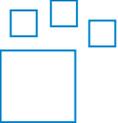# Branching module MS6-FRM

FESTO

Characteristics

At a glance

- Grid dimension: 62 mm
- Outlet at top and bottom
- Support for additional modules
- Optionally with integrated non-return function and pressure switch
- Can be used as an intermediate distributor for varying air qualities
- Optional pressure sensor

Ordering data - modular system

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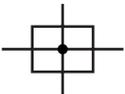
Function

Air distributor with 4 connections

Pneumatic connection

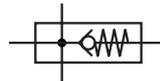Depending on the size, different connection types can be selected:
- Individual fittings that are fastened via a female thread
- Connecting plates with female thread

Additional function

[_]	None	[I]	With integrated non-return function

prevents backflow, e.g. of lubricated compressed air

Pressure gauge alternatives

Two pressure gauge connections for variable installation

Alternative pressure gauge scale

The scaling of the built-in pressure gauge can be selected. The unit options available are [MPa], [bar] / [psi].

Pressure switch

Optionally available with different pressure switches.

Type of mounting

[WP]	Mounting bracket basic design	[WPM]	Mounting bracket for hooking in service unit components

- For wall mounting a single device or a service unit combination

- For wall mounting an individual device

Characteristics

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

• For wall mounting an individual device

EU certification
Optional device variant EX4 for use in potentially explosive areas of zones 1, 2, 21 and 22

UL certification
Optional device variant UL1, which meets the safety requirements for the Canadian and US markets.

Flow direction
Available with flow in the opposite direction.

Type code

001	Series	
MS6	MS-series, size 6	

002	Size	
6	Grid dimension 62 mm	

003	Function	
FRM	Branching module	

004	Pneumatic connection	
1/4	Female thread G1/4	
3/8	Female thread G3/8	
1/2	Female thread G1/2	
AGB	Sub-base G1/4	
AGC	Sub-base G3/8	
AGD	Sub-base G1/2	
AGE	Sub-base G3/4	
AGF	Sub-base G1	

005	Additional function	
	None	
I	With integrated non-return function	

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	
PSI	psi	
MPA	MPa	

008	Pressure switch	
	None	
X	Pressure switch PEV with display, plug socket, EN 175301, type A, cube	
Y	Pressure switch PEV without display, plug socket, EN 175301, type A, cube	
M12	Pressure switch PEV without display, plug socket, round, M12, 4-pin	

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

010	EU certification	
	None	
EX4	II 2GD	

011	UL certification	
	None	
UL1	cULus ordinary location for Canada and USA	

012	Flow direction	
	Flow direction from left to right	
Z	Flow direction from right to left	

013	Special material properties	
	None	
F1A	Recommended for production plants for manufacturing lithium-ion batteries, F1A	

Datasheet

General technical data

	None [_]		With integrated non-return function [I]	
Additional function	None [_]		With integrated non-return function [I]	
Pneumatic connection, port 1 [1]	G1/4, G3/8, G1/2		G1/4, G1/2	
Pneumatic connection, port 2	G1/4, G3/8, G1/2		G1/4, G1/2	
Pneumatic connection, port 3	G1/2			
Pneumatic connection, port 4	G1/2			
Design	Branching module		Branching module With non-return function	
Mounting position	optional			

1) Via connecting plate [AG...]: G1/4, G3/8, G1/2, G3/4 or G1

Standard nominal flow rate (standard)

Pneumatic connection, port 1	G1/4	G3/8	G1/2
Standard nominal flow rate in main flow direction 1->2	4,200 l/min	9,200 l/min	14,700 l/min
Standard nominal flow rate, outlet upwards	6,000 l/min	4,700 l/min	4,400 l/min
Standard nominal flow rate, outlet downwards	6,400 l/min	4,800 l/min	4,600 l/min

Standard nominal flow rate (with non-return function)

Pneumatic connection, port 1	G1/4	G1/2
Standard nominal flow rate in main flow direction 1->2	3,200 l/min	6,000 l/min
Standard nominal flow rate, outlet upwards	2,700 l/min	3,100 l/min
Standard nominal flow rate, outlet downwards	2,800 l/min	3,300 l/min

Electrical data

Operational voltage range AC [1]	0 ... 250 V
Operational voltage range DC [2]	0 ... 125 V

1) Only in combination with pressure switch
2) Only in combination with pressure switch

Operating and environmental conditions

Operating pressure	0 ... 20 bar
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4], Inert gases
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
Storage temperature	-10 ... 60°C
Corrosion resistance class CRC [1]	2 - Moderate corrosion stress
Suitable for use with food [2]	See supplementary material information
Approval [3]	c UL us - Recognized (OL)
Instructions on use [4]	Foreign particles can adhere to the product or form during installation. Depending on the application, it may be necessary to purge the product with clean compressed air, to clean it after installation and operate it with ducted exhaust air.

1) More information www.festo.com/x/topic/kbk
2) More information www.festo.com/catalogue/ms-frm → Support/Downloads.
3) More information www.festo.com/catalogue/ms-frm → Support/Downloads.
4) Applies to products for battery production (F1A)

Datasheet

ATEX	
ATEX category gas	II 2G
Explosion ignition protection type for gas	Ex h IIC T6 Gb X
ATEX category dust	II 2D
Explosion ignition protection type for dust	Ex h IIIC T60°C Db X
Explosion ambient temperature	-10°C <= Ta <= +60°C
CE mark (see declaration of conformity) [1]	To EU Explosion Protection Directive (ATEX)

1) More information www.festo.com/catalogue/ms-frm → Support/Downloads.

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

Additional material properties – products for battery production (F1A)	
Suitability for the production of Li-ion batteries	Suitable for battery production with reduced Cu/Zn/Ni values (F1a)

Dimensions

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

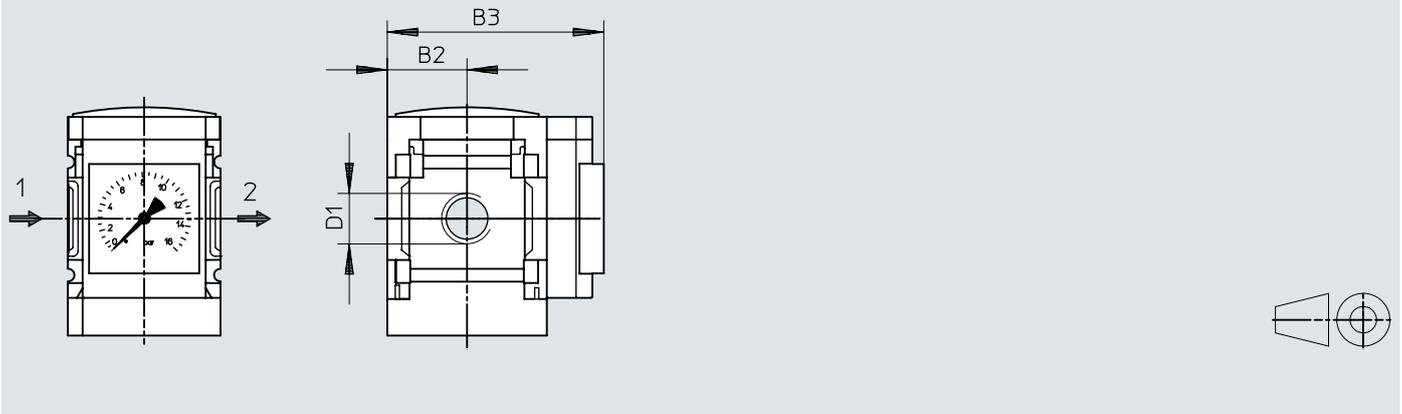|	B1	B2	B3	D1	D2	L1	L2	L3
MS6-FRM-1/4				G1/4				
MS6-FRM-3/8	62	31	76	G3/8	G1/2	87,2	39	84,5
MS6-FRM-1/2				G1/2				

Dimensions

Dimensions – AG Integrated MS pressure gauge with standard scale, RG integrated MS pressure gauge with red/green scale

	B2	B3		D1
		1)	I	
MS6-FRM-1/4-...-AG				G1/4
MS6-FRM-3/8-...-AG	31	77	85	G3/8
MS6-FRM-1/2-...-AG				G1/2
MS6-FRM-1/4-...-RG				G1/4
MS6-FRM-3/8-...-RG	31	78,5	86,5	G3/8
MS6-FRM-1/2-...-RG				G1/2

1) Standard

Dimensions

Dimensions – A8 adapter for EN pressure gauge 1/8, without pressure gauge, A4 adapter for EN pressure gauge 1/4, without pressure gauge

Download CAD data www.festo.com

	B2	B3		D1	D4
		1)	I		
MS6-FRM-1/4-...-A8				G1/4	
MS6-FRM-3/8-...-A8	31	78,5		G3/8	G1/8
MS6-FRM-1/2-...-A8				G1/2	
MS6-FRM-1/4-...-A4				G1/4	
MS6-FRM-3/8-...-A4	31	78,5		G3/8	G1/4
MS6-FRM-1/2-...-A4				G1/2	

1)   Standard

Dimensions

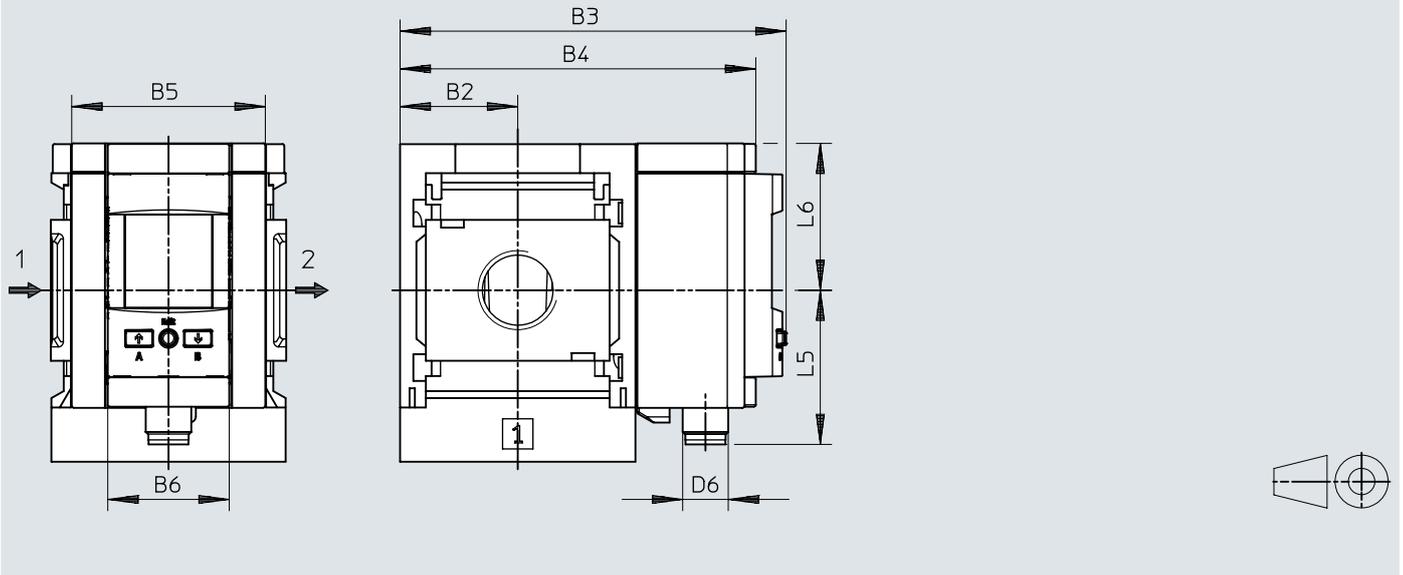**Dimensions – AD7/AD8/AD9/AD10 Pressure sensor with status indicator**　　　　Download CAD data 🔗 www.festo.com

	B2	B3	B5	B6	D6
MS6-…-AD7, AD8, AD9, AD10	31	79,1	~51	16	M8x1

Dimensions

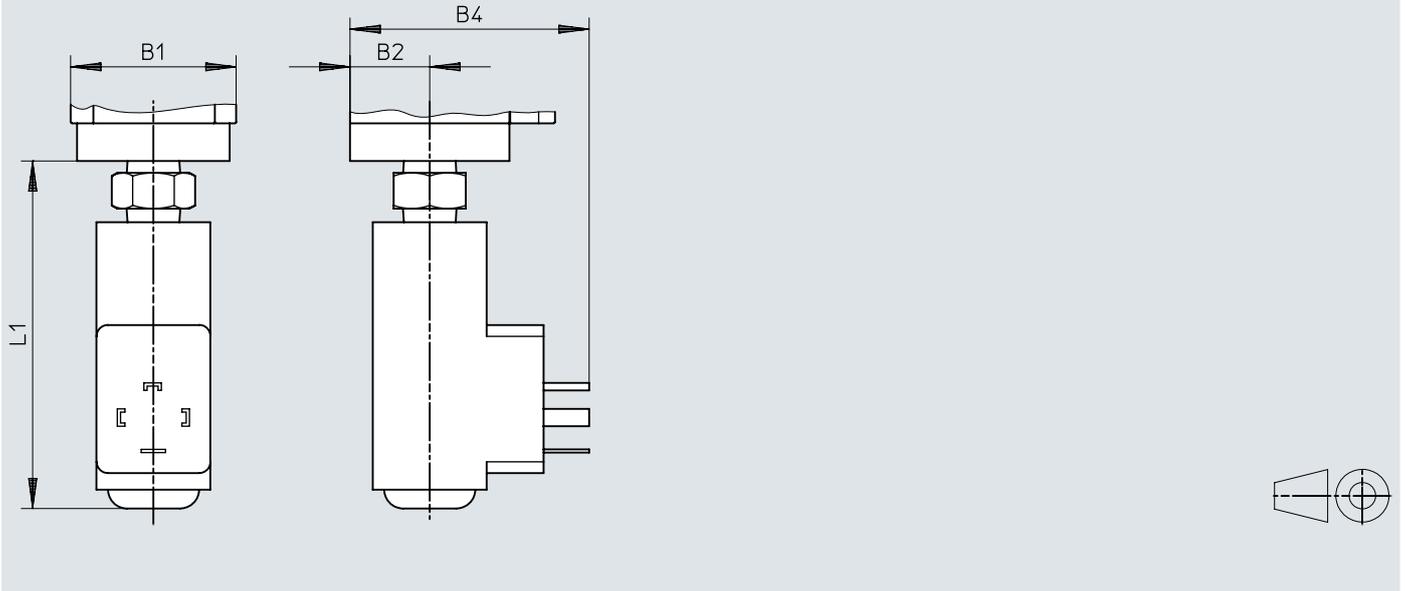**Dimensions – AD11, AD12 pressure sensor with LCD display**   Download CAD data ⬦ www.festo.com

	B2	B3	B4	B5	B6	D6	L5	L6
MS6-…-AD11	31	101,8	93,7	51	32	M12x1	41,2	39
MS6-…-AD12						M8x1	37,9	

Dimensions

Download CAD data ∂ www.festo.com

	B1	B2	B4	L1
MS6-FRM-...-X/Y	62	31	73	99

Dimensions

Dimensions – M12 pressure switch with adjustable pressure switching point
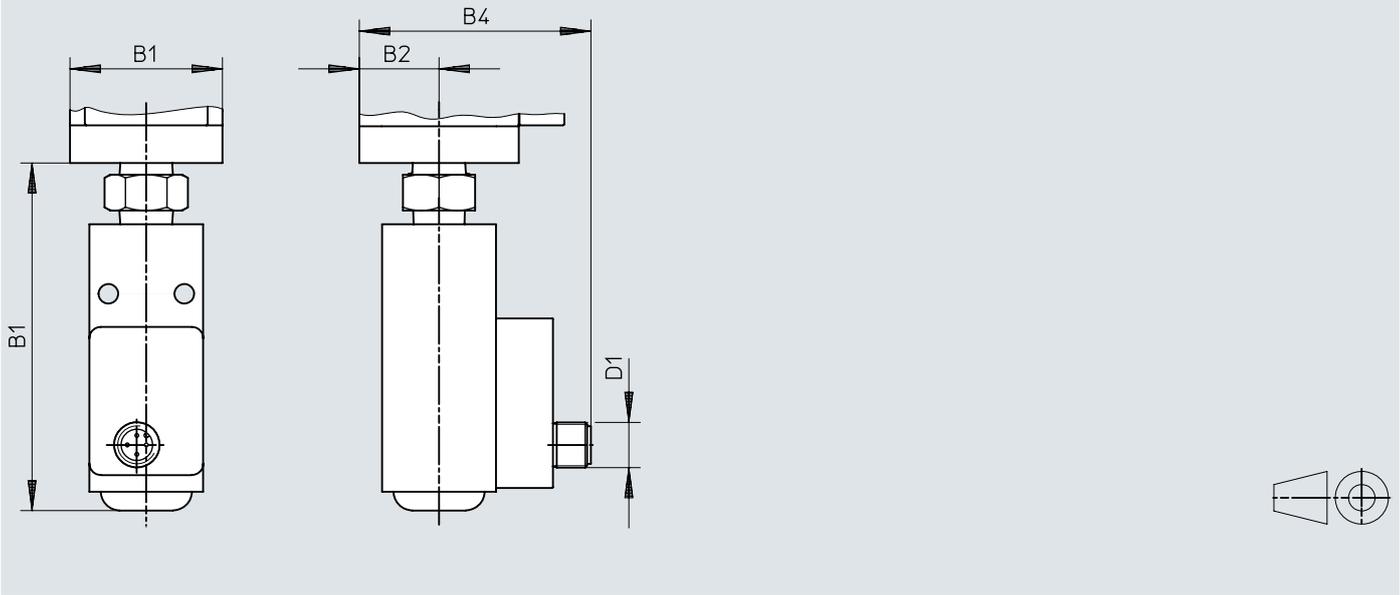
	B1	B2	B4	D1	L1
MS6-FRM-...-M12	62	31	71	M12x1	99

Ordering data

Ordering data

	Pneumatic connection, port 1	Flow direction	Design	Product weight	Part no.	Type
	G1/4	From left to right	Branching module, With non-return function	400 g	**536967**	**MS6-FRM-1/4-I**
			Branching module	458 g	**529857**	**MS6-FRM-1/4**
				736 g	**529858**	**MS6-FRM-1/4-Y**
	G3/8			458 g	**529861**	**MS6-FRM-3/8**
				736 g	**529862**	**MS6-FRM-3/8-Y**
	G1/2		Branching module, With non-return function	400 g	**536969**	**MS6-FRM-1/2-I**
		From right to left	Branching module	458 g	**529856**	**MS6-FRM-1/2-Z**
		From left to right			**529853**	**MS6-FRM-1/2**
				736 g	**529854**	**MS6-FRM-1/2-Y**
		From right to left			**529855**	**MS6-FRM-1/2-Y-Z**

Ordering information – Products for battery production

	Pneumatic connection, port 1	Pressure gauge alternatives	Product weight	Part no.	Type
	G1/2	Adapter for EN pressure gauge 1/4, without pressure gauge	458 g	**8183566**	**MS6-FRM-1/2-A4-F1A**
		Adapter for EN pressure gauge 1/8, without pressure gauge		**8183567**	**MS6-FRM-1/2-A8-F1A**

Ordering data – Modular product system
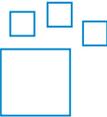
	Design	Part no.	Type
	Branching module	**527676**	**MS6-FRM**

Peripherals

Peripherals overview
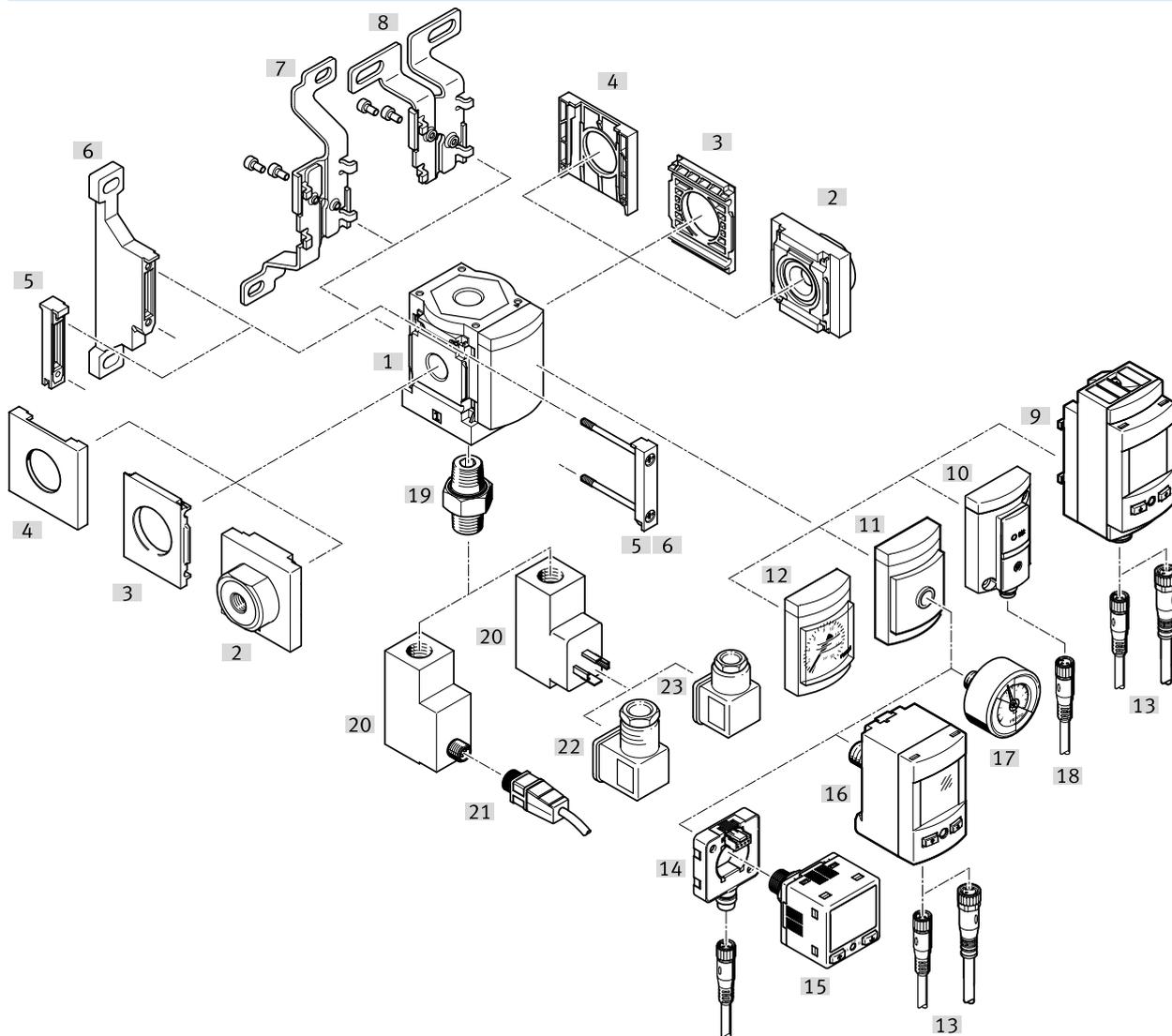
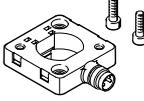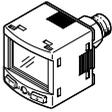| Accessories			→ Link
	Type/order code	Description	
[1]	Branching module MS6-FRM	Illustration based on MS4-FRM as an example	⚲ ms6-frm
[2]	Connecting plate SET MS6-AG...	Order code [AG...]; module connector MS6-MV1 [5] or mounting bracket MS6-WP, WPB, WPE, WPM [6] is required for mounting.	19
[3]	Mounting plate MS6-AEND	Module connector MS6-MV1 [5] or mounting bracket MS6-WP, WPB, WPE, WPM [6] is required for mounting.	19
[4]	Cover cap MS6-END		18
[5]	Module connector MS6-MV1	Included in the scope of delivery	17
[6]	Mounting bracket MS6-WP	Order code [WP]	17
[6]	Mounting bracket MS6-WPM	Order code [WPM] (without illustration)	17
[7]	Mounting bracket MS6-WB	Order code [WB]	17
[8]	Mounting bracket MS6-WBM	Not available for this size	⚲ –
[9]	Pressure sensor with LCD display SPAU	Order code [AD11], [AD12]	⚲ spau
[10]	Pressure sensor with status indicator SDE5	Order code [AD7], [AD8], [AD9], [AD10]	⚲ sde5
[11]	Adapter for EN pressure gauge 1/8, 1/4	Order code [A8], [A4]	⚲ ms6-frm
[12]	Pressure gauge MS	Order code [AG], [RG]	⚲ ms6-frm
[13]	Connecting cable NEBA-M8...-LE4, NEBA-M12...-LE4		18
[14]	Electrical adapter SASC		17
[15]	Pressure sensor SPAN		17
[16]	Pressure sensor SPAU-...-T		18
[17]	Pressure gauge MA		18

Peripherals

Accessories			→ Link
	Type/order code	Description	
[18]	Connecting cable NEBA-M8…-LE3		18
[19]	Double nipple ESK	Included in the scope of delivery	19
[20]	Pressure switch PEV	Order code: [X], [Y], [M12]	🔗 pev
[21]	Connecting cable NEBA-M12…-LE4		18
[22]	Angled plug socket PEV-1/4-WD-LED-…		19
[23]	Plug socket MSSD-C-4P		19

Accessories

Module connector MS6-MV1
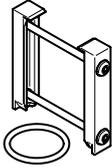
	Size	Part no.	Type
	6	8119204	MS6-MV1
		8176697	MS6-MV1-F1A

Mounting bracket MS6-WP...
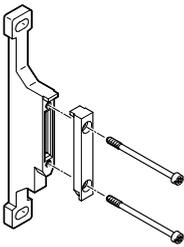
	Size	Part no.	Type
	6	532195	MS6-WP
		532186	MS6-WPM-2D
		526073	MS6-WPM-D
		526074	MS6-WPB
		541542	MS6-WPB-EX
		8176698	MS6-WP-F1A
		541544	MS6-WP-EX

Mounting bracket MS6-WB
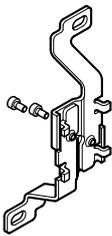
	Size	Part no.	Type
	6	532196	MS6-WB

Electrical adapter SASC

	Short type code	Part no.	Type
	SASC	8000326	SASC-P4-A-M8-A

Pressure sensor SPAN

	Pneumatic connection	Analogue output	Part no.	Type
	Male thread G1/8, Female thread M5		8035544	SPAN-P10R-G18M-PN-PN-L1
		0 - 10 V, 4 - 20 mA, 1 - 5 V	8035533	SPAN-P10R-G18M-PNLK-PNVBA-L1
	Male thread R1/8, Female thread M5		8035547	SPAN-P10R-R18M-PN-PN-L1
		0 - 10 V, 4 - 20 mA, 1 - 5 V	8035536	SPAN-P10R-R18M-PNLK-PNVBA-L1

Accessories

Pressure sensor SPAU-…-T

	Pneumatic connection	Electrical connection 1, connector system	Part no.	Type
	R1/8	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

Connecting cables NEBA, straight
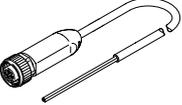
|	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/ cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	8078236	NEBA-M12G5-U-2.5-N-LE3
				5 m	8078237	NEBA-M12G5-U-5-N-LE3
			4	2.5 m	8078239	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 cables 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

Pressure gauge MA

	Pneumatic connection	Part no.	Type
	G1/4	183901	MA-40-16-G1/4-EN
	R1/8	525726	MA-40-16-R1/8-E-RG
	R1/4	187080	MA-40-16-R1/4-EN
		525729	MA-50-16-R1/4-E-RG

Cover cap MS6-END
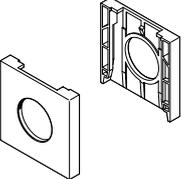
	Size	Part no.	Type
	6	538780	MS6-END

Accessories

Mounting plate MS6-AEND
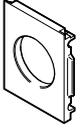
	Size	Part no.	Type
	6	**535408**	**MS6-AEND1**

Connecting plate-SET MS6-AG...

	Size	Pneumatic connection, port 1	Pneumatic connection, port 2	Part no.	Type
	6	G1/4	G1/4	**526080**	**MS6-AGB**
				541538	MS6-AGB-EX
		G3/8	G3/8	**526081**	**MS6-AGC**
				541539	MS6-AGC-EX
		G1/2	G1/2	**526082**	**MS6-AGD**
				541540	MS6-AGD-EX
		G3/4	G3/4	**526083**	**MS6-AGE**
				541541	MS6-AGE-EX
		G1	G1	**8212070**	**MS6-AGF**
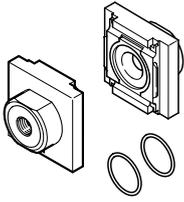
Double nipple ESK

	Pneumatic connection, port 1	Pneumatic connection, port 2	Part no.	Type
	R1/4	R1/4	**151521**	**ESK-1/4-1/4**
		R1/2	**534153**	**ESK-1/4-1/2**

Angled plug socket PEV

	Operational voltage range AC	Operational voltage range DC	Electrical connection	Switching status indication	Part no.	Type
		15 ... 30 V		Yellow LED, Green LED	**164274**	**PEV-1/4-WD-LED-24**
	150 ... 230 V	140 ... 180 V			**164275**	**PEV-1/4-WD-LED-230**
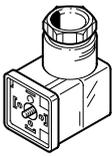
Plug socket MSSD
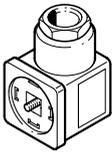
	Electrical connection	Type of mounting	Part no.	Type
	3-pin, Angled socket, Type A, To DIN EN 175301-803, Square design MSC, Square design MSN1	On solenoid valve via M3 central screw	**171157**	**MSSD-C-4P**