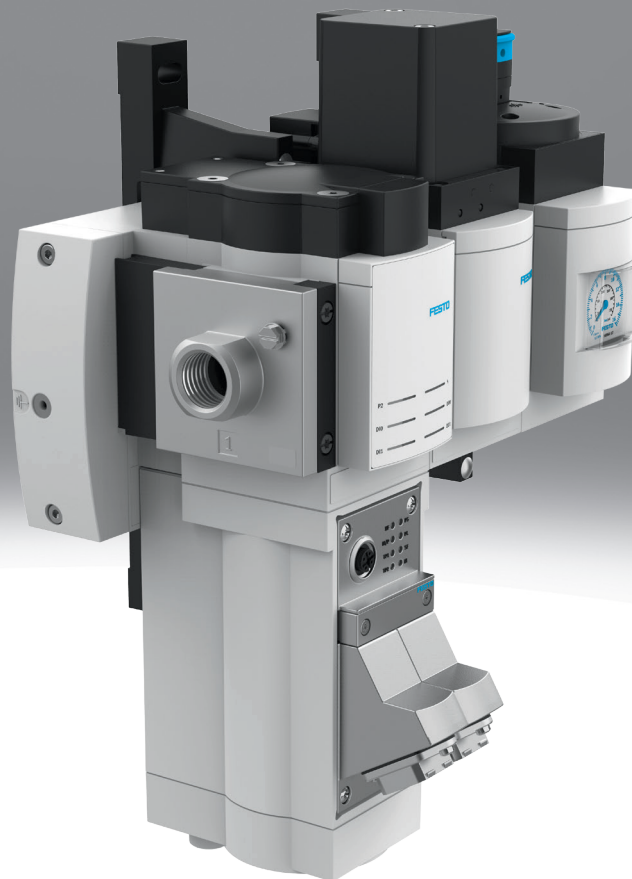


Energy efficiency module MSE6

FESTO

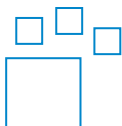


Characteristics

At a glance

- The energy efficiency module MSE6-C2M monitors consumption, regulates and shuts off the compressed air when production is inactive, and ensures a soft restart because the pressure does not fall below a specific level.
- The energy efficiency module MSE6-D2M monitors the compressed air consumption and shuts off the compressed air supply after production has stopped for a certain amount of time.
- The energy efficiency module MSE6-E2M monitors the compressed air consumption and shuts off the compressed air supply after production has stopped for a certain amount of time.

Ordering data - modular system



Configurable product

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

Function

[C2M] Energy efficiency module

MSE6-C2M regulates to the adjustable normal setpoint pressure, automatically shuts off and then regulates to the adjustable setpoint for standby pressure if the flow rate falls below the limit value for a prolonged period.

- Shuts off and regulates the pressure as controlled by the user
- Has a parameterisable slew rate limit for setpoint pressure
- Collecting and providing measurement data: output pressure, pressure change (to monitor for leaks), flow rate and air consumption
- Limit value monitoring for pressure (lower and upper limit value), pressure change in shut-off mode (upper limit value) and flow rate (upper limit value)
- 2 digital inputs
- 2 digital outputs
- Channel-based status indicator via LED
- Parameterisable special functions
- Fieldbus connection PROFINET IO via integrated fieldbus node, EtherNet/IP via integrated fieldbus node or EtherCAT via integrated fieldbus node
- CPX extension interface row 1 for connecting an MSE6-D2M or connecting digital and analogue CPX-EA modules (only MSE6-C2M-...-M)

[E2M] Energy efficiency module

MSE6-E2M shuts off automatically if the flow rate falls below the limit value for an extended period of time.

- Shuts off and pressurises as controlled by the user
- Collecting and providing measurement data: output pressure, pressure change (to monitor for leaks), flow rate and air consumption
- Limit value monitoring for pressure (lower and upper limit value), pressure change in shut-off mode (upper limit value) and flow rate (upper limit value)
- Fieldbus connection PROFIBUS DP via integrated fieldbus node, EtherNet/IP via integrated fieldbus node or EtherCAT via integrated fieldbus node

[D2M] Energy efficiency module

Automatic shut-off if the flow rate falls below the limit value for an extended period of time

- Shuts off and pressurises as controlled by the user
- Collecting and providing measurement data: output pressure, pressure change (to monitor for leaks), flow rate and air consumption
- Limit value monitoring for pressure (lower and upper limit value), pressure change in shut-off mode (upper limit value) and flow rate (upper limit value)
- Profinet IO, EtherNet/IP or EtherCAT fieldbus connection via the fieldbus node of the MSE6-C2M-...-M or CPX terminal controlled by the CPX extension
- CPX extension interface row 2 for connection to an MSE6-C2M-...-M or to a CPX terminal with CPX extension interface row 1

Electrical system expansion

A CPX IO module consists of an electronics module, an interlinking block and a connection block. There are several options to choose from. The possible combinations of these modules as well as information and ordering data for additional accessories (end plate with CPX extension, tie rod and mounting accessories) can be found in the CPX documentation. → Internet: cpx

Characteristics

Manual override

[HB] Detenting with accessories

With the manual override, a C2M can, when de-energised, switch the pressure $p_2 = p_1$ using the AHB-MD/MF/MV plug-on kit available as an accessory.

Measured value display

With or without pressure gauge

[RG] Integrated pressure gauge with red/green scale

Two adjustable red segments above the pressure gauge scale along with the printed green segment enable the required pressure range to be limited.

Pneumatic connection

Various connection sizes can be selected using the configurator.

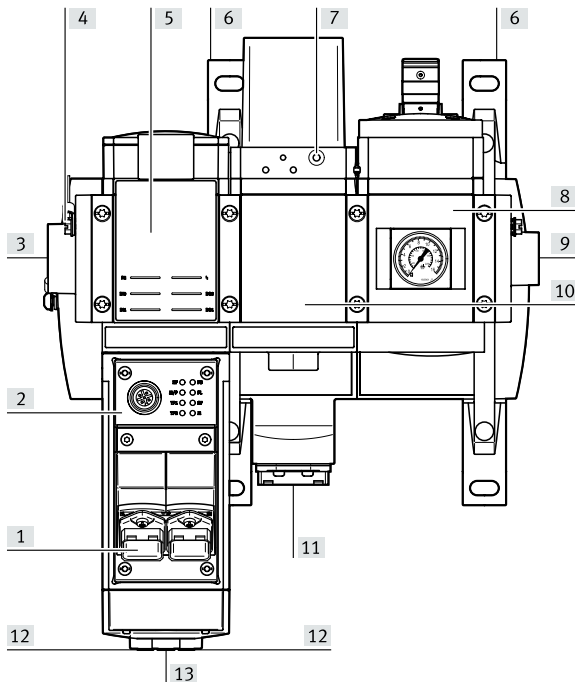
Type code

001	Series	
MSE	Modular standard, electric	
002	Size	
6	Grid dimension 62 mm	
003	Function	
C2M	Energy efficiency module	
D2M	Energy efficiency module	
E2M	Energy efficiency module	
004	Flow measuring range	
5000	Max. 5000 l/min	
005	Electrical actuation	
FB13	Fieldbus node for PROFIBUS DP	
FB36	Fieldbus node for Ethernet/IP	
FB37	Fieldbus node for EtherCAT®	
FB43	Bus node for PROFINET IO with M12 connection	
FB44	Bus node for PROFINET IO with RJ45 connection	
CBUS	Internal electrical control	
006	Electrical inputs/outputs	
	None	
D	2 digital inputs, 2 digital outputs	
007	Electrical system expansion	
	No CPX extension connection	
M	CPX extension connection row 1 (master)	
S	CPX extension connection row 2 (slave)	

008	Manual override	
HB	Detenting with accessories	
	None	
009	Measured value display	
	No display	
A4	Adapter for EN pressure gauge 1/4, without pressure gauge	
A8	Adapter for EN pressure gauge 1/8, without pressure gauge	
AG	MS pressure gauge standard scale	
RG	Integrated pressure gauge with red/green scale	
VS	Cover plate	
010	Alternative pressure gauge scale	
	MS pressure gauge	
BAR	bar	
MPA	MPa	
011	Electrical connection	
	Standard	
AMI	Operating voltage plug push-pull, AIDA	
M12L4	Operating voltage plug M12, L-coded, 4-pin	
M12L5	Operating voltage plug M12, L-coded, 5-pin	
VCB	Power supply via C-bus	
012	Pneumatic connection	
AGD	Connecting plate G1/2	
AGE	Connecting plate G3/4	

Datasheet

General technical data – MSE6-C2M



The main components of the product are: fieldbus node, flow sensor, proportional-pressure regulator and shut-off valve with pressure sensor. The fieldbus interface enables it to be connected to a higher-order controller, e.g. a system or machine controller. The connection for the CPX extension series 1 can be used to connect certain devices with the CPX extension series connection 2, e.g. the MSE6-D2M or CPX-EA modules.

- [1] Fieldbus interface
- [2] Fieldbus node
- [3] Pneumatic connection 1: Compressed air input
- [4] Earthing connection
- [5] Flow sensor
- [6] Mounting bracket
- [7] Manual override (MSE6-C2M-...-HB only)
- [8] Shut-off valve with pressure sensor and pressure gauge
- [9] Pneumatic connection 2: Compressed air output
- [10] Proportional-pressure regulator
- [11] System supply
- [12] Connection for electrical inputs/outputs
- [13] Connection CPX extension series 1 (MSE6-C2M-...-M only)

Pneumatic connection, port 1 ¹⁾	G1/2, G3/4
Pneumatic connection, port 2	G1/2, G3/4
Mounting position	Horizontal +/-5°
Valve function	2/2 open, single solenoid

1) Pneumatic connection 1, 2: G3/4 possible via sub-base

Electrical data – MSE6-C2M

Electrical connection	4-pin M12x1, L-coded to EN 61076-2-111	5-pin M12x1, L-coded to EN 61076-2-111	5-pin AIDA push-pull
Operating voltage DC load voltage	21.6 ... 28.8 V		
Operating voltage range DC electronics/sensors	18 ... 30 V		
Reverse polarity protection	For operating voltage connections		
Degree of protection	IP65, With plug socket		
Number of inputs	2		
Number of outputs	2		
Switching logic for inputs	PNP (positive switching)		
Switching logic for outputs	PNP (positive switching)		
Field bus interface	2x socket, M12x1, 4-pin, D-coded		2x RJ45 push-pull socket, AIDA

Standard nominal flow rate – MSE6-C2M

Standard nominal flow rate (standardised to DIN 1343) ¹⁾	4,500 ... 7,000 l/min
---	-----------------------

1) Measured at p1 = 10 bar and p2 = 6 bar, Δp = 1 bar

Datasheet

Operating and environmental conditions – MSE6-C2M

Operating pressure	0.35 ... 1.3 MPa
Operating pressure	3.5 ... 13 bar
Operating pressure	50.75 ... 188.5 psi
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation not possible
Ambient temperature	0 ... 50°C
Media temperature	0 ... 50°C
Storage temperature	-10 ... 60°C
Corrosion resistance class CRC ¹⁾	–
CE mark (see declaration of conformity) ²⁾	To EU EMC Directive, In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity) ³⁾	To UK instructions for EMC, To UK RoHS instructions
Approval	RCM trademark
KC mark	KC-EMV

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

2) More information www.festo.com/catalogue/mse6 → Support/Downloads. If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary

3) More information www.festo.com/catalogue/mse6 → Support/Downloads. If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary

Display/operation – MSE6-C2M

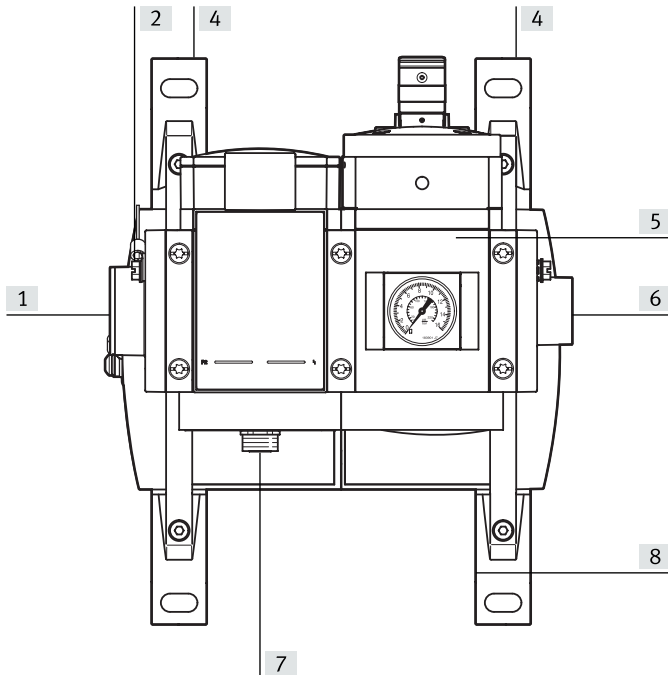
Start value for flow rate measuring range	50 l/min
End value for flow rate measuring range	5,000 l/min
Accuracy of flow rate	± (3% o.m.v. + 0.3% FS)
Start value for pressure measuring range	0 MPa
Start value for pressure measuring range	0 bar
Start value for pressure measuring range	0 psi
End value for pressure measuring range	1.4 MPa
End value for pressure measuring range	14 bar
End value for pressure measuring range	203 psi
Accuracy in ± % FS	3 %FS
Displayable units	kPa, l, l/min, m3, mbar, psi, scf, scfm

Materials – MSE6-C2M

Material housing	Die-cast aluminium
Material covering	PA-reinforced
Material cover	PA-reinforced
Material seals	NBR
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Datasheet

General technical data – MSE6-D2M



The product consists of the main components flow sensor and shut-off valve with pressure sensor. It has a CPX-Extension Series 2 connection for connection to a decentralized, remote fieldbus node with CPX-Extension Series 1 connection, e.g. MSE6-C2M-...-M or CPX terminal.

- [1] Pneumatic connection 1: Compressed air input
- [2] Earth connection
- [3] Flow sensor
- [4] Mounting bracket
- [5] Shut-off valve with pressure sensor and pressure gauge
- [6] Pneumatic connection 2: Compressed air output
- [7] CPX extension series 2 connection

Pneumatic connection, port 1	G1/2, G3/4
Pneumatic connection, port 2	G1/2, G3/4
Mounting position	Horizontal +/-5°
Valve function	2/2 open, single solenoid

Electrical data – MSE6-D2M

Operating voltage DC load voltage	18 ... 28.8 V
Operating voltage range DC electronics/sensors	18 ... 30 V
Reverse polarity protection	For operating voltage connections
Degree of protection	IP65, With plug socket

Standard nominal flow rate – MSE6-D2M

Standard nominal flow rate (standardised to DIN 1343) ¹⁾	4,500 l/min
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1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Datasheet

Operating and environmental conditions – MSE6-D2M

Operating pressure	0.35 ... 1.3 MPa
Operating pressure	3.5 ... 13 bar
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation not possible
Ambient temperature	0 ... 50°C
Media temperature	0 ... 50°C
Storage temperature	-10 ... 60°C
Corrosion resistance class CRC ¹⁾	–
CE mark (see declaration of conformity) ²⁾	To EU EMC Directive, In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity) ³⁾	To UK instructions for EMC, To UK RoHS instructions
Approval	RCM trademark
KC mark	KC-EMV

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

2) More information www.festo.com/catalogue/mse6 → Support/Downloads. If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary

3) More information www.festo.com/catalogue/mse6 → Support/Downloads. If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary

Display/operation – MSE6-D2M

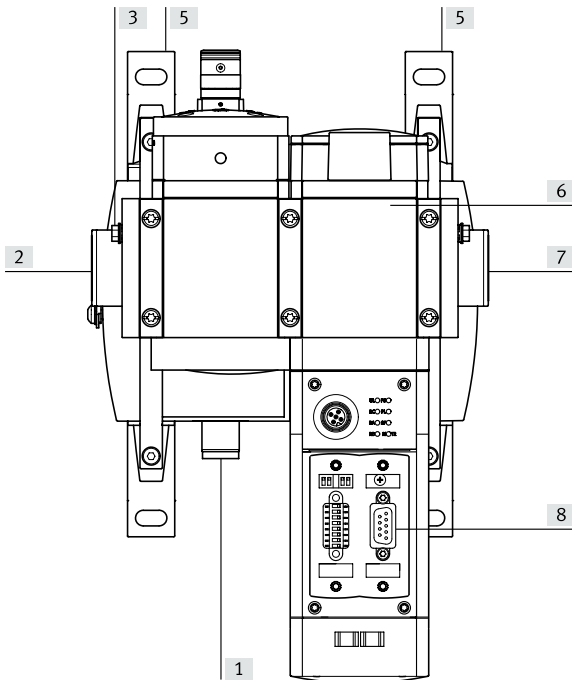
Start value for flow rate measuring range	50 l/min
End value for flow rate measuring range	5,000 l/min
Accuracy of flow rate	± (3% o.m.v. + 0.3% FS)
Start value for pressure measuring range	0 MPa
Start value for pressure measuring range	0 bar
Start value for pressure measuring range	0 psi
End value for pressure measuring range	1.4 MPa
End value for pressure measuring range	14 bar
End value for pressure measuring range	203 psi
Accuracy in ± % FS	3 %FS
Displayable units	kPa, l, l/min, m3, mbar, psi, scf, scfm

Materials – MSE6-D2M

Material housing	Die-cast aluminium
Material covering	PA-reinforced
Material cover	PA-reinforced
Material seals	NBR
LABS (PWS) conformity	VDMA24364-B1/B2-L

Datasheet

General technical data – MSE6-E2M



The MSE6-E2M consists of the following main components: shut-off valve, flow sensor, pressure sensor and bus node. The fieldbus interface enables it to be connected to a higher-order controller, e.g. a system or machine controller.

- [1] System supply
- [2] Pneumatic connection 1: Compressed air input
- [3] Earth connection
- [4] Shut-off valve for opening up and shutting off the system supply air
- [5] Mounting bracket
- [6] Sensor module for measuring pressure, flow rate and consumption
- [7] Pneumatic connection 2: Compressed air output
- [8] Fieldbus interface

Pneumatic connection, port 1 ¹⁾	G1/2, G3/4
Pneumatic connection, port 2	G1/2, G3/4
Mounting position	Horizontal +/-5°
Valve function	2/2 open, single solenoid

1) Pneumatic connection 1, 2: G3/4 possible via sub-base

Electrical data – MSE6-E2M

Electrical actuation	Fieldbus node for PROFIBUS DP	Fieldbus node for Ethernet/IP	Fieldbus node for EtherCAT®	Bus node for PROFINET IO with M12 connection	Bus node for PROFINET IO with RJ45 connection
Electrical connection	4-pin, M18, Plugs				
Operating voltage DC load voltage	18 ... 26.4 V				
Operating voltage range DC electronics/sensors	18 ... 30 V				
Reverse polarity protection	For operating voltage connections				
Degree of protection	IP65, With plug socket				
Field bus interface	Sub-D socket, 9-pin	2x socket, M12x1, 4-pin, D-coded			2x RJ45 push-pull socket, AI-DA

Standard nominal flow rate – MSE6-E2M

Standard nominal flow rate (standardised to DIN 1343) ¹⁾	4,500 l/min
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1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar

Datasheet

Operating and environmental conditions – MSE6-E2M

Operating pressure	0.35 ... 1 MPa
Operating pressure	3.5 ... 10 bar
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation not possible
Ambient temperature	0 ... 50°C
Media temperature	0 ... 50°C
Storage temperature	-10 ... 60°C
Corrosion resistance class CRC ¹⁾	–
CE mark (see declaration of conformity) ²⁾	To EU EMC Directive, In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity) ³⁾	To UK instructions for EMC, To UK RoHS instructions
Approval	RCM trademark
KC mark	KC-EMV

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

2) More information www.festo.com/catalogue/mse6 → Support/Downloads. If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary

3) More information www.festo.com/catalogue/mse6 → Support/Downloads. If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary

Display/operation – MSE6-E2M

Start value for flow rate measuring range	50 l/min
End value for flow rate measuring range	5,000 l/min
Accuracy of flow rate	± (3% o.m.v. + 0.3% FS)
Start value for pressure measuring range	0 MPa
Start value for pressure measuring range	0 bar
Start value for pressure measuring range	0 psi
End value for pressure measuring range	1.4 MPa
End value for pressure measuring range	14 bar
End value for pressure measuring range	203 psi
Accuracy in ± % FS	3 %FS
Displayable units	kPa, l, l/min, m3, mbar, psi, scf, scfm

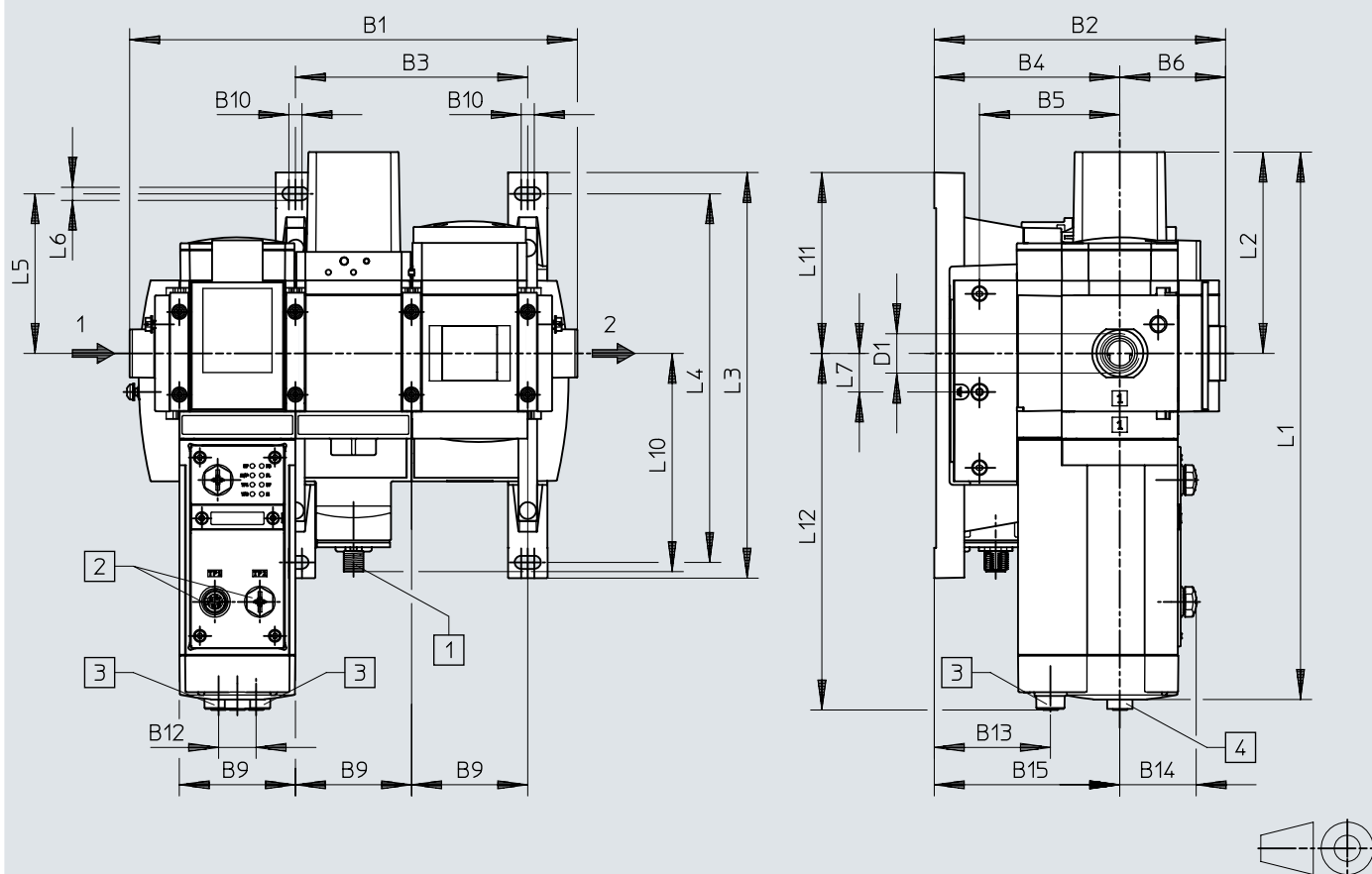
Materials – MSE6-E2M

Material housing	Die-cast aluminium
Material covering	PA-reinforced
Material cover	PA-reinforced
Material seals	NBR
LABS (PWS) conformity	VDMA24364-B1/B2-L

Dimensions

Dimensions – MSE6-C2M – fieldbus node FB43 for PROFINET IO with port M12x1, 4-pole

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- [1] M12L socket, 4/5-pin
- [2] 2x M12x1 plug, 4-pin RJ45
- [3] 2x M12x1 socket, 5-pin RJ45
- [4] 2x M12x1 plug, 8-pin

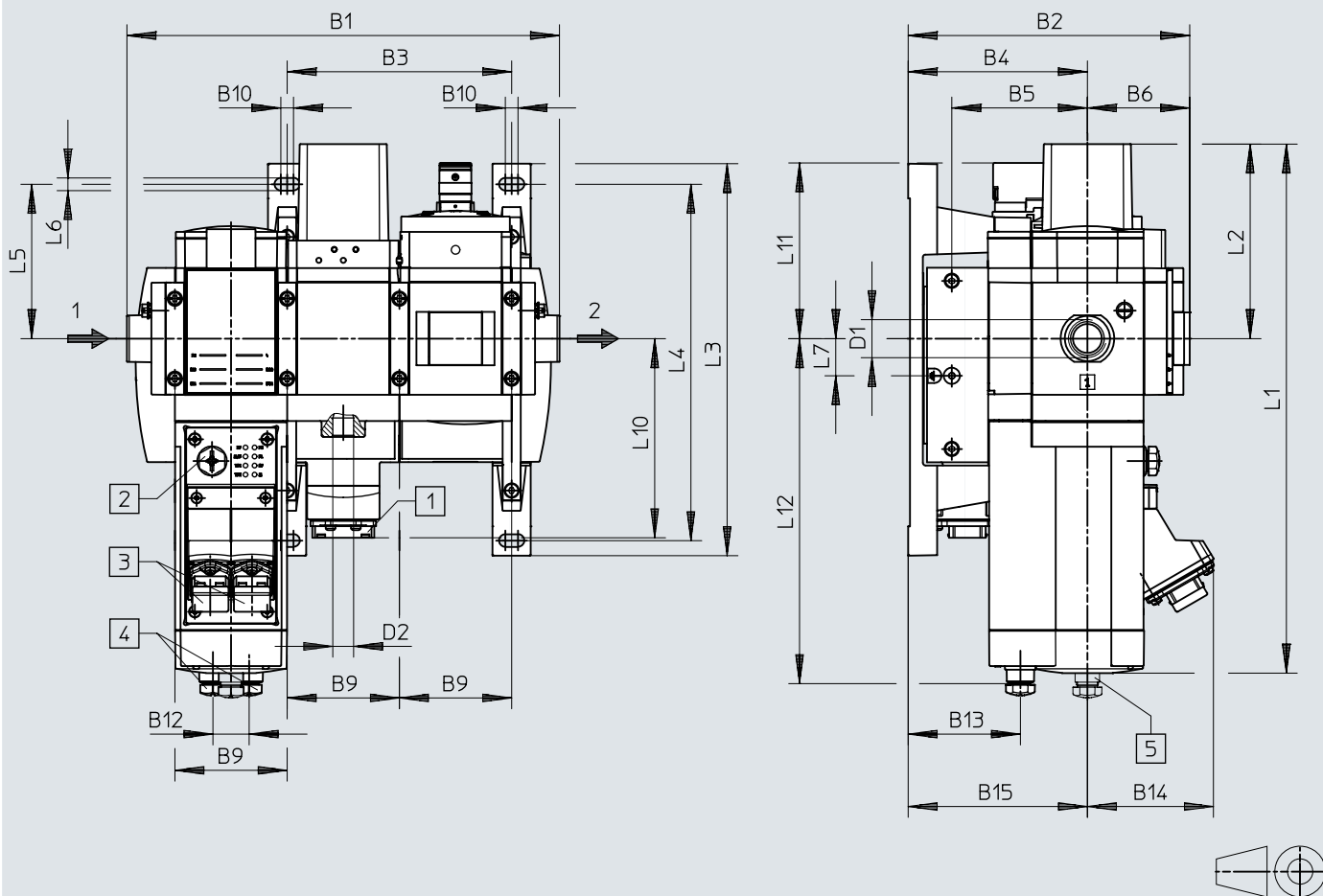
	B1	B2	B3	B4	B5	B6	B9	B10	B12	B13	B14	B15
MSE6-C2M-...-FB43-...	239	155,5	124	99	74,9	56,5	62	7	20	62	40,8	99

	D1	L1	L2	L3	L4	L5	L6	L7	L10	L12
MSE6-C2M-...-FB43-...	G1/2	292,4	107,5	216,6	196,9	85,3	7	20,7	116,5	190,4

Dimensions

Dimensions – MSE6-C2M – fieldbus node FB44 for PROFINET IO with RJ45 port

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- [1] RJ45 push-pull socket, AIDA
- [2] 5-pin plug M12x1
- [3] 2x RJ45 push-pull socket, AIDA
- [4] 2x M12x1 plug, 5-pin
- [5] M12x1 plug, 8-pin (only MSE6-C2M-...-FB44-D-M-RG)

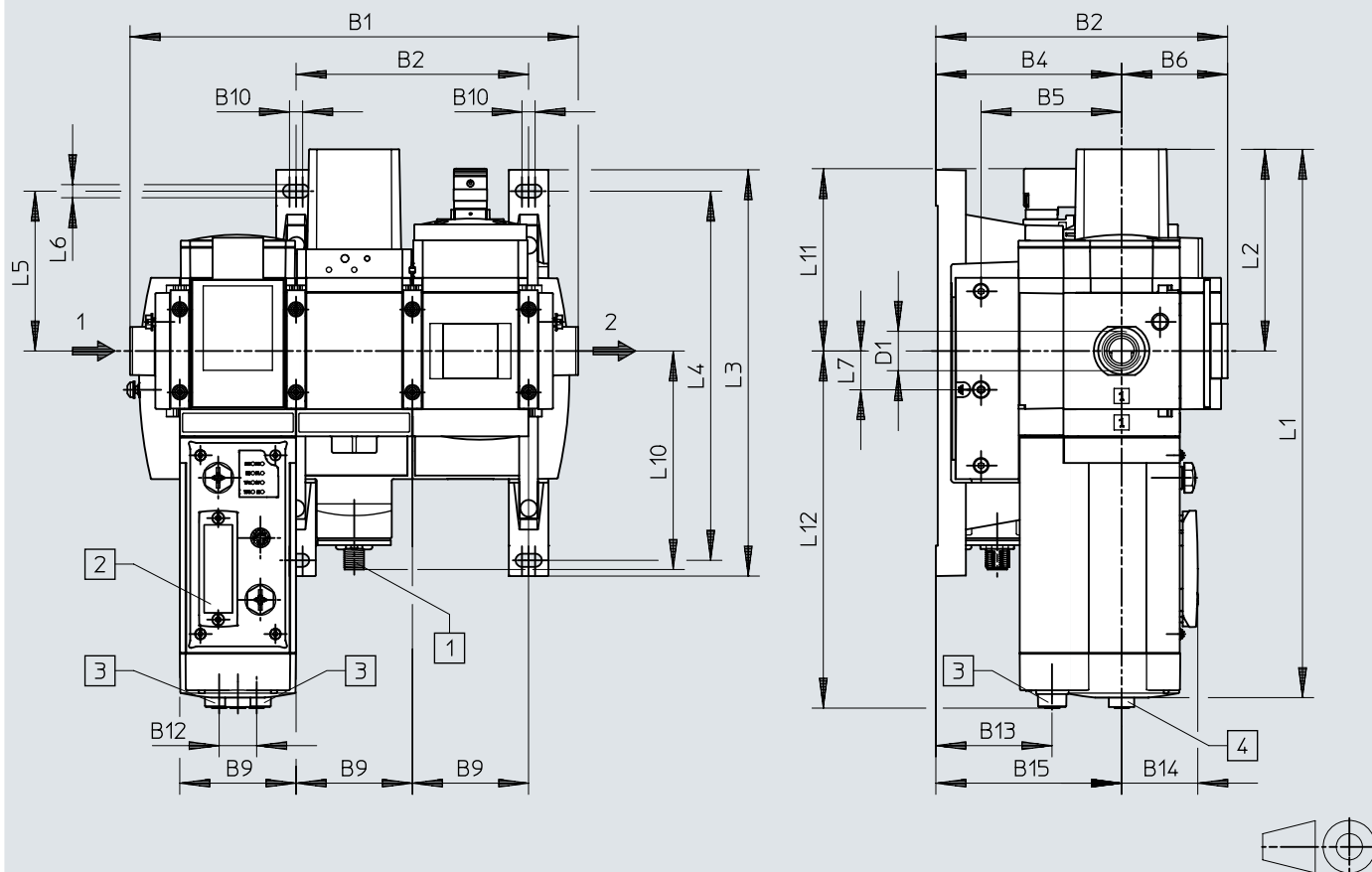
	B1	B2	B3	B4	B5	B6	B9	B10	B12	B13	B14	B15
MSE6-C2M-...-FB44-D-RG	239	155,5	124	99	74,9	56,5	62	7	20	62	69,2	-
MSE6-C2M-...-FB44-D-M-RG												99

	D1	D2	L1	L2	L3	L4	L5	L6	L7	L10	L11	L12
MSE6-C2M-...-FB44-D-RG	G1/2	G1/4	292,4	107,5	216,6	196,9	85,3	7	20,6	110	97,2	190,4
MSE6-C2M-...-FB44-D-M-RG												

Dimensions

Dimensions – MSE6-C2M – fieldbus node FB36/37 for EtherNet/IP, EtherCAT

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- [1] M12L socket, 4/5-pin
- [2] 2x M12x1 plug, 4-pin RJ45
- [3] 2x M12x1 socket, 5-pin RJ45
- [4] 2x M12x1 plug, 8-pin

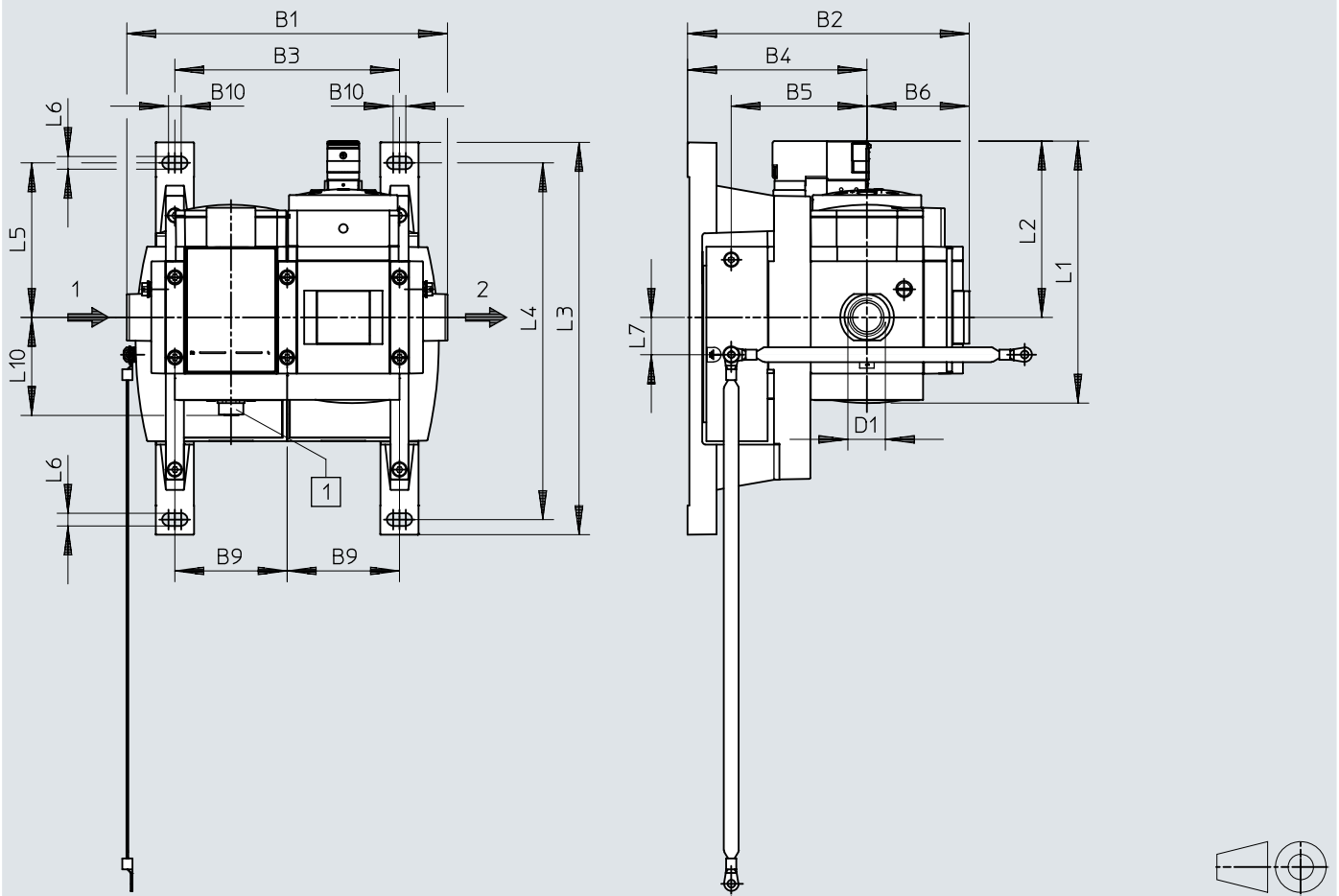
	B1	B2	B3	B4	B5	B6	B9	B10	B12	B13	B14	B15
MSE6-C2M-...-FB36/FB37-...	239	155,5	124	99	74,9	56,5	62	7	20	62	40,8	99

	D1	L1	L2	L3	L4	L5	L6	L7	L10	L11	L12
MSE6-C2M-...-FB36/FB37-...	G1/2	292,4	107,5	216,6	196,9	85,3	7	20,7	116,5	97,3	190,4

Dimensions

Dimensions – MSE6-D2M

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[1] M12x1 plug, 8-pin

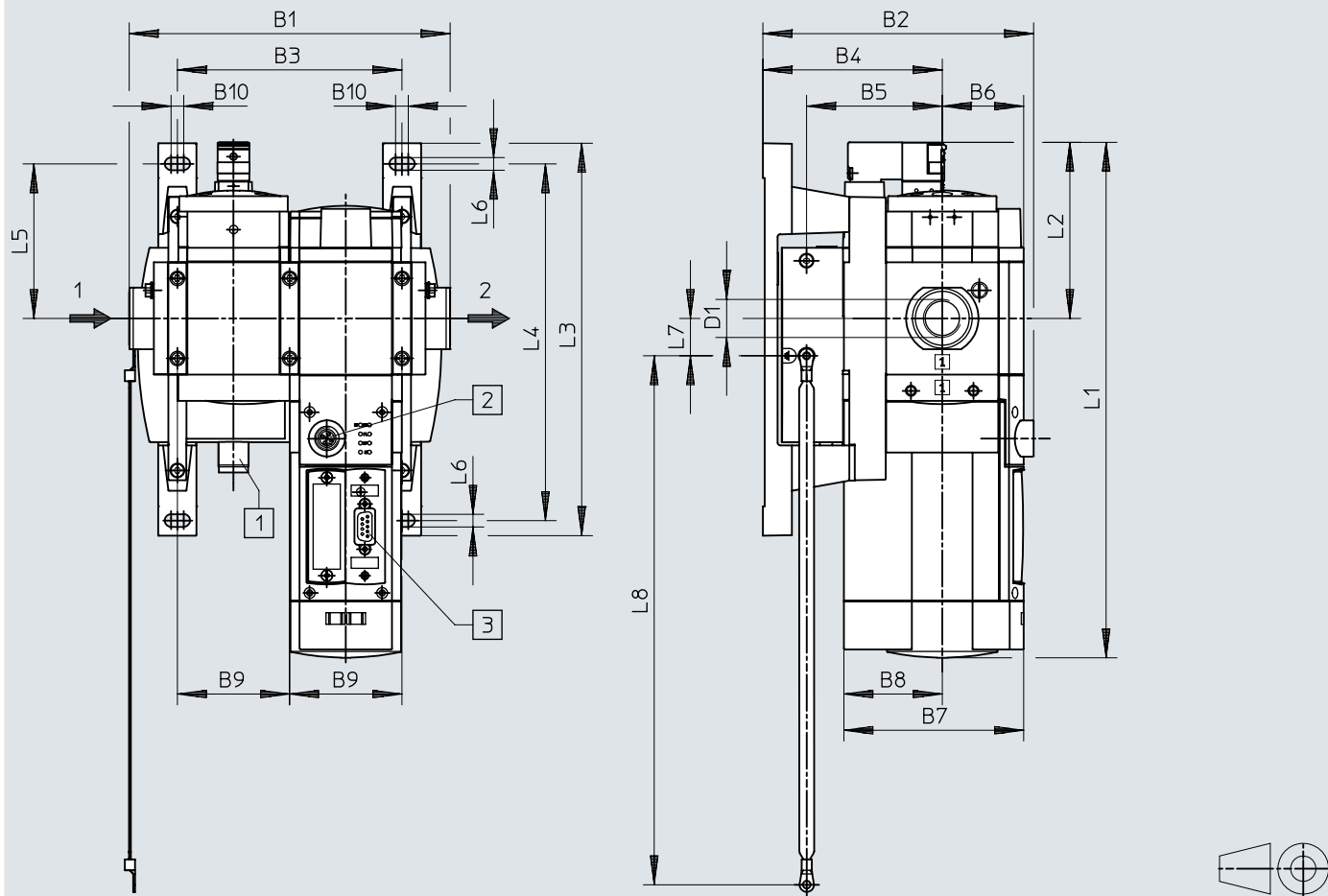
	B1	B2	B3	B4	B5	B6	B9	B10
MSE6-D2M-...-CBUS-S-RG	177	155,5	124	99	74,9	56,5	62	7

	D1	L1	L2	L3	L4	L5	L6	L7	L10
MSE6-D2M-...-CBUS-S-RG	G1/2	144,6	97,3	216,6	196,9	85,3	7	20,6	54,1

Dimensions

Dimensions – MSE6-E2M – fieldbus node FB13 for PROFIBUS DP

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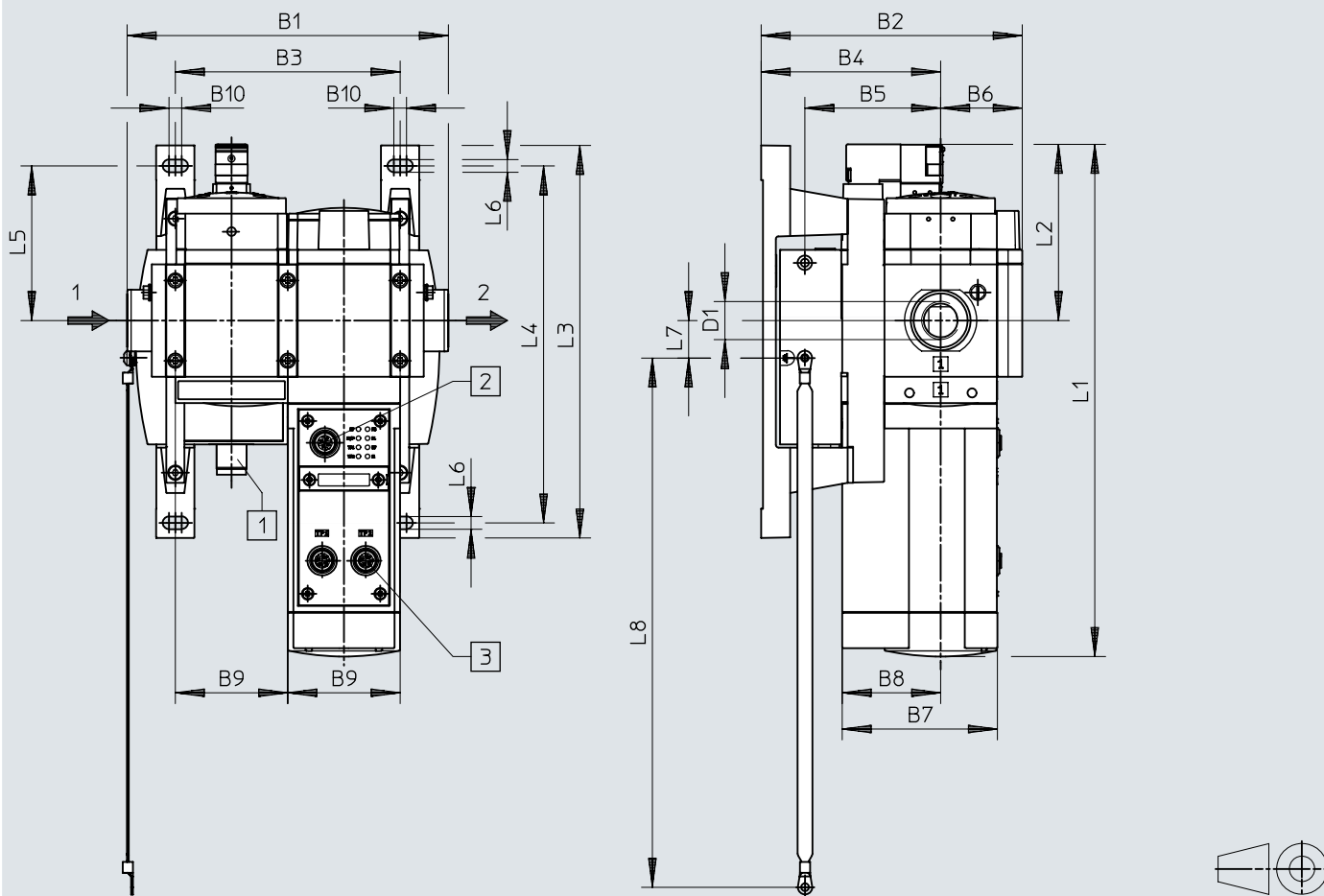
- [1] M18x1 plug, 4-pin
- [2] Socket M12x1, 5-pin
- [3] Sub-D socket, 9-pin

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
MSE6-E2M-...-FB13	178	150	124	99	75	45	100	55	62	7
	D1	L1	L2	L3	L4	L5	L6	L7	L8	
MSE6-E2M-...-FB13	G1/2	285	98	217	197	86	7	21	292	

Dimensions

Dimensions – MSE6-E2M – fieldbus node FB43 for PROFINET IO with M12 port

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- [1] M18x1 plug, 4-pin
- [2] 5-pin plug M12x1
- [3] 2x socket M12x1, 4-pin, D-coded

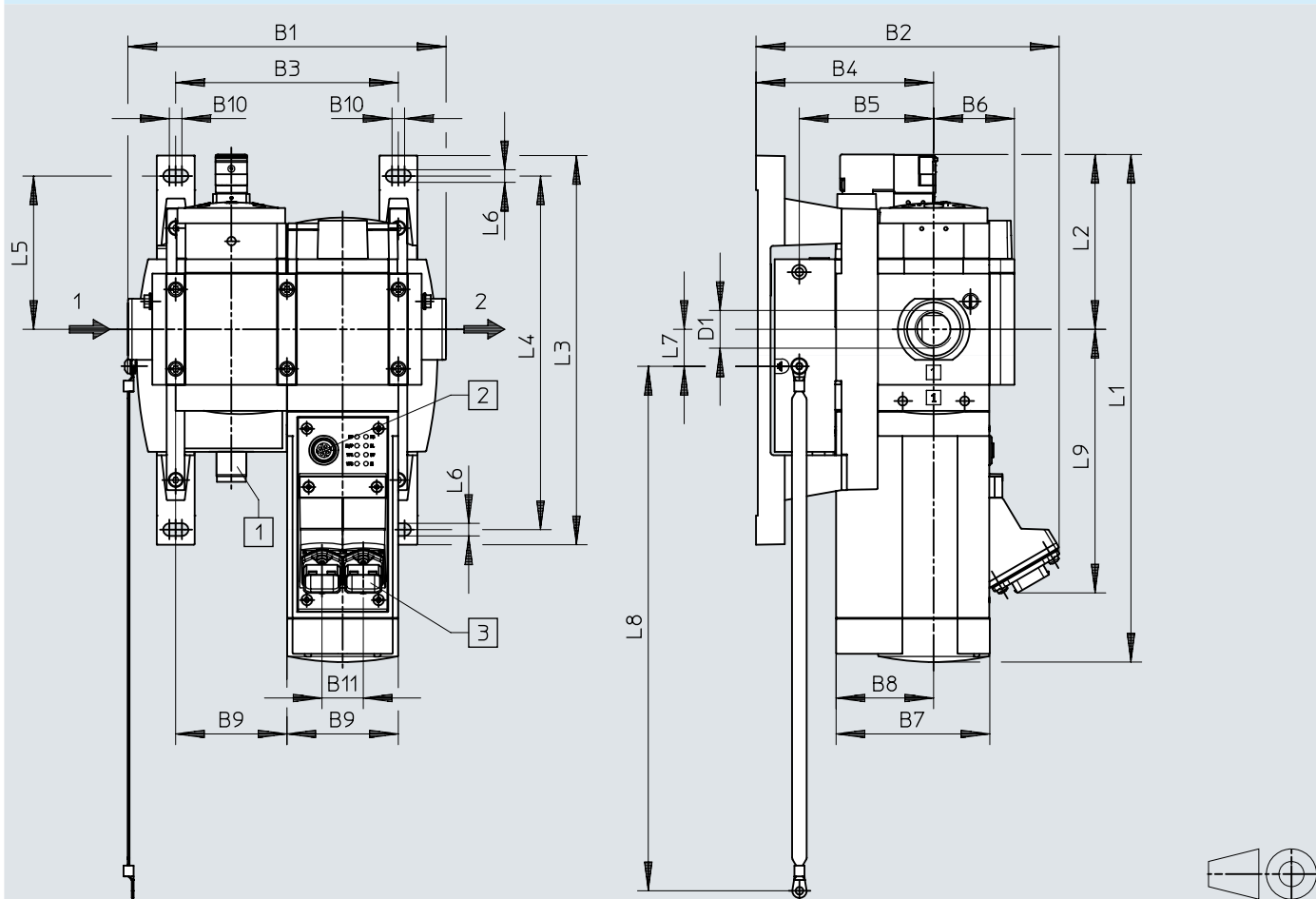
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
MSE6-E2M-...-FB43	178	145	124	99	75	45	86	55	62	7

	D1	L1	L2	L3	L4	L5	L6	L7	L8
MSE6-E2M-...-FB43	G1/2	285	98	217	197	86	7	21	292

Dimensions

Dimensions – MSE6-E2M – fieldbus node FB44 for PROFINET IO with RJ45 connection

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- [1] M18x1 plug, 4-pin
- [2] 5-pin plug M12x1
- [3] MS6-E2M-...-FB44: 2x RJ45 push-pull socket, AIDA

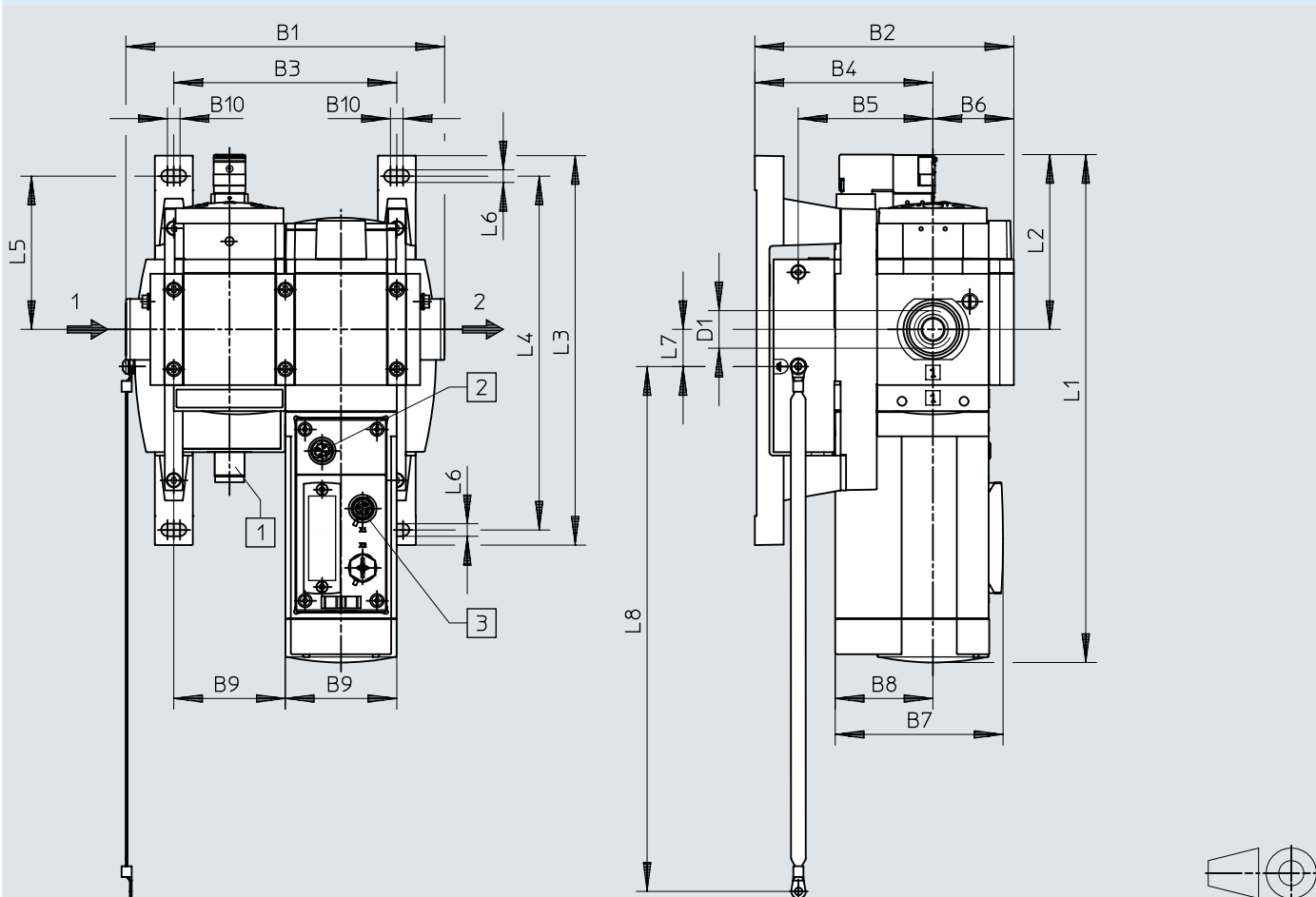
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
MSE6-E2M-...-FB44	178	170	124	99	75	45	86	55	62	7	23

	D1	L1	L2	L3	L4	L5	L6	L7	L8	L9
MSE6-E2M-...-FB44	G1/2	285	98	217	197	86	7	21	292	147

Dimensions

Dimensions – MSE6-E2M – fieldbus node FB36 for EtherNet/IP and FB37 for EtherCAT

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- [1] M18x1 plug, 4-pin
- [2] Socket M12x1, 5-pin
- [3] 2x socket M12x1, 4-pin, D-coded

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
MSE6-E2M-...-FB36/FB37	178	145	124	99	75	45	94	55	62	7


	D1	L1	L2	L3	L4	L5	L6	L7	L8
MSE6-E2M-...-FB36/FB37	G1/2	285	98	217	197	86	7	21	292


Ordering data

Ordering data – MSE6-C2M-...-FB43/44						
	Pneumatic connection, port 1	Electrical connection	Field bus interface	Product weight	Part no.	Type
	G1/2	5-pin, AIDA push-pull	2x RJ45 push-pull socket, AIDA	4,550 g	8157909	MSE6-C2M-5000-FB43-D-M-RG-BAR-AMI-AGD


Ordering data – MSE6-C2M-...-FB43/44 with CPX extension						
	Pneumatic connection, port 1	Electrical connection	Field bus interface	Product weight ¹⁾	Part no.	Type
	G1/2	4-pin, M12x1, L-coded to EN 61076-2-111	2x socket, M12x1, 4-pin, D-coded	4,455 g	8169407	MSE6-C2M-5000-FB43-D-M-RG-BAR-M12L4-MQ1-AGD
		5-pin, AIDA push-pull	2x RJ45 push-pull socket, AIDA	4,550 g	8157908	MSE6-C2M-5000-FB44-D-M-RG-BAR-AMI-AGD
		5-pin, M12x1, L-coded to EN 61076-2-111	2x socket, M12x1, 4-pin, D-coded	4,455 g	8157912	MSE6-C2M-5000-FB43-D-M-RG-BAR-M12L5-MQ1-AGD
	G3/4	5-pin, AIDA push-pull	2x RJ45 push-pull socket, AIDA	4,550 g	8217138	MSE6-C2M-5000-FB44-D-M-HB-RG-BAR-AMI-AGE


1) MSE6-C2M-...-HB: with manual override


Ordering data – MSE6-C2M-...-FB36/37 with CPX extension						
	Pneumatic connection, port 1	Electrical connection	Field bus interface	Product weight	Part no.	Type
	G1/2	4-pin, M12x1, L-coded to EN 61076-2-111	2x socket, M12x1, 4-pin, D-coded	4,395 g	8169406	MSE6-C2M-5000-FB36-D-M-RG-BAR-M12L4-AGD
		5-pin, M12x1, L-coded to EN 61076-2-111			8157913	MSE6-C2M-5000-FB36-D-M-RG-BAR-M12L5-AGD

Ordering data – MSE6-D2M				
	Pneumatic connection, port 1	Product weight	Part no.	Type
	G1/2	2,700 g	8085453	MSE6-D2M-5000-CBUS-S-RG-BAR-VCB-AGD

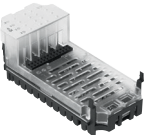
Ordering data

Ordering data – MSE6-E2M-....-FB13 for PROFIBUS DP					
	Pneumatic connection, port 1	Field bus interface	Product weight	Part no.	Type
	G1/2	Sub-D socket, 9-pin	3,300 g	2465321	MSE6-E2M-5000-FB13-AGD

Ordering data – MSE6-E2M-....-FB43/FB44 for PROFINET IO					
	Pneumatic connection, port 1	Field bus interface	Product weight	Part no.	Type
	G1/2	2x socket, M12x1, 4-pin, D-coded	3,250 g	8157910	MSE6-E2M-5000-FB43-AGD
		2x RJ45 push-pull socket, AIDA	3,450 g	8157911	MSE6-E2M-5000-FB44-AGD

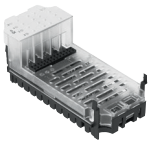
Ordering data – MSE6-E2M-....-FB36/37 for EtherNet/IP, EtherCAT®					
	Pneumatic connection, port 1	Field bus interface	Product weight	Part no.	Type
	G1/2	2x socket, M12x1, 4-pin, D-coded	3,300 g	3992150	MSE6-E2M-5000-FB37-AGD
				3990296	MSE6-E2M-5000-FB36-AGD

Ordering data – Modular product system			
	Short type code	Part no.	Type
	MSE6	2839638	MSE6


Ordering data – Electronics modules, digital input modules						
	Number of inputs	Switching logic for inputs	Nominal operating voltage DC	Product weight	Part no.	Type
	4	PNP (positive switching)	24 V	39 g	195752	CPX-4DE

Ordering data

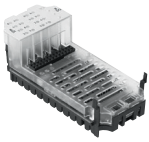
Ordering data – Electronics modules, digital input modules

	Number of inputs	Switching logic for inputs	Nominal operating voltage DC	Product weight	Part no.	Type
	8	PNP (positive switching)	24 V	39 g	195750	CPX-8DE


Ordering data – Electronic modules, digital output modules

	Number of outputs	Switching logic for outputs	Nominal operating voltage DC	Product weight	Part no.	Type
	4	PNP (positive switching)	24 V	42 g	195754	CPX-4DA
	8			49 g	541482	CPX-8DA

Ordering data – Electronic modules, digital input/output modules

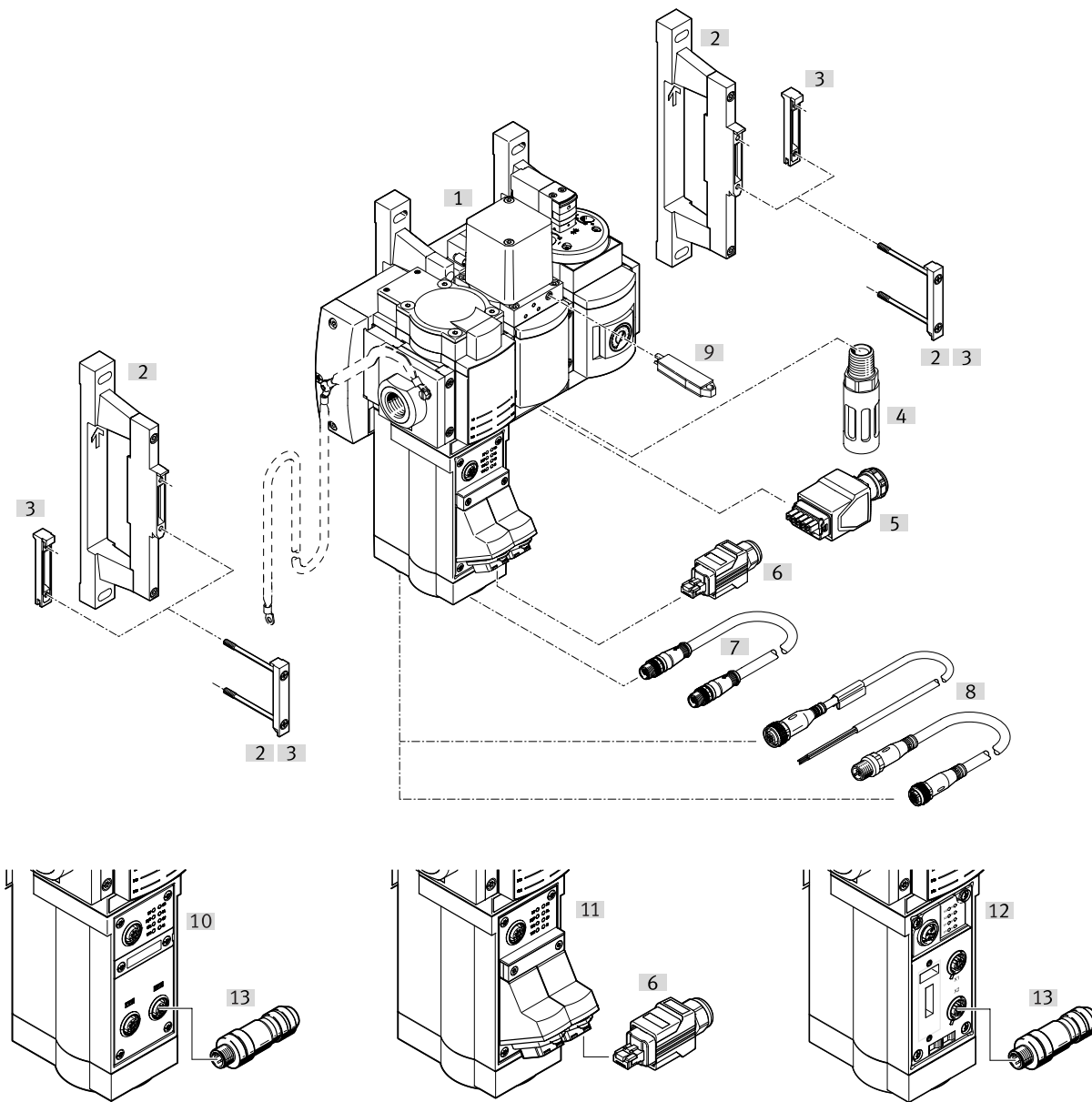
	Number of inputs	Number of outputs	Switching logic for outputs	Product weight	Part no.	Type
	8	8	PNP (positive switching)	48 g	526257	CPX-8DE-8DA

Ordering data – Electronic modules, analogue modules

	Number of inputs	Number of outputs	Nominal operating voltage DC	Product weight	Part no.	Type
		2	24 V	49 g	526170	CPX-2AA-U-I
	4			46 g	573710	CPX-4AE-U-I

Peripherals

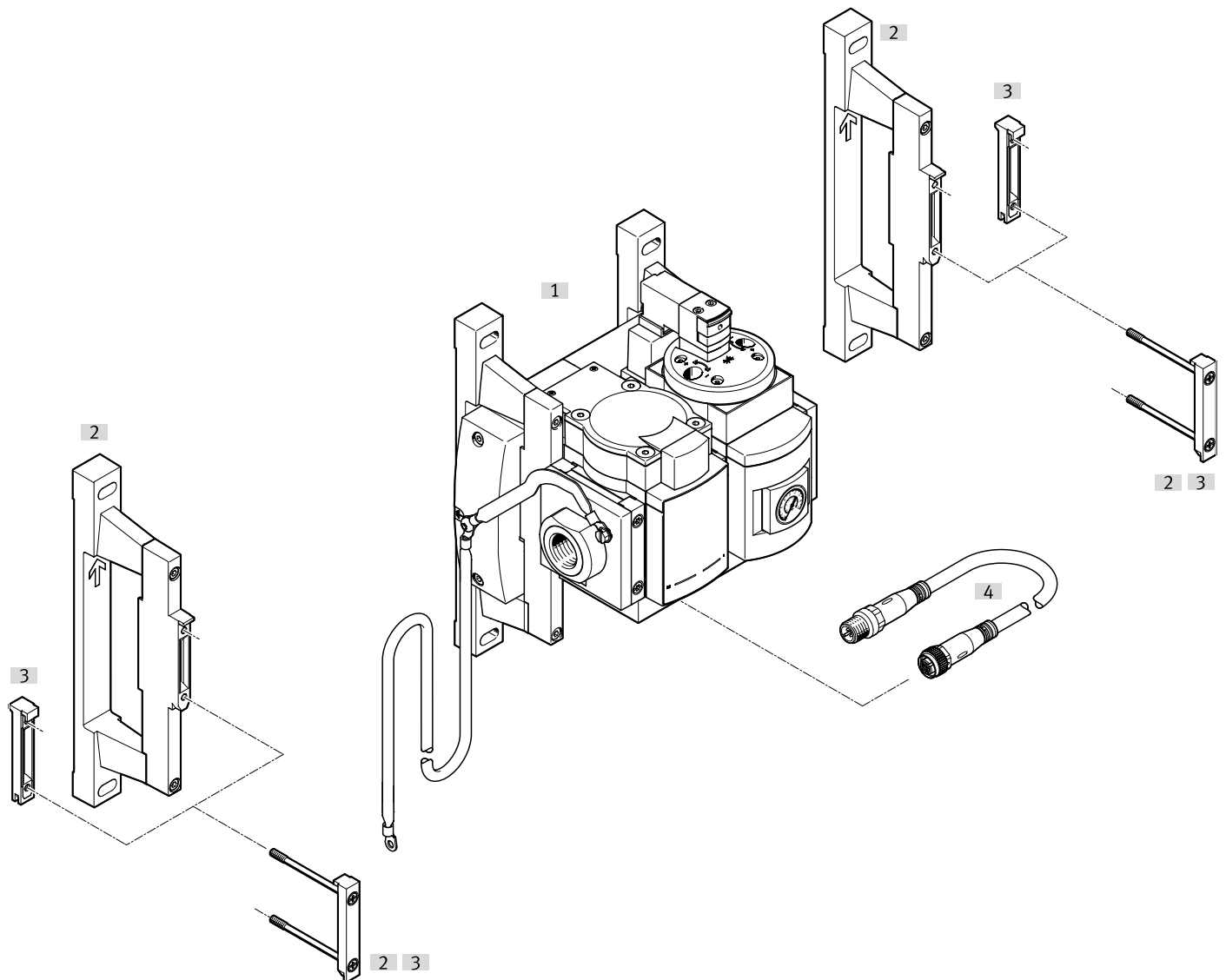
Peripherals overview – MSE6-C2M



Accessories		→ Link
Type/order code	Description	
[1] Energy efficiency module MSE6-C2M		mse6-c2m
[2] Wall mounting-SET MS6-WPG	Same wall gap for combinations with series MS6 and MSE6	25
[3] Module connector MS6-MV-EX	For connecting the modules	25
[4] Silencer U	For noise reduction	25
[5] Power supply socket NECU-M-PP	For system supply	25
[6] Plug FBS-RJ45	For bus node FB44 for PROFINET IO	25
[7] Connecting cable NEBC-F12G8	For CPX extension (only MSE6-C2M-...-M)	26
[8] Connecting cable NEBA-M12	For electrical inputs/outputs	26
[9] Manual override AHB-MD/MF/MV	for MSE6-C2M-...-HB	27
[10] Fieldbus node FB43	For PROFINET IO with M12 connection	mse6-c2m
[11] Fieldbus node FB44	For PROFINET IO with RJ45 connection	mse6-c2m
[12] Fieldbus node FB36	For EtherNet/IP, fieldbus node FB37 for EtherCAT®	mse6-c2m
[13] Plug NECU-M-S-D12G4	For fieldbus node FB43 for PROFINET IO, fieldbus node FB36 for EtherNet/IP, fieldbus node FB37 for EtherCAT®	26

Peripherals

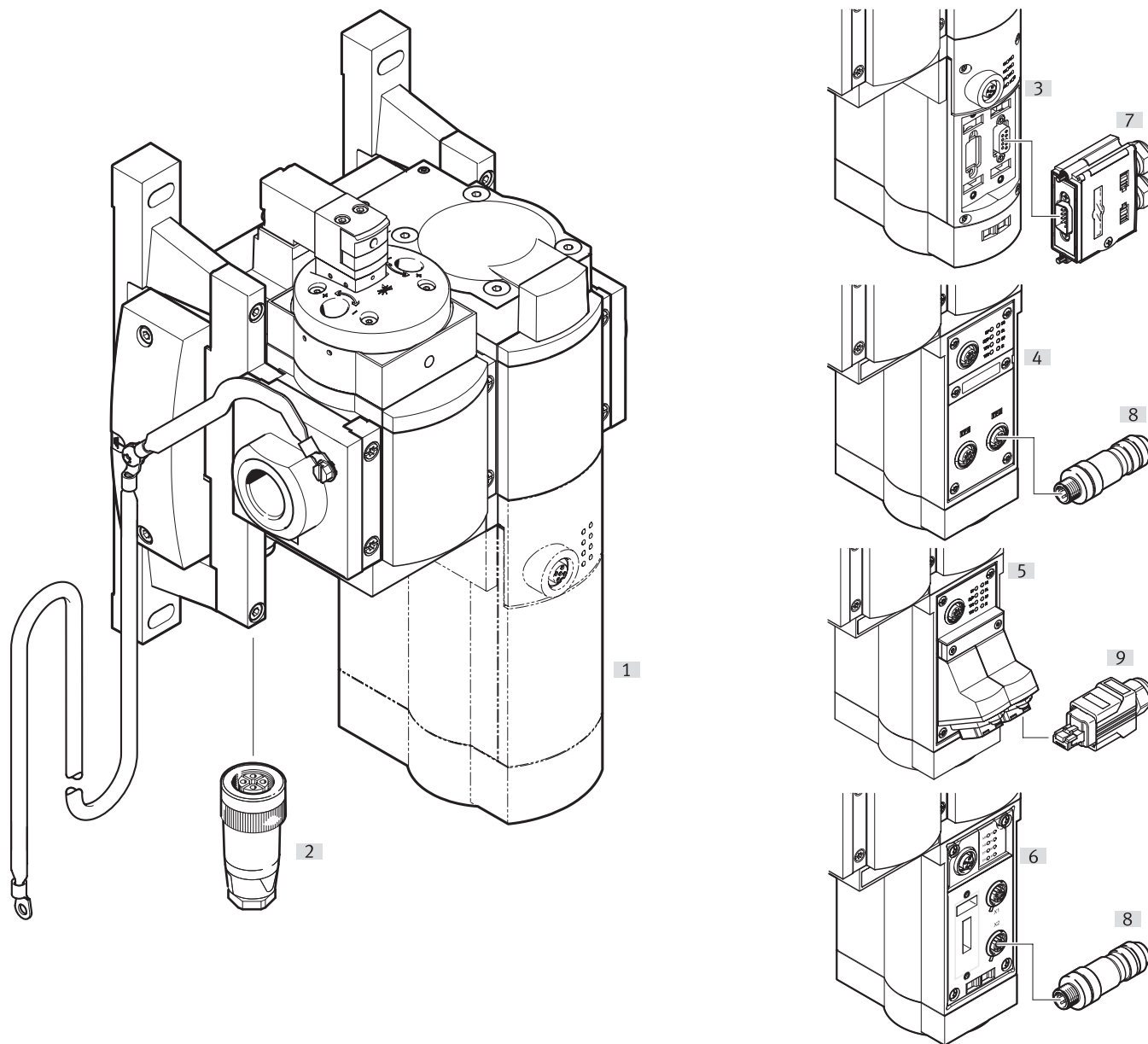
Peripherals overview – MSE6-D2M



Accessories			→ Link
Type/order code	Description		
[1] Energy-efficiency module MSE6-D2M			mse6-d2m
[2] Wall mounting-SET MS6-WPG	Same wall gap for combinations with series MS6 and MSE6		25
[3] Module connector MS6-MV-EX	For connecting the modules		25
[4] Connecting cable NEBC-F12G8	For CPX extension (only MSE6-C2M-...-M)		26

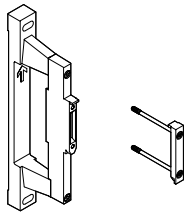
Peripherals

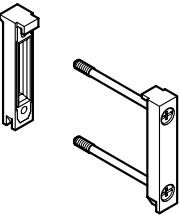
Peripherals overview – MSE6-E2M

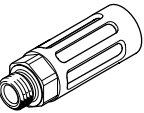


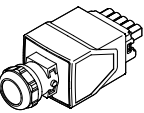
Accessories		→ Link
Type/order code	Description	
[1] Energy efficiency module MSE6-E2M		mse6-e2m
[2] Plug socket NTSD	For system supply	26
[3] Fieldbus node FB13	For PROFIBUS DP	mse6-e2m
[4] Fieldbus node FB43	For PROFINET IO with M12 connection	mse6-e2m
[5] Fieldbus node FB44	For PROFINET IO with RJ45 connection	mse6-e2m
[6] Fieldbus node FB36	For EtherNet/IP, fieldbus node FB37 for EtherCAT®	mse6-e2m
[7] Plug FBS-SUB-9		25
[8] Plug NECU-M-S-D12G4	For fieldbus node FB43 for PROFINET IO, fieldbus node FB36 for EtherNet/IP, fieldbus node FB37 for EtherCAT®	26
[9] Plug FBS-RJ45	For bus node FB44 for PROFINET IO	25
[10] Wall mounting SET MS6-WPG	For same wall gap for combining series MS6 and MSE6 (without illustration)	25
[11] Module connector MS6-MV-EX	For connecting the modules (without illustration)	25

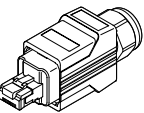
Accessories

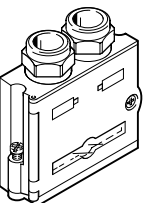
Wall mounting SET MS6-WPG					
	Short type code	Product weight	Part no.	Type	
	MS6-WPG	245 g	8072794	MS6-WPG	

Module connector MS6-MV-EX					
	Short type code	Product weight	Part no.	Type	
	MS6-MV-EX	54 g	541543	MS6-MV-EX	

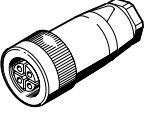
Silencer U					
	Short type code	Product weight	Part no.	Type	
	U	17 g	6842	U-1/4-B	


Power supply socket NECU-M-PP						
	Electrical connection 1, used connections/cores	Electrical connection 1, connector system	Additional functions	Product weight	Part no.	Type
	5	Connection pattern PP, coding on pins 2 and 5	Fulfils requirements according to AIDA	109 g	5195383	NECU-M-PPG5PP-C1-PN

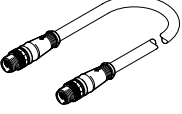
Plug FBS-RJ45					
	Note on fieldbus interface	Product weight	Part no.	Type	
	PROFINET	60 g	552000	FBS-RJ45-PP-GS	

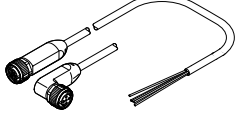
Plug FBS-SUB-9					
	Field bus interface	Protocol	Product weight	Part no.	Type
	2x 2 spring-loaded terminals	PROFIBUS	60 g	532216	FBS-SUB-9-GS-DP-B


Accessories

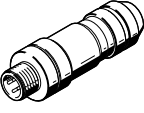
Plug socket NTSD (straight)					
	Electrical connection	Operational voltage range AC	Product weight	Part no.	Type
	4-pin, Straight socket, Screw terminal	250 V	25 g	18493	NTSD-GD-9
			31 g	18526	NTSD-GD-13,5

Plug socket NTSD (angled)					
	Electrical connection	Operational voltage range AC	Product weight	Part no.	Type
	4-pin, Angled socket, Screw terminal	250 V	30 g	18527	NTSD-WD-9

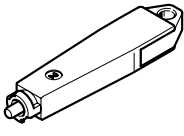
Connecting cable NEBC-F12G8					
	Electrical connection 1, used connections/cores	Cable length	Product weight	Part no.	Type
	8	0.25 m	47 g	564189	NEBC-F12G8-KH-0.25-N-S-F12G8
		0.5 m	69 g	564190	NEBC-F12G8-KH-0.5-N-S-F12G8
		1 m	113 g	564191	NEBC-F12G8-KH-1-N-S-F12G8
		1.5 m	154 g	564192	NEBC-F12G8-KH-1.5-N-S-F12G8
		2 m	200 g	576015	NEBC-F12G8-KH-2-N-S-F12G8

Connecting cable NEBA-M12 – open end					
	Electrical connection 2, connector system	Cable length	Product weight	Part no.	Type
	Open end	2.5 m	76 g	8078251	NEBA-M12W5-U-2.5-N-LE5
			85 g	★ 8078242	NEBA-M12G5-U-2.5-N-LE5
		5 m	142 g	★ 8078243	NEBA-M12G5-U-5-N-LE5
			143 g	8078252	NEBA-M12W5-U-5-N-LE5

Connecting cable NEBA-M12 – angled (modular product system)						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Cable length	Cable characteristic	Part no.	Type
	M12x1, A-coded to EN 61076-2-101, M8x1, A-coded, to EN 61076-2-104, Open end, Diameter 8 mm, A-coded to EN 61076-2-104	M12x1, A-coded to EN 61076-2-101, M8x1, A-coded to EN 61076-2-104, Open end	0.3 ... 30 m	Suitable for energy chains/robot applications, Abrasion-resistant, Low adhesion, Flame-retardant and self-extinguishing	8078221	NEBA-

Plug NECU-M-S-D12G4					
	Electrical connection 1	Electrical connection 2	Product weight	Part no.	Type
	Straight plug connector, M12x1, 4-pin, D-coded, screenable	Screw terminal, can be screened	44.3 g	543109	NECU-M-S-D12G4-C2-ET

Accessories

Manual override AHB-MD/MF/MV					
	Type of mounting	LABS (PWIS) conformity	Corrosion resistance class CRC ¹⁾	Part no.	Type
	Snapping in	VDMA24364-B2-L	2 - Moderate corrosion stress	157651	AHB-MD/MF/MV

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