

Pressure switches SDE5

Product overview

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- 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

Detailed product information

➔ www.festo.com/catalogue/sde5

Product overview							
Method of measurement	Pressure measuring range [bar]	Type	Switching function	Switching element function	Pneumatic connection	Electrical connection	➔ Page
Piezoresistive pressure switch	0 ... -1	SDE5-V1	Threshold value with fixed hysteresis	N/O contact	QS-3	Plug M8x1, 3-pin; cable, 3-wire	67
	0 ... 2	SDE5-D2	Threshold value with variable hysteresis	N/C contact	QS-4		
	0 ... 10	SDE5-D10	Window comparator Freely programmable Switching points set at the factory	Switchable	QS-6		

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Type codes

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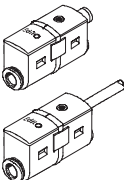
		SDE5	-	D2	-	0	-	Q6	-	P	-	M8	-	G5	-		-	
Type																		
SDE5	Pressure switch																	
Pressure measuring range																		
V1	0 ... -1 bar																	
D2	0 ... 2 bar																	
D10	0 ... 10 bar																	
Switching function																		
FP	Freely programmable																	
Threshold value with fixed hysteresis, 1 teach-in pressure																		
0	N/O contact																	
C	N/C contact																	
Threshold value with fixed hysteresis, 2 teach-in pressures																		
O1	N/O contact																	
C1	N/C contact																	
Threshold value with variable hysteresis, 2 teach-in pressures																		
O2	N/O contact																	
C2	N/C contact																	
Window comparator with fixed hysteresis, 2 teach-in pressures																		
O3	N/O contact																	
C3	N/C contact																	
Pneumatic connection																		
Push-in connector at both ends																		
Q3	For 3 mm tubing O.D.																	
Q4	For 4 mm tubing O.D.																	
Q6	For 6 mm tubing O.D.																	
Push-in connector at one end																		
Q3E	For 3 mm tubing O.D.																	
Q4E	For 4 mm tubing O.D.																	
Q6E	For 6 mm tubing O.D.																	
Electrical output																		
P	1 switch output PNP																	
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 switching point setting as per customer's requirement, required switching pressure [bar]																	
Teach-in point 2 permanently set																		
...Y	Permanent switching point setting as per customer's requirement, required switching pressure [bar]																	

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Technical data

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General technical data		
Operating voltage range	[V DC]	15 ... 30
Max. output current	[mA]	100
Switch output		PNP
Protection against short circuit		Pulsed
Protection against polarity reversal		For all electrical connections
Protection class		IP40
Operating medium		Filtered compressed air, lubricated or unlubricated, grade of filtration 40µm
Ambient temperature	[°C]	0 ... 50
CE mark		In accordance with EU EMC directive
Certification		c UL us - Recognised (OL) C-Tick
Information on housing materials		Polyacetate, reinforced; polyamide; polyphenylene sulphide, reinforced

Ordering data							
Variant	Pressure measuring range [bar]	Switching element function	Electrical connection	Pneumatic connection		Part No.	Type
				At one end	At both ends		
	Threshold value with fixed hysteresis, 1 teach-in pressure						
	0 ... -1	N/O contact	Plug, M8x1, 3-pin	QS-3	–	527 459	SDE5-V1-O-Q3E-P-M8
				QS-4	–	527 460	SDE5-V1-O-Q4E-P-M8
				QS-6	–	527 461	SDE5-V1-O-Q6E-P-M8
				–	QS-3	527 456	SDE5-V1-O-Q3-P-M8
				–	QS-4	527 457	SDE5-V1-O-Q4-P-M8
				–	QS-6	527 458	SDE5-V1-O-Q6-P-M8
	0 ... 2	N/O contact	Cable, 3-wire	QS-6	–	542 888	SDE5-D2-O-Q6E-P-K
	0 ... 10	N/O contact	Plug, M8x1, 3-pin	QS-3	–	527 465	SDE5-D10-O-Q3E-P-M8
				QS-4	–	527 466	SDE5-D10-O-Q4E-P-M8
				QS-6	–	527 467	SDE5-D10-O-Q6E-P-M8
				–	QS-3	527 462	SDE5-D10-O-Q3-P-M8
				–	QS-4	527 463	SDE5-D10-O-Q4-P-M8
				–	QS-6	527 464	SDE5-D10-O-Q6-P-M8
			Cable, 3-wire	QS-6	–	542 890	SDE5-D10-O-Q6E-P-K
		N/C contact	Plug, M8x1, 3-pin	QS-4	–	542 889	SDE5-D10-C-Q4E-P-M8
				QS-6	–	542 894	SDE5-D10-C-Q6E-P-M8
				Cable, 3-wire	QS-6	–	542 895
	Threshold value with fixed hysteresis, 2 teach-in pressures with mean value calculation						
	0 ... -1	N/O contact	Plug, M8x1, 3-pin	QS-6	–	542 886	SDE5-V1-O1-Q6-P-M8
	Threshold value with variable hysteresis, 2 teach-in pressures						
	0 ... 10	N/O contact	Plug, M8x1, 3-pin	QS-6	–	542 891	SDE5-D10-O2-Q6E-P-M8
				–	QS-6	542 892	SDE5-D10-O2-Q6-P-M8
	Window comparator with fixed hysteresis, 2 teach-in pressures						
	0 ... 10	N/O contact	Plug, M8x1, 3-pin	QS-6	–	542 893	SDE5-D10-O3-Q6E-P-K
N/C contact		Plug, M8x1, 3-pin	QS-6	–	542 896	SDE5-D10-C3-Q6E-P-K	
Freely programmable							
0 ... -1	Selectable	Plug, M8x1, 3-pin	–	QS-6	542 887	SDE5-V1-FP-Q6-P-M8	
0 ... 10	Selectable	Plug, M8x1, 3-pin	QS-4	–	542 900	SDE5-D10-FP-Q4E-P-M8	
			QS-6	–	542 897	SDE5-D10-FP-Q6E-P-M8	
			–	QS-6	542 898	SDE5-D10-FP-Q6-P-M8	
		Cable, 3-wire	QS-4	–	542 901	SDE5-D10-FP-Q4E-P-K	
			–	QS-6	542 899	SDE5-D10-FP-Q6-P-K	

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Modular product system

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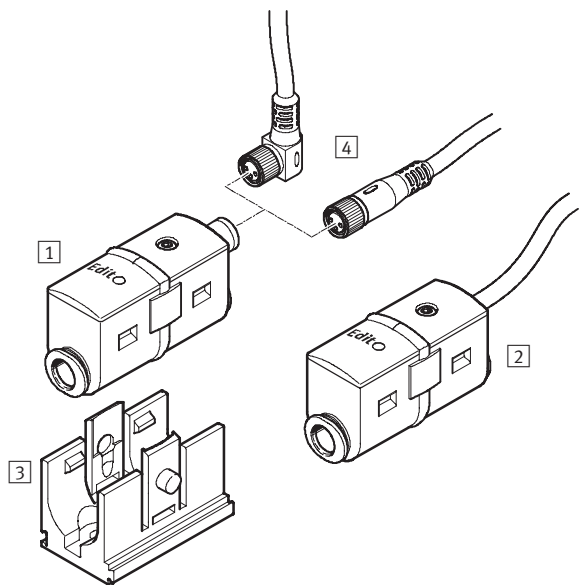
[M] Mandatory data							[O] Options		
Module No.	Sensor function	Pressure range	Switching function	Pneumatic connection	Electrical output	Electrical connection	Connecting cable	Teach-in point 1 permanently set	Teach-in point 2 permanently set
529 027	SDE5	V1 D2 D10	FP O C O1 C1 O2 C2 O3 C3	Q3 Q4 Q6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

Ordering table				
Size	5	Condi- tions	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, N/O contact, N/C contact		-FP	
	Threshold value with fixed hysteresis, 1 teach-in point, N/O contact		-O	
	Threshold value with fixed hysteresis, 1 teach-in point, N/C contact		-C	
	Threshold value with fixed hysteresis, 2 teach-in points, N/O contact		-O1	
	Threshold value with fixed hysteresis, 2 teach-in points, N/C contact		-C1	
	Threshold value with variable hysteresis, N/O contact		-O2	
	Threshold value with variable hysteresis, N/C contact		-C2	
	Window comparator with fixed hysteresis, N/O contact		-O3	
	Window comparator with fixed hysteresis, N/C 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	
	3-pin M8 plug		-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 Must have a value if O2, C2, O3, C3, and X or Y was selected Only one decimal place permissible in combination with D10 [3] Y Not in combination with O, C

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Peripherals overview



Accessories	
1	Pressure switch SDE-5-...-M8 with plug M8x1
2	Pressure switch SDE-5-...-K with cable
3	Linkable wall bracket with clip-in facility for switches (included in the scope of delivery)
4	Connecting cable NEBU-M8

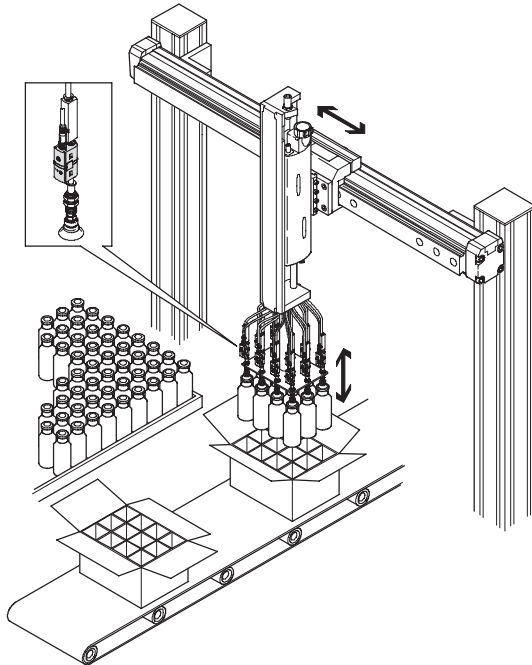
Ordering data – Connecting cables				Technical data → 261	
	Number of wires	Cable length [m]	Part No.	Type	
M8x1, straight socket					
	3	2.5	541 333	NEBU-M8G3-K-2.5-LE3	
		5	541 334	NEBU-M8G3-K-5-LE3	
M8x1, angled socket					
	3	2.5	541 338	NEBU-M8W3-K-2.5-LE3	
		5	541 341	NEBU-M8W3-K-5-LE3	

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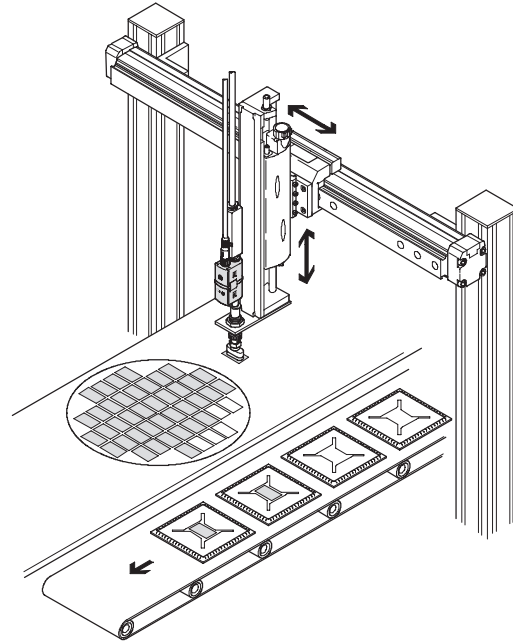
Application examples

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Vacuum monitoring

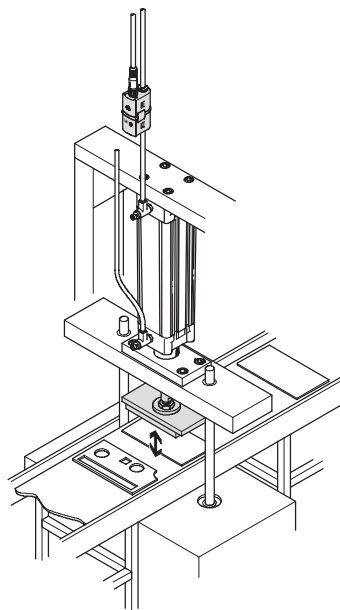


- Vacuum switch SDE5 in combination with a vacuum generator VN for vacuum monitoring in the handling of bottles

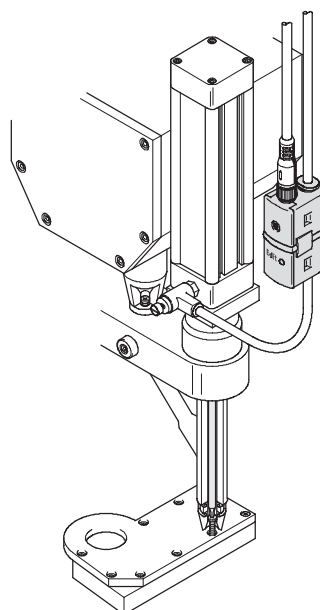


- Vacuum switch SDE5 as suction monitoring in the handling of small parts, such as computer chips

Pressure monitoring



- Pressure switch SDE5 as pressure monitor for the pressing in of punched parts



- Pressure switch SDE5 as "inline variant" for pressure range monitoring on a pneumatic screw driver.