

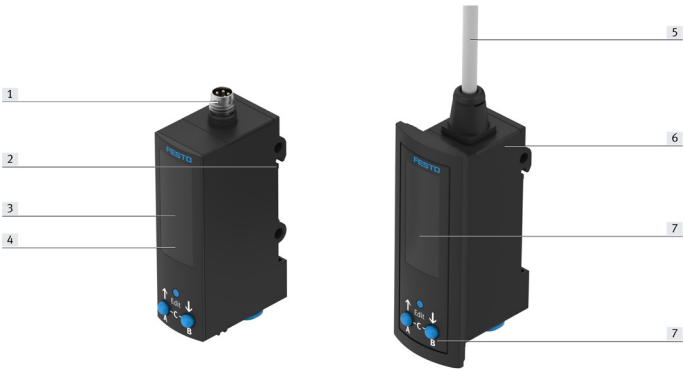
Pressure sensor SDE3

FESTO



Characteristics

At a glance



- [1] SDE3-...-M plug design, plug M8x1 and M12x1
- [2] Quick mounting on DIN rails, walls or surfaces
- [3] High-contrast, 2-colour LCD display
- [4] Pressure indicator: alphanumeric and bar graph
- [5] SDE3-...-FQ..., cable with plug
- [6] Quick front panel mounting
- [7] Very easy to use thanks to simple teach-in and intuitive operation via LCD display

Overview

- Main applications
- Compressed air monitoring
 - Regulator monitoring
 - Confirmation of suction in vacuum technology
 - Leak tests
 - Object detection via back pressure
 - Differential pressure measurement

Pressure measuring range

[V1]	-1 ... 0 bar	[B2]	-1 ... 1 bar
[D2]	0 ... 2 bar	[D6]	0 ... 6 bar
[D10]	0 ... 10 bar		

Electrical output

[2P]	2 switching outputs PNP
------	-------------------------

Electrical output 2

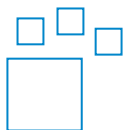
[PN]	PNP or NPN
------	------------

Electrical connection

[M8]	Plug M8x1	[M12]	Plug M12, A-coded
[K]	Cable		

Characteristics

Ordering data - modular system



Configurable product

This product and all its product options can be ordered online via the configurator.

Type code

001	Series	
SDE3	Piezoresistive pressure sensor with display SDE3	

002	Pressure measuring range	
V1	-1 ... 0 bar	
B2	-1 ... 1 bar	
D2	0 ... 2 bar	
D6	0 ... 6 bar	
D10	0 ... 10 bar	

003	Pressure inlet	
S	1 x relative pressure	
D	2 x relative pressure, independent	
M	1x relative pressure, 1x differential pressure	
Z	1 x differential pressure	

004	Display	
B	Values in bar	
H	Values in inches of mercury	
K	Values in kPa	
P	Values in psi	
W	Values in inches of water	

005	Mounting/pneumatic connection	
HQ4	H-rail mounting, push-in connector 4 mm	
HT532	H-rail mounting, push-in connector 5/32"	
WQ4	Wall mounting, push-in connector 4 mm	
WT532	Wall mounting, push-in connector 5/32"	
FQ4	Front panel mounting, push-in connector 4 mm	
FT532	Front panel mounting, push-in connector 5/32"	

006	Electrical output	
2P	2 switching outputs PNP	
2N	2 switching outputs NPN	

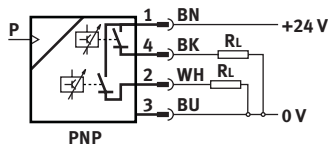
007	Electrical connection	
M8	Plug M8x1	
M12	Plug M12, A-coded	
K	Cable	

008	EU certification	
	None	
EX2	II 3GD to EU Explosion Protection Directive (ATEX)	

009	Electrical accessories	
	None	
G	Connecting cable, straight socket, 2.5 m	
W	Connecting cable, angled plug socket, 2.5 m	
G5	Connecting cable, straight socket, 5 m	
W5	Connecting cable, angled plug socket, 5 m	

Datasheet

General technical data G1/4



Plug, 4-pin, only for sensors without analogue output

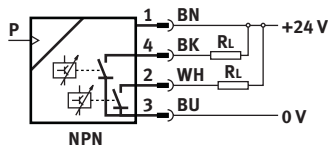
- 1 Operating voltage
- 2 Switching output SP2
- 3 0 V
- 2 Switching output SP2

Approval	RCM trademark, c UL us - Recognized (OL)
CE mark (see declaration of conformity) ¹⁾	To EU EMC Directive, To EU Explosion Protection Directive (ATEX), In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK EX instructions, To UK RoHS instructions
LABS (PWIS) conformity	VDMA24364-B1/B2-L
Note on materials	RoHS-compliant
ATEX category gas	II 3G
Explosion ignition protection type for gas	Ex ec IIC T6 Gc X
ATEX category dust	II 3D
Explosion ignition protection type for dust	Ex tc IIIC T80°C Dc X
Explosion ambient temperature	0°C ≤ T _a ≤ +50°C

1) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/sieh → Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or industrial environments as well as small businesses, further measures for reducing the emitted interference may be necessary.

General technical data G1/4



Plug, 4-pin, only for sensors without analogue output

- 1 Operating voltage
- 2 Switching output SP2
- 3 0 V
- 2 Switching output SP2

Approval	RCM trademark, c UL us - Recognized (OL)
CE mark (see declaration of conformity) ¹⁾	To EU EMC Directive, To EU Explosion Protection Directive (ATEX), In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK EX instructions, To UK RoHS instructions
LABS (PWIS) conformity	VDMA24364-B1/B2-L
Note on materials	RoHS-compliant
ATEX category gas	II 3G
Explosion ignition protection type for gas	Ex ec IIC T6 Gc X
ATEX category dust	II 3D
Explosion ignition protection type for dust	Ex tc IIIC T80°C Dc X
Explosion ambient temperature	0°C ≤ T _a ≤ +50°C

1) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/sieh → Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or industrial environments as well as small businesses, further measures for reducing the emitted interference may be necessary.

Datasheet

Input signal, measuring element				
Pressure measuring range	0 ... 2 bar [P2]	0 ... 6 bar [P6]	0 ... 10 bar [P10]	0 ... -1 bar [V1]
Measured variable	2 x relative pressure, Differential pressure	1x relative pressure/1x differential pressure	1x relative pressure/1x differential pressure, 2 x relative pressure, Differential pressure, Relative pressure	
Measurement method	Piezoresistive pressure sensor with display			
Start value for pressure measuring range	0 MPa			
Start value for pressure measuring range	0 bar			
Start value for pressure measuring range	0 psi			
End value for pressure measuring range	0.2 MPa	0.6 MPa	1 MPa	-0.1 MPa
End value for pressure measuring range	2 bar	6 bar	10 bar	-1 bar
End value for pressure measuring range	29 psi	87 psi	145 psi	-14.5 psi
Overload pressure	0.6 MPa	1.5 MPa	1.5 ... 2 MPa	0.5 MPa
Overload pressure	6 bar	15 bar	15 ... 20 bar	5 bar
Overload pressure	87 psi	217.5 psi	217.5 ... 290 psi	72.5 psi
Operating medium ¹⁾	Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on operating and pilot medium	Lubricated operation possible			
Media temperature	0 ... 50°C			
Ambient temperature	0 ... 50°C			

1) Note media resistance of parts that come into contact with the media

General output	
Accuracy in $\pm$ % FS	2 ... 3 %FS
Repetition accuracy in $\pm$ %FS	0.3 %FS
Temperature coefficient in $\pm$ %FS/K	0.05 %FS/K

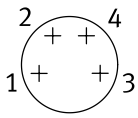
Switching output	
Electrical output	2 switching outputs PNP [2P] 2 switching outputs NPN [2N]
Switching function	Freely programmable
Switching element function	Switchable
Switch-on time	3 ms
Switch-off time	3 ms
Max. output current	100 mA
Reproducibility of switching value	0.3%
Display range start value	0 %FS
Display range end value	100 %FS

Output, additional data	
Short circuit current rating	yes

Electronics	
Operational voltage range DC	15 ... 30 V
Reverse polarity protection	For all electrical connections

Datasheet

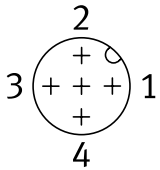
Electrical connection M8



- 1 Brown +
- 3 Blue -
- 4 Black output A
- 2 White output B

Electrical connection 1, connector system	M8x1, A-coded, to EN 61076-2-104
Electrical connection 1, connection type	Cable with plug, Plugs
Electrical connection 1, number of connections/cores	4
Electrical connection 1, used connections/cores	4
Electrical connection 1, type of mounting	Snap-locking, Screw-type lock, Rotatable, Not rotatable
Electrical connection 1, compatible type of mounting	Compatible with latching lock, Compatible with rotatable screw-type lock
Cable length	0.3 m

Electrical connection M12



- 1 Brown +
- 3 Blue -
- 4 Black output A
- 2 White output B
- 5 not assigned

Electrical connection 1, connector system	M12x1, A-coded to EN 61076-2-101
Electrical connection 1, connection type	Plugs
Electrical connection 1, number of connections/cores	5
Electrical connection 1, used connections/cores	4
Electrical connection 1, type of mounting	Screw-type lock, Not rotatable
Electrical connection 1, compatible type of mounting	Compatible with rotatable screw-type lock

Mechanical components

Mounting/pneumatic connection	H-rail mounting, push-in connector 4 mm [HQ4]	Wall mounting, push-in connector 4 mm [WQ4]	Front panel mounting, push-in connector 4 mm [FQ4]
Pneumatic connection	QS-4		
Mounting position	optional		
Product weight	37 g	43 g	61 g
Material housing	PA-reinforced		
Material in contact with the medium ¹⁾	FPM, Nickel-plated brass, NBR, PA-reinforced		

1) Group CrNiMo: Measuring range up to 6 bar 316L, from a measuring range of 10 bar the membrane consists of 13-8-PH

Display, operation

Display type	Illuminated LCD
Displayable units	bar, inH ₂ O, inHg, kPa, psi
Switching status indication	LCD yellow
Setting options	Teach-in
Protection against tampering	PIN code
Setting range threshold value	0 ... 100%
Setting range hysteresis	0 ... 90%

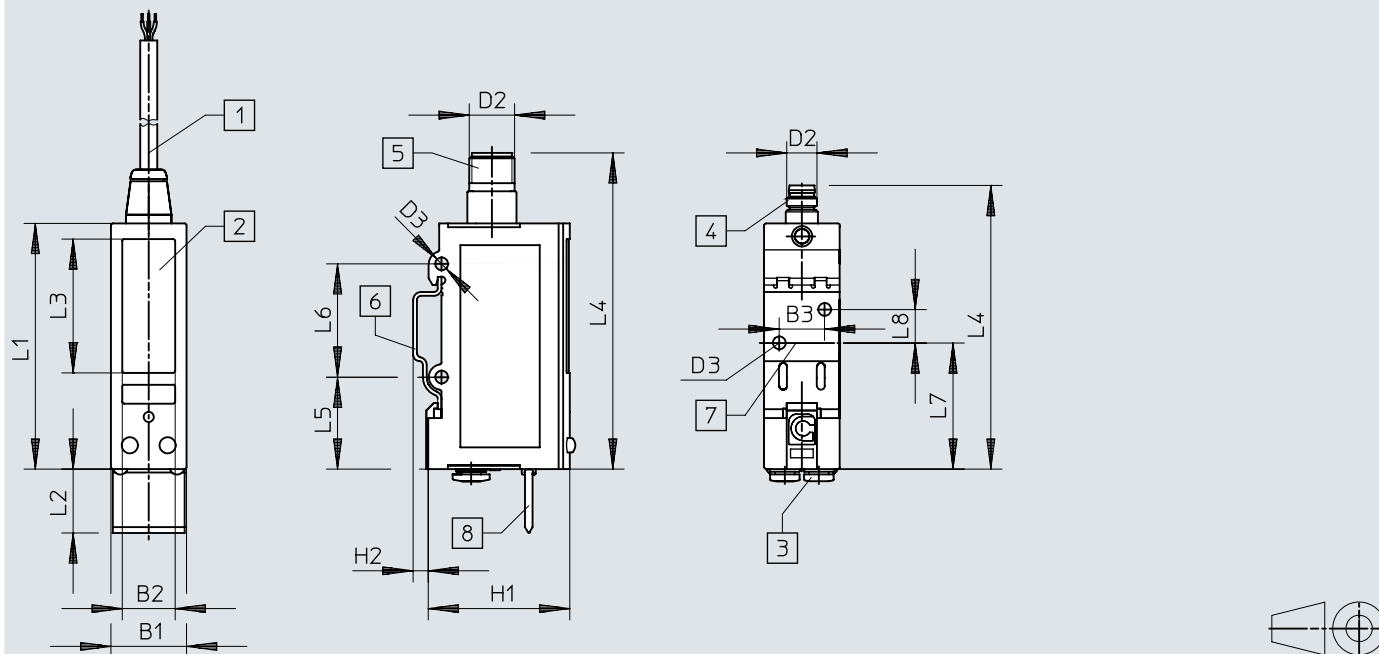
Datasheet

Immission, emission	
Degree of protection	IP65
LABS (PWIS) conformity	VDMA24364-B1/B2-L
Cleanroom suitability, measured according to ISO 14644-14	Class 4 according to ISO 14644-1
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress

1) More information www.festo.com/x/topic/crc

Dimensions

Dimensions – H-rail, wall or surface mounted

[Download CAD data](http://www.festo.com)


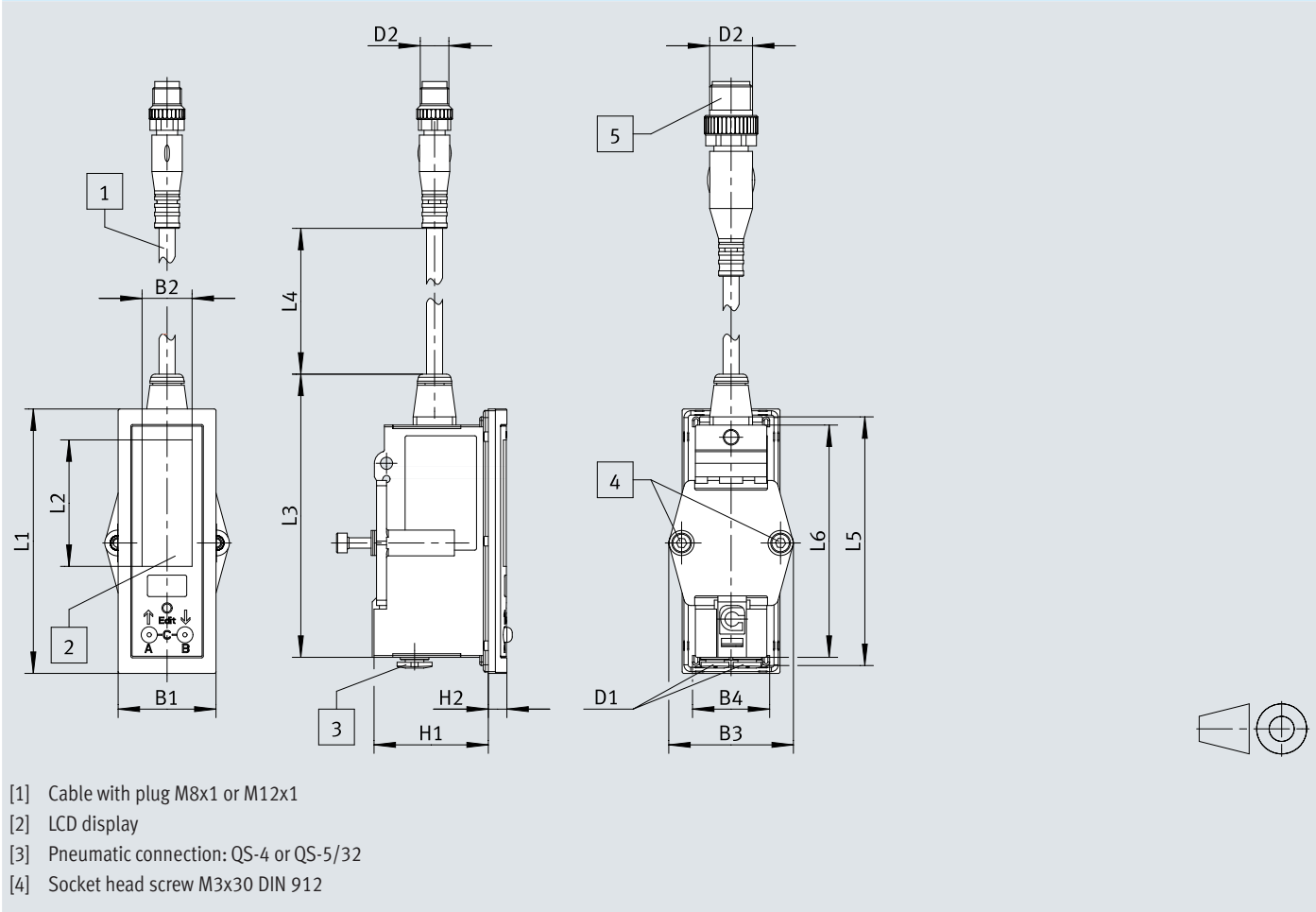
- [1] Connecting cable, 4-core, 2.5 m long
- [2] LCD display
- [3] Pneumatic connection: QS-4 or QS-5/32
- [4] Electrical connection M8x1
- [5] Electrical connection M12x1
- [6] Adapter plate for wall mounting
- [7] Centre with H-rail mounting
- [8] Inscription label

	B1	B2	B3	D1	D2	D3	H1	H2
SDE3-...-HQ4-M8	20	14	–	QS4	M8x1	3,4	37	4
SDE3-...-HQ4-M12					M12x1			
SDE3-...-HT532-M8	20	14	–	QS5/32	M8x1	3,4	37	4
SDE3-...-HT532-M12					M12x1			
SDE3-...-WQ4-M8	20	14	12	QS4	M8x1	3,4	37	4
SDE3-...-WQ4-M12					M12x1			
SDE3-...-WT532-M8	20	14	12	QS5/32	M8x1	3,4	37	4
SDE3-...-WT532-M12					M12x1			

	L1	L2	L3	L4	L5	L6	L7	L8
SDE3-...-HQ4-M8	65	17	35,4	75,1	24,3	30	33,2	–
SDE3-...-HQ4-M12				82,8				
SDE3-...-HT532-M8	65	17	35,4	75,1	24,3	30	33,2	–
SDE3-...-HT532-M12				82,8				
SDE3-...-WQ4-M8	65	17	35,4	75,1	24,3	30	33,2	9
SDE3-...-WQ4-M12				82,8				
SDE3-...-WT532-M8	65	17	35,4	75,1	24,3	30	33,2	9
SDE3-...-WT532-M12				82,8				

Dimensions

Dimensions – Front panel mounted Download CAD data www.festo.com

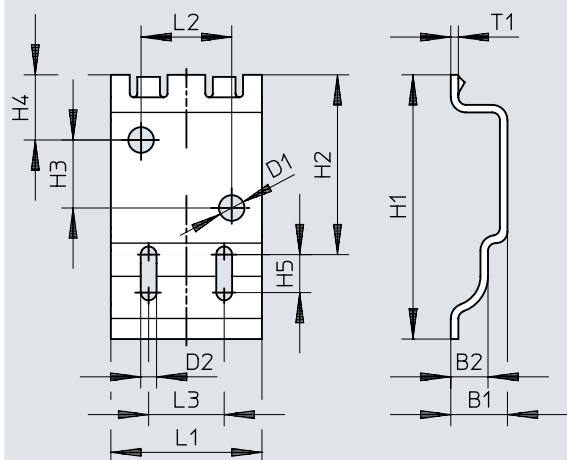


	B1	B2	B3	B4	D1	D2	H1	H2	L1	L2	L3	L4	L5	L6
SDE3-...-FQ4-M8	27,4	14	35	21,8	QS-4	M8x1	32	5	74	35,4	79,2	300	69,8	65
SDE3-...-FQ4-M12						M12x1								
SDE3-...-FT532-M8	27,4	14	35	21,8	QS5/32	M8x1	32	5	74	35,4	79,2	300	69,8	65
SDE3-...-FT532-M12						M12x1								

Dimensions

Dimensions – Adapter plate SXE3-W for wall or surface mounted

Download CAD data www.festo.com



	B1	B2	D1 Ø	D2 Ø	H1	H2	H3	H4	H5	L1	L2	L3	T1
SXE3-W	7,5	4,9	3,4	2,1	35	23,8	9	8,65	5	20	12	10	1

Ordering data

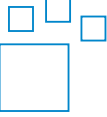
Ordering data with LCD display							
	Electrical connection 1, connector system	Pneumatic connection	Switching output	Type of mounting	Part no.	Type	
	M12x1, A-coded to EN 61076-2-101	QS-4	2xPNP	With through-hole, With H-rail	568663	SDE3-V1D-B-HQ4-2P-M12	
	M8x1, A-coded, to EN 61076-2-104		2xNPN		2xPNP	568668	SDE3-D6M-B-HQ4-2P-M12
						568662	SDE3-D10D-B-HQ4-2P-M12
						540213	SDE3-D10Z-B-HQ4-2N-M8
						540202	SDE3-V1Z-B-HQ4-2N-M8
						568665	SDE3-D10M-B-HQ4-2P-M8
						540194	SDE3-V1S-H-HQ4-2P-M8
						540193	SDE3-V1S-B-HQ4-2P-M8
						540205	SDE3-D2Z-B-HQ4-2P-M8
						540197	SDE3-V1D-H-HQ4-2P-M8
						540200	SDE3-V1Z-H-HQ4-2P-M8
						568669	SDE3-D6M-B-HQ4-2P-M8
						540211	SDE3-D10Z-B-HQ4-2P-M8
						540203	SDE3-D2D-B-HQ4-2P-M8
						540209	SDE3-D10D-B-HQ4-2P-M8
						568667	SDE3-V1M-B-HQ4-2P-M8
						540199	SDE3-V1Z-B-HQ4-2P-M8
						540196	SDE3-V1D-B-HQ4-2P-M8
						540207	SDE3-D10S-B-HQ4-2P-M8

Ordering information with LED display						
	Electrical connection 1, connector system	Pneumatic connection	Switching output	Type of mounting	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	QS-4	2xPNP	With through-hole, With H-rail, Via wall/surface bracket	568666	SDE3-D10M-B-WQ4-2P-M12
	M8x1, A-coded, to EN 61076-2-104				568664	SDE3-V1D-B-WQ4-2P-M8

Ordering data with LCD display						
	Electrical connection 1, connector system	Pneumatic connection	Switching output	Type of mounting	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	QS-4	2xPNP	Front panel mounting	540198	SDE3-V1D-B-FQ4-2P-M8
					540212	SDE3-D10Z-B-FQ4-2P-M8
					540204	SDE3-D2D-B-FQ4-2P-M8
					540195	SDE3-V1S-B-FQ4-2P-M8
					540210	SDE3-D10D-B-FQ4-2P-M8
					540206	SDE3-D2Z-B-FQ4-2P-M8
					540208	SDE3-D10S-B-FQ4-2P-M8
					540201	SDE3-V1Z-B-FQ4-2P-M8

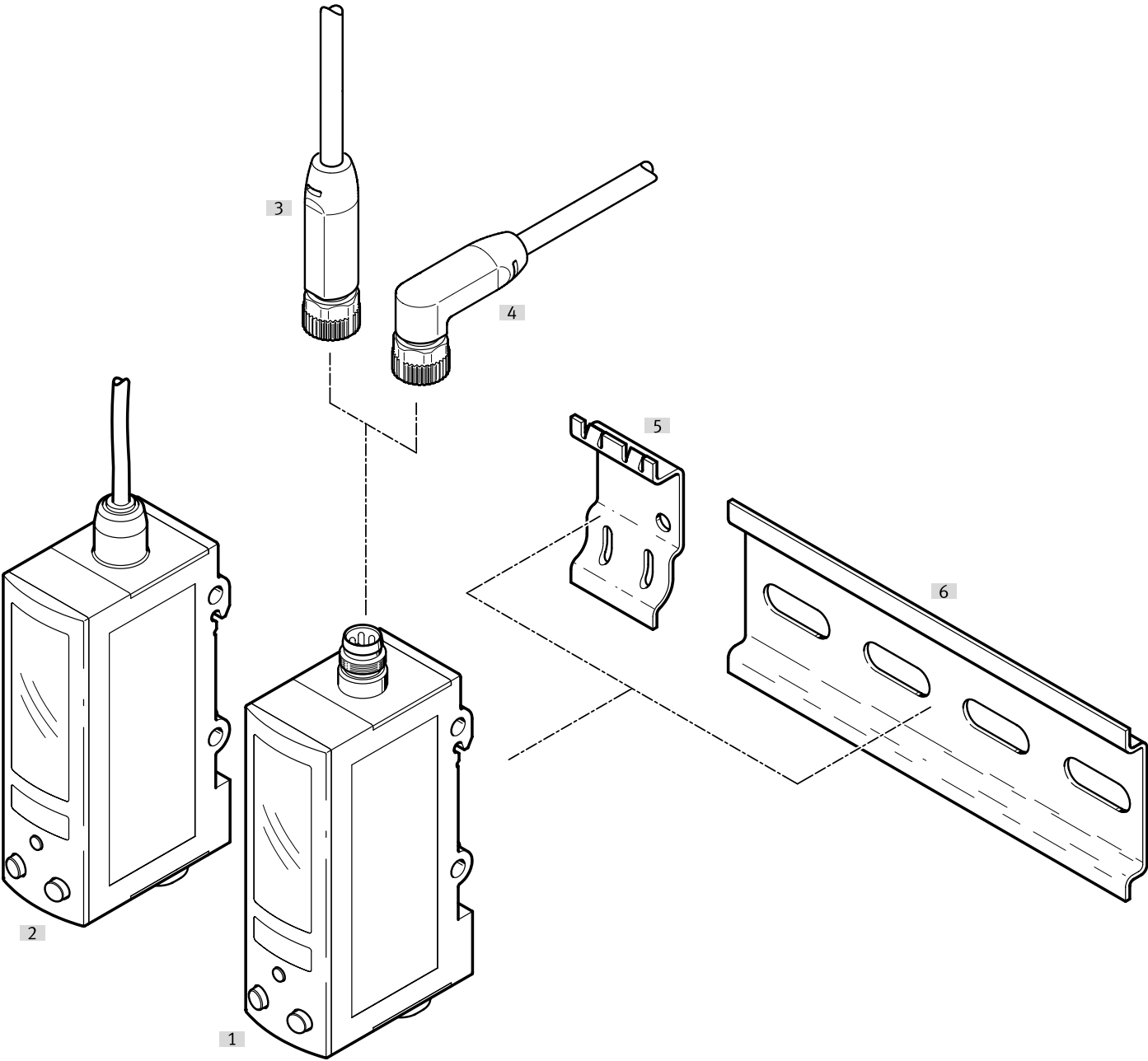
Ordering data

Ordering information – Modular product system

	Pressure measuring range	Pneumatic connection	ATEX category gas	ATEX category dust	Part no.	Type
	-1 ... 0 bar, -1 ... 1 bar, 0 ... 2 bar, 0 ... 6 bar, 0 ... 10 bar	QS-4, QS-5/32	II 3G	II 3D	539679	SDE3-...

Peripherals

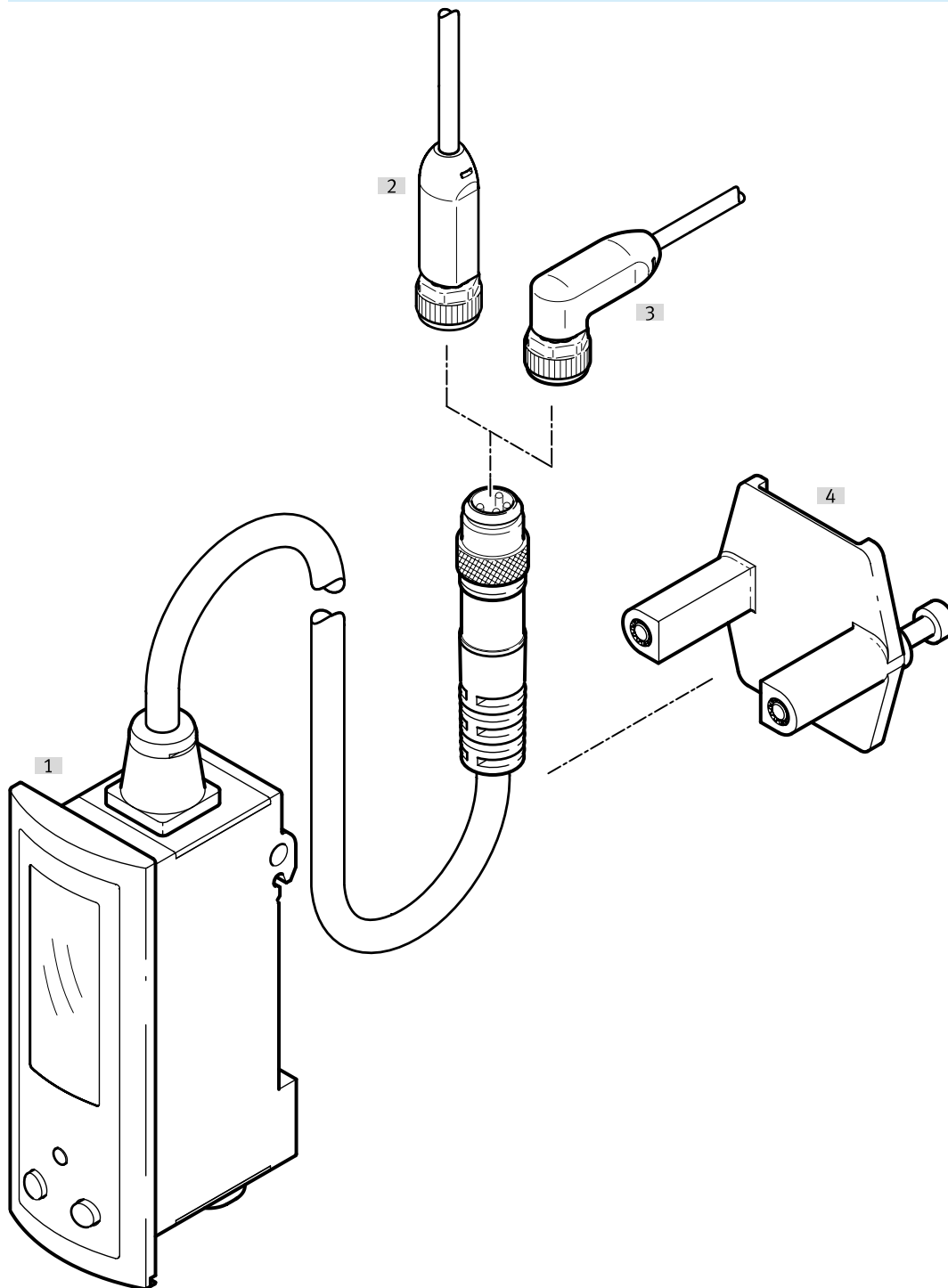
Peripherals overview



Accessories			→ Link
Type/order code	Description		
[1]	Pressure sensor SDE3-...	M8, M12	sde3
[2]	Pressure sensor SDE3-...-K	Cable version	sde3
[3]	Connecting cable NEBA-M8G3	With straight socket	16
[4]	Connecting cable NEBA-M8W3	With angled socket	16
[5]	Adapter plate SXE3-W	(included in the scope of delivery of SDE3-...-W...)	16
[6]	DIN mounting rail	To EN 60715	nrh

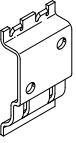
Peripherals

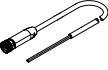
Peripherals overview

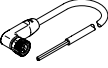


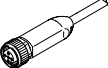
Accessories			→ Link
Type/order code	Description		
[1] Pressure sensor SDE3-...-F	Cable version		sde3
[2] Connecting cable NEBA-M8G3	With straight socket		16
[3] Connecting cable NEBA-M8W3	With angled socket		16
[4] Clamping plate	(included in the scope of delivery of SDE3-...-F...)		-

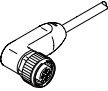
Accessories

Adapter plate					
	Type of mounting	LABS (PWIS) conformity	Note on materials	Part no.	Type
	With through-hole	VDMA24364-B1/B2-L	RoHS-compliant	540214	SXE3-W

Connecting cables socket M8x1, 3-pin, straight socket					
	Electrical connection 1, number of connections/cores	Electrical connection 1, connector system	Cable length	Part no.	Type
	3	M8x1, A-coded, to EN 61076-2-104	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3
			5 m	8078224	NEBA-M8G3-U-5-N-LE3

Connecting cables socket M8x1, 3-pin, angled plug socket					
	Electrical connection 1, number of connections/cores	Electrical connection 1, connector system	Cable length	Part no.	Type
	3	M8x1, A-coded, to EN 61076-2-104	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3
			5 m	8078231	NEBA-M8W3-U-5-N-LE3

Connecting cables socket M12x1, 5-pin, straight socket					
	Electrical connection 1, number of connections/cores	Electrical connection 1, connector system	Cable length	Part no.	Type
	5	M12x1, A-coded to EN 61076-2-101	2.5 m	8078236	NEBA-M12G5-U-2.5-N-LE3
			5 m	8078237	NEBA-M12G5-U-5-N-LE3

Connecting cables socket M12x1, 5-pin, angled plug socket					
	Electrical connection 1, number of connections/cores	Electrical connection 1, connector system	Cable length	Part no.	Type
	5	M12x1, A-coded to EN 61076-2-101	2.5 m	8078245	NEBA-M12W5-U-2.5-N-LE3

Safety clip for ATEX zone					
	Material safety clip	Ambient temperature	Corrosion resistance class CRC ¹⁾	Part no.	Type
	PA	-20 ... 60 °C	3 - high corrosion stress	548068	NEAU-M12-GD
				548067	NEAU-M8-GD

1) More information www.festo.com/x/topic/kbk