
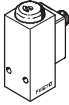
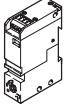




- Mechanical vacuum switch with adjustable switching point
- Variants with adjustable hysteresis

Vacuum switch VPEV, mechanical

Product range overview

Function	Design	Type	Pneumatic connection	Operating voltage
Mechanical vacuum switches	Assembly via mounting screws			
		VPEV-1/8	G1/8	0 ... 250 V AC/DC
		VPEV-1/8-M12	G1/8	0 ... 250 V AC/DC
	H-rail mounting			
		VPEV-W-S-LED-GH	M5	10 ... 30 V DC
VPEV-W-KL-LED-GH		M5	10 ... 30 V DC	

1) Plug socket included in scope of delivery

Vacuum switch VPEV, mechanical

Product range overview

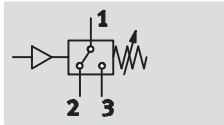
Type	Electrical connection		Adjustable hysteresis	Switching status display with LED	→ Page
	Plug	Terminals			
Assembly via mounting screws					
VPEV-1/8-B	■ ¹⁾	-	■	-	6 / 5.1-4
VPEV-1/8-B-M12	■ M12x1	-	■	-	6 / 5.1-4
H-rail mounting					
VPEV-W-S-LED-GH	■ M8x1	-	-	■	6 / 5.1-6
VPEV-W-KL-LED-GH	-	■	-	■	

Vacuum switch VPEV, mechanical

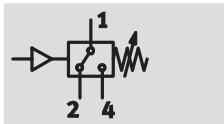
Technical data – Mounting via screws



Function
VPEV-1/8



VPEV-1/8-M12



- - Voltage
0 ... 250 V AC
0 ... 125 V DC

- - Operating pressure
-1 ... +1.6 bar

- - Temperature range
-20 ... +80 °C



General technical data			
Type	VPEV-1/8		VPEV-1/8-M12
Mechanical			
Pneumatic connection	G1/8		
Method of measurement	Pneumatic/electrical pressure transducers		
Measured variable	Relative pressure		
Pressure measuring range	[bar]	-1 ... +1.6	
Threshold value setting range	[bar]	-0.95 ... -0.2	
Threshold value setting range after conversion	[bar]	0.16 ... 1.6	
Electrical connection	Plug, square design to EN 43 650, type A		Plug, round design to EN 60 947-5-2, M12x1, 4-pin
Type of mounting	Via through-holes		
Mounting position	Any		
Weight	[g]	240	-
Electrical			
Rated operating voltage	[V AC]	250	48
	[V DC]	125	48
Switching element function	Changeover switch		
Switching status display	Yellow LED		-
Protection class to EN 60 529	IP65		
CE symbol	73/23/EEC (low voltage)		

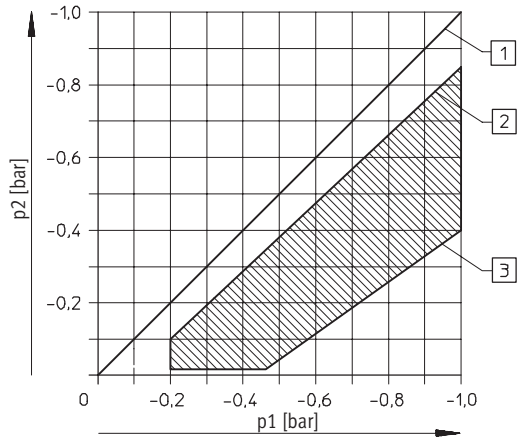
Operating and environmental conditions			
Type	VPEV-1/8		VPEV-1/8-M12
Operating medium	Filtered compressed air, lubricated or unlubricated		Filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm
	Vacuum, lubricated or unlubricated		Vacuum, lubricated or unlubricated
Operating pressure	[bar]	-1 ... +1.6	
Ambient temperature	[°C]	-20 ... +80	
Temperature of medium	[°C]	-20 ... +80	
Certification	CCC		

Terminal allocation			
VPEV-1/8	VPEV-1/8-M12		
	1 + (-)	1 + (-)	
	2 Normally closed contact	2 Normally closed contact	
	3 Normally open contact	3 Unused	
		4 Normally open contact	

Vacuum switch VPEV, mechanical

Technical data

Adjustable hysteresis



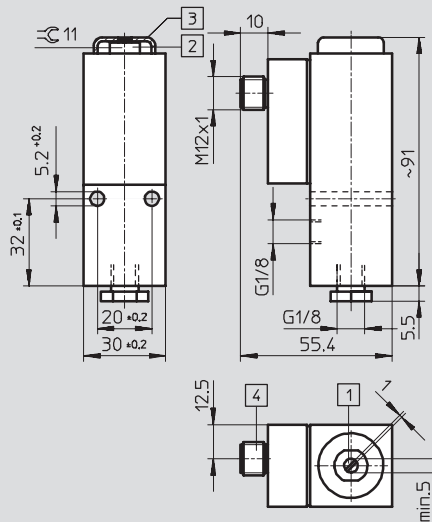
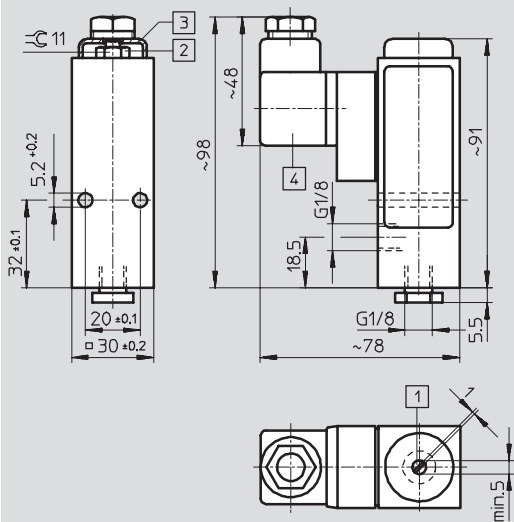
p1 = Switch-on pressure
p2 = Switch-off pressure

- 1 Upper switching point
- 2 Lower switching point when setting the hysteresis to a minimum
- 3 Lower switching point when setting the hysteresis to a maximum

Dimensions

VPEV-1/8

VPEV-1/8-M12



- 1 Switching point adjustment screw
- 2 Spindle for hysteresis setting (under protective cover)
- 3 Protective cover
- 4 Push-in connector
DIN EN 175 301-803-A
M16x1,5 Choice of cable outlet by turning socket inset 4x90°

- 1 Switching point adjustment screw
- 2 Spindle for hysteresis setting (under protective cover)
- 3 Protective cover
- 4 Connector pattern for plug to EN 60 947-5-2, M12x1

Ordering data

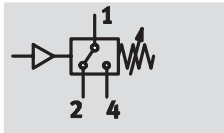
Electrical connection	Part No.	Type
Plug, square design to EN 43 650, type A	150 261	VPEV-1/8
Plug, round design to EN 60 947-5-2, M12x1, 4-pin	192 489	VPEV-1/8-M12

Vacuum switch VPEV-W, mechanical

Technical data – H-rail mounting



Function



- - Voltage
10 ... 30 V DC
- - Temperature range
0 ... +60 °C
- - Operating pressure
-1 ... 0 bar



General technical data			
Type	VPEV-W-KL-LED-GH		VPEV-W-S-LED-GH
Mechanical			
Pneumatic connection	M5		
Method of measurement	Pneumatic/electrical pressure transducers		
Measured variable	Relative pressure		
Hysteresis	0.08 ... 0.2 bar, non-adjustable		
Pressure measuring range [bar]	-0.8 ... -0.2		
Threshold value setting range [bar]	-0.8 ... -0.2		
Hysteresis setting range [bar]	0.08 ... 0.2		
Electrical connection	Screw terminal, 4-pin	Plug M8x1, 4-pin	
Type of mounting	Via through-holes With H-rail		
Mounting position	Any ¹⁾		
Weight [g]	56	56	
Electrical			
Operating voltage [V DC]	10 ... 30		
Max. output current [mA]	2,500		
Switching element function	Changeover switch		
Switching status display	Yellow LED		
Protection class to EN 60 529	IP20	IP65	
CE symbol	89/336/EEC (EMC)		

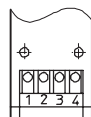
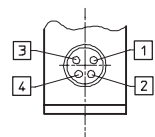
1) The collection of condensate in the sensor should be prevented.

Operating and environmental conditions			
Type	VPEV-W-KL-LED-GH		VPEV-W-S-LED-GH
Operating medium	Vacuum, lubricated or unlubricated		
Operating pressure [bar]	-1 ... 0		
Ambient temperature [°C]	0 ... 60		
Temperature of medium [°C]	0 ... 60		

Terminal allocation

VPEV-W-S-LED-GH

VPEV-W-KL-LED-GH



- 1 + (-) Brown
- 2 Normally closed contact
(switch output 2) white
- 3 - (+) Blue
- 4 Normally open contact
(switch output 1) black

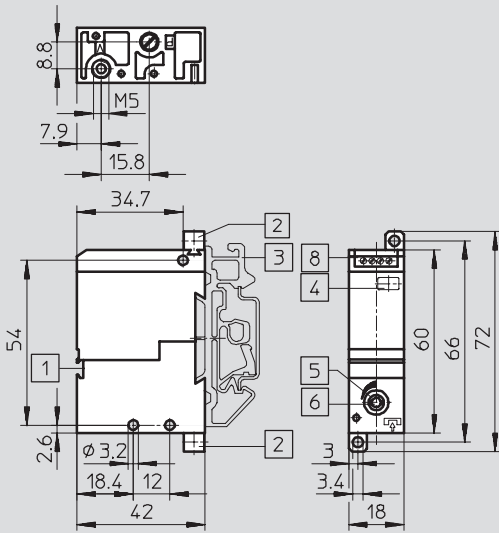
Vacuum switch VPEV-W, mechanical

Technical data

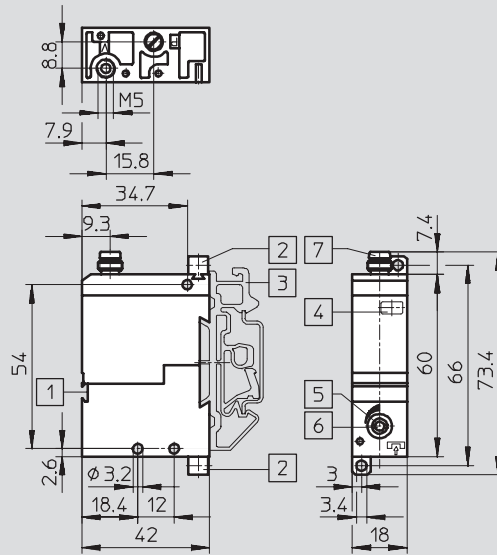


Dimensions

for control cabinet assembly



with screw-in, push-in fitting



1 Slot for inscription label
2 Foot mounting (included in scope of delivery)

3 Clamping foot for G/H rail (available as accessory)
4 Switching status display, yellow

5 Switching point adjustment screw
6 Manual override facility

7 Integral plug fits plug sockets to DIN EN 60 947-5-2, M8, 4-pin SIM-K-4-.../SIM-M8-...
8 Cable terminals

Ordering data

Electrical connection	Part No.	Type
Screw terminal, 4-pin	152 619	VPEV-W-KL-LED-GH
Plug M8x1, 4-pin	152 617	VPEV-W-S-LED-GH

Vacuum switch VPEV, mechanical

Accessories

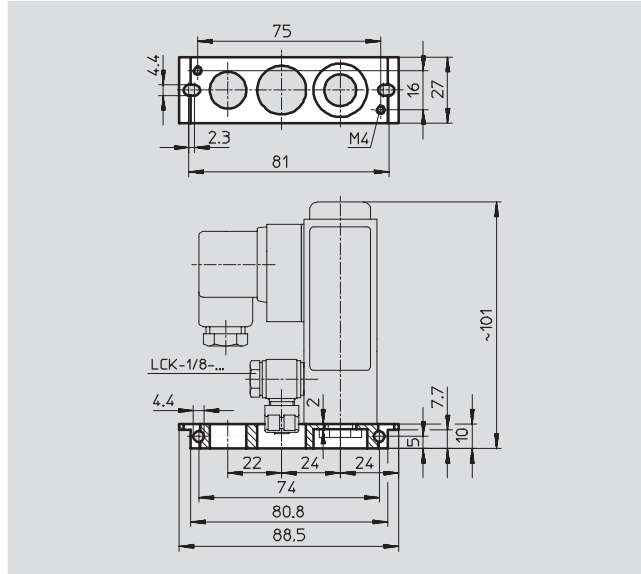
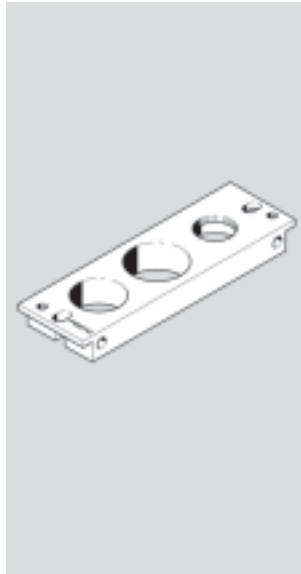


Mounting plate

for attaching to the mounting frame

NRRQ-2N

Material: Polyamide



Ordering data			
	Weight [g]	Part No.	Type
Mounting plate	30	150 218	APL-2N-VPEV

Vacuum switch VPEV, mechanical

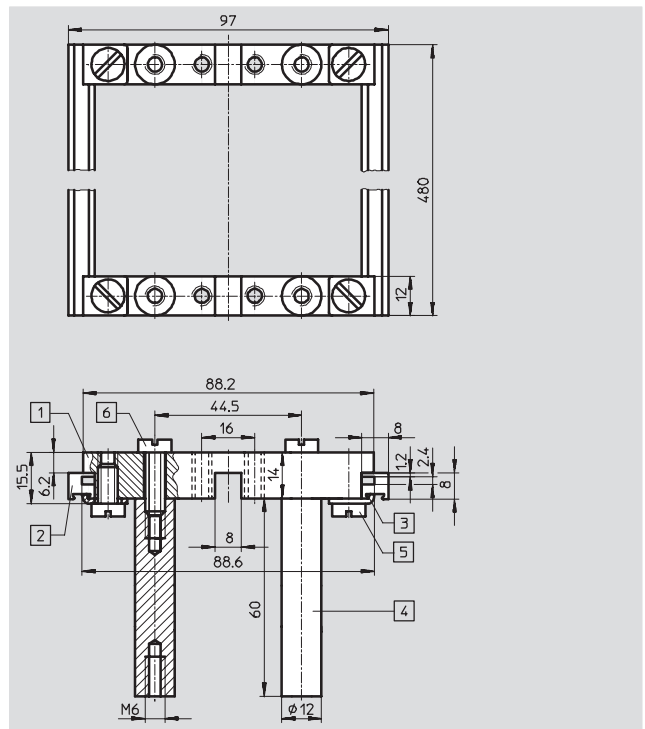
Accessories



Mounting frame NRRQ-2N

Scope of delivery

- 2 x connecting piece NRV-2N
- 2 x mounting rail NRQ-8-480
- 4 x mounting bracket NRW-12/3,
- 4 x threaded spacer NRB-12/60
- 4 x slotted head screw
DIN 84-M6X18-4.8
- 4 x slotted head screw
DIN 84-M6X12-4.8
- 4 x mounting bracket NRW-9/1,5-B
- 4 x slotted head screw
DIN 84-M4X10-4.8



- 1 Connecting piece NRV-2N
- 2 Mounting rail NRQ-8-480
- 3 Mounting bracket NRW-12/3
- 4 Threaded spacer NRB-12/60
- 5 Slotted head screw
DIN 84-M6X18-4.8
- 6 Slotted head screw
DIN 84-M6X12-4.8

Vacuum switches

5.1

Mounting frame	Part No.	Type
Mounting frame 2N complete for 16 components	9 365	NRRQ-2N
Accessories		
Mounting bracket for mounting sub-bases on the frame	11 571	NRW-9/1,5-B
Slotted head screw (scope of delivery includes 2 pieces)	204 021	DIN 84-M4X12-4.8

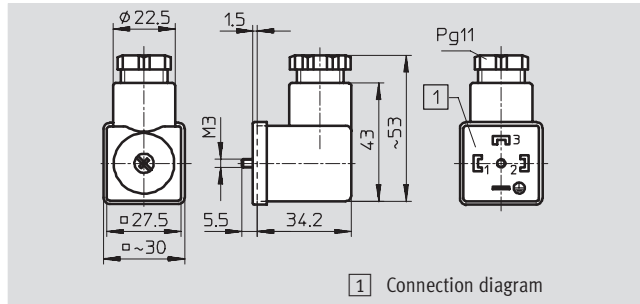
Vacuum switch VPEV, mechanical

Accessories



Plug socket with integrated LED, angled, PEV-1/4-WD

Housing material:
Polyamide, fibreglass reinforced plastic



1 Connection diagram

Ordering data							
for vacuum switch	Operating voltage range		Ready status display	Switching status display	Weight [g]	Part No.	Type
	[V DC]	[V AC]					
VPEV-1/8	15 ... 30	–	Green LED	Yellow LED	34	164 274	PEV-1/4-WD-LED-24
	≤180	≤230	Green LED	Yellow LED	34	164 275	PEV-1/4-WD-LED-230

Ordering data – Plug socket for vacuum switch VPEV-1/8						Technical data → Volume 4	
Mounting	Connection	Switch output		Cable length [m]	Part No.	Type	
		PNP	NPN				
Angled plug socket							
	Central screw	4-pin	■	■	–	171 157	MSSD-C-4P


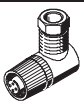

Ordering data – Plug sockets with cable M12x1 for vacuum switch VPEV-1/8-M12						Technical data → Volume 4	
Mounting	Connection	Switch output		Cable length [m]	Part No.	Type	
		PNP	NPN				
Straight socket							
	Union nut M12x1	4-pin	■	■	5	164 259	SIM-M12-4GD-5-PU
Angled plug socket							
	Union nut M12x1	4-pin	■	■	5	164 258	SIM-M12-4WD-5-PU


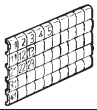
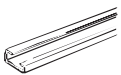
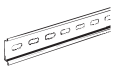
Ordering data – Plug sockets with cable M8x1						Technical data → Volume 4	
Mounting	Connection	Switch output		Cable length [m]	Part No.	Type	
		PNP	NPN				
Straight socket							
	Locknut M8x1	4-pin	■	■	2.5	158 960	SIM-M8-4GD-2,5-PU
					5	158 961	SIM-M8-4GD-5-PU
	Clip on	4-pin	■	■	2.5	164 250	SIM-K-4-GD-2,5-PU
					5	164 251	SIM-K-4-GD-5-PU
Angled plug socket							
	Locknut M8x1	4-pin	■	■	2.5	158 962	SIM-M8-4WD-2,5-PU
					5	158 963	SIM-M8-4WD-5-PU
	Clip on	4-pin	■	■	2.5	164 252	SIM-K-4-WD-2,5-PU
					5	164 253	SIM-K-4-WD-5-PU

Vacuum switch VPEV, mechanical

Accessories

FESTO

Ordering data – Sensor sockets M12x1 for vacuum switch VPEV-1/8-M12						Technical data → Volume 4	
	Mounting	Connection	Switch output		Cable length [m]	Part No.	Type
			PNP	NPN			
Straight socket							
	Locknut M12x1	4-pin	■	■	–	18 494	SIE-GD
Angled plug socket							
	Locknut M12x1	4-pin	■	■	–	12 956	SIE-WD-TR
Operating status indicator for angled socket SIE-WD-TR							
	–	–	■	■	–	12 957	SIE-LP-LED-GR

Ordering data – Accessories									
	For vacuum switches	Length	Part No.	Type		For vacuum switches	Length	Part No.	Type
Mounting latch for mounting on G/H rail					Inscription label Technical data → Volume 2				
	VPEV-W-...	–	164 597	PENV-BGH		VPEV-W-...	–	6 888	BZ-N1-50
								6 889	BZ-N51-100
Mounting rail to DIN EN 50 035					Mounting rail to DIN EN 50 022				
	VPEV-W-...	2 m	6 756	NRC-32-200		VPEV-W-...	2 m	35 430	NRH-35-2000



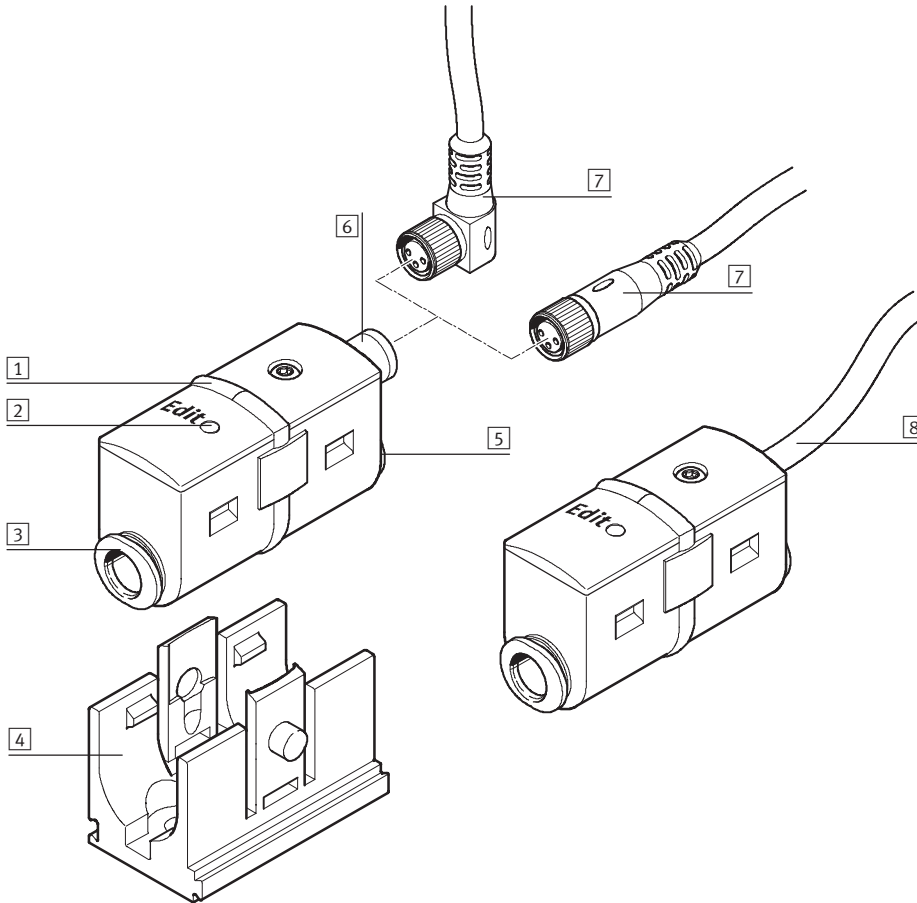
- Programmable and configurable pressure switch for simple pressure sensing tasks
- Teach-in function for programming
- Integrated microprocessor
- Operating status indicated by an LED visible from all sides
- Modular concept ensures easy-to-order, customised configurations

Pressure switch SDE5

Key features at a glance



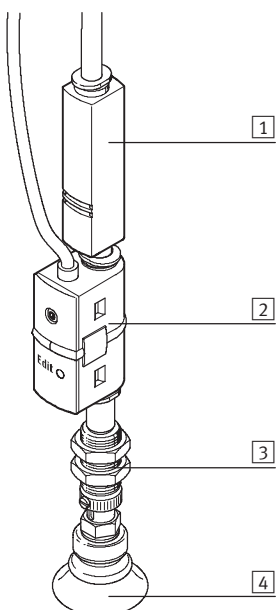
Function overview



- 1 Yellow LED display, visible from all sides
- 2 Programming pushbutton
- 3 Pneumatic connection
- 4 Clip-in, dovetailing bracket for wall-mounting (included in the scope of delivery)
- 5 Pneumatic connection or blanking plug
- 6 Plug M8x1
- 7 Cable with socket SIM-M8 (must be ordered separately → 6 / 5.1-22 or via the modular system → 6 / 5.1-21)
- 8 Free cable end

Application example

Separation of parts by checking the applied vacuum



- 1 Vacuum generator VN
- 2 Pressure switch SDE5
- 3 Suction cup holder HCL
- 4 Suction cup ESS

Two pressures must be programmed (taught-in) for this application:

- Teach-in pressure 1: Part gripped
- Teach-in pressure 2: Part not gripped

Operating mode 1 of the SDE5 calculates the average of the stored teach-in pressures:

If the applied vacuum is below the average, the workpiece is regarded as gripped and the SDE5 registers it as an acceptable part.

If the applied vacuum is above the average, the workpiece is regarded as not fully gripped and is rejected as unacceptable.

Other applications:

- Pressure monitoring (pressure present?)
- Regulator monitoring (pressure in desired range?)
- Detection of objects by means of back pressure monitoring

Pressure switch SDE5

Type code

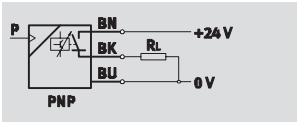
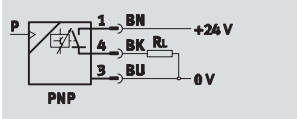
		SDE5	-	D2	-	0	-	Q6	-	P	-	M8	-	G5	-		-	
Type																		
SDE5	Pressure switch																	
Pressure measuring range																		
V1	-1 ... 0 bar																	
D2	0 ... 2 bar																	
D10	0 ... 10 bar																	
Switching function																		
FP	Freely programmable																	
Threshold comparator with fixed hysteresis, 1 teach-in pressure																		
O	Normally open contact																	
C	Normally closed contact																	
Threshold comparator with fixed hysteresis, 2 teach-in pressures																		
O1	Normally open contact																	
C1	Normally closed contact																	
Threshold comparator with variable hysteresis, 2 teach-in pressures																		
O2	Normally open contact																	
C2	Normally closed contact																	
Window comparator with fixed hysteresis, 2 teach-in pressures																		
O3	Normally open contact																	
C3	Normally closed contact																	
Pneumatic connection																		
Push-in connector at both ends																		
Q3	For tubing OD 3 mm																	
Q4	For tubing OD 4 mm																	
Q6	For tubing OD 6 mm																	
Push-in connector at one end																		
Q3E	For tubing OD 3 mm																	
Q4E	For tubing OD 4 mm																	
Q6E	For tubing OD 6 mm																	
Electrical output																		
P	1 switch output PNP (positive switching)																	
Electrical connection																		
K	2.5 m cable																	
M8	3-pin M8 plug																	
Connecting cable																		
SIM cable with straight connection socket																		
G	2.5 m long																	
G5	5 m long																	
SIM cable with angled connection socket																		
W	2.5 m long																	
W5	5 m long																	
Teach-in point 1 permanently set																		
...X	Permanent factory setting as per customer's requirement, required switching pressure [bar]																	
Teach-in point 2 permanently set																		
...Y	Permanent factory setting as per customer's requirement, required switching pressure [bar]																	

Pressure switches SDE5

Technical data



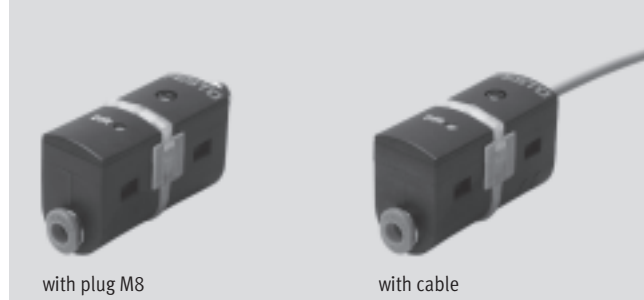
Function



- Voltage
15 ... 30 V DC

- Pressure
-1 ... +10 bar

- Temperature range
0 ... 50°C



with plug M8

with cable

General technical data

Mechanical	
Pneumatic connection	Push-in connector at one or both ends, QS-3, QS-4 or QS-6
Method of measurement	Piezoresistive pressure switch
Measured variable	Relative pressure
Reproducibility of switching value	±0.3% of the measuring range final value
Hysteresis FS	2%
Electrical connection	Plug M8x1, round design to EN 60947-5-2, 3-pin 3-core cable, 2.5 m long
Type of mounting	Via accessories
Assembly position	Any ¹⁾
Electrical	
Operating voltage range [V DC]	15 ... 30
Max. output current [mA]	100
Protection against short circuit	Pulsed
Protection against polarity reversal	For all electrical connections
Switching output	PNP
Switching function	→ Table 6 / 5.1-17
Switching element function	NO contact, NC contact or switchable
Type of display	Yellow LED, visible from all sides
CE marking symbol (see conformity declaration)	As per EU EMC directive

1) The collection of condensate in the sensor should be prevented.

Vacuum switches

5.1

Operating and environmental conditions

Pressure measuring range [bar]	-1 ... 0	0 ... 2	0 ... 10
Operating medium	Filtered compressed air, lubricated or unlubricated, grade of filtration 40µm		
Threshold value setting range	0 ... 100%		
Ambient temperature [°C]	0 ... 50		
Temperature of medium [°C]	0 ... 50		
Corrosion resistance class CRC ¹⁾	2		
Protection class to EN 60 529	IP 40		
Certification	c UL us - Recognized (OL)		

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Weights [g]

With plug M8x1, without wall bracket	19
With cable, without wall bracket	47
Wall bracket	5.5

Pressure switches SDE5

Technical data

Switching functions	NO switching element (normally open)	NC switching element (normally closed)
Operating mode Mode 0 Threshold value with fixed hysteresis, 1 teach-in pressure		
Mode 1 Threshold value with fixed hysteresis, 2 teach-in pressures		
Mode 2 Threshold value with variable hysteresis, 2 teach-in pressures		
Mode 3 Window comparator with fixed hysteresis, 2 teach-in pressures		

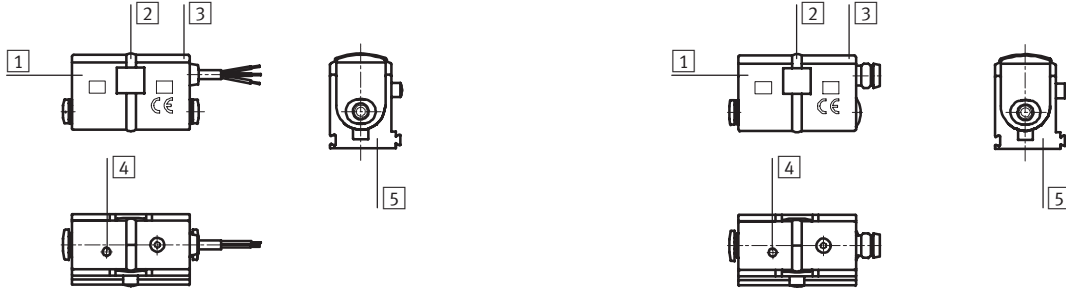
- A Binary output signal
- p Pressure
- SP Switching point
- TP Teach-in pressure
- Hy Hysteresis

Pressure switches SDE5

Technical data



Materials

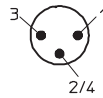
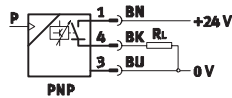


Pressure switches

1	Housing	Polyacetate, reinforced
2	Fibre optic display	Polyamide
3	Cover	Polyphenylene sulphide, reinforced
4	Pushbutton	Silicone rubber
5	Wall bracket	Polypropylene

Terminal allocation

Variant with plug M8x1

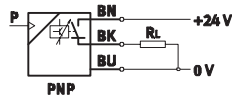


- 1 = brown
- 2/4 = black
- 3 = blue

- Note

The colours specified are for cables with socket SIM-...

Variant with cable

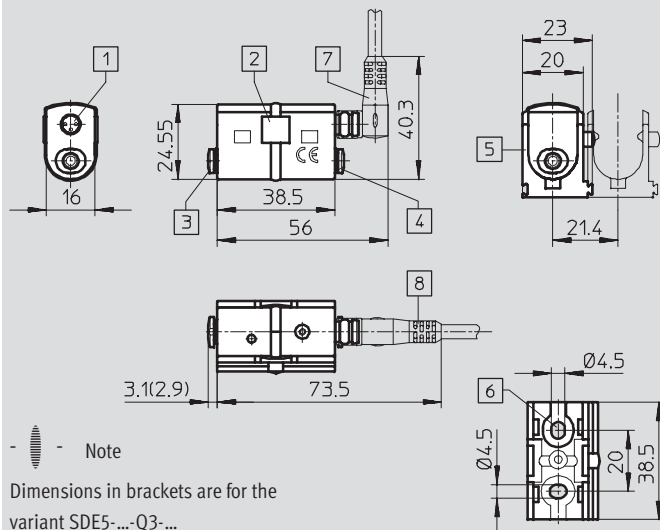


- BN = brown
- BK = black
- BU = blue

Dimensions

Download CAD data → www.festo.com/en/engineering

Variant with plug M8x1



- Note

Dimensions in brackets are for the variant SDE5-...-Q3-...

- 1 Plug M8x1, 3-pin
- 2 Yellow LED display, visible from all sides
- 3 Pneumatic connection QS-3, QS-4 or QS-6
- 4 Pneumatic connection QS-3, QS-4 or QS-6 or blanking plug with SDE5-...-Q...E-...
- 5 Bracket for wall mounting
- 6 Through-hole for mounting screw
- 7 Angled connection socket SIM-M8-3WD
- 8 Straight connection socket SIM-M8-3GD

Pressure switches SDE5

Technical data

Dimensions

Variant with cable

1 2 3 4 5 6

16 24.55 38.5 41.5 Ø2.9 23 20 21.4 3.1(2.9) Ø4.5 20 38.5

Note
Dimensions in brackets are for the variant SDE5-...-Q3-...

- 1 PUR cable, 3-core, 2.5 m long
- 2 Yellow LED display, visible from all sides
- 3 Pneumatic connection QS-3, QS-4 or QS-6
- 4 Pneumatic connection QS-3, QS-4 or QS-6 or blanking plug with SDE5-...-Q...E-...
- 5 Bracket for wall mounting
- 6 Through-hole for mounting screw

Ordering data – Threshold value with fixed hysteresis, 1 teach-in pressure

Pressure measuring range	Pneumatic connection		For tubing O.D. [mm]			Electrical connection		Part No.	Type
	At one end	At both ends	3	4	6	Plug M8x1	Cable		
NO contact									
-1 ... 0 bar	■	-	■	-	-	■	-	527 459	SDE5-V1-O-Q3E-P-M8
	■	-	-	■	-	■	-	527 460	SDE5-V1-O-Q4E-P-M8
	■	-	-	-	■	■	-	527 461	SDE5-V1-O-Q6E-P-M8
	-	■	■	-	-	■	-	527 456	SDE5-V1-O-Q3-P-M8
	-	■	-	■	-	■	-	527 457	SDE5-V1-O-Q4-P-M8
	-	■	-	-	-	■	-	527 458	SDE5-V1-O-Q6-P-M8
0 ... 2 bar	■	-	-	-	■	-	■	542 888	SDE5-D2-O-Q6E-P-K
0 ... 10 bar	■	-	■	-	-	■	-	527 465	SDE5-D10-O-Q3E-P-M8
	■	-	-	■	-	■	-	527 466	SDE5-D10-O-Q4E-P-M8
	■	-	-	-	■	■	-	527 467	SDE5-D10-O-Q6E-P-M8
	-	■	■	-	-	■	-	527 462	SDE5-D10-O-Q3-P-M8
	-	■	-	■	-	■	-	527 463	SDE5-D10-O-Q4-P-M8
	-	■	-	-	-	■	-	527 464	SDE5-D10-O-Q6-P-M8
	■	-	-	-	-	■	■	542 890	SDE5-D10-O-Q6E-P-K
NC contact									
0 ... 10 bar	■	-	-	■	-	■	-	542 889	SDE5-D10-C-Q4E-P-M8
	■	-	-	-	■	■	-	542 894	SDE5-D10-C-Q6E-P-M8
	■	-	-	-	-	■	■	542 895	SDE5-D10-C-Q6E-P-K

Note

Additional wall brackets can be reordered using the embossed part number.

Pressure switches SDE5

Technical data



Ordering data – Threshold value with fixed hysteresis, 2 teach-in pressures									
Pressure measuring range	Pneumatic connection		For tubing O.D. [mm]			Electrical connection		Part No.	Type
	At one end	At both ends	3	4	6	Plug M8x1	Cable		
NO contact									
-1 ... 0 bar	-	■	-	-	■	■	-	542 886	SDE5-V1-01-Q6-P-M8


Ordering data – Threshold value with variable hysteresis, 2 teach-in pressures									
Pressure measuring range	Pneumatic connection		For tubing O.D. [mm]			Electrical connection		Part No.	Type
	At one end	At both ends	3	4	6	Plug M8x1	Cable		
NO contact									
0 ... 10 bar	■	-	-	-	■	■	-	542 891	SDE5-D10-02-Q6E-P-M8
	-	■	-	-	■	■	-	542 892	SDE5-D10-02-Q6-P-M8

Ordering data – Window comparator with fixed hysteresis, 2 teach-in pressures									
Pressure measuring range	Pneumatic connection		For tubing O.D. [mm]			Electrical connection		Part No.	Type
	At one end	At both ends	3	4	6	Plug M8x1	Cable		
NO contact									
0 ... 10 bar	■	-	-	-	■	-	■	542 893	SDE5-D10-03-Q6E-P-K
NC contact									
0 ... 10 bar	■	-	-	-	■	-	■	542 896	SDE5-D10-C3-Q6E-P-K

Ordering data – Freely programmable									
Pressure measuring range	Pneumatic connection		For tubing O.D. [mm]			Electrical connection		Part No.	Type
	At one end	At both ends	3	4	6	Plug M8x1	Cable		
NO contact									
-1 ... 0 bar	-	■	-	-	■	■	-	542 887	SDE5-V1-FP-Q6-P-M8
0 ... 10 bar	■	-	-	■	■	■	-	542 900	SDE5-D10-FP-Q4E-P-M8
	■	-	-	-	■	■	-	542 897	SDE5-D10-FP-Q6E-P-M8
	-	■	-	-	■	■	-	542 898	SDE5-D10-FP-Q6-P-M8
	■	-	-	■	-	-	■	542 901	SDE5-D10-FP-Q4E-P-K
	■	-	-	-	■	-	■	542 899	SDE5-D10-FP-Q6-P-K

Vacuum switches

5.1

 Note
Additional wall brackets can be reordered using the embossed part number.

Pressure switch SDE5

Ordering data – Modular products



M Mandatory data							O Options		
Module No.	Sensor function	Pressure range	Switching function	Pneumatic connection	Electrical output	Electrical connection	Connecting cable	Teach-in point 1 permanently set	Teach-in point 2 permanently set
529 027	SDE5	V1 D2 D10	FP O C O1 C1 O2 C2 O3 C3	Q3 Q4 Q6 Q3E Q4E Q6E	P	K M8	G W G5 W5	...X	...Y
Ordering example									
529 027	SDE5	- D10	- O2	- Q6	- P	- M8	- G5	- 5,5X	- 5,5Y

Ordering table							
Size	5	Conditions		Code		Enter code	
M Module No.	529 027					529 027	
Sensor function	Pressure switch			SDE5		SDE5	
Pressure range	Pressure range 0 ... -1 bar (relative)			-V1			
	Pressure range 0 ... 2 bar (relative)			-D2			
	Pressure range 0 ... 10 bar (relative)			-D10			
Switching function	Freely programmable, NO contact, NC contact			-FP			
	Threshold value with fixed hysteresis, 1 teach-in point, NO contact			-O			
	Threshold value with fixed hysteresis, 1 teach-in point, NC contact			-C			
	Threshold value with fixed hysteresis, 2 teach-in points, NO contact			-O1			
	Threshold value with fixed hysteresis, 2 teach-in points, NC contact			-C1			
	Threshold value with variable hysteresis, NO contact			-O2			
	Threshold value with variable hysteresis, NC contact			-C2			
	Window comparator with fixed hysteresis, NO contact			-O3			
	Window comparator with fixed hysteresis, NC contact			-C3			
Pneumatic connection	QS3 connection at both ends			-Q3			
	QS4 connection at both ends			-Q4			
	QS6 connection at both ends			-Q6			
	QS3 connection at one end			-Q3E			
	QS4 connection at one end			-Q4E			
	QS6 connection at one end			-Q6E			
Electrical output	1 switch output PNP			-P		-P	
Electrical connection	Cable 2.5 m			-K			
	M8 plug, 3-pin			-M8			
O Connecting cable (accessory)	2.5 m SIM cable with straight connection socket		1	-G			
	2.5 m SIM cable with angled connection socket		1	-W			
	5.0 m SIM cable with straight connection socket		1	-G5			
	5.0 m SIM cable with angled connection socket		1	-W5			
Teach-in point 1 permanently set [bar]	0 ... 10 (required switching pressure)		2	...X			
Teach-in point 2 permanently set [bar]	0 ... 10 (required switching pressure)		2 3	...Y			

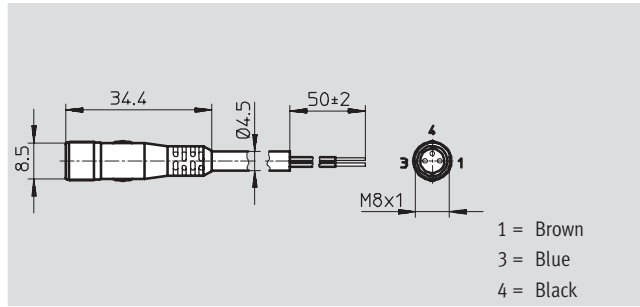
- 1 **G, W, G5, W5** Only in combination with M8
 2 **X, Y** Not in combination with FP, O1, C1
 3 **Y** Not in combination with O, C
 Must be evaluated if O2, C2, O3, C3, and X or Y was selected
 Only one decimal place permissible in combination with D10

Pressure switch SDE5

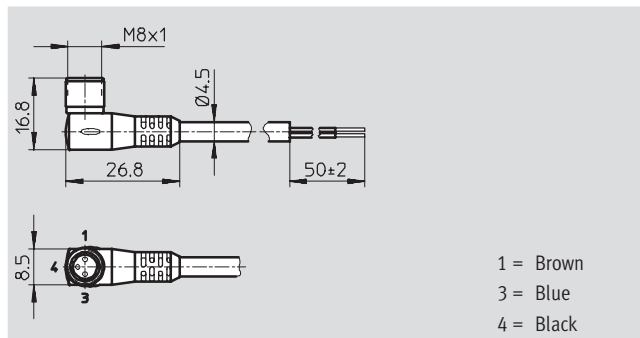
Accessories



Socket with cable
SIM-M8-3GD-...-PU



Socket with cable
SIM-M8-3WD-...-PU



Technical data		SIM-M8-...-2,5-PU	SIM-M8-...-5-PU	SIM-M8-...-10-PU
Cable length	[m]	2.5	5	10
Cable diameter	[mm]	4.5		
Constructional design		3x0.25 mm ²		
Cable ends		Open end		
Current-carrying capacity	[A]	2.8 A		
Operating voltage		45 V AC / 70 V DC		
Protection class to EN 60 529		IP 67		
Ambient temperature				
Fixed cable installation	[°C]	-40 ... 70		
Flexible cable installation	[°C]	-5 ... 70		
Materials				
Housing		PUR		
Cable sheath		PUR		

Ordering data		Straight		Angled	
Plug outlet		Part No.	Type	Part No.	Type
Cable length	2.5 m	159 420	SIM-M8-3GD-2,5-PU	159 422	SIM-M8-3WD-2,5-PU
	5 m	159 421	SIM-M8-3GD-5-PU	159 423	SIM-M8-3WD-5-PU
	10 m	192 964	SIM-M8-3GD-10-PU	192 965	SIM-M8-3WD-10-PU

- Note
Further cables with socket
→ Volume 4

Vacuum switches

5.1

Pressure sensors SDE1, with display

FESTO



- Five pressure measuring ranges
- Measurement of relative or differential pressure
- Switch outputs PNP, NPN and with analogue current or voltage output
- LCD or illuminated LCD display
- Wide range of connection and mounting options

Pressure sensors SDE1, with display


Product range overview – Pre-assembled pressure sensors

FESTO

Pressure measuring range	Electrical output				Display, setting		Electrical connection	
	1 switch output PNP	2 switch outputs PNP	1 switch output PNP and 0 ... 10 V analogue	1 switch output PNP and 4 ... 20 mA analogue	LCD	Illuminated LCD	M8x1	M12x1
0 ... -1 bar	Female thread G $\frac{1}{8}$, for H-rail mounting, relative pressure measurement							
	■	-	-	-	■	-	■	-
	-	■	-	-	■	-	■	-
	-	-	■	-	■	-	■	-
	■	-	-	-	-	■	■	-
	-	■	-	-	-	■	■	-
	-	-	■	-	-	■	■	-
	Female thread G $\frac{1}{8}$, for wall or surface mounting, relative pressure measurement							
	■	-	-	-	-	■	-	■
	-	-	-	■	-	■	■	-
	-	-	-	■	-	■	-	■
	Push-in fitting QS-4, for H-rail mounting, differential pressure and relative pressure measurement							
	■	-	-	-	■	-	■	-
	-	■	-	-	■	-	■	-
	-	-	■	-	■	-	■	-
	■	-	-	-	-	■	■	-
	-	■	-	-	-	■	■	-
	-	-	■	-	-	■	■	-

Pressure measuring range	Electrical output				Display, setting		Electrical connection	
	1 switch output PNP	2 switch outputs PNP	1 switch output PNP and 0 ... 10 V analogue	1 switch output PNP and 4 ... 20 mA analogue	LCD	Illuminated LCD	M8x1	M12x1
0 ... 2 bar	Female thread G $\frac{1}{8}$, for wall or surface mounting, relative pressure measurement							
	■	-	-	-	-	■	■	-
	-	■	-	-	-	■	■	-
Push-in fitting QS-4, for wall or surface mounting, differential pressure and relative pressure measurement								
-	■	-	-	-	■	-	■	-

Pressure measuring range	Electrical output				Display, setting		Electrical connection	
	1 switch output PNP	2 switch outputs PNP	1 switch output PNP and 0 ... 10 V analogue	1 switch output PNP and 4 ... 20 mA analogue	LCD	Illuminated LCD	M8x1	M12x1
0 ... 6 bar	Female thread G $\frac{1}{8}$, for wall or surface mounting, relative pressure measurement							
	■	-	-	-	-	■	■	-
-	■	-	-	-	-	■	■	-

 **Note**
Additional variants and accessories can be configured and ordered through the SDE1 modular system
➔ 6 / 5.1-37.

Vacuum switches

5.1

Pressure sensors SDE1, with display

Product range overview – Pre-assembled pressure sensors

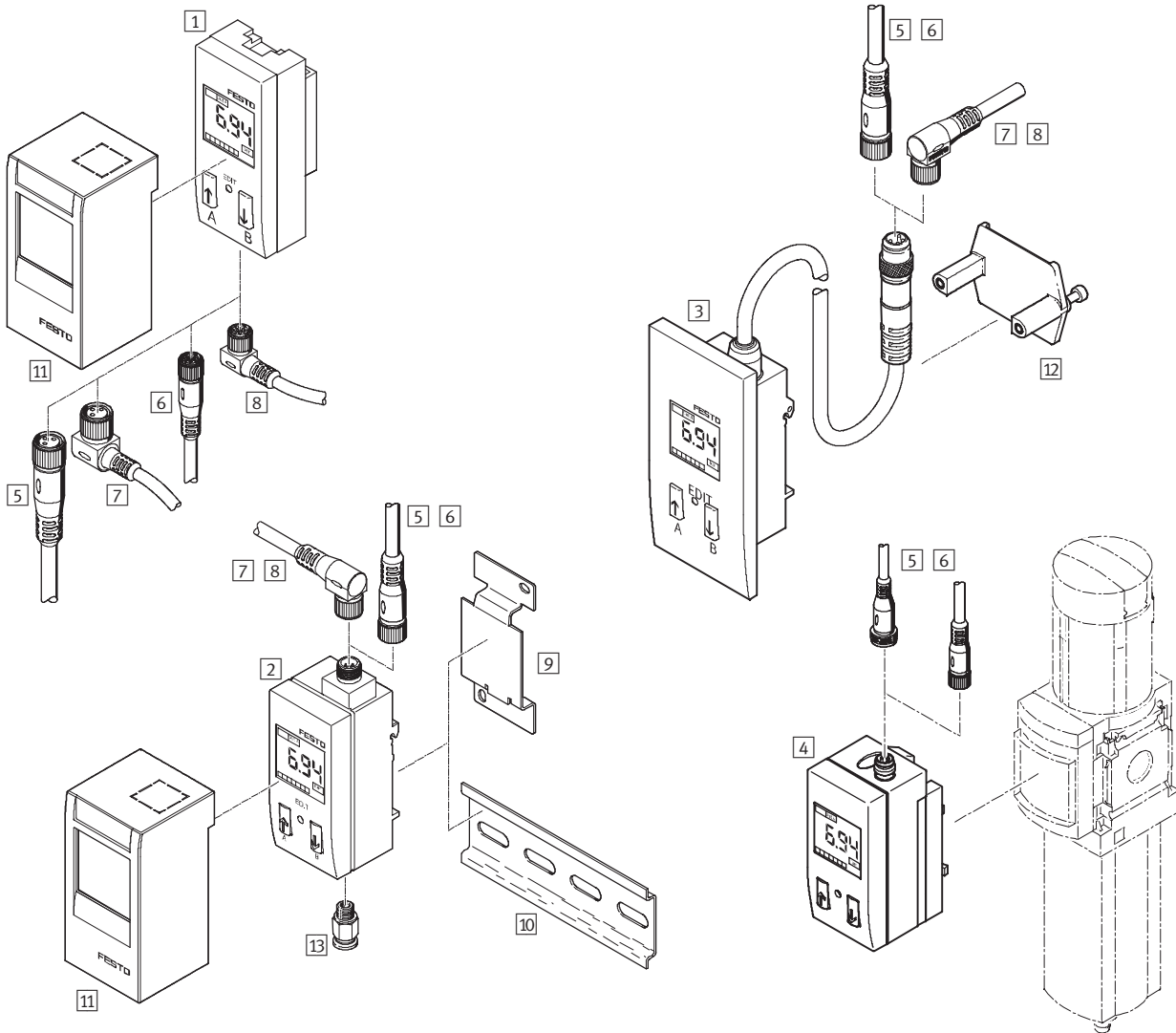
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Pressure measuring range	Electrical output					Display, setting		Electrical connection	
	1 switch output PNP	2 switch outputs PNP	1 switch output PNP and 0 ... 10 V analogue	1 switch output PNP and 4 ... 20 mA analogue	2 switch outputs PNP and 1 switch output 4 ... 20 mA analogue	LCD	Illuminated LCD	M8x1	M12x1
0 ... 10 bar	Male thread R ¹ / ₈ , mounting on service unit (MS or D series), relative pressure measurement								
	■	-	-	-	-	■	-	■	-
	-	■	-	-	-	■	-	■	-
	-	-	■	-	-	■	-	■	-
	■	-	-	-	-	-	■	■	-
	-	■	-	-	-	-	■	■	-
	-	-	■	-	-	-	■	■	-
	■	-	-	-	-	-	■	-	■
	Male thread R ¹ / ₄ , mounting on service unit (MS or D series), relative pressure measurement								
	■	-	-	-	-	■	-	■	-
	-	■	-	-	-	■	-	■	-
	-	-	■	-	-	■	-	■	-
	■	-	-	-	-	-	■	■	-
	-	■	-	-	-	-	■	■	-
	-	-	■	-	-	-	■	■	-
	■	-	-	-	-	-	■	-	■
	Female thread G ¹ / ₈ , for H-rail mounting, relative pressure measurement								
	■	-	-	-	-	■	-	■	-
	-	■	-	-	-	■	-	■	-
	-	-	■	-	-	■	-	■	-
	■	-	-	-	-	-	■	■	-
	-	■	-	-	-	-	■	■	-
	-	-	■	-	-	-	■	■	-
	Female thread G ¹ / ₈ , for wall or surface mounting, relative pressure measurement								
	-	-	■	-	-	-	■	■	-
	■	-	-	-	-	-	■	-	■
	-	-	-	■	-	-	■	■	-
	-	-	-	■	-	-	■	-	■
	-	-	-	-	■	-	■	-	■
	Push-in fitting QS-4, for H-rail mounting, differential pressure and relative pressure measurement								
	■	-	-	-	-	■	-	■	-
	-	■	-	-	-	■	-	■	-
	-	-	■	-	-	■	-	■	-
	■	-	-	-	-	-	■	■	-
	-	■	-	-	-	-	■	■	-
	-	-	■	-	-	-	■	■	-
	Push-in fitting QS-4, for front panel mounting, differential pressure and relative pressure measurement								
	■	-	-	-	-	-	■	■	-
	-	■	-	-	-	-	■	-	■
	■	-	-	-	-	-	■	■	-
	-	■	-	-	-	-	■	-	■

Pressure sensors SDE1, with display

Peripherals overview

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Accessories	Brief description	→ Page
Pressure sensors		
1	SDE1-...-R...-...	Male thread, mounting on service unit (MS or D series)
2	SDE1-...-H18-..., SDE1-...-W18-...	H-rail mounting, wall or surface mounting, with plug M8x1
3	SDE1-...-FQ4-...	for panel mounting, with cable and plug M8x1
4	SDE1-...-MS...-f-...	Direct connection to service units of the MS series
Plug sockets with cable		
5	SIM-M8-4GD-...	Straight socket, M8x1, 4-pin
6	SIM-M12-4GD-...	Straight socket, M12x1, 4-pin
7	SIM-M8-4WD-...	Angled socket, M8x1, 4-pin
8	SIM-M12-4WD-...	Angled socket, M12x1, 4-pin
Mounting attachments		
9	Adapter plate SDE1-...-W...	included in the scope of delivery for SDE1-...-W...
10	DIN mounting rail	to DIN EN 50022
11	Protective cover SDE1-SH	-
12	Clamping plate	included in the scope of delivery for SDE1-...-FQ4-...
13	Push-in fitting QS-1/8-...	for compressed air tubing with standard external diameters

Pressure sensors SDE1, with display

Type codes

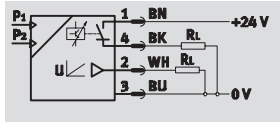
		SDE1	-	D10	-	G2	-	W18	-	L	-	P1	-	M12	-	G5
Type																
SDE1	Pressure sensor with display															
Pressure range																
V1	0 ... -1 bar															
B2	-1 ... +1 bar															
D2	0 ... 2 bar															
D6	0 ... 6 bar															
D10	0 ... 10 bar															
Absolute accuracy																
G2	Accuracy 2%															
Pneumatic connection, mounting, measured variable																
R18	Male thread R $\frac{1}{8}$, mounting on service unit															
R14	Male thread R $\frac{1}{4}$, mounting on service unit															
MS4	Direct connection to service units of the MS4 series															
MS6	Direct connection to service units of the MS6 series															
H18	Female thread G $\frac{1}{8}$, H-rail mounting															
W18	Female thread G $\frac{1}{8}$, wall or surface mounting															
FQ4	Push-in fitting QS-4, front panel mounting															
HQ4	Push-in fitting QS-4, H-rail mounting															
WQ4	Push-in fitting QS-4, wall or surface mounting															
Display, setting																
C	LCD display with backlighting (user optimised)															
L	Illuminated LCD display (reading optimised)															
Electrical output																
P1	1 switch output PNP															
P2	2 switch outputs PNP															
PU	1 switch output PNP and 0 ... 10 V analogue															
PI	1 switch output PNP and 4 ... 20 mA analogue															
2I	2 switch outputs PNP and 4 ... 20 mA analogue															
N1	1 switch output NPN															
N2	2 switch outputs NPN															
NU	1 switch output NPN and 0 ... 10 V analogue															
NI	1 switch output NPN and 4 ... 20 mA analogue															
Electrical connection																
M8	Plug M8x1															
M12	Plug M12x1															
Connecting cable																
SIM cable with straight connection socket																
G	2.5 m long															
G5	5 m long															
SIM cable with angled connection socket																
W	2.5 m long															
W5	5 m long															

Pressure sensors SDE1, with display

Technical data

FESTO

Function¹⁾

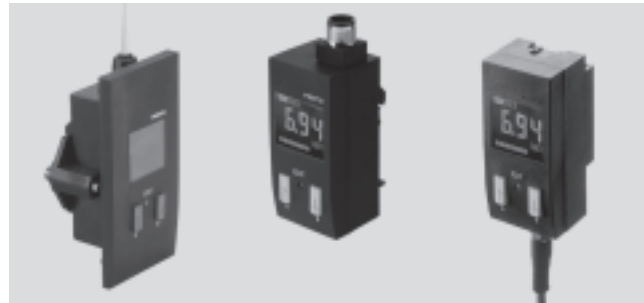


1) For example with 1 switch output PNP and 0 ... 10 V analogue

Voltage
15 ... 30 V DC

Pressure
-1 ... +10 bar

Temperature range
0 ... 50 °C



General technical data		0 ... -1	-1 ... +1	0 ... 2	0 ... 6	0 ... 10
Pressure measuring range	[bar]					
Mechanical						
Method of measurement	Piezoresistive pressure sensor with display					
Pneumatic connection	R1/8, R1/4, G1/8 or QS-4					
Measured variable	Relative pressure					
	Differential pressure ¹⁾					
Type of display	LCD display with backlighting					
	Illuminated LCD display					
Accuracy FS ²⁾	±2%					
Reproducibility of switching point	0.3%					
Setting	Teach-In					
Protection against manipulation	PIN-Code					
Electrical connection	Plug M8x1 or M12x1, round design to EN 60 947-5-2					
Type of mounting	Front panel mounting					
	On service unit					
	With H-rail mounting					
	With wall or surface mounting					
Mounting position	Any ³⁾					
Electrical						
Switch output	PNP					
	NPN					
Switching element function	Switchable					
Switching function	Freely programmable					
Switching status display	LCD display					
Operating voltage range	[V DC]	15 ... 30				
Max. output current	[mA]	150				
Protection against short circuit	Pulsed					
Protection against polarity reversal	For all electrical connections					
CE marking symbol (see conformity declaration)	As per EU EMC directive					

1) Variants with push-in fitting QS-4

2) % FS = % of the measuring range final value (full scale)

3) The collection of condensate in the sensor should be prevented

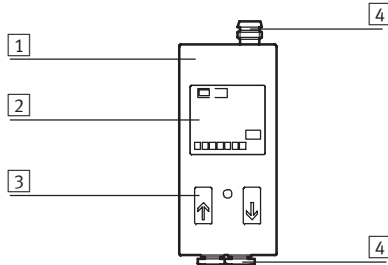
Weights [g]			
	Male thread R1/8 or R1/4	H-rail, wall or surface mounting	Front panel mounting
	95	70	150

Pressure sensors SDE1, with display

Technical data

FESTO

Materials



1	Housing	Polyacetate, reinforced Polyamide
2	Display	Polycarbonate
3	Buttons	Nitrile rubber
4	Plug, QS push-in fittings	Brass, nickel plated or chrome plated
-	Pressure gauge adapter	Brass, nickel plated or chrome plated
-	Seals	Nitrile rubber
-	Clamping plate	Polyamide, fibreglass reinforced
-	Adapter MS	Polyamide, fibreglass reinforced
-	Note on material	Free of copper and PTFE

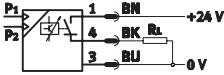

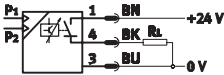

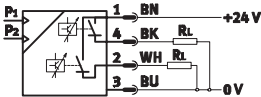

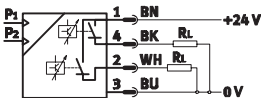

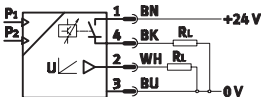

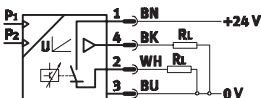

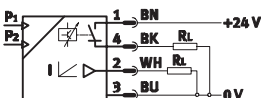

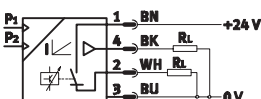

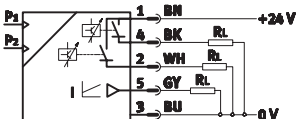

Operating and environmental conditions						
Pressure measuring range	[bar]	0 ... -1	-1 ... +1	0 ... 2	0 ... 6	0 ... 10
Operating medium		Filtered compressed air, lubricated or unlubricated				
Threshold value setting range	[bar]	-0.02 ... -0.998	-0.999 ... +0.996	0.04 ... 1.996	0.12 ... 5.99	0.2 ... 9.98
Hysteresis setting range	[bar]	0 ... -0.9	-0.9 ... +0.9	0 ... 1.8	0 ... 5.4	0 ... 9
Overload pressure	[bar]	5	5	6	16	20
Ambient temperature	[°C]	0 ... 50				
Temperature of medium	[°C]	0 ... 50				
Corrosion resistance class CRC ¹⁾		2				
Protection class to EN 60 529		IP 65				
Certification		c UL us - Recognized (OL)				

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Pressure sensors SDE1, with display

Technical data

FESTO

Electrical outputs ¹⁾		Pin allocations	
1 switch output PNP			
Variant P1 with plug M8		1 = +24 V 3 = 0 V 4 = Output A	
Variant P1 with plug M12		1 = +24 V 3 = 0 V 4 = Output A	
2 switch outputs PNP			
Variant P2 with plug M8		1 = +24 V 2 = Output B 3 = 0 V 4 = Output A	
Variant P2 with plug M12		1 = +24 V 2 = Output A 3 = 0 V 4 = Output B	
1 switch output PNP and 0 ... 10 V analogue			
Variant PU with plug M8		1 = +24 V 2 = Output B (0 ... 10 V analogue) 3 = 0 V 4 = Output A	
Variant PU with plug M12		1 = +24 V 2 = Output A 3 = 0 V 4 = Output B (0 ... 10 V analogue)	
1 switch output PNP and 4 ... 20 mA analogue			
Variant PI with plug M8		1 = +24 V 2 = Output B (4 ... 20 mA analogue) 3 = 0 V 4 = Output A	
Variant PI with plug M12		1 = +24 V 2 = Output A 3 = 0 V 4 = Output B (4 ... 20 mA analogue)	
2 switch outputs PNP and 4 ... 20 mA analogue			
Variant 2I with plug M12		1 = +24 V 2 = Output B 3 = 0 V 4 = Output A 5 = Output C (4 ... 20 mA analogue)	

1) Core colours indicated apply when using plug sockets with cable SIM-...

Pressure sensors SDE1, with display

Technical data

Electrical outputs ¹⁾		Pin allocations	
1 switch output NPN			
Variant N1 with plug M8		1 = +24 V 3 = 0 V 4 = Output A	
Variant N1 with plug M12		1 = +24 V 3 = 0 V 4 = Output A	
2 switch outputs NPN			
Variant N2 with plug M8		1 = +24 V 2 = Output B 3 = 0 V 4 = Output A	
Variant N2 with plug M12		1 = +24 V 2 = Output A 3 = 0 V 4 = Output B	
1 switch output NPN and 0 ... 10 V analogue			
Variant NU with plug M8		1 = +24 V 2 = Output B (0 ... 10 V analogue) 3 = 0 V 4 = Output A	
Variant NU with plug M12		1 = +24 V 2 = Output A 3 = 0 V 4 = Output B (0 ... 10 V analogue)	
1 switch output NPN and 4 ... 20 mA analogue			
Variant NI with plug M8		1 = +24 V 2 = Output B (4 ... 20 mA analogue) 3 = 0 V 4 = Output A	
Variant NI with plug M12		1 = +24 V 2 = Output A 3 = 0 V 4 = Output B (4 ... 20 mA analogue)	

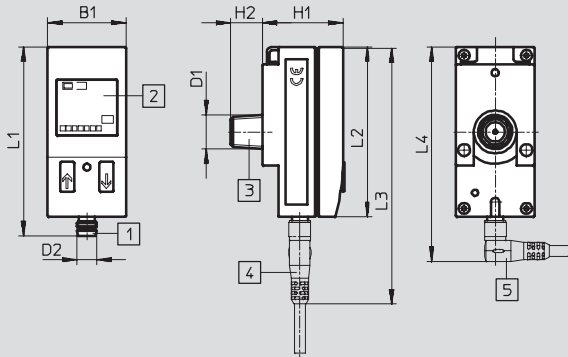
1) Core colours indicated apply when using plug sockets with cable SIM-...

Pressure sensors SDE1, with display

Technical data

FESTO

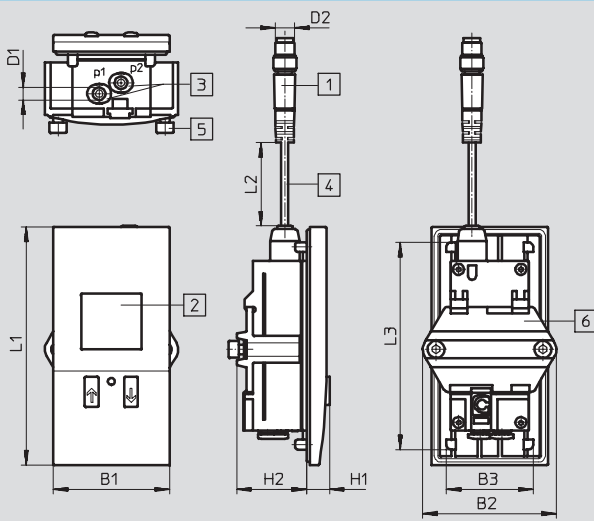
Dimensions – Mounting using male thread R $\frac{1}{8}$ or R $\frac{1}{4}$



- 1 Plug M8x1 or M12x1 to EN 60 947-5-2
- 2 LCD display
- 3 Adapter for pneumatic connection
- 4 Connection socket, straight
- 5 Connection socket, angled

Type	B1	D1	D2	H1	H2	L1	L2	L3	L4
SDE1-...-R18-M8	32.3	R $\frac{1}{8}$	M8	33	13	78	70	107	89
SDE1-...-R14-M8		R $\frac{1}{4}$							
SDE1-...-R18-M12	32.3	R $\frac{1}{8}$	M12	33	13	87	70	125	104
SDE1-...-R14-M12		R $\frac{1}{4}$							

Dimensions – Front panel mounting



- 1 Plug M8x1 or M12x1 to EN 60 947-5-2
- 2 LCD display
- 3 Pneumatic connection QS-4
- 4 Connecting cable
- 5 Mounting screw M4x25 to DIN 912
- 6 Clamping plate

Type	B1	B2	B3	D1	D2	H1	H2	L1	L2	L3
SDE1-...-FQ4-M8	48	55	35.8	QS-4	M8x1	8.1	28.85	98	320	85.3
SDE1-...-FQ4-M12					M12x1					

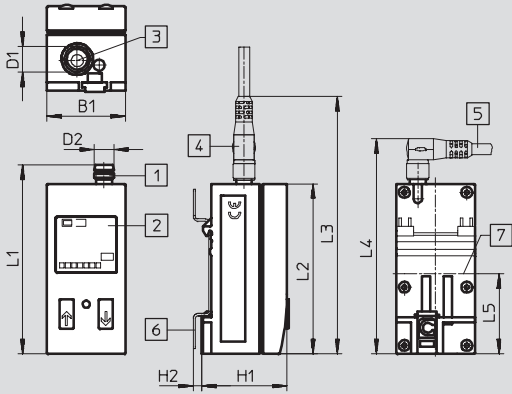
Pressure sensors SDE1, with display

Technical data

FESTO

Dimensions – H-rail, wall or surface mounting

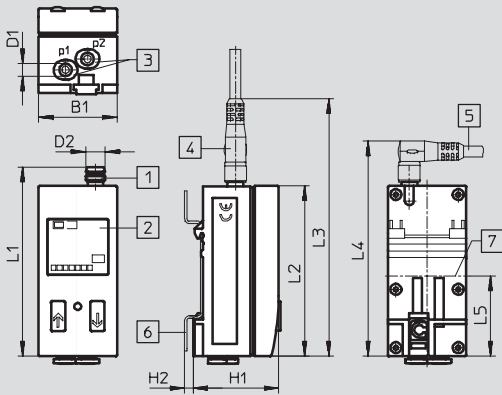
Pneumatic connection G $\frac{1}{8}$



- 1 Plug M8x1 or M12x1 to EN 60 947-5-2
- 2 LCD display
- 3 Pneumatic connection G $\frac{1}{8}$
- 4 Connection socket, straight
- 5 Connection socket, angled
- 6 Adapter plate for wall mounting
- 7 Centre with H-rail mounting

Type	B1	D1	D2	H1	H2	L1	L2	L3	L4	L5
SDE1-...-W18-...-M8	32.3	G $\frac{1}{8}$	M8	35.2	3.5	78	70	107	89	33
SDE1-...-H18-...-M8										
SDE1-...-W18-...-M12	32.3	G $\frac{1}{8}$	M12	35.2	3.5	87	70	125	104	33
SDE1-...-H18-...-M12										

Pneumatic connection QS-4



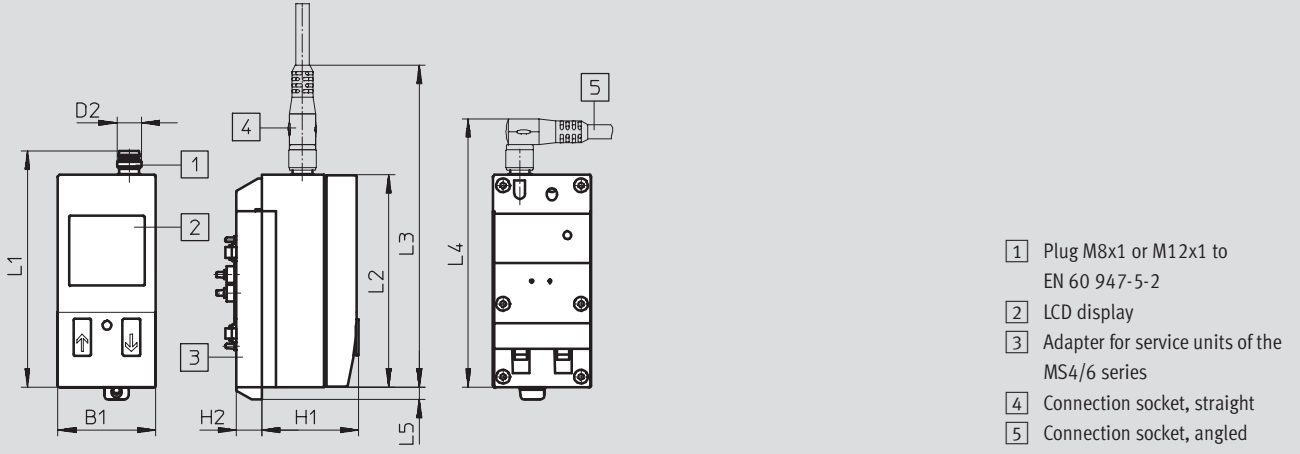
- 1 Plug M8x1 to EN 60 947-5-2
- 2 LCD display
- 3 Pneumatic connection QS-4
- 4 Connection socket, straight
- 5 Connection socket, angled
- 6 Adapter plate for wall mounting
- 7 Centre with H-rail mounting

Type	B1	D1	D2	H1	H2	L1	L2	L3	L4	L5
SDE1-...-WQ4-...-M8	32.3	QS-4	M8	35.2	3.5	78	70	107	89	33
SDE1-...-HQ4-...-M8										

Pressure sensors SDE1, with display

Technical data

Dimensions – Direct connection to service units of the MS4/6 series



Type	B1	D2	H1	H2	L1	L2	L3	L4	L5
SDE1-...-MS-...-M8	32.3	M8	31.2	8.8	78	70	107	89	4.1
SDE1-...-MS-...-M12		M12			87				

Pressure sensors SDE1, with display


Technical data

Ordering data – Pressure measuring range 0 ... –1 bar						
Electrical output	Display, setting		Electrical connection		Part No.	Type ¹⁾
	LCD	Illuminated LCD	M8	M12		
Female thread G ¹ / ₈ , H-rail mounting, relative pressure measurement						
1 switch output PNP	■	–	■	–	192 034	SDE1-V1-G2-H18-C-P1-M8
	–	■	■	–	529 973	SDE1-V1-G2-H18-L-P1-M8
2 switch outputs PNP	■	–	■	–	192 035	SDE1-V1-G2-H18-C-P2-M8
	–	■	■	–	529 974	SDE1-V1-G2-H18-L-P2-M8
1 switch output PNP and 0 ... 10 V analogue	■	–	■	–	529 959	SDE1-V1-G2-H18-C-PU-M8
	–	■	■	–	529 975	SDE1-V1-G2-H18-L-PU-M8
Female thread G ¹ / ₈ , wall or surface mounting, relative pressure measurement ²⁾						
1 switch output PNP	–	■	–	■	534 065	SDE1-V1-G2-W18-L-P1-M12
1 switch output PNP and 4 ... 20 mA analogue	–	■	■	–	537 022	SDE1-V1-G2-W18-L-PI-M8
	–	■	–	■	537 023	SDE1-V1-G2-W18-L-PI-M12
Push-in fitting QS-4, H-rail mounting, differential pressure and relative pressure measurement						
1 switch output PNP	■	–	■	–	192 036	SDE1-V1-G2-HQ4-C-P1-M8
	–	■	■	–	529 976	SDE1-V1-G2-HQ4-L-P1-M8
2 switch outputs PNP	■	–	■	–	192 037	SDE1-V1-G2-HQ4-C-P2-M8
	–	■	■	–	529 977	SDE1-V1-G2-HQ4-L-P2-M8
1 switch output PNP and 0 ... 10 V analogue	■	–	■	–	529 960	SDE1-V1-G2-HQ4-C-PU-M8
	–	■	■	–	529 978	SDE1-V1-G2-HQ4-L-PU-M8

Ordering data – Pressure measuring range 0 ... 2 bar						
Electrical output	Display, setting		Electrical connection		Part No.	Type ¹⁾
	LCD	Illuminated LCD	M8	M12		
Female thread G ¹ / ₈ , wall or surface mounting, relative pressure measurement ²⁾						
1 switch output PNP	–	■	■	–	537 024	SDE1-D2-G2-W18-L-P1-M8
2 switch outputs PNP	–	■	■	–	537 025	SDE1-D2-G2-W18-L-P2-M8
Push-in fitting QS-4, H-rail mounting, differential pressure and relative pressure measurement						
2 switch outputs PNP	■	–	■	–	535 581	SDE1-D2-G2-HQ4-C-P2-M8

Ordering data – Pressure measuring range 0 ... 6 bar						
Electrical output	Display, setting		Electrical connection		Part No.	Type ¹⁾
	LCD	Illuminated LCD	M8	M12		
Female thread G ¹ / ₈ , wall or surface mounting, relative pressure measurement ²⁾						
1 switch output PNP	–	■	■	–	537 026	SDE1-D6-G2-W18-L-P1-M8
2 switch outputs PNP	–	■	■	–	537 027	SDE1-D6-G2-W18-L-P2-M8

- 1) Explanation of the order code → Type codes 6 / 5.1-27
 2) Adapter plate SDE1-...-W... included in the scope of delivery

 Note
 Additional variants and accessories can be configured and ordered via the SDE1 modular product system → 6 / 5.1-37.

Pressure sensors SDE1, with display

Technical data

FESTO

Ordering data – Pressure measuring range 0 ... 10 bar						
Electrical output	Display		Electrical connection		Part No.	Type ¹⁾
	LCD	Illuminated LCD	M8	M12		
Male thread R¹/₈, mounting on service unit (MS or D series), relative pressure measurement						
1 switch output PNP	■	–	■	–	192 026	SDE1-D10-G2-R18-C-P1-M8
	–	■	■	–	529 970	SDE1-D10-G2-R18-L-P1-M8
	–	■	–	■	534 064	SDE1-D10-G2-R18-L-P1-M12
2 switch outputs PNP	■	–	■	–	192 027	SDE1-D10-G2-R18-C-P2-M8
	–	■	■	–	529 971	SDE1-D10-G2-R18-L-P2-M8
1 switch output PNP and 0 ... 10 V analogue	■	–	■	–	529 958	SDE1-D10-G2-R18-C-PU-M8
	–	■	■	–	529 972	SDE1-D10-G2-R18-L-PU-M8
Male thread R¹/₄, mounting on service unit (MS or D series), relative pressure measurement						
1 switch output PNP	■	–	■	–	192 028	SDE1-D10-G2-R14-C-P1-M8
	–	■	■	–	529 967	SDE1-D10-G2-R14-L-P1-M8
	–	■	–	■	534 157	SDE1-D10-G2-R14-L-P1-M12
2 switch outputs PNP	■	–	■	–	192 029	SDE1-D10-G2-R14-C-P2-M8
	–	■	■	–	529 968	SDE1-D10-G2-R14-L-P2-M8
1 switch output PNP and 0 ... 10 V analogue	■	–	■	–	529 957	SDE1-D10-G2-R14-C-PU-M8
	–	■	■	–	529 969	SDE1-D10-G2-R14-L-PU-M8
Female thread G¹/₈, H-rail mounting, relative pressure measurement						
1 switch output PNP	■	–	■	–	192 030	SDE1-D10-G2-H18-C-P1-M8
	–	■	■	–	529 961	SDE1-D10-G2-H18-L-P1-M8
2 switch outputs PNP	■	–	■	–	192 031	SDE1-D10-G2-H18-C-P2-M8
	–	■	■	–	529 962	SDE1-D10-G2-H18-L-P2-M8
1 switch output PNP and 0 ... 10 V analogue	■	–	■	–	529 955	SDE1-D10-G2-H18-C-PU-M8
	–	■	■	–	529 963	SDE1-D10-G2-H18-L-PU-M8
Female thread G¹/₈, wall or surface mounting, relative pressure measurement²⁾						
1 switch output PNP	–	■	–	■	534 063	SDE1-D10-G2-W18-L-P1-M12
1 switch output PNP and 0 ... 10 V analogue	–	■	■	–	530 900	SDE1-D10-G2-W18-L-PU-M8
2 switch outputs PNP and 4 ... 20 mA analogue	–	■	–	■	534 062	SDE1-D10-G2-W18-L-2I-M12
1 switch output PNP and 4 ... 20 mA analogue	–	■	■	–	537 020	SDE1-D10-G2-W18-L-PI-M8
	–	■	–	■	537 021	SDE1-D10-G2-W18-L-PI-M12
Push-in fitting QS-4, H-rail mounting, differential pressure and relative pressure measurement						
1 switch output PNP	■	–	■	–	192 032	SDE1-D10-G2-HQ4-C-P1-M8
	–	■	■	–	529 964	SDE1-D10-G2-HQ4-L-P1-M8
2 switch outputs PNP	■	–	■	–	192 033	SDE1-D10-G2-HQ4-C-P2-M8
	–	■	■	–	529 965	SDE1-D10-G2-HQ4-L-P2-M8
1 switch output PNP and 0 ... 10 V analogue	■	–	■	–	529 956	SDE1-D10-G2-HQ4-C-PU-M8
	–	■	■	–	529 966	SDE1-D10-G2-HQ4-L-PU-M8
Push-in fitting QS-4, front panel mounting, differential pressure and relative pressure measurement						
1 switch output PNP	–	■	■	–	537 028	SDE1-D10-G2-FQ4-L-P1-M8
	–	■	–	■	537 030	SDE1-D10-G2-FQ4-L-P1-M12
2 switch outputs PNP	–	■	■	–	537 029	SDE1-D10-G2-FQ4-L-P2-M8
	–	■	–	■	537 031	SDE1-D10-G2-FQ4-L-P2-M12

1) Explanation of the order code → Type codes 6 / 5.1-27

2) Adapter plate SDE1-...-W... included in the scope of delivery

Pressure sensors SDE1

Ordering data – Modular products

M Mandatory data								O Options
Module No.	Function	Pressure measuring range	Accuracy	Pneumatic connection and assembly	Display and adjustment	Electrical output	Electrical connection	Accessories: Plug socket
192 766	SDE1	B2, V1, D2, D6, D10	G2	R18, R14, MS4, MS6, H18, W18, HQ4, WQ4, FQ4	C, L	P1, P2, PU, PI, N1, N2, NU, NI	M8, M12	G, W, G5, W5
Ordering example								
192 766	SDE1	- D6	- G2	- W18	- L	- P2	- M12	- W5

Ordering table		Condi- tions	Code	Enter code
M	Module No.	192 766		
	Function	Pressure sensor	SDE1	SDE1
	Pressure measuring range	Pressure measuring range -1 ... 1 bar	-B2	
		Pressure measuring range 0 ... -1 bar	-V1	
		Pressure measuring range 0 ... 2 bar	-D2	
		Pressure measuring range 0 ... 6 bar	-D6	
		Pressure measuring range 0 ... 10 bar	-D10	
		Accuracy	Accuracy 2%	-G2
	Pneumatic connection and assembly	Connection R ¹ / ₈ (service units)	-R18	
		Connection R ¹ / ₄ (service units)	-R14	
		Direct connection to service units, MS4 series	-MS4	
		Direct connection to service units, MS6 series	-MS6	
		Relative pressure with G ¹ / ₈ connection for H-rail mounting	-H18	
		Relative pressure with G ¹ / ₈ connection for wall or surface mounting	-W18	
		Differential pressure, 4 mm push-in fitting for H-rail mounting	-HQ4	
		Differential pressure, 4 mm push-in fitting for wall or surface mounting	-WQ4	
		Front panel mounting, 4 mm push-in fitting	-FQ4	
	Display and adjustment	LCD display (user optimised)	-C	
		Illuminated LCD (reading optimised)	-L	
	Electrical output	1 switch output PNP	-P1	
		2 switch outputs PNP	-P2	
		1 switch output PNP, 1 analogue output 0 ... 10 V analogue	-PU	
		1 switch output PNP, 1 analogue output 4 ... 20 mA	-PI	
		1 switch output NPN	-N1	
		2 switch outputs NPN	-N2	
		1 switch output NPN, 1 analogue output 0 ... 10 V	-NU	
		1 switch output NPN, 1 analogue output 4 ... 20 mA	-NI	
		Electrical connection	Plug M8	-M8
	Plug M12		-M12	
O	Accessories		-	-
	Plug socket	Connecting cable, straight socket, 2.5 m	G	
		Connecting cable, angled socket, 2.5 m	W	
		Connecting cable, straight socket, 5 m	G5	
		Connecting cable, angled socket, 5 m	W5	

Transfer order code

192 766 SDE1 - - G2 - - - - -

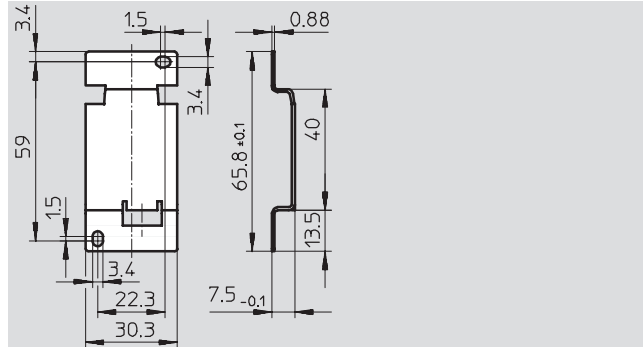
Pressure sensors SDE1, with display

Accessories

FESTO

Adapter plate SDE1-...-W...
for wall or surface mounting

Material:
Steel

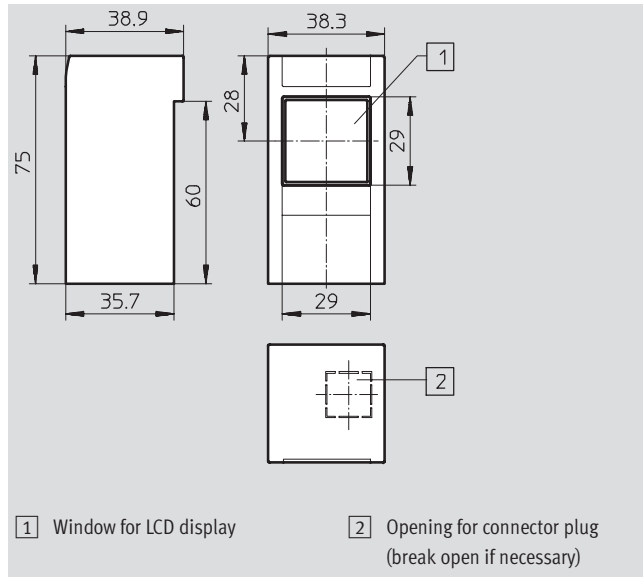


Ordering data		Part No.	Type
Adapter plate ¹⁾		194 297	SDE1-...-W...

1) Included in the scope of delivery with SDE1-...-W...

Safety guard SDE1-SH

Material:
Polyphenylene sulphide, reinforced



1) Window for LCD display



2) Opening for connector plug
(break open if necessary)



Ordering data		Part No.	Type
Safety guard		537 074	SDE1-SH


Pressure sensors SDE1, with display

Accessories

FESTO

Ordering data – Plug sockets with cable M8x1						Technical data → 4 / 8.3-24	
	Assembly	Connection	Switch output		Cable length [m]	Part No.	Type
			PNP	NPN			
Straight socket							
	Union nut M8x1	3-pin	■	■	2.5	159 420	SIM-M8-3GD-2,5-PU
			■	■	5	159 421	SIM-M8-3GD-5-PU
		4-pin	■	■	2.5	158 960	SIM-M8-4GD-2,5-PU
			■	■	5	158 961	SIM-M8-4GD-5-PU
Angled socket							
	Union nut M8x1	3-pin	■	■	2.5	159 422	SIM-M8-3WD-2,5-PU
			■	■	5	159 423	SIM-M8-3WD-5-PU
		4-pin	■	■	2.5	158 962	SIM-M8-4WD-2,5-PU
			■	■	5	158 963	SIM-M8-4WD-5-PU

Ordering data – Plug sockets with cable M12x1						Technical data → 4 / 8.3-24		
	Assembly	Connection	Switch output		Cable length [m]	Part No.	Type	
			PNP	NPN				
Straight socket								
	Union nut M12x1	3-pin	■	■	2.5	159 428	SIM-M12-3GD-2,5-PU	
			■	■	5	159 429	SIM-M12-3GD-5-PU	
		4-pin	■	■	5	164 259	SIM-M12-4GD-5-PU	
			5-pin	■	■	2.5	175 715	SIM-M12-5GD-2,5-PU
				■	■	5	175 716	SIM-M12-5GD-5-PU
Angled socket								
	Union nut M12x1	3-pin	■	■	2.5	159 430	SIM-M12-3WD-2,5-PU	
			■	■	5	159 431	SIM-M12-3WD-5-PU	
		4-pin	■	■	5	164 258	SIM-M12-4WD-5-PU	

Ordering data – Push-in fittings				Technical data → Volume 3	
	Connecting thread	Push-in fitting for tubing O.D. [mm]		Part No.	Type
		4	6		
	G ¹ / ₈	4		186 095	QS-G ¹ / ₈ -4
		6		186 096	QS-G ¹ / ₈ -6
		8		186 098	QS-G ¹ / ₈ -8