat plate silencer	CPVSC1-EPR-U	527589
	With unducted exhaust air and round silencer	CPVSC1-EPR-UC	536060



# Valve terminals type 80 CPV-SC, Smart Cubic

Accessories

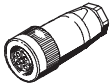




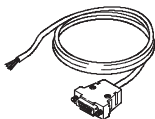


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Ordering data – Accessories				
Designation			Type	Part No.
CPI interface				
	Electrical connection		CPVSC1-AE16-CPI	541975
Control unit				
	Fieldbus Direct – DeviceNet		CPVSC1-AE16-DN	538654
	Fieldbus Direct – Profibus DP		CPVSC1-AE16-DP	541919
Individual electrical connection				
	Plug socket with cable, IP40	0.5 m	KMH-0,5	197263
		1 m	KMH-1	197264
		2.5 m	KMH-2,5	527400
		5 m	KMH-5	527401

## Valve terminals type 80 CPV-SC, Smart Cubic

Accessories


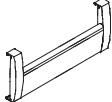


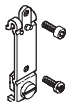
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Ordering data – Accessories				
Designation			Type	Part No.
Power supply				
	Micro Style M12, 5-pin socket (B-coded) for DeviceNet	for 0.75 mm <sup>2</sup>	NTSD-GD-9-M12-5POL-RK	538999
	M12, 5-pin socket (A-coded) for Profibus DP	for 0.75 mm <sup>2</sup>	FBSD-GD-9-5POL	18324
Fieldbus connection				
	Fieldbus socket for Micro Style connection, M12, 5-pin socket (A-coded)		FBSD-GD-9-5POL	18324
	Straight plug, 5-pin, screw terminal		FBS-M12-5GS-PG9	175380
	T-adapter, 5-pin, for DH-485/DeviceNet		FB-TA-M12-5POL	171175
Connecting cable, IP40, for multi-pin plug connection				
	Sub-D, 15-pin, up to 12 valve positions for code MS Material: PVC	2.5 m	KMP6-15P-12-2,5	527543
		5 m	KMP6-15P-12-5	527544
		10 m	KMP6-15P-12-10	527545
	Sub-D, 26-pin, up to 16 valve positions for code MH Material: PVC	2.5 m	KMP6-26P-16-2,5	527546
		5 m	KMP6-26P-16-5	527547
		10 m	KMP6-26P-16-10	527548
Valve terminal connection				
	Angled plug-angled socket	0.25 m	KVI-CP-3-WS-WD-0,25	540327
	Angled plug-angled socket	0.5 m	KVI-CP-3-WS-WD-0,5	540328
	Angled plug-angled socket	2 m	KVI-CP-3-WS-WD-2	540329
	Angled plug-angled socket	5 m	KVI-CP-3-WS-WD-5	540330
	Angled plug-angled socket	8 m	KVI-CP-3-WS-WD-8	540331
	GS-GD, straight plug-straight socket	2 m	KVI-CP-3-GS-GD-2	540332
	Straight plug-straight socket	5 m	KVI-CP-3-GS-GD-5	540333
	Straight plug-straight socket	8 m	KVI-CP-3-GS-GD-8	540334

# Valve terminals type 80 CPV-SC, Smart Cubic

Accessories



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Ordering data – Accessories				
Designation			Type	Part No.
Inscription labels for valve identification				
	80 pieces, 9x4.5 mm		MH-BZ-80x	197259
Inscription label holder				
	1 piece	for 2 valve positions	CPVSC1-ST-2	547395
		for 3 valve positions	CPVSC1-ST-3	547396
		for 4 valve positions	CPVSC1-ST-4	527631
		for 5 valve positions	CPVSC1-ST-5	547397
		for 6 valve positions	CPVSC1-ST-6	547398
		for 7 valve positions	CPVSC1-ST-7	547399
		for 8 valve positions	CPVSC1-ST-8	527633
		for 9 valve positions	CPVSC1-ST-9	547400
		for 10 valve positions	CPVSC1-ST-10	547401
		for 11 valve positions	CPVSC1-ST-11	547402
		for 12 valve positions	CPVSC1-ST-12	527635
		for 13 valve positions	CPVSC1-ST-13	547403
		for 14 valve positions	CPVSC1-ST-14	547404
		for 15 valve positions	CPVSC1-ST-15	547405
		for 16 valve positions	CPVSC1-ST-16	527637
		Tie rod		
	1 piece	for 2 valve positions	CPVSC1-ZA-2	547416
		for 3 valve positions	CPVSC1-ZA-3	547417
		for 4 valve positions	CPVSC1-ZA-4	532807
		for 5 valve positions	CPVSC1-ZA-5	547418
		for 6 valve positions	CPVSC1-ZA-6	547419
		for 7 valve positions	CPVSC1-ZA-7	547420
		for 8 valve positions	CPVSC1-ZA-8	532808
		for 9 valve positions	CPVSC1-ZA-9	547421
		for 10 valve positions	CPVSC1-ZA-10	547422
		for 11 valve positions	CPVSC1-ZA-11	547423
		for 12 valve positions	CPVSC1-ZA-12	532809
		for 13 valve positions	CPVSC1-ZA-13	547424
		for 14 valve positions	CPVSC1-ZA-14	547425
		for 15 valve positions	CPVSC1-ZA-15	547426
		for 16 valve positions	CPVSC1-ZA-16	532810
		Mounting		
	Screw for additional terminal mounting		M3x45	527643
	Mounting		CPVSC-HS35	527639

# Valve terminals type 80 CPV-SC, Smart Cubic

Accessories

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Ordering data – Accessories				
Designation			Type	Part No.
User documentation				
	User documentation – Pneumatics, valve terminal CPV-SC	German	P.BE-CPVSC-DE	530925
		English	P.BE-CPVSC-EN	530926
		French	P.BE-CPVSC-FR	530927
		Spanish	P.BE-CPVSC-ES	530928
		Italian	P.BE-CPVSC-IT	530929
		Swedish	P.BE-CPVSC-SV	530930
	User documentation – DeviceNet fieldbus	German	P.BE-CPASC-CPVSC-DN-DE	539008
		English	P.BE-CPASC-CPVSC-DN-EN	539009
		French	P.BE-CPASC-CPVSC-DN-FR	539010
		Spanish	P.BE-CPASC-CPVSC-DN-ES	539011
		Italian	P.BE-CPASC-CPVSC-DN-IT	539012
		Swedish	P.BE-CPASC-CPVSC-DN-SV	539013
	User documentation – Profibus DP fieldbus	German	P.BE-CPASC-CPVSC-DP-DE	548725
		English	P.BE-CPASC-CPVSC-DP-EN	548726
		French	P.BE-CPASC-CPVSC-DP-FR	548728
		Spanish	P.BE-CPASC-CPVSC-DP-ES	548727
		Italian	P.BE-CPASC-CPVSC-DP-IT	548729
		Swedish	P.BE-CPASC-CPVSC-DP-SV	548730

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