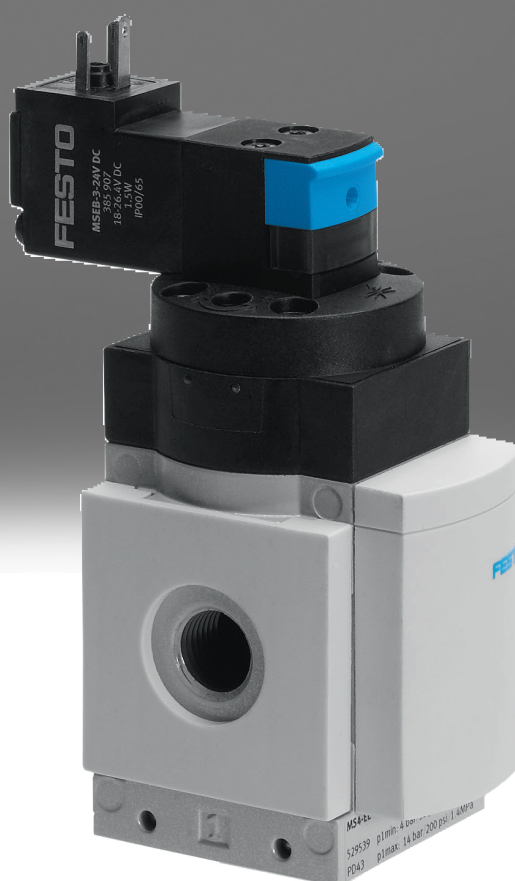


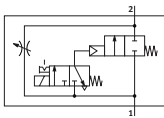
Soft-start valve MS4N-DE

FESTO



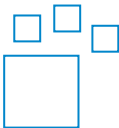
Characteristics

At a glance



- The duration of the pressure build-up is set using the restrictor attached to the valve cap. The output pressure p2 rises slowly in accordance with the restrictor setting. As long as the solenoid valve is not actuated, only the flow rate of the flow control is available. The main seat is only opened when the solenoid valve is energised.
- When the solenoid valve is switched off, the main seat is closed and only the flow rate of the flow control valve is available. When exhausting a system, the solenoid valve should remain switched on; this increases the volumetric flow rate from 2 to 1 and shortens the exhaust time.
- The drives move slowly and safely to the initial position
- Sudden and unpredictable movements are avoided
- Adjustable switching time delay
- Solenoid actuator can be repositioned 180°
- Optional pressure sensor

Ordering data - modular system Link [ms4n_de](#)



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

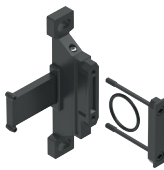
Type of mounting

[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

[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

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



For wall mounting

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



For wall mounting

Type code

001	Series	
MS	MS series	

002	Size	
4	Grid dimension 40 mm	

003	Thread type	
N	NPT thread	

004	Function	
DE	Soft-start valve, electric	

005	Pneumatic connection, inch	
1/8	Female thread NPT 1/8	
1/4	Female thread NPT 1/4	
AQK	Sub-base NPT1/8	
AQN	Sub-base NPT1/4	
AQP	Sub-base NPT3/8	

006	Supply voltage	
10V24	24 V DC, 10 bar, connection pattern to EN 175301	
10V24P	24 V DC, 10 bar, M12 (connection pattern to IEC 61076-2-101)	
V24	24 V DC (connection pattern to EN 175301)	
V110	110 V AC (connection pattern to EN 175301)	
V230	230 V AC (connection pattern to EN 175301)	

007	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	
AG	MS pressure gauge	
RG	Integrated pressure gauge, red/green scale	

008	Alternative pressure gauge scale	
	MS pressure gauge	
BAR	bar	
MPA	MPa	

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

010	Flow direction	
	Flow direction from left to right	
Z	Flow direction from right to left	

Datasheet

General technical data

Pneumatic connection, port 1 ¹⁾	1/8 NPT	1/4 NPT
Pneumatic connection, port 2	1/8 NPT	1/4 NPT
Pneumatic connection, port 3	G1/4	
Design	Piston gate valve	
lap	Overlap	
Type of mounting	Either: Inline installation With accessories	
Mounting position ²⁾	Any	
Valve function	3/2-way, single solenoid, closed	
Exhaust-air function	Cannot be throttled	
Manual override	Detenting, Non-detenting	
Type of actuation	Electrical	
Type of reset	Mechanical spring	
Type of piloting	Piloted	
Pilot air supply	Internal	
Flow direction	Non-reversible	

1) Via connecting plate [AQ...]: 1/8 NPT, 1/4 NPT or 3/8 NPT

2) Vertical mounting position for the on/off valve with pressure sensor, as no condensation must be allowed to accumulate in the pressure sensor.

Electrical data

Supply voltage	24 V DC, 10 bar, connection pattern to EN 175301
Characteristic coil data	24 V DC: 1.8 W
Electrical connection	Type C, Plug, To DIN EN 175301-803, Square design
Degree of protection	IP65
Duty cycle	100%

Flow characteristics

Pneumatic connection, port 1	1/8 NPT	1/4 NPT
Standard nominal flow rate (standardised to DIN 1343) ¹⁾	1,000 l/min	2,000 l/min
C value	4.6 l/sbar	9.6 l/sbar
b value	0.5	0.45

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

Operating and environmental conditions

Supply voltage	24 V DC, 10 bar, connection pattern to EN 175301 [10V24]
Operating pressure	4 ... 10 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 ... 50°C
Media temperature	-10 ... 50°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/ms4n-en

Materials

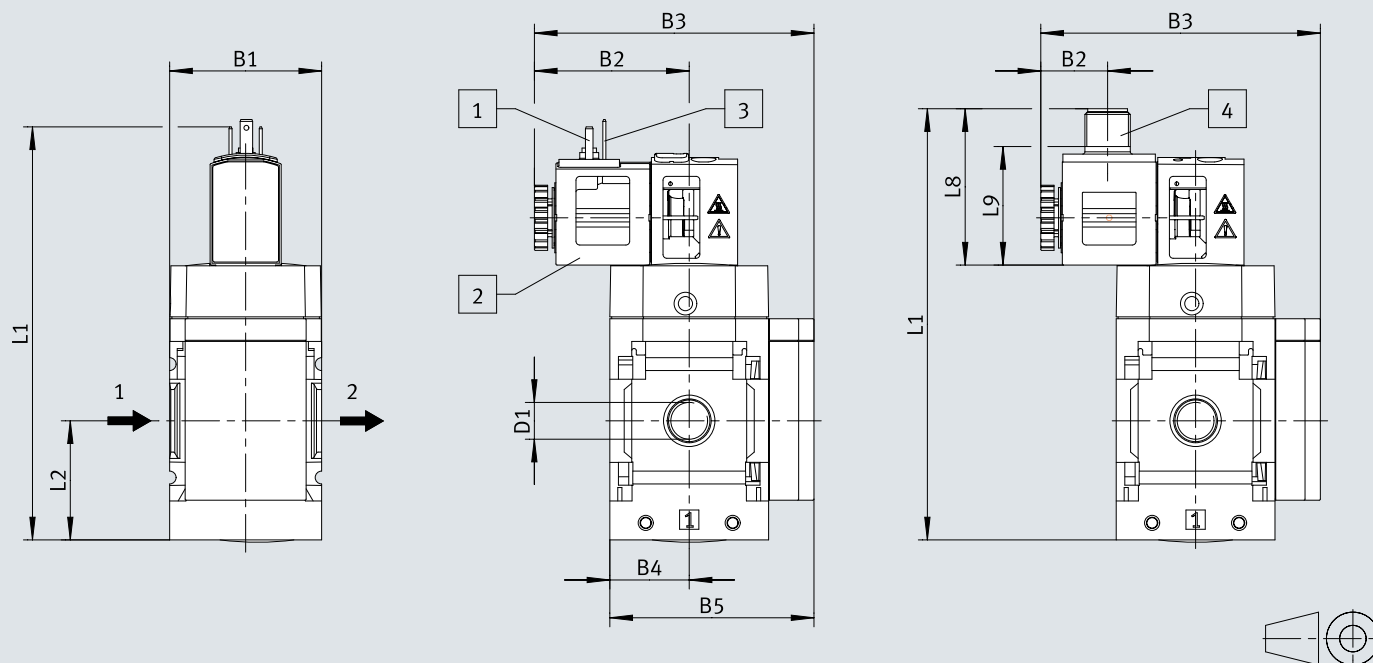
Material housing	Die-cast aluminium
Material seals	NBR
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Dimensions

Dimensions – Basic type with female thread, with cover plate

Download CAD data www.festo.com

(10)V24P



[1] Plug connection according to EN 175301-803

[2] Solenoid actuator can be repositioned 180°, i.e. magnet faces forwards

[3] PIN only for solenoid actuators 110 V and 230 V

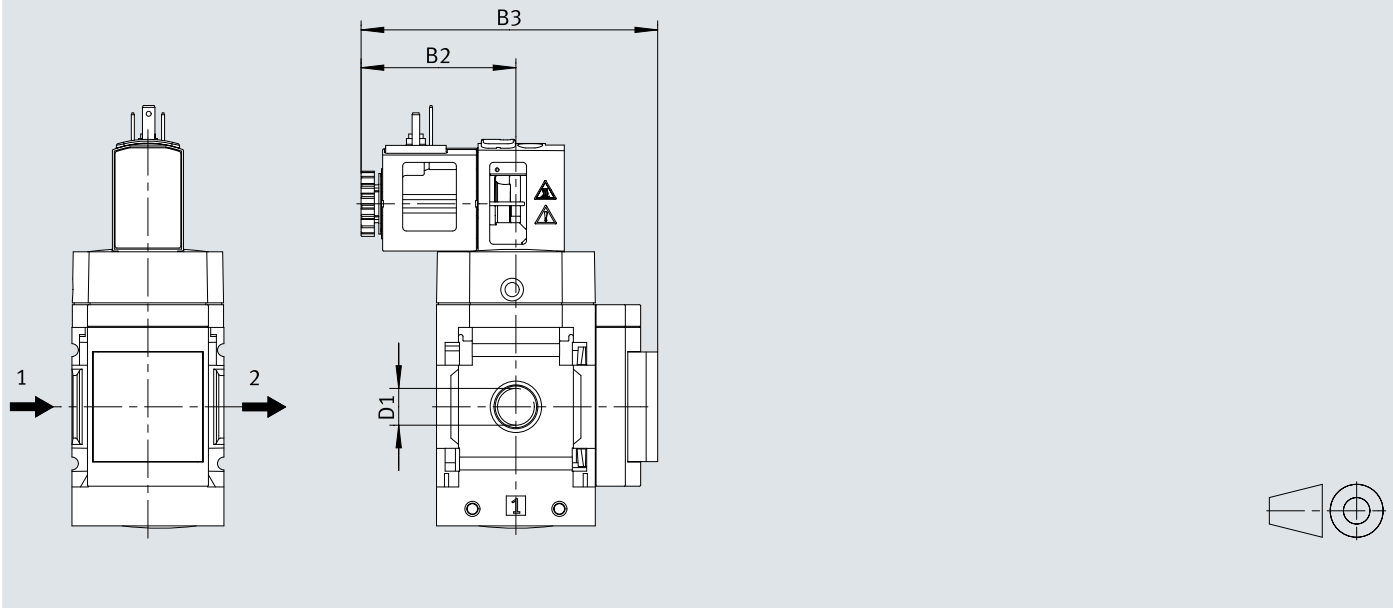
[4] Electrical connection M12x1 according to ISO 20401 suitable for EN 61076-2-101, 4-pin version for connecting cable NEBU M12

	B1	B2	B3	B4	B5	D1	L1	
							[V24], [V110], [V230], [10V24]	[10V24P]
	[inch]	[inch]	[inch]	[inch]	[inch]		[inch]	
MS4N-EE-1/8	1,57	1,61	~2,91	0,83	2,13	1/8 NPT	4,40	~4,49
MS4N-EE-1/4						1/4 NPT		

	L2	L8		L9	
		[V24], [V110], [V230], [10V24]	[10V24P]	[V24], [V110], [V230], [10V24]	[10V24P]
	[inch]	[inch]		[inch]	
MS4N-EE-1/8	1,26	~1,44	1,63	–	1,23
MS4N-EE-1/4					

Dimensions

Dimensions – Integrated MS pressure gauge with standard scale/with red-green scale Download CAD data www.festo.com

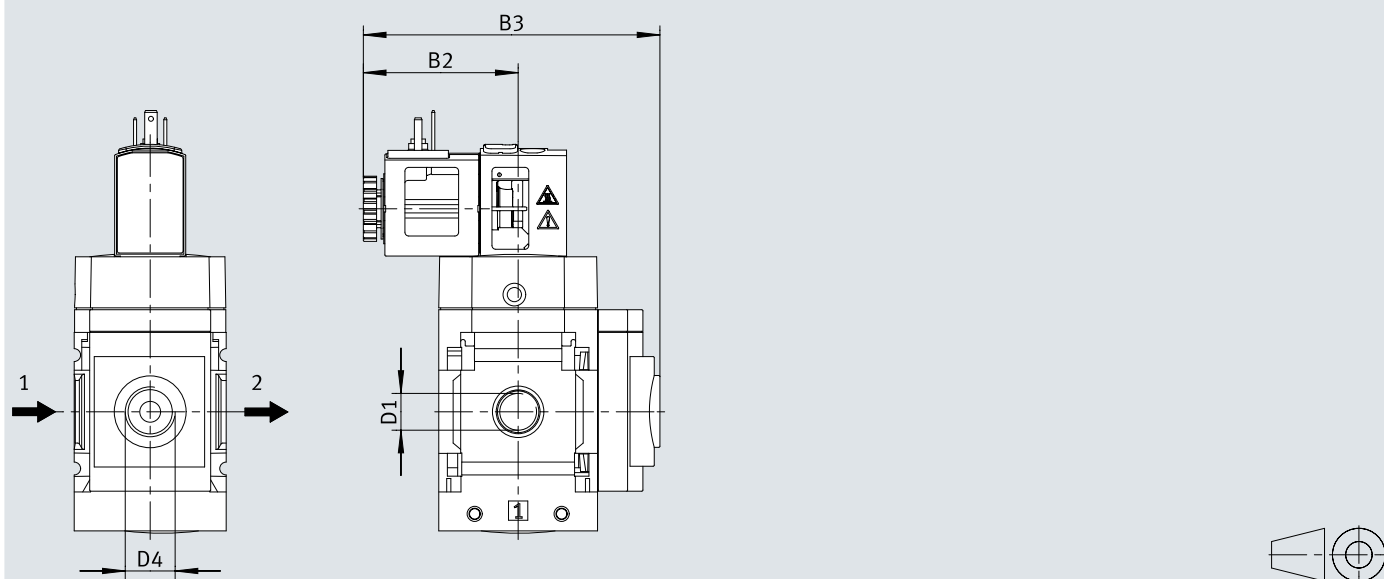


	B2 [inch]	B3 [inch]	D1
MS4N-EE-1/8-...-AG	1,61	3,03	1/8 NPT
MS4N-EE-1/4-...-AG			1/4 NPT
MS4N-EE-1/8-...-RG		3,09	1/8 NPT
MS4N-EE-1/4-...-RG			1/4 NPT

Dimensions

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

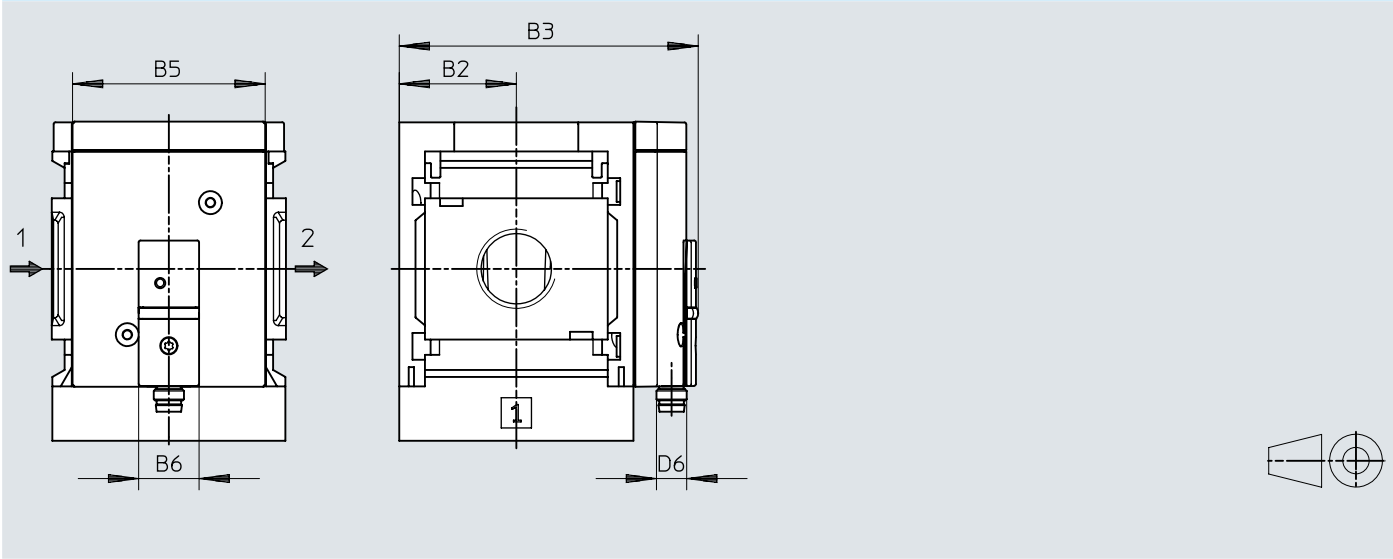
Download CAD data www.festo.com



	B2 [inch]	B3 [inch]	D1	D4
MS4N-EE-1/8-...-A8	1,61	3,09	1/8 NPT	G1/4
MS4N-EE-1/4-...-A8			1/4 NPT	
MS4N-EE-1/8-...-A4			1/8 NPT	G1/8
MS4N-EE-1/4-...-A4			1/4 NPT	

Dimensions

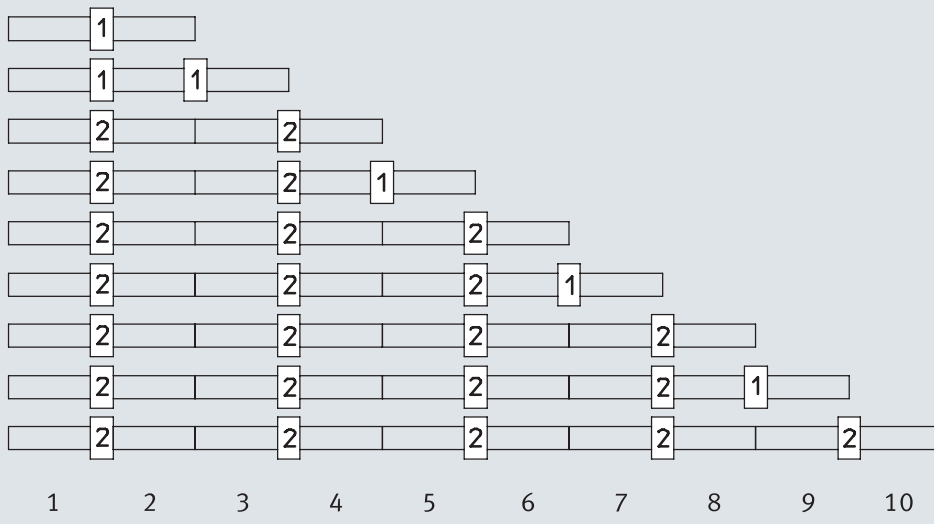
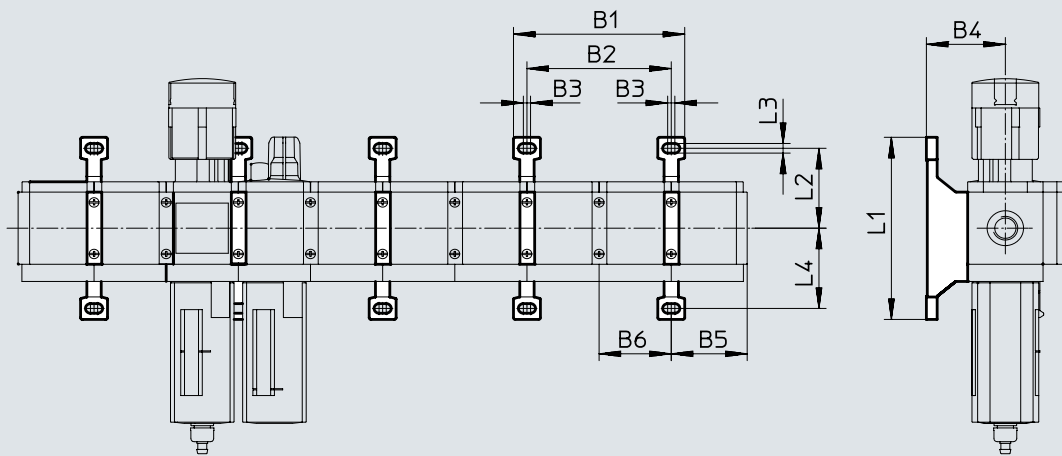
Dimensions – Pressure sensor with status indicator AD7, AD8, AD9, AD10 Download CAD data www.festo.com



	B2 [inch]	B3 [inch]	B5 [inch]	B6 [inch]	D6
MS4N-....AD7, AD8, AD9, AD10	0,83	2,33	~1,26	0,63	M8x1

Dimensions

Dimensions – Mounting clearances for mounting service unit combinations

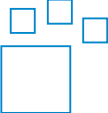
[Download CAD data](http://www.festo.com)


- [1] Mounting bracket WP, WPB, WPE or WPM-D
 [2] Mounting bracket WP, WPB, WPE or WPM-2D
 [3] Number of components

	B1 ¹⁾ [inch]	B2 ¹⁾ [inch]	B3 [inch]	B4 [inch]	B5 ¹⁾²⁾ [inch]	B6 ¹⁾ [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]
MS4-WP	3,76	3,17	0,16	1,73	1,65	1,58	4,17	1,83	0,22	1,84
MS4-WPB/WPE				2,60						
MS4-WPM-...D				1,73			3,65	1,37		1,78

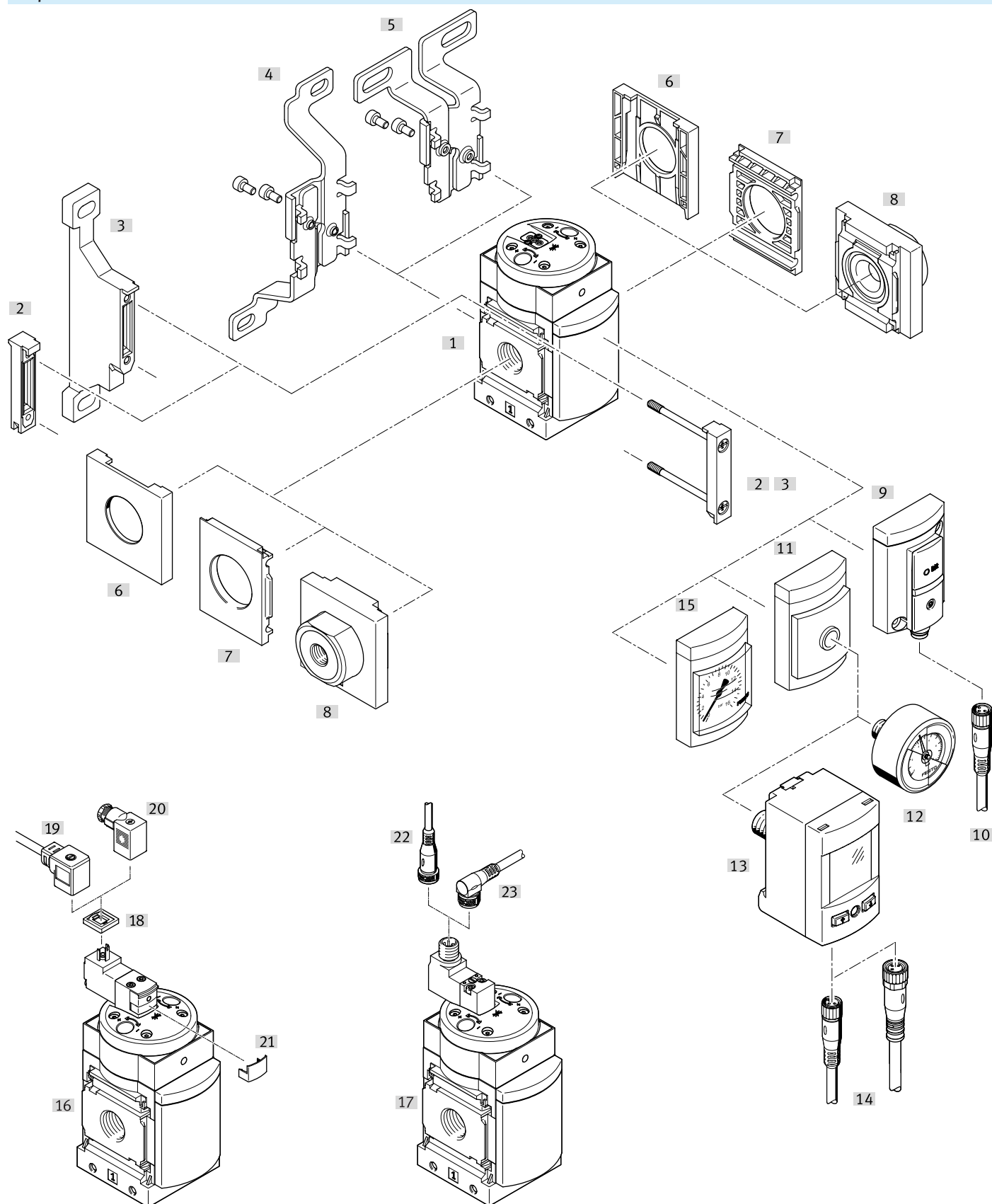
Ordering data

Ordering data						
	Pneumatic connection, port 1	Nominal operating voltage	Flow direction	Product weight	Part no.	Type
	1/8 NPT	24 V DC	From left to right	263 g	542569	MS4N-DE-1/8-10V24
	1/4 NPT		From right to left		542571	MS4N-DE-1/8-10V24-Z
			From left to right		542568	MS4N-DE-1/4-10V24
			From right to left		542570	MS4N-DE-1/4-10V24-Z

Ordering information – Modular product system			
	Short type code	Part no.	Type
	MS4N-DE	527714	MS4N-DE

Peripherals

Peripherals overview



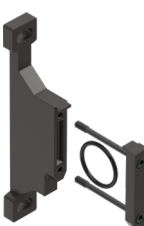
Accessories		→ Link
Type/order code	Description	
[1] On/off valve MS4-EE		ms4n-de

Peripherals

Accessories		→ Link
Type/order code	Description	
[2] Module connector MS4-MV1		13
[3] Mounting bracket MS4-WP	Order code [WP]	13
[3] Mounting bracket MS4-WPM	Order code [WPM] (without illustration)	13
[4] Mounting bracket MS4-WB	Order code [WB]	13
[5] Mounting bracket MS4-WBM	Order code [WBM]	14
[6] Cover cap MS4-END		14
[7] Mounting plate MS4-AEND	Module connector MS4-MV1 [2] or mounting bracket MS4-WP, WPB, WPE, WPM [3] is required for mounting.	14
[8] Connecting plate SET MS4-AQ...	Order code [AQ...]	14
[9] Pressure sensor with operational status indicator SDE5	Order code [AD7], [AD8], [AD9], [AD10]	ms4n-de
[10] Connecting cable NEBU-M8...-LE3		15
[11] Adapter for EN pressure gauge 1/8, 1/4	Order code [A8], [A4]	ms4n-de
[12] Pressure gauge MA		14
[13] Pressure sensor SPAU-...-T		15
[14] Connecting cable NEBU-M8...-LE3		15
[14] Connecting cable NEBU-M8...-LE3		15
[15] Pressure gauge MS	Order code [AG], [RG]	ms4n-de
[16] On/off valve MS4-EE	Supply voltage [V24], [V24P], [10V24], [10V24C], [V110], [V230]	ms4n-de
[17] On/off valve MS4-EE	Supply voltage [10V24D], [10V24F], [10V24P]	ms4n-de
[18] Illuminating seal MEB-LD		15
[19] Plug socket with cable KMEB		16
[20] Plug socket MSSD-EB	For on/off valve MS...-V24P and MS...-V24-...-EX2, the plug socket is included in the scope of delivery.	16
[21] Locking clip CPV18-HV		16
[22] Connecting cable NEBU-M12G5		15
[23] Connecting cable NEBU-M12W5		15

Accessories

Module connector MS4-MV1						
	Size	Material module connector	LABS (PWIS) conformity	Product weight	Part no.	Type
	4	POM, High-alloy stainless steel	VDMA24364-B1/B2-L	13 g	8119201	MS4-MV1

Mounting bracket MS4-WP...						
	Size	Material bracket	LABS (PWIS) conformity	Product weight	Part no.	Type
	4	Die-cast aluminium	VDMA24364-B1/B2-L	39 g	532184	MS4-WP

Mounting bracket MS4-WPM						
	Size	Material module connector	LABS (PWIS) conformity	Product weight	Part no.	Type
	4	POM, Steel	VDMA24364-B1/B2-L	45 g	526060	MS4-WPM-D

Mounting bracket MS4-WB						
	Size	Material bracket	LABS (PWIS) conformity	Product weight	Part no.	Type
	4	Steel	VDMA24364-B1/B2-L	46 g	532185	MS4-WB

Accessories

Mounting bracket MS4-WBM

	Size	Material bracket	LABS (PWIS) con- formity	Product weight	Part no.	Type
	4	Steel	VDMA24364-B1/ B2-L	48 g	526062	MS4-WBM

Cover cap MS4-END

	Size	Material housing	Part no.	Type
	4	Reinforced PA	538779	MS4-END

Mounting plate MS4-AEND

	Size	Product weight	Part no.	Type
	4	4 g	542966	MS4-AEND

Connecting plate-SET MS4-AG...

	Size	Pneumatic connection, port 1	Product weight	Part no.	Type
	4	1/8 NPT	128 g	526065	MS4N-AQK
		1/4 NPT		526066	MS4N-AQN
		3/8 NPT		526067	MS4N-AQP

Pressure gauge MA

	Pneumatic con- nection	Indicating range	Indicating range	Product weight	Part no.	Type
	R1/8		0 ... 16 bar	60 g	525726	MA-40-16-R1/8-E-RG
	R1/4	0 ... 232 psi		70 g	187080	MA-40-16-R1/4-EN

Accessories

	Pneumatic connection	Switching output	Electrical connection 1, connector system	Product weight	Part no.	Type
	R1/8	2 x PNP or 2 x NPN, switchable	M12x1, A-coded to EN 61076-2-101	70 g	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

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
	M8x1, A-coded, to EN 61076-2-104			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
		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

	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

Illuminating seal MEB-LD

	Operational voltage range DC	Nominal operating voltage AC	Product weight	Part no.	Type
		230 V	0.6 g	151718	MEB-LD-230AC
	12 ... 24 V			151717	MEB-LD-12-24DC

Accessories

Plug socket with cable KMEB 230V AC					
	Nominal operating voltage AC	Cable length	Product weight	Part no.	Type
	230 V	2.5 m	125 g	151690	KMEB-1-230AC-2.5
		5 m	230 g	151691	KMEB-1-230AC-5

Plug socket with cable KMEB 24V DC					
	Nominal operating voltage DC	Cable length	Product weight	Part no.	Type
	24 V	2.5 m	120 g	547268	KMEB-3-24-2.5-LED
				547270	KMEB-3-24-2.5
		5 m	125 g	151688	KMEB-1-24-2.5-LED
				547271	KMEB-3-24-5
			230 g	151689	KMEB-1-24-5-LED
				547269	KMEB-3-24-5-LED

Plug socket MSSD-EB					
	Electrical connection	Cable fitting	Product weight	Part no.	Type
		Pg7	11 g	539712	MSSD-EB-M12
	3-pin, Socket, Angled socket, Type C, To DIN EN 175301-803, To DIN EN 61984, Square design MSEB, Square design MSN2			151687	MSSD-EB

Locking clip CPV18-HV					
	Short type code	LABS (PWIS) conformity	Product weight	Part no.	Type
	CPV18	VDMA24364-B1/B2-L	0.53 g	530056	CPV18-HV