

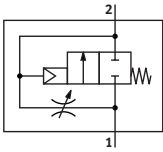
Soft-start valve MS6N-DL

FESTO



Characteristics

At a glance

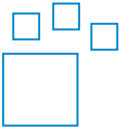


Pneumatically operated soft-start valve for slowly pressurising and exhausting pneumatic systems (for use with on/off valves EM1 and EE)

- The duration of the pressure build-up is set using the restrictor attached to the valve cap. The output pressure p2 rises slowly according to the restrictor setting. The main seat opens when the switch-through pressure is reached.
- The drives move slowly and safely to the initial position
- Sudden and unpredictable movements are avoided
- Main seat opening at approx. 50% of the operating pressure
- Adjustable switching time delay
- Optional pressure sensor

Ordering data - modular system

Link [ms6n_dl](#)



Configurable product

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

Pneumatic connection

By installing connecting plates it is easier to replace the module if necessary (e.g. when using piping).

Pressure gauge alternatives

- Key features [AG]/[RG]: integrated pressure gauges
- Key features [A4]/[A8]: Adapter for pressure gauge
- Key features [O.D7]/[O.D.8]/[O.D.9]/[O.D.10]: simple pressure sensors for monitoring the system
- Key features [AD11]/[AD12]: functional pressure sensors for monitoring the system

Type of mounting

[WP] Mounting bracket basic design



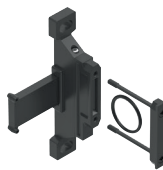
- For connecting the modules for wall mounting
- In combination with connecting plate for wall mounting an individual unit
- In conjunction with mounting plate MS-AEND or wall mounting a single device
- Same wall distance for combinations of series MS4 and MS6

[WB] Mounting centrally at rear (wall mounting top and bottom), connecting plates not required



For wall mounting

[WPM] Mounting bracket for hooking in service unit components



- For connecting the modules for wall mounting
- In combination with connecting plate MS4-AG... for mounting an individual device on a wall
- Fast hooking and unhooking

Type code

001	Series	
MS	MS series	
002	Size	
6	Grid dimension 62 mm	
003	Thread type	
N	NPT thread	
004	Function	
DL	Soft-start valve, pneumatic	
005	Pneumatic connection, inch	
1/4	Female thread NPT 1/4	
3/8	Female thread NPT 3/8	
1/2	Female thread NPT 1/2	
AQN	Sub-base NPT1/4	
AQP	Sub-base NPT3/8	
AQR	Sub-base NPT1/2	
AQS	Sub-base NPT3/4	

006	Pressure gauge alternatives	
	None	
A4	Adapter for EN pressure gauge 1/4, without pressure gauge	
A8	Adapter for EN pressure gauge 1/8, without pressure gauge	
AD7	Pressure sensor with switching display, M8 plug, threshold value comparator, PNP, N/O	
AD8	Pressure sensor with switching display, M8 plug, threshold value comparator, PNP, N/C	
AD9	Pressure sensor with switching display, M8 plug, window comparator, PNP, N/O	
AD10	Pressure sensor with operational status indicator, M8 plug, window comparator, PNP, N/C	
AD11	Pressure sensor with LCD display, M12 plug, 4-pin, IO-Link®, PNP, NPN, 0...10 V, 1...5 V, 4...20 mA	
AD12	Pressure sensor with LCD display, M8 plug, 4-pin, IO-Link®, PNP, NPN, 0...10 V, 1...5 V, 4...20 mA	
AG	MS pressure gauge	
RG	Integrated pressure gauge, red/green scale	

007	Alternative pressure gauge scale	
	MS pressure gauge	
BAR	bar	
MPa	MPa	

008	Type of mounting	
	Without mounting bracket	
WB	Mounting centrally at rear (wall mounting top and bottom), connecting plates not required	
WP	Mounting bracket basic design	
WPM	Mounting bracket for hooking in service unit components	

009	Flow direction	
	Flow direction from left to right	
Z	Flow direction from right to left	

Datasheet

General technical data

Pneumatic connection, port 1 ¹⁾	3/8 NPT	1/2 NPT
Pneumatic connection, port 2	3/8 NPT	1/2 NPT
Design	Piston seat	
Type of mounting	Either: Inline installation With accessories	
Mounting position ²⁾	Any	
Valve function	2/2	
Exhaust-air function	Can be throttled	
Type of actuation	Pneumatic	
Type of piloting	Direct	
Flow direction	Non-reversible	

1) Via sub-base [AQ...]: 1/4 NPT, 3/8 NPT, 1/2 NPT or 3/4 NPT

2) The on/off valve must in a vertical mounting position when combined with a pressure sensor as condensate must not collect in the pressure sensor.

Flow characteristics

Pneumatic connection, port 1	3/8 NPT	1/2 NPT
Standard nominal flow rate (standardised to DIN 1343) ¹⁾	5,050 l/min	6,450 l/min
C value	21.05 l/sbar	28.97 l/sbar
b value	0.48	0.39

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar.

Operating and environmental conditions

Pneumatic connection, port 1	3/8 NPT	1/2 NPT
Operating pressure	4 ... 18 bar	
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4], Inert gas	
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)	
Ambient temperature	-10 ... 60°C	
Media temperature	-10 ... 60°C	
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress	
Suitable for use with food ²⁾	See supplementary material information	

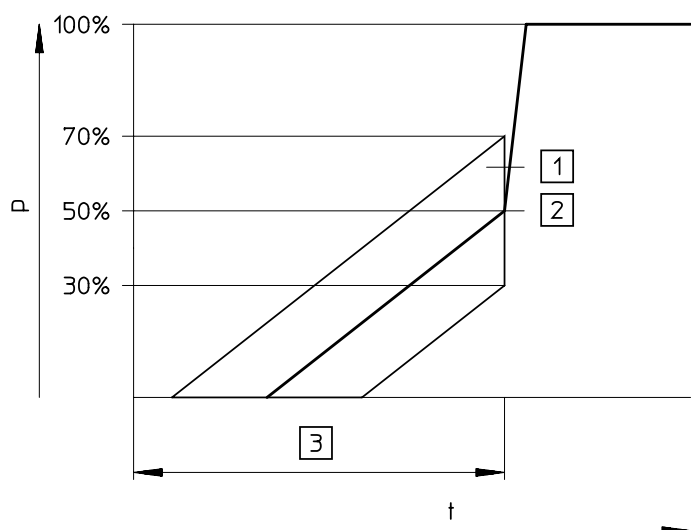
1) More information www.festo.com/x/topic/crc

2) More information www.festo.com/certificates/ms6n-dl

Materials

Material housing	Die-cast aluminium
Material seals	NBR
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Datasheet

Switching point – pressure p as a function of time t 

- [1] Tolerance range
- [2] Switching point
- [3] Filling time adjustable via flow control

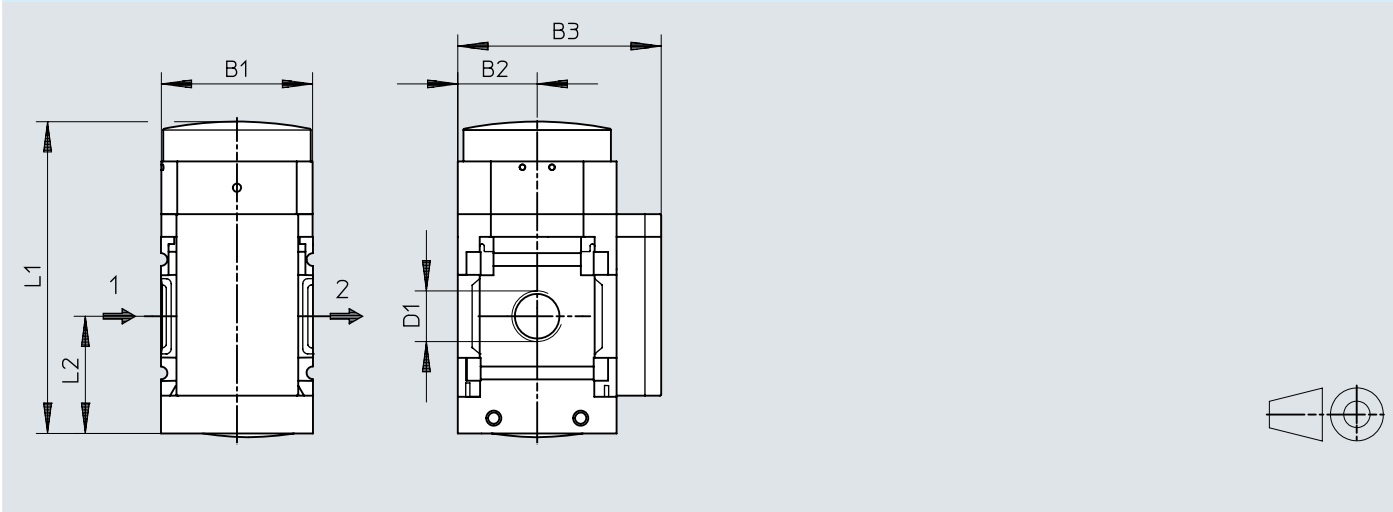
Note:

The tolerance specification $+20\%/-10\%$ of the switch-on point refers to the operating pressure p_1 .

Example: A switching point of 1.6 bar to 2.8 bar is permissible at an operating pressure of 4 bar.

Dimensions

Dimensions – Basic type with female thread, with cover plate Download CAD data www.festo.com

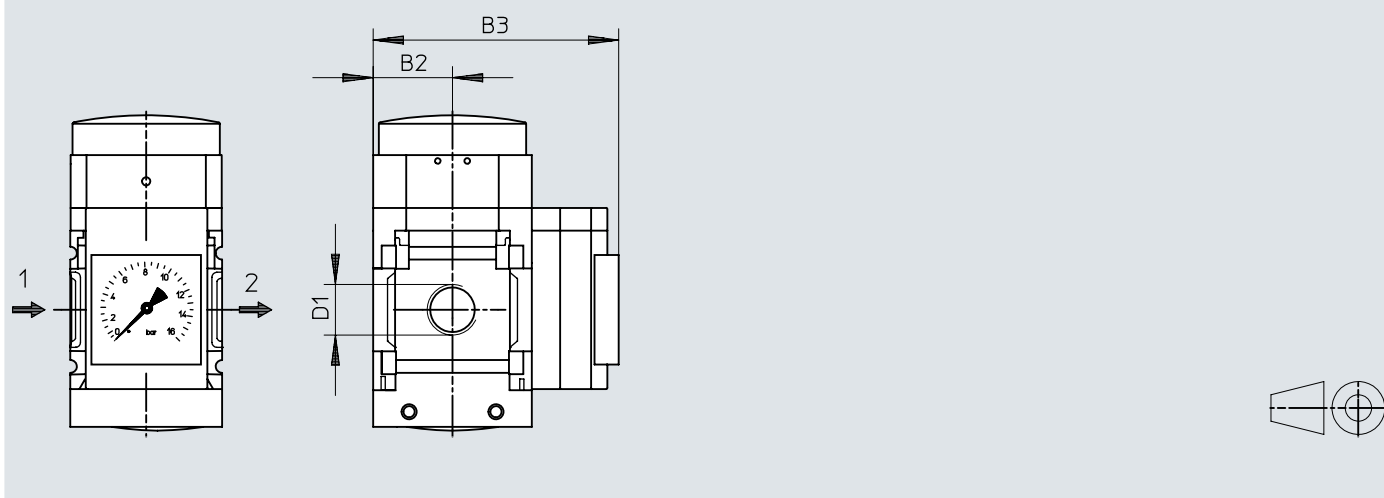


	B1 [inch]	B2 [inch]	B3 [inch]	D1	L1 [inch]	L2 [inch]
MS6N-DL-1/4	2,44	1,22	2,99	1/4 NPT	4,25	1,81
MS6N-DL-3/8				3/8 NPT		
MS6N-DL-1/2				1/2 NPT		

Dimensions

Dimensions – Integrated MS pressure gauge with standard scale/with red/
green scale

Download CAD data www.festo.com

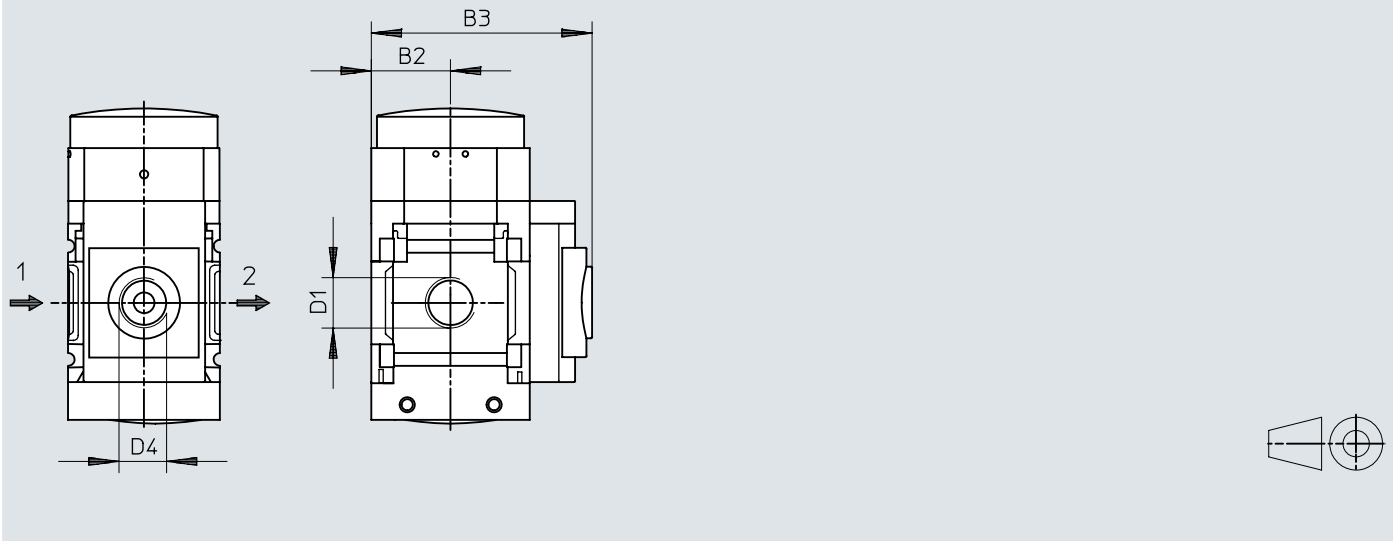


	B2 [inch]	B3 [inch]
MS6N-...-AG	1,22	3,03
MS6N-...-RG	1,22	3,09

Dimensions

Dimensions – Adapter for EN pressure gauge 1/8 without pressure gauge/
adapter for EN pressure gauge 1/4, without pressure gauge

Download CAD data www.festo.com

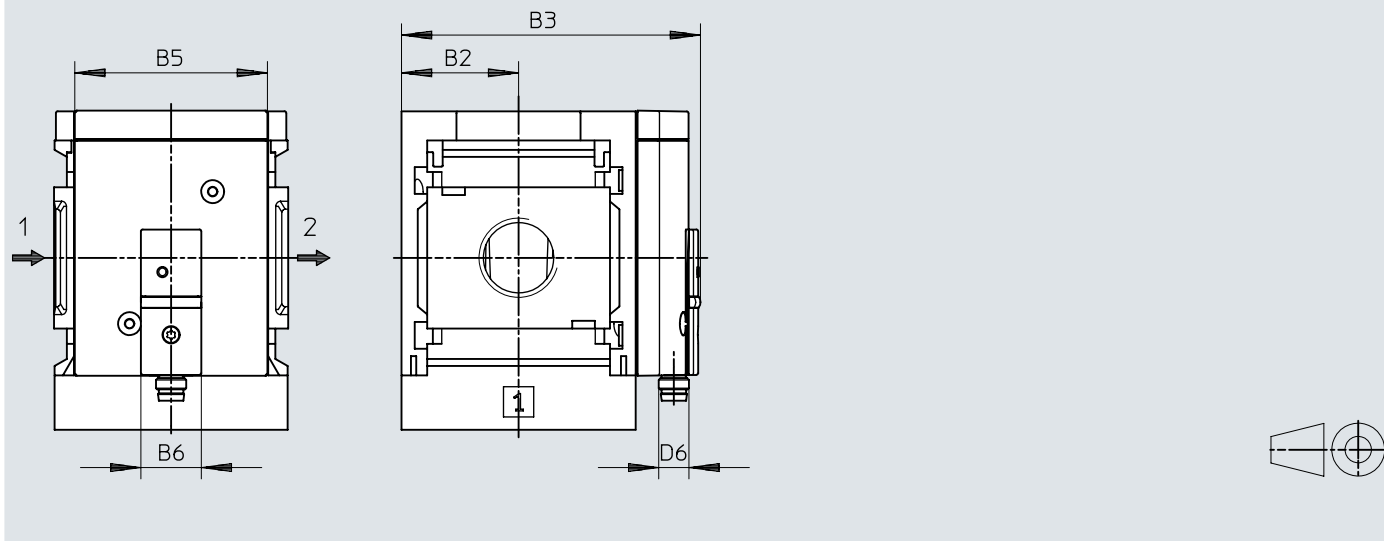


	B2 [inch]	B3 [inch]	D4
MS6N-...-A8	1,22	3,09	1/8 NPT
MS6N-...-A4			1/4 NPT

Dimensions

Dimensions – Pressure sensor with status indicator AD7, AD8, AD9, AD10

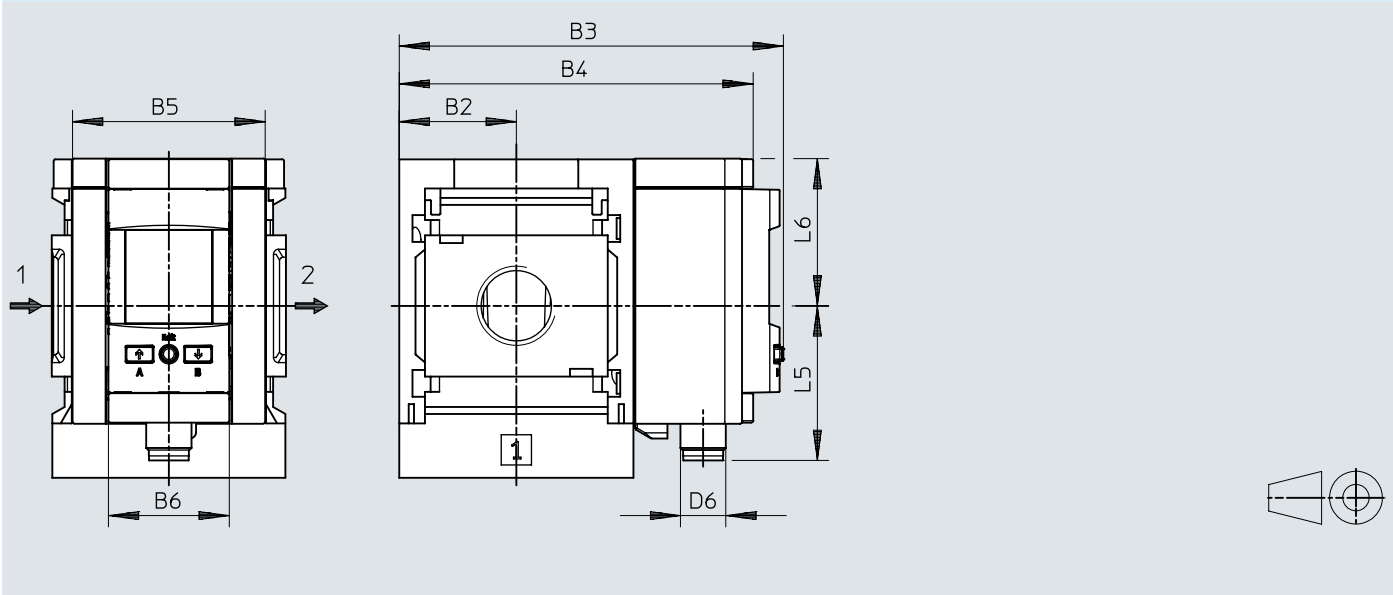
Download CAD data www.festo.com



	B2 [inch]	B3 [inch]	B5 [inch]	B6 [inch]	D6
MS6N-...-AD7, AD8, AD9, AD10	1,22	3,11	~2,01	0,63	M8x1

Dimensions

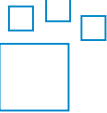
Dimensions – Pressure sensor with LCD display AD11, AD12 Download CAD data www.festo.com



	B2 [inch]	B3 [inch]	B4 [inch]	B5 [inch]	B6 [inch]	D6	L5 [inch]	L6 [inch]
MS6N-...-AD11	1,22	4,01	3,69	2,01	1,26	M12x1	1,62	1,54
MS6N-...-AD12						M8x1	1,49	

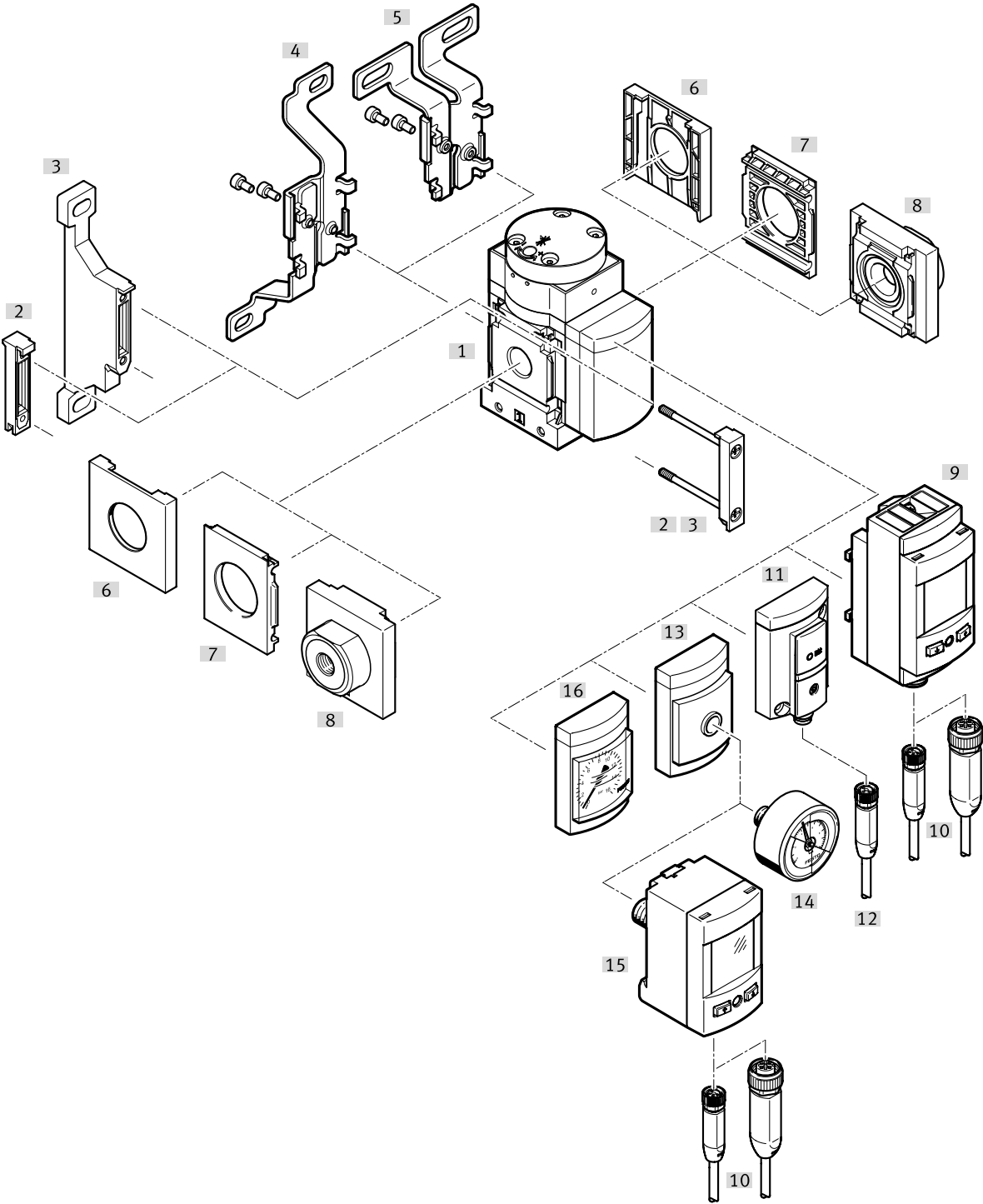
Ordering data

Ordering data					
	Pneumatic connection, port 1	Flow direction	Product weight	Part no.	Type
	3/8 NPT	From left to right	650 g	532025	MS6N-DL-3/8
	1/2 NPT			532024	MS6N-DL-1/2

Ordering data – Modular product system			
	Short type code	Part no.	Type
	MS6N-DL	527685	MS6N-DL

Peripherals

Peripherals overview



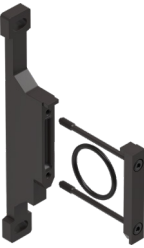
Accessories		→ Link
Type/order code	Description	
[1] On/off valve MS4-EE		ms6n-dl
[2] Module connector MS4-MV1		14
[3] Mounting bracket MS4-WP	Order code [WP]	14
[3] Mounting bracket MS4-WPM	Order code [WPM] (without illustration)	14
[4] Mounting bracket MS4-WB	Order code [WB]	14
[5] Cover cap MS4-END		15
[6] Mounting plate MS4-AEND	Module connector MS4-MV1 [2] or mounting bracket MS4-WP, WPB, WPE, WPM [3] is required for mounting.	15
[7] Connecting plate SET MS4-AQ...	Order code [AQ...]	15

Peripherals

Accessories		→ Link
Type/order code	Description	
[8]		ms6n-dl
[9] Connecting cable NEBU-M8...-LE3		16
[9] Connecting cable NEBU-M8...-LE3		16
[10] Pressure sensor with operational status indicator SDE5	Order code [AD7], [AD8], [AD9], [AD10]	ms6n-dl
[11] Connecting cable NEBU-M8...-LE3		16
[12] Adapter for EN pressure gauge 1/8, 1/4	Order code [A8], [A4]	ms6n-dl
[13] Pressure gauge MA		15
[14] Pressure sensor SPAU-...-T		15
[15] Pressure gauge MS	Order code [AG], [RG]	ms6n-dl

Accessories

Module connector MS4-MV1				
	Size	Product weight	Part no.	Type
	6	33 g	8119204	MS6-MV1

Mounting bracket MS4-WP...				
	Size	Product weight	Part no.	Type
	6	76 g	532195	MS6-WP

Mounting bracket MS4-WP...				
	Size	Product weight	Part no.	Type
	6	144 g	526073	MS6-WPM-D
		154 g	532186	MS6-WPM-2D

Mounting bracket MS4-WB				
	Size	Product weight	Part no.	Type
	6	121 g	532196	MS6-WB

Accessories

Cover cap MS4-END					
	Size	Material housing	Product weight	Part no.	Type
	6	Reinforced PA		538780	MS6-END

Mounting plate MS4-AEND				
	Size	Product weight	Part no.	Type
	6	11.1 g	535408	MS6-AEND1

Connecting plate-SET MS4-AG...					
	Size	Pneumatic connection, port 1	Product weight	Part no.	Type
	6	1/4 NPT	300 g	526076	MS6N-AQN
		3/8 NPT		526077	MS6N-AQP
		1/2 NPT		526078	MS6N-AQR
		3/4 NPT		526079	MS6N-AQS

Pressure gauge MA						
	Pneumatic connection	Indicating range	Indicating range	Product weight	Part no.	Type
	R1/8	0 ... 232 psi	0 ... 16 bar	60 g	525726	MA-40-16-R1/8-E-RG
	R1/4			75 g	525729	MA-50-16-R1/4-E-RG
				70 g	187080	MA-40-16-R1/4-EN

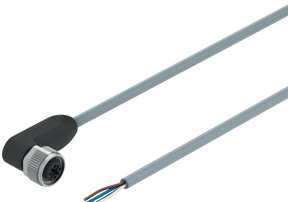
	Pneumatic connection	Switching output	Electrical connection 1, connector system	Part no.	Type
	R1/8	2 x PNP or 2 x NPN, switchable	M12x1, A-coded to EN 61076-2-101	8001206	SPAU-P10R-T-R18M-L-PNLK-PNVBA-M12D
			M8x1, A-coded, to EN 61076-2-104	8001203	SPAU-P10R-T-R18M-L-PNLK-PNVBA-M8D
	R1/4		M12x1, A-coded to EN 61076-2-101	8001208	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M12D
			M8x1, A-coded, to EN 61076-2-104	8001209	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M8D

Accessories

Connecting cable NEBA, straight

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/ cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	8078236	NEBA-M12G5-U-2.5-N-LE3
				5 m	8078237	NEBA-M12G5-U-5-N-LE3
			4	2.5 m	8078239	NEBA-M12G5-U-2.5-N-LE4
				5 m	8078240	NEBA-M12G5-U-5-N-LE4
	M8x1, A-coded, to EN 61076-2-104		3	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	8078224	NEBA-M8G3-U-5-N-LE3
			4	2.5 m	8078227	NEBA-M8G4-U-2.5-N-LE4
				5 m	8078228	NEBA-M8G4-U-5-N-LE4

Connecting cable NEBA, angled

Connecting cable NEBA, angled	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	8078245	NEBA-M12W5-U-2.5-N-LE3
				5 m	8078246	NEBA-M12W5-U-5-N-LE3
			4	2.5 m	8078248	NEBA-M12W5-U-2.5-N-LE4
				5 m	8078249	NEBA-M12W5-U-5-N-LE4
	M8x1, A-coded, to EN 61076-2-104		3	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	8078231	NEBA-M8W3-U-5-N-LE3
			4	2.5 m	8078233	NEBA-M8W4-U-2.5-N-LE4
				5 m	8078234	NEBA-M8W4-U-5-N-LE4