

Pressure sensor SDE5

FESTO



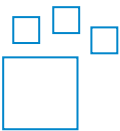
Characteristics

At a glance

The pressure sensor SDE5 is the cost-effective alternative for quick and easy pressure monitoring. This smart component instantly provides information about the actual pressure and is an equally effective device for object detection as it is for compressed air, regulation and vacuum detection. It can be used wherever simple sensing of the actual pressure is required:

- Compressed air monitoring
- Regulator monitoring
- Confirmation of suction in vacuum technology
- Object detection via back pressure
- Selectable output functions
- Teach-in function for programming
- Very short mounting times thanks to QS connections and wall brackets that can be linked
- Very quick switching-point adjustment by simply pressing a button
- Switching status indicated by an LED visible from all sides
- Relative pressure or differential pressure measurement
- 5 Pressure measuring ranges: 0 ... -1 bar, -1 ... 1 bar, 0 ... 2 bar, 0 ... 6 bar, 0 ... 10 bar
- Analogue output: 0 ... 10 V
- Electrical outputs: 1 switching output PNP or NPN

Ordering data - modular system



Configurable product

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

Type code

001	Series	
SDE5	Pressure sensor SDE5	

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	
	Relative pressure	
Z	Differential pressure	

004	Output function	
FP	Freely programmable, (switching/teach-in function, N/O contact, N/C contact)	
O	Threshold value with fixed hysteresis, 1 teach-in point, N/O contact	
C	Threshold value with fixed hysteresis, 1 teach-in point, N/C contact	
O1	Threshold value with fixed hysteresis, 2 teach-in points, N/O contact	
O2	Threshold value with variable hysteresis, N/O contact	
O3	Window comparator with fixed hysteresis, N/O contact	
C1	Threshold value with fixed hysteresis, 2 teach-in points, N/C contact	
C2	Threshold value with variable hysteresis, N/C contact	
C3	Window comparator with fixed hysteresis, N/C contact	
NF	No binary switching function (analogue output)	

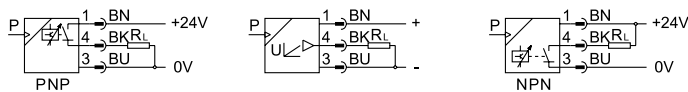
005	Pneumatic connection	
Q4	Push-in connector 4 mm, at both ends	
Q4E	Push-in connector 4 mm, at one end	
Q6	Push-in connector 6 mm, at both ends	
Q6E	Push-in connector 6 mm, at one end	
T14	Push-in connector 1/4", at both ends	
T14E	Push-in fitting 1/4", at one end	
T532	Push-in connector 5/32", at both ends	
T532E	Push-in fitting 5/32", at one end	

006	Electrical output 1	
N	NPN	
P	PNP	
V	0 ... 10 V	

007	Electrical connection	
K	Open end	
M8	Plug M8, 3-pin	

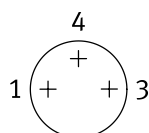
Datasheet

General technical data



Pressure measuring range	-1 ... 0 bar	0 ... 2 bar	0 ... 10 bar
Pneumatic connection	QS-4, QS-6	QS-6	QS-4, QS-6, QS-1/4
Approval	RCM, c UL us - Recognised (Oil)		
CE mark (see declaration of conformity)	To EU EMC Directive, In accordance with EU RoHS Directive		
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK RoHS instructions		
Note on materials	RoHS compliant		
Measured variable	Relative pressure		Differential pressure, Relative pressure
Measurement method	Piezoresistive pressure sensor		
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Media temperature	0 ... 50°C		
Ambient temperature	0 ... 50°C		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

Electrical data



Pin allocation
Plug M8x1, 3-pin

1 Operating voltage +24V DC
4 Switching output or analogue output
3 0V

Pressure measuring range	-1 ... 0 bar	0 ... 2 bar	0 ... 10 bar
Electrical connection 1, type of mounting	Snap-locking, Screw-type lock, Not rotatable	–	Snap-locking, Screw-type lock, Not rotatable
Repetition accuracy in ± %FS	0.3		
Temperature coefficient in ± %FS/K	0.05 %FS/K		
Switching output	PNP		NPN, PNP
Switching function	Freely programmable, Threshold value with fixed hysteresis	Threshold value with fixed hysteresis	Window comparator, Freely programmable, Threshold value with fixed hysteresis, Threshold value with variable hysteresis
Switching element function	N/O contact, Switchable	N/O contact	N/C contact, N/O contact, Switchable
Max. output current	100 mA		
Voltage drop	1.8 V		
Analogue output	0 - 10 V	–	0 - 10 V
Rise time	5 ms	–	5 ms
Inductive protective circuit	–		
Output characteristic curve start value	0	–	0
Output characteristic curve end value	10 V	–	10 V
Accuracy analogue output in ± %FS ¹⁾	3	–	3
Linearity error in ± %FS ²⁾	0.3	–	0.3
Short circuit current rating	Yes		
Operational voltage range DC	15 ... 30 V		
Reverse polarity protection	For all electrical connections		

¹⁾ % FS = % of the measuring range end value (full scale)

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

Datasheet

Mechanics

Pneumatic connection	QS-4	QS-4, QS-6, QS-5/32, QS-1/4	QS-6	QS-1/4
Type of mounting	With accessories			
Mounting position	Any			
Material housing	Reinforced PA, Reinforced POM			

Display/operation

Switching output	NPN, PNP
Switching status indication	Yellow LED
Setting range threshold value	0 ... 100%
Analogue output	0 - 10 V
Ready status indication	Green LED

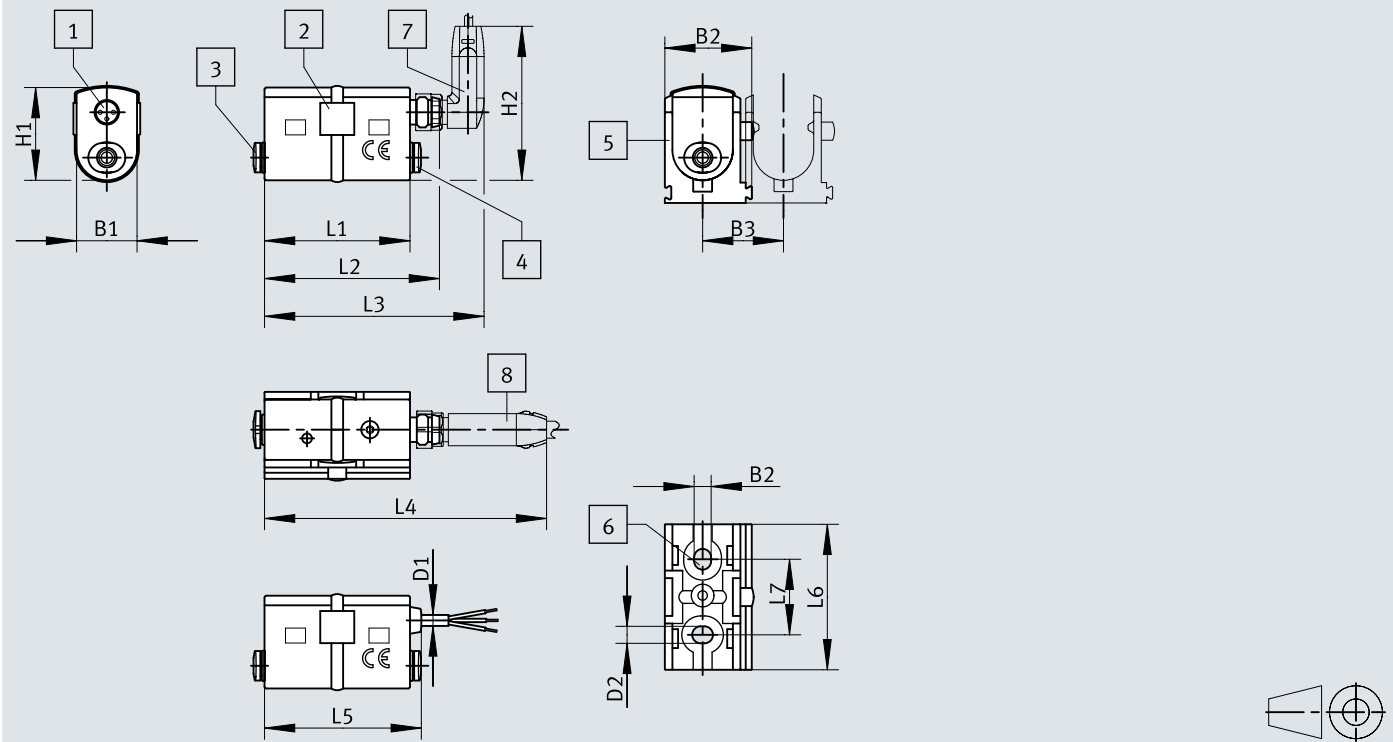
Immission/emission

Storage temperature	–
Degree of protection	IP40
Protection class	–
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 – SDE5-...-M8, plug version/SDE5-...-K, cable version Download CAD data www.festo.com



- [1] Plug M8x1, 3-pin or cable, 3-core, 2.5 m long
- [2] LED indicator, visible all around
- [3] Pneumatic connection 1
- [4] Pneumatic connection 2 or blanking plug for SDE5...E
- [5] Bracket for wall mounting (included in the scope of delivery)
- [6] 2x through hole for retaining screw
- [7] Connecting cable NEBU-M8W3 with angled socket
- [8] Connecting cable NEBU-M8G3 with straight socket

	B1	B2	B3	D1	D2	H1	H2	L1	L2	L3	L4	L5	L6	L7
SDE5-...-M8	16	23	21,4	–	4,5	24,5	40,3	38,5	45,5	56	73,5	–	38,5	20
SDE5-...-K				2,9			–		–	–	–	41,5		

Ordering data

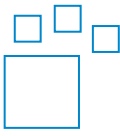
Ordering data with plug M8

	Pressure measuring range	Electrical connection	Pneumatic connection	Product weight	Part no.	Type
	-1 ... 0 bar		QS-4	19 g	527460	SDE5-V1-O-Q4E-P-M8
			QS-6		527457	SDE5-V1-O-Q4-P-M8
					567464	SDE5-V1-NF-Q6-V-M8
					527458	SDE5-V1-O-Q6-P-M8
					542886	SDE5-V1-O1-Q6-P-M8
					542887	SDE5-V1-FP-Q6-P-M8
					567463	SDE5-V1-NF-Q6E-V-M8
			527461		SDE5-V1-O-Q6E-P-M8	
	0 ... 10 bar		QS-4		542900	SDE5-D10-FP-Q4E-P-M8
					527466	SDE5-D10-O-Q4E-P-M8
					542889	SDE5-D10-C-Q4E-P-M8
					527463	SDE5-D10-O-Q4-P-M8
			QS-6		542891	SDE5-D10-O2-Q6E-P-M8
					567465	SDE5-D10-NF-Q6E-V-M8
					542892	SDE5-D10-O2-Q6-P-M8
					542898	SDE5-D10-FP-Q6-P-M8
					567462	SDE5-D10Z-O-Q6-P-M8
					542894	SDE5-D10-C-Q6E-P-M8
					542897	SDE5-D10-FP-Q6E-P-M8
					567466	SDE5-D10-NF-Q6-V-M8
					527464	SDE5-D10-O-Q6-P-M8
					527467	SDE5-D10-O-Q6E-P-M8
					567473	SDE5-D10-O-Q6-N-M8
					567460	SDE5-D10Z-FP-Q6-P-M8
			QS-1/4		567468	SDE5-D10-O-T14E-P-M8
					567467	SDE5-D10-FP-T14E-P-M8

Ordering information with cable

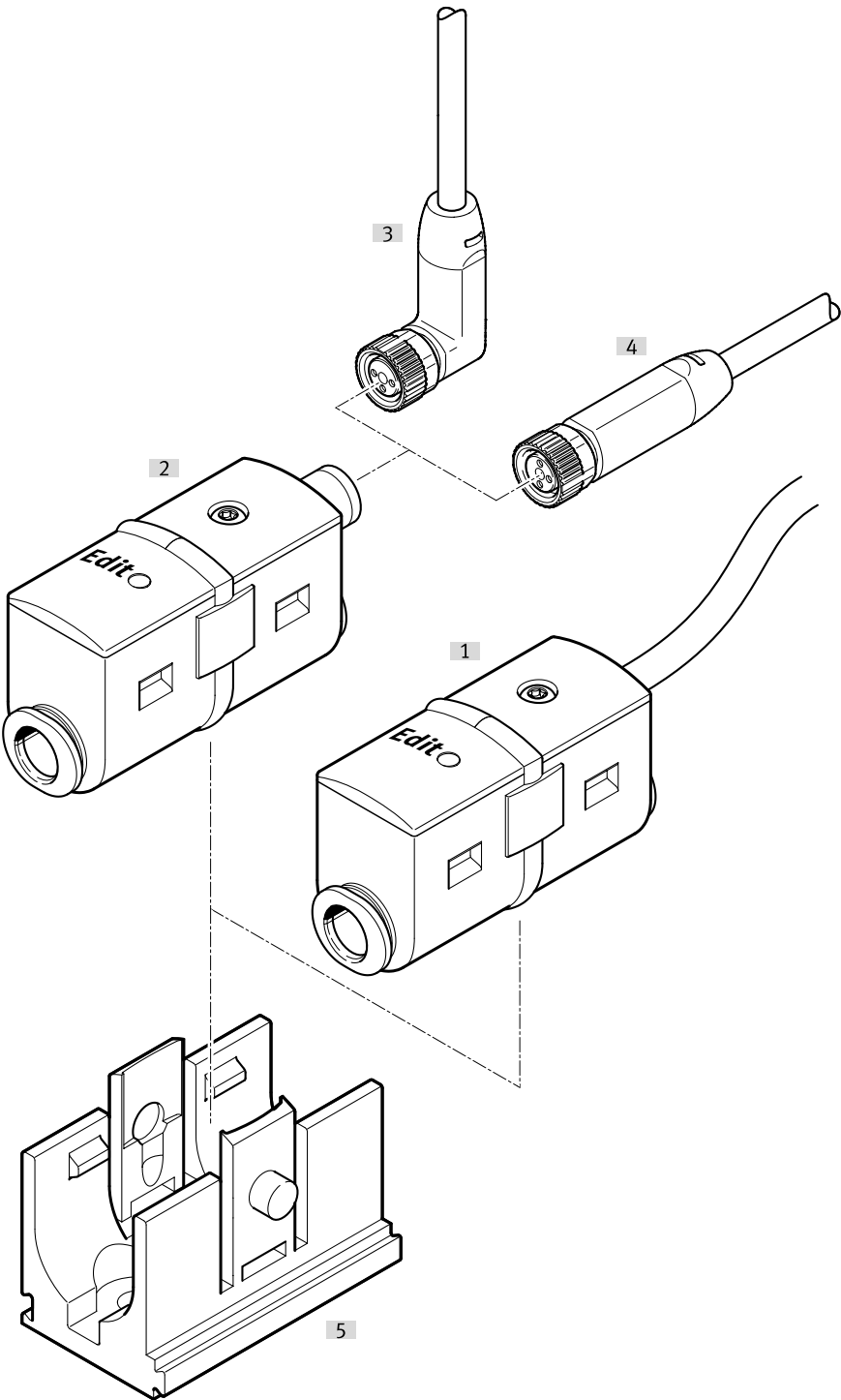
Ordering information with cable		Pressure measuring range	Electrical connection	Pneumatic connection	Product weight	Part no.	Type
	-1 ... 0 bar		QS-6	47 g	567470	SDE5-V1-NF-Q6E-V-K	
	0 ... 2 bar				542888	SDE5-D2-O-Q6E-P-K	
	0 ... 10 bar		QS-4		542901	SDE5-D10-FP-Q4E-P-K	
			QS-6		567469	SDE5-D10-O-Q6-N-K	
					542895	SDE5-D10-C-Q6E-P-K	
					567471	SDE5-D10-NF-Q6E-V-K	
					567472	SDE5-D10-NF-Q6-V-K	
					542896	SDE5-D10-C3-Q6E-P-K	
					542899	SDE5-D10-FP-Q6-P-K	
					542890	SDE5-D10-O-Q6E-P-K	
					542893	SDE5-D10-O3-Q6E-P-K	

Ordering data – Modular product system

	Pressure measuring range	Part no.	Type
	-1 ... 0 bar, -1 ... 1 bar, 0 ... 2 bar, 0 ... 6 bar, 0 ... 10 bar	529027	SDE5-

Peripherals

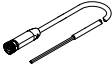
Peripherals overview



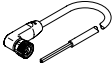
Accessories		→ Link
Type/order code	Description	
[1] Pressure sensor SDE5-...-K	Cable version	sde5
[2] Pressure sensor SDE5-...-M8	Plug version	sde5
[3] Connecting cable NEBU-M8W3	With angled plug socket	9
[4] Connecting cable NEBU-M8G3	With straight socket	9
[5] Wall bracket	(included in the scope of delivery)	-

Accessories

Connecting cable NEBU-M8x1, straight socket

	Electrical connection 1, connector system	Cable structure	Cable length	Product weight	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	3 x 0.25 mm ²	2.5 m	50 g	8078223	NEBA-M8G3-U-2.5-N-LE3
			5 m	96 g	8078224	NEBA-M8G3-U-5-N-LE3

Connecting cable NEBU-M8x1, socket, angled

	Electrical connection 1, connector system	Cable structure	Cable length	Product weight	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	3 x 0.25 mm ²	2.5 m	50 g	8078230	NEBA-M8W3-U-2.5-N-LE3
			5 m	96 g	8078231	NEBA-M8W3-U-5-N-LE3