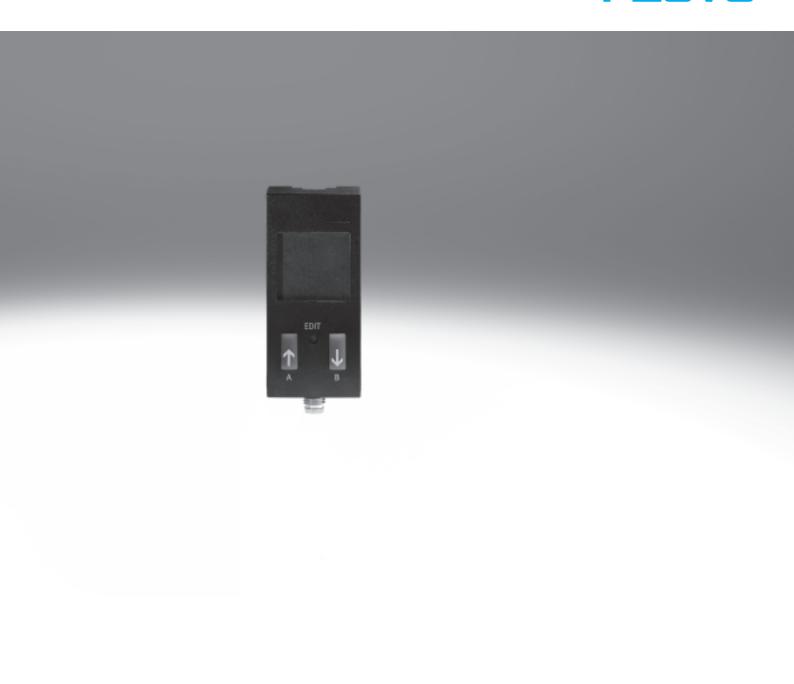
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Pressure sensors SDE1, with display Product range overview



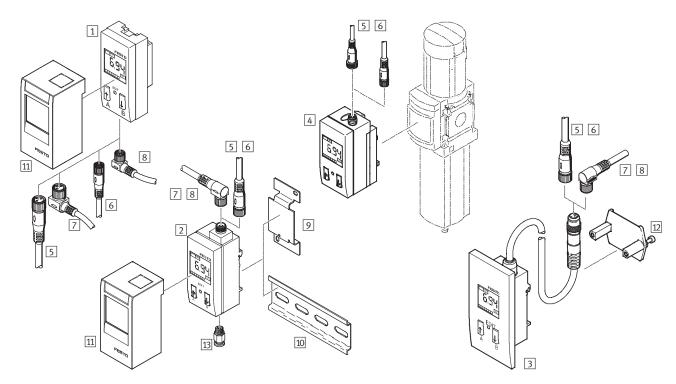
Method of measurement	Operating voltage	Measured variable	Pressure measuring range	Pneumatic connection	Type of mounting	Electrical out	
	[V DC]		[bar]			Digital	Analogue
Piezoresistive	15 30	Relative pressure	-1 0,	Male thread R1/8, R1/4	On service unit,	PNP	-
pressure sensor		Differential and	-1 +1,	Female thread G1/8	via H-rail,	2x PNP	-
with display		relative pressure	0 2,	Push-in fitting for	via wall/surface	PNP	0 10 V
			0 6,	tubing O.D. 4 mm	bracket,	PNP	4 20 mA
			0 10		front panel mounting	2x PNP	4 20 mA
						NPN	-
						2x NPN	-
						NPN	0 10 V
						NPN	4 20 mA

Variants

- LCD display with backlighting (optimised operation)
- Illuminated LCD display (optimised reading)
- Electrical output PNP, 2x PNP, NPN, 2x NPN, 0 ... 10 V analogue, 4 ... 20 mA analogue and combinations thereof
- Electrical connection with plug M8x1 or M12x1
- Connecting cable

Pressure sensors SDE1, with display Peripherals overview

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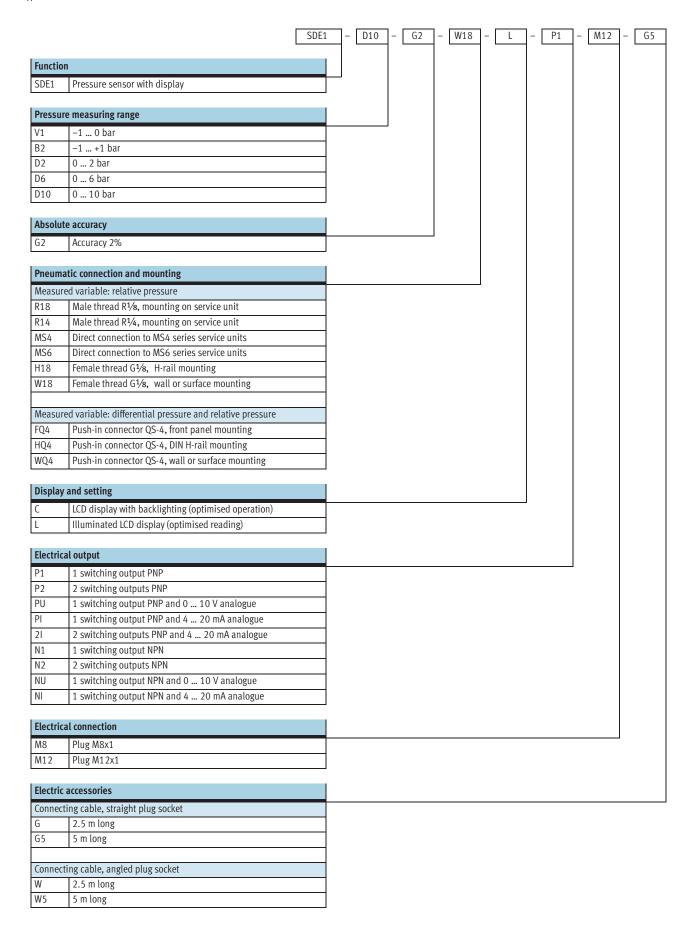


Mou	nting attachments and accessories	→ Page/Internet
1	Pressure sensor	5
	SDE1R18, SDE1R14	
2	Pressure sensor	5
	SDE1H18, SDE1W18	
3	Pressure sensor	5
	SDE1FQ4	
4	Pressure sensor	5
	SDE1MS	
5	Connecting cable	14
	NEBU-M12G	
6	Connecting cable, straight socket	14
	NEBU-M8G	
7	Connecting cable, angled socket	14
	NEBU-M12W	

Mou	nting attachments and accessories	→ Page/Internet
8	Connecting cable	14
	NEBU-M8W with angled socket	
9	Adapter plate	14
	SDE1W	
10	Mounting rail	nrh
	to DIN EN 60715	
11	Protective cover	14
	SDE1-SH	
12	Clamping plate (included in the scope of delivery	-
	with SDE1FQ4)	
13	Push-in fitting	14
	QS-1/8	

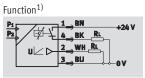


Type code:



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Technical data



e.g. with 1 switching output PNP and
 0 ... 10 V analogue

Voltage

15 ... 30 V DC

Pressure

-1 ... +10 bar

Temperature range 0 ... 50 °C



General technical data					
SDE1	-R	-MS	-H	-W	-F
Certification	cULus recognized (OL)			-	
	C-Tick				
CE mark (see declaration of conformity) ¹⁾	To EU EMC Directive				
Note on materials	Free of copper and PTFE				
	RoHS-compliant				

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com
Support
User documentation.

If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Input signal/measuring element							
SDE1		-B2	-V1	-D2	-D6	-D10	
Measured variable		Relative pressure					
		Differential pressure ²					
Method of measurement		Piezoresistive pressure sensor with display					
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Pressure measuring range	[bar]	-1 +1	01	0 2	0 6	0 10	
Temperature of medium [°C]		050					
Ambient temperature	[°C]	0 50					

2) Versions with push-in connector QS-4

Output, general		
Accuracy FS ³⁾	[%]	2

3) % FS = % of the measuring range (full scale)

Switching output				
Switching output		PNP		
		NPN		
Switching function		Freely programmable		
Switching element function		Switchable		
Reproducibility of switching value	[%]	0.3		
Max. output current	[mA]	150		

Analogue output		
Analogue output	[V]	0 10
	[mA]	4 20

Output, additional data	
Protection against short circuit	Pulsed



Electronic components	
Operating voltage range DC [V]	15 30
Reverse polarity protection	For all electrical connections

Electromechanical components					
SDE1	-M8	-M12			
Electrical connection	Plug M8x1, 3-pin	Plug M12x1, 3-pin			
	Plug M8x1, 4-pin	Plug M12x1, 4-pin			
	-	Plug M12x1, 5-pin			
	Round design	Round design			
	To EN 60947-5-2				

Mechanical components		
Type of mounting	Via H-rail	
	Via wall/surface bracket	
	On service unit	
	Front panel mounting	
Pneumatic connection	R1/8	
	R1/4	
	G1/8	
	QS-4	
Housing materials	PA, POM-reinforced	

Note: This product conforms to ISO 1179-1 and ISO 228-1

Display/operation									
Display type		ck illuminated LCD							
		Illuminated LCD							
Setting options		Teach-in							
Threshold value setting range	[%]	2 99.8							
Hysteresis setting range	[%]	0 90							

Immissions/emissions											
Protection class	IP65										
Corrosion resistance class CRC ⁴⁾	2										

⁴⁾ Corrosion resistance class 2 according to Festo standard 940 070 Components subject to moderate corrosion stress. 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.

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Electrical outputs ¹⁾		Pin allocations	
1 switching output PNP			
Variant P1 with plug M8	P1	1 = +24 V 3 = 0 V 4 = Output A	1 4
Variant P1 with plug M12	P ₁ +24 V	1 = +24 V 3 = 0 V 4 = Output A	1 (++++++++++++++++++++++++++++++++++++
2 switching outputs PNP			
Variant P2 with plug M8	1 BN +24 V 4 BK RL 2 WH RL 3 BU 0 V	1 = +24 V 2 = Output B 3 = 0 V 4 = Output A	1 ++++++++++++++++++++++++++++++++++++
Variant P2 with plug M12	1 BN +24V 2 WH Rt 3 BU 0V	1 = +24 V 2 = Output A 3 = 0 V 4 = Output B	2 (1) 4
1 switching output PNP and 0	10 V analogue		
Variant PU with plug M8	P1	1 = +24 V 2 = Output B (0 10 V analogue) 3 = 0 V 4 = Output A	1 +++ 2 +++ 4
Variant PU with plug M12	P1 U 4 BK RL +24V 2 WH RL 3 BU 0V	1 = +24 V 2 = Output A 3 = 0 V 4 = Output B (0 10 V analogue)	2 (1) 4
1 switching output PNP and 4	20 mA analogue		
Variant PI with plug M8	P1	1 = +24 V 2 = Output B (4 20 mA analogue) 3 = 0 V 4 = Output A	1 ++++++++++++++++++++++++++++++++++++
Variant PI with plug M12	P1	1 = +24 V 2 = Output A 3 = 0 V 4 = Output B (4 20 mA analogue)	2 (++++++++++++++++++++++++++++++++++++
2 switching outputs PNP and 4	20 mA analogue		
Variant 2I with plug M12	1 BN +24V	1 = +24 V 2 = Output B	2 (+++) 4

¹⁾ Core colours indicated apply when using connecting cable NEBU.

5 = Output C (4 ... 20 mA analogue)

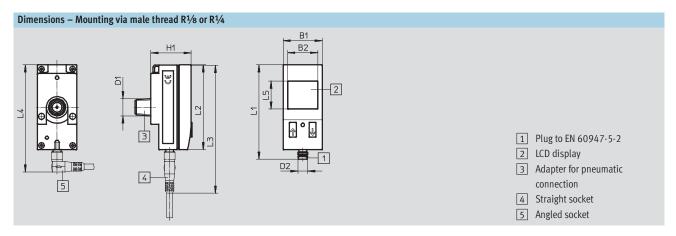
3 = 0 V 4 = Output A

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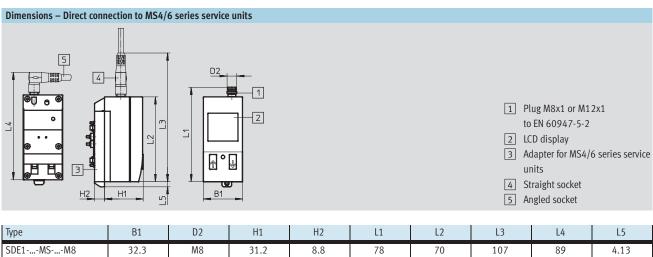
Electrical outputs ¹⁾		Pin allocations	
1 switching output NPN			
Variant N1 with plug M8	$ \begin{array}{c c} P_1 & \longrightarrow BN \\ \hline P_2 & \longleftarrow 4 & \longrightarrow BK \\ \hline & 3 & \longrightarrow BU \end{array} $	1 = +24 V 3 = 0 V 4 = Output A	1 + + 3
Variant N1 with plug M12	$\begin{array}{c c} P_1 & \longrightarrow BN & +24V \\ \hline A & \longrightarrow BK & R_2 & +24V \\ \hline 3 & \longrightarrow BU & 0V \end{array}$	1 = +24 V 3 = 0 V 4 = Output A	1 ++++++++++++++++++++++++++++++++++++
2 switching outputs NPN			
Variant N2 with plug M8	1 BN +24 V 4 BK Rt 2 WH RL 3 BU 6 V	1 = +24 V 2 = Output B 3 = 0 V 4 = Output A	1 2 2 4 4
Variant N2 with plug M12	P ₁ BN +24 V A BK RL BW RL BU BU BU	1 = +24 V 2 = Output A 3 = 0 V 4 = Output B	2 (++++++++++++++++++++++++++++++++++++
1 switching output NPN and 0	10 V analogue		
Variant NU with plug M8	P ₁	1 = +24 V 2 = Output B (0 10 V analogue) 3 = 0 V 4 = Output A	1 ++++++++++++++++++++++++++++++++++++
Variant NU with plug M12	1 BN +24 V 2 WH RI 3 BU 0 V	1 = +24 V 2 = Output A 3 = 0 V 4 = Output B (0 10 V analogue)	2 (++++) 4
1 switching output NPN and 4	20 mA analogue		
Variant NI with plug M8	1 BN +24 V 4 BK RL 2 WH RL 3 BU 0 V	1 = +24 V 2 = Output B (4 20 mA analogue) 3 = 0 V 4 = Output A	1 ++++++++++++++++++++++++++++++++++++
Variant NI with plug M12	P1 1 BN +24 V A BK RL 2 WH RL 3 BU 6 V	1 = +24 V 2 = Output A 3 = 0 V 4 = Output B (4 20 mA analogue)	2 (4) 4

¹⁾ Core colours indicated apply when using connecting cable NEBU.





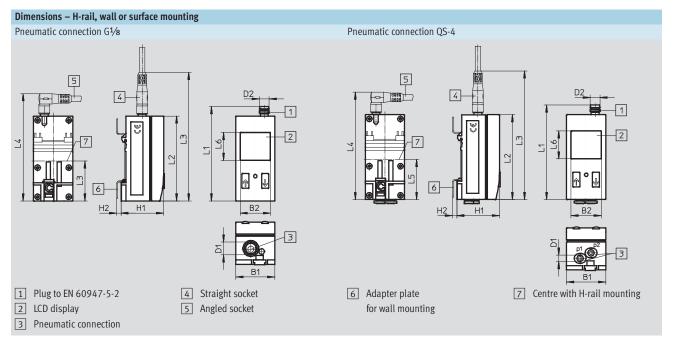
Туре	B1	B2	D1	D2	H1	L1	L2	L3	L4	L5
SDE1R18-M8	32.3	25	R1/8	M8	33	78	70	107	89	23
SDE1R14-M8			R1/4							
SDE1R18-M12	32.3	25	R ¹ /8	M12	33	87	70	125	103	23
SDE1R14-M12			R1/4							



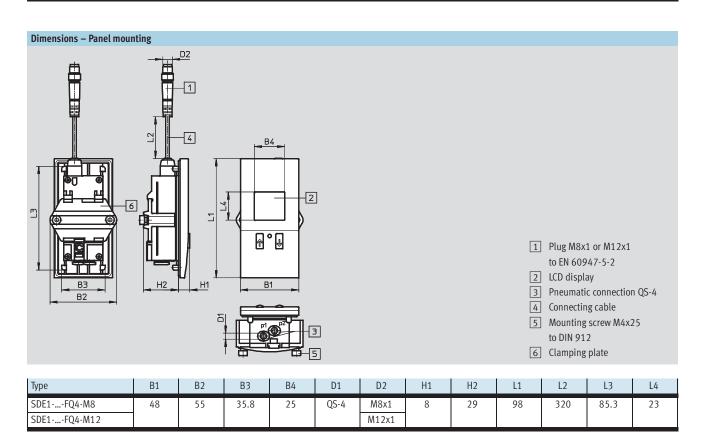
Туре	B1	D2	H1	H2	L1	L2	L3	L4	L5
SDE1MSM8	32.3			8.8	78	70	107	89	4.13
SDE1MSM12		M12			87		125	103	

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Technical data



Туре	B1	B2	D1	D2	H1	H2	L1	L2	L3	L4	L5	L6
SDE1H18M8	32.3	25	G1/8	M8	35.2	3.6	78	70	107	89	33	23
SDE1W18M8												
SDE1H18M12	32.3	25	G1/8	M12	35.2	3.6	87	70	125	103	33	23
SDE1W18M12												
SDE1HQ4M8	32.3	25	QS-4	M8	35.2	3.6	78	70	107	89	33	23
SDE1WQ4M8												



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ersion	Pressure	Switching	Analogue	Electrical connection	Display type	Part No.	Туре
	measuring range	output	output		1 7 71		"
	[bar]	·	·				
<u> </u>	Male thread R ¹ /8,	mounting on I) series service	unit			
	0 10	PNP	-	Plug M8x1, 3-pin	LCD ¹⁾	192026	SDE1-D10-G2-R18-C-P1-M8
5.90					Illuminated LCD	529970	SDE1-D10-G2-R18-L-P1-M8
				Plug M12x1, 3-pin	Illuminated LCD	534064	SDE1-D10-G2-R18-L-P1-M12
		2x PNP	-	Plug M8x1, 4-pin	LCD ¹⁾	192027	SDE1-D10-G2-R18-C-P2-M8
		PNP	0 10 V	Plug M8x1, 4-pin	LCD ¹⁾	529958	SDE1-D10-G2-R18-C-PU-M8
					Illuminated LCD	529972	SDE1-D10-G2-R18-L-PU-M8
	Male thread R ¹ / ₄ ,) series service		4)	1	
	0 10	PNP	-	Plug M8x1, 3-pin	LCD ¹⁾	192028	SDE1-D10-G2-R14-C-P1-M8
					Illuminated LCD	529967	SDE1-D10-G2-R14-L-P1-M8
				Plug M12x1, 3-pin	Illuminated LCD	534157	SDE1-D10-G2-R14-L-P1-M12
		2x PNP	-	Plug M8x1, 4-pin	LCD ¹⁾	192029	SDE1-D10-G2-R14-C-P2-M8
					Illuminated LCD	529968	SDE1-D10-G2-R14-L-P2-M8
		PNP	0 10 V	Plug M8x1, 4-pin	LCD ¹⁾	529957	SDE1-D10-G2-R14-C-PU-M8
					Illuminated LCD	529969	SDE1-D10-G2-R14-L-PU-M8
		·					
	Female thread G ¹ /		nting	T	1 1)		
	01	PNP	-	Plug M8x1, 3-pin	LCD ¹⁾	192034	SDE1-V1-G2-H18-C-P1-M8
94					Illuminated LCD	529973	SDE1-V1-G2-H18-L-P1-M8
		2x PNP	-	Plug M8x1, 4-pin	LCD ¹⁾	192035	SDE1-V1-G2-H18-C-P2-M8
					Illuminated LCD	529974	SDE1-V1-G2-H18-L-P2-M8
		PNP	0 10 V	Plug M8x1, 4-pin	LCD ¹⁾	529959	SDE1-V1-G2-H18-C-PU-M8
					Illuminated LCD	529975	SDE1-V1-G2-H18-L-PU-M8
	0 10	PNP	-	Plug M8x1, 3-pin	LCD ¹⁾	192030	SDE1-D10-G2-H18-C-P1-M8
					Illuminated LCD	529961	SDE1-D10-G2-H18-L-P1-M8
		2x PNP	-	Plug M8x1, 4-pin	LCD ¹⁾	192031	SDE1-D10-G2-H18-C-P2-M8
					Illuminated LCD	529962	SDE1-D10-G2-H18-L-P2-M8
		PNP	0 10 V	Plug M8x1, 4-pin	LCD ¹⁾	529955	SDE1-D10-G2-H18-C-PU-M8
					Illuminated LCD	529963	SDE1-D10-G2-H18-L-PU-M8
	Female thread G ¹ /	a forwall or	curfaco mounti	202)			
	01	PNP		Plug M12x1, 3-pin	Illuminated LCD	534065	SDE1-V1-G2-W18-L-P1-M12
**	J 1	PNP	4 20 mA	Plug M8x1, 4-pin	- Ittaliillatea EeD	537022	SDE1-V1-G2-W18-L-PI-M8
37-8		"	7 20 IIIA	Plug M12x1, 4-pin	\dashv	537023	SDE1-V1-G2-W18-L-PI-M12
	0 2	PNP	_	Plug M8x1, 3-pin	\dashv	537023	SDE1-V1-G2-W18-L-P1-M12 SDE1-D2-G2-W18-L-P1-M8
a)	0 2	2x PNP	-	Plug M8x1, 4-pin	\dashv	537024	SDE1-D2-G2-W18-L-P1-M8 SDE1-D2-G2-W18-L-P2-M8
	0 6	PNP	1_	Plug M8x1, 3-pin	_	537025	SDE1-D2-G2-W18-L-P1-M8
	0 0	2x PNP	1-	Plug M8x1, 4-pin	_	537026	SDE1-D6-G2-W18-L-P1-M8
	0 10	PNP	1-	Plug M12x1, 3-pin	—		SDE1-D6-G2-W18-L-P2-M8 SDE1-D10-G2-W18-L-P1-M12
	0 10	LINE	0 10 1/	<u>, </u>	 	534063 530900	SDE1-D10-G2-W18-L-P1-M12 SDE1-D10-G2-W18-L-PU-M8
		1	0 10 V Plug M8x1, 4-pin	220200	30E1-010-07-M19-F-LO-W9		
		2v DND				E240/2	CDE1 D10 C2 W40 I 31 M42
		2x PNP PNP	4 20 mA 4 20 mA	Plug M12x1, 5-pin Plug M8x1, 4-pin		534062 537020	SDE1-D10-G2-W18-L-2I-M12 SDE1-D10-G2-W18-L-PI-M8

Note

Additional variants and accessories can be configured and ordered through the SDE1 modular system **→** 13.

¹⁾ Back illuminated

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



Ordering data – I	Measured variable:	differential pre	essure and rela	ative pressure										
Version	Pressure measuring range [bar]	Switching output	Analogue output	Electrical connection	Display type	Part No.	Туре							
	Push-in connector	QS-4, for H-ra	il mounting											
	01	PNP	-	Plug M8x1, 3-pin	LCD ¹⁾	192036	SDE1-V1-G2-HQ4-C-P1-M8							
E 90					Illuminated LCD	529976	SDE1-V1-G2-HQ4-L-P1-M8							
		2x PNP	-	Plug M8x1, 4-pin	LCD ¹⁾	192037	SDE1-V1-G2-HQ4-C-P2-M8							
(p) o [1]					Illuminated LCD	529977	SDE1-V1-G2-HQ4-L-P2-M8							
	0 10	PNP	-	Plug M8x1, 3-pin	LCD ¹⁾	192032	SDE1-D10-G2-HQ4-C-P1-M8							
					Illuminated LCD	529964	SDE1-D10-G2-HQ4-L-P1-M8							
		2x PNP	-	Plug M8x1, 4-pin	LCD ¹⁾	192033	SDE1-D10-G2-HQ4-C-P2-M8							
					Illuminated LCD	529965	SDE1-D10-G2-HQ4-L-P2-M8							
		PNP	0 10 V	Plug M8x1, 4-pin	LCD ¹⁾	529956	SDE1-D10-G2-HQ4-C-PU-M8							
	Push-in connector QS-4, for H-rail, wall or surface mounting													
	0 2	2x PNP	-	Plug M8x1, 4-pin	LCD ¹⁾	535581	SDE1-D2-G2-WQ4-C-P2-M8							
_ n	Push-in connector	QS-4, for front	panel mounti	ng										
	0 10	PNP	-	Plug M8x1, 3-pin	Illuminated LCD	537028	SDE1-D10-G2-FQ4-L-P1-M8							
				Plug M12x1, 3-pin		537030	SDE1-D10-G2-FQ4-L-P1-M12							
j. j		2x PNP –		Plug M8x1, 4-pin		537029	SDE1-D10-G2-FQ4-L-P2-M8							
\downarrow				Plug M12x1, 4-pin		537031	SDE1-D10-G2-FQ4-L-P2-M12							

¹⁾ Back illuminated

Note

12

Additional variants and accessories can be configured and ordered through the SDE1 modular system **→** 13.

Pressure sensors SDE1, with display Modular product system



M Mandatory data													
Module No.	Function	Pressure range	Absolute accuracy	Pneumatic connection and mounting	Display and setting	Electrical output	Electrical connection	Accessories: plug socket					
192766	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 192766	SDE1	- D6	- G2	- W18 -	L -	P2 -	M12	- W5					

			Condition s	Code	Enter code
١	Module No.	192766			19276
	Function	Pressure sensor		SDE1	SDE1
	Pressure range	Pressure range −1 1 bar		-B2	
		Pressure range 0 −1 bar		-V1	
		Pressure range 0 2 bar		-D2	
		Pressure range 0 6 bar		-D6	
		Pressure range 0 10 bar		-D10	
	Absolute accuracy	Accuracy 2%		-G2	-G2
	Pneumatic connection and	Mounting R1/8 (service units)		-R18	
	mounting	Mounting R1/4 (service units)		-R14	
		Direct connection on MS4 series service units		-MS4	
		Direct connection on MS6 series service units		-MS6	
		Relative pressure with G½ connection for H-rail mounting		-H18	
		Relative pressure with G½ connection for wall/surface mounting		-W18	
		H-rail mounting, 4 mm push-in connector		-HQ4	
		Wall mounting, 4 mm push-in connector		-WQ4	
		Front panel mounting, 4 mm push-in connector		-FQ4	
	Display and setting	LCD display (optimised operation)		-C	
		Illuminated LCD (optimised reading)		-L	
	Electrical output	1 switch (PNP)		-P1	
		2 switches (PNP)		-P2	
		1 switch (PNP) and 0 10 V analogue		-PU	
		1 switch (PNP) and 4 20 mA analogue		-PI	
		1 switch (NPN)		-N1	
		2 switches (NPN)		-N2	
		1 switch (NPN) and 0 10 V analogue		-NU	
		1 switch (NPN) and 4 20 mA analogue		-NI	
	Electrical connection	Plug M8		-M8	
		Plug M12		-M12	
	Accessories			-	-
	Electric accessories	Connecting cable, straight plug socket, 2.5 m	1	G	
		Connecting cable, angled plug socket, 2.5 m	1	W	
		Connecting cable, straight plug socket, 5 m		G5	
		Connecting cable, angled plug socket, 5 m		W5	

1 G, W Not with electrical connection M12 in combination with electrical output P2, PU, PI, N2, NU, NI.

Transfer order	Transfer order code															
192766		SDE1	-		-	G2	-		-		-		-		-	

Pressure sensors SDE1, with display Accessories



Ordering data - Connecting cables						
			Technical data → Internet: nebu			
	Number	Cable	Part No.	Туре		
	of wires	length [m]				
M8x1, straight socket						
	3	2.5	541333	NEBU-M8G3-K-2.5-LE3		
		5	541334	NEBU-M8G3-K-5-LE3		
	4	2.5	541342	NEBU-M8G4-K-2.5-LE4		
		5	541343	NEBU-M8G4-K-5-LE4		
M8x1, angled socket						
	3	2.5	541338	NEBU-M8W3-K-2.5-LE3		
		5	541341	NEBU-M8W3-K-5-LE3		
	4	2.5	541344	NEBU-M8W4-K-2.5-LE4		
		5	541345	NEBU-M8W4-K-5-LE4		

Ordering data – Connecting cables						
			Technical data → Internet: nebu			
	Number	Cable	Part No.	Туре		
	of wires	length [m]				
M12x1, straight socket						
	3	2.5	541363	NEBU-M12G5-K-2.5-LE3		
		5	541364	NEBU-M12G5-K-5-LE3		
	4	2.5	550326	NEBU-M12G5-K-2.5-LE4		
		5	541328	NEBU-M12G5-K-5-LE4		
	5	2.5	541330	NEBU-M12G5-K-2.5-LE5		
		5	541331	NEBU-M12G5-K-5-LE5		
M12x1, angled socket						
	3	2.5	541367	NEBU-M12W5-K-2.5-LE3		
		5	541370	NEBU-M12W5-K-5-LE3		
-	4	2.5	550325	NEBU-M12W5-K-2.5-LE4		
		5	541329	NEBU-M12W5-K-5-LE4		

Ordering data – Accessories					
	Part No.	Туре			
Adapter plate					
	194297	SDE1W			
Protective cover					
	537074	SDE1-SH			

Ordering data – Push-in fittings						
		Technical data → Internet: quick star				
	For tubing O.D. [mm]	Part No.	Туре			
S	4	186095	QS-G ¹ /8-4			
	6	186096	QS-G ¹ / ₈ -6			
	8	186098	QS-G ¹ / ₈ -8			

Product Range and Company Overview

A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components Complete custom engineered solutions



Custom Control Cabinets Comprehensive engineering support and on-site services



Complete Systems Shipment, stocking and storage services

The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical Electromechanical actuators, motors, controllers & drives



Pneumatics Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



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