

Stopper cylinder EFSD

FESTO



Characteristics

At a glance

- Quick and easy to install on transfer systems
- No valves, tubing or compressed air required
- Three sizes to stop transported materials weighing between 0.25 kg and 100 kg
- Mounting interface for easy installation on transfer systems
- Integrated sensors for position sensing (stop retracted or extended)

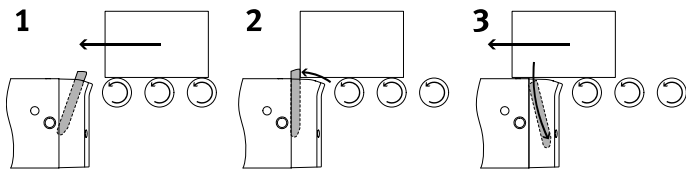
Electrical control

- No separate controller required
- Direct connection to digital I/O of a higher-order controller
- 24 V DC motor with low power demand
- Sensing of upper and lower position of the stop (advanced or retracted) using integrated Hall effect sensors

Adjustable cushioning

- Cushioning force can be adjusted to different loads
- One size in the transfer system for empty and full workpiece carriers
- Easy to adjust the cushioning using the setting screw on the top of the device
- Low-maintenance cushioning (atmospheric air)

Overview



Setting 1

Stopper cylinder is in the initial position

- The stop is extended and ready to stop a conveyed item
- LED status message: closed
- Input signal: 0

Setting 2

Stopper cylinder is in the holding position

- The conveyed item is stopped by internal cushioning and then held in position
- LED status message: closed
- Input signal: 0

Setting 3

Stopper cylinder is in the release position

- The stop is retracted and the conveyed item is released
- LED status message: open
- Input signal: 1

Type code

001	Series	
EFSD	Stopper cylinder	

002	Size	
20	20	
50	50	
100	100	

003	Cushioning	
PV	Pneumatic cushioning, adjustable	

004	Electrical connection	
M12	Serial interface M12	

Datasheet

General technical data

Size	20	50	100
Design	Electric stopper cylinder		
Ready status indication	LED		
Cushioning length	11.5 mm	17.5 mm	18.2 mm
Return-stroke time	0.1 s	0.15 s	0.3 s
Advance time	0.1 s	0.15 s	0.2 s
Position detection	With Hall sensor		
Type of mounting	Via mounting kit		
Mounting position	optional		
Product weight	420 g	800 g	985 g

Electrical data

Size	20	50	100
Type of motor	Stepper motor		
Nominal operating voltage DC	24 V		
Permissible voltage fluctuations	± 15%		
Max. current consumption ¹⁾	2 A		
Electrical connection actuator, max. current consumption	1.9 A	1.2 A	1.4 A
Electrical connection sensor, max. current consumption	0.3 A		
Max. cycle frequency	0.33 Hz		
Max. cable length	30 m		
Electrical connection for actuator, connection type	Plugs		
Electrical connection for actuator, connection technology	M12x1, A-coded to EN 61076-2-101		
Electrical connection for actuator, number of pins/wires	5		

¹⁾ There briefly is a larger starting current when switching on.

Operating and environmental conditions

Size	20	50	100
Ambient temperature	-10 ... 60°C		
Storage temperature	-20 ... 60°C		
Relative air humidity	0 - 95%, Non-condensing		
Degree of protection	IP40		
Corrosion resistance class CRC ¹⁾	1 - Low corrosion stress		
CE mark (see declaration of conformity) ²⁾	To EU EMC Directive		
Approval	RCM trademark		
KC mark	KC-EMV		
CE marking (see declaration of conformity)	To UK instructions for EMC		

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

²⁾ Further information www.festo.com/catalogue/ermo → Support/Downloads

Materials

Size	20	50	100
Material cover	PA, PA-reinforced		
Material housing	Hard anodised wrought aluminium alloy		
Material piston rod	High-alloy stainless steel		
Material screws	Coated steel		
Material seals	NBR		
Note on materials	RoHS-compliant		
LABS (PWS) conformity	VDMA24364 zone III		

Datasheet

Permissible lateral force during the switching process

Size	20	50	100
Permissible lateral force during switching operation	20 N	50 N	100 N

Maximum stoppable load at conveying speed v

With a coefficient of friction:

For size 20, 50: 0.1 μ

For size 100: 0.07 μ

For size 20:

At v = 6 m/min: 0.25 ... 20 kg

At v = 9 m/min: 0.25 ... 10 kg

At v = 12 m/min: 0.25 ... 7 kg

At v = 18 m/min: 0.25 ... 3.5 kg

At v = 24 m/min: 0.25 ... 2.5 kg

At v = 30 m/min: 0.25 ... 2 kg

At v = 36 m/min: 0.25 ... 1 kg

For size 50:

At v = 6 m/min: 1 ... 50 kg

At v = 9 m/min: 1 ... 35 kg

At v = 12 m/min: 1 ... 30 kg

At v = 18 m/min: 1 ... 18 kg

At v = 24 m/min: 1 ... 12 kg

At v = 30 m/min: 1 ... 8 kg

At v = 36 m/min: 1 ... 5 kg

For size 100:

At v = 6 m/min: 3 ... 100 kg

At v = 9 m/min: 3 ... 70 kg

At v = 12 m/min: 3 ... 60 kg

At v = 18 m/min: 3 ... 50 kg

At v = 24 m/min: 3 ... 45 kg

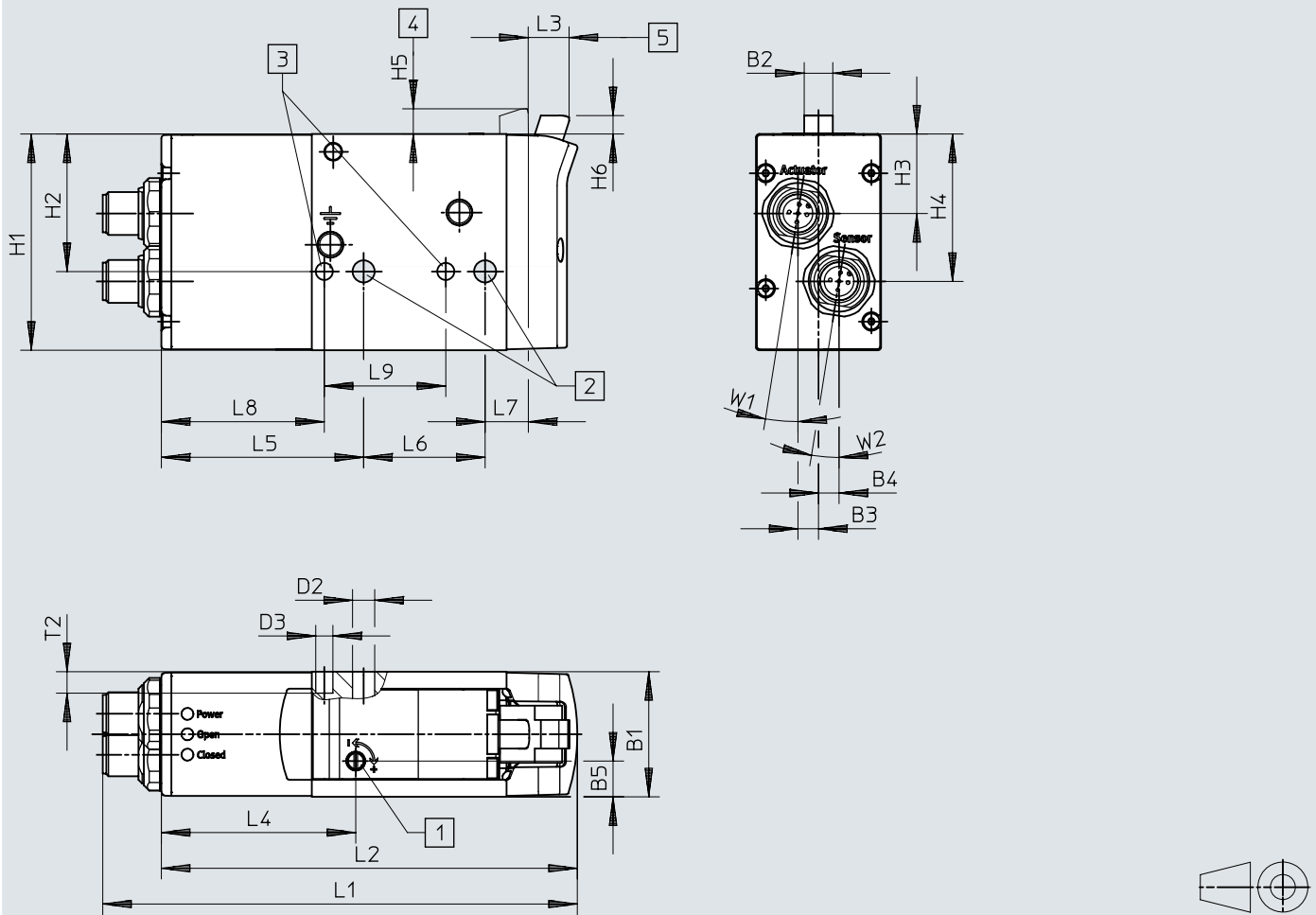
At v = 30 m/min: 3 ... 30 kg

At v = 36 m/min: 3 ... 20 kg

Dimensions

Dimensions – EFSD-20-PV-M12

Download CAD data www.festo.com



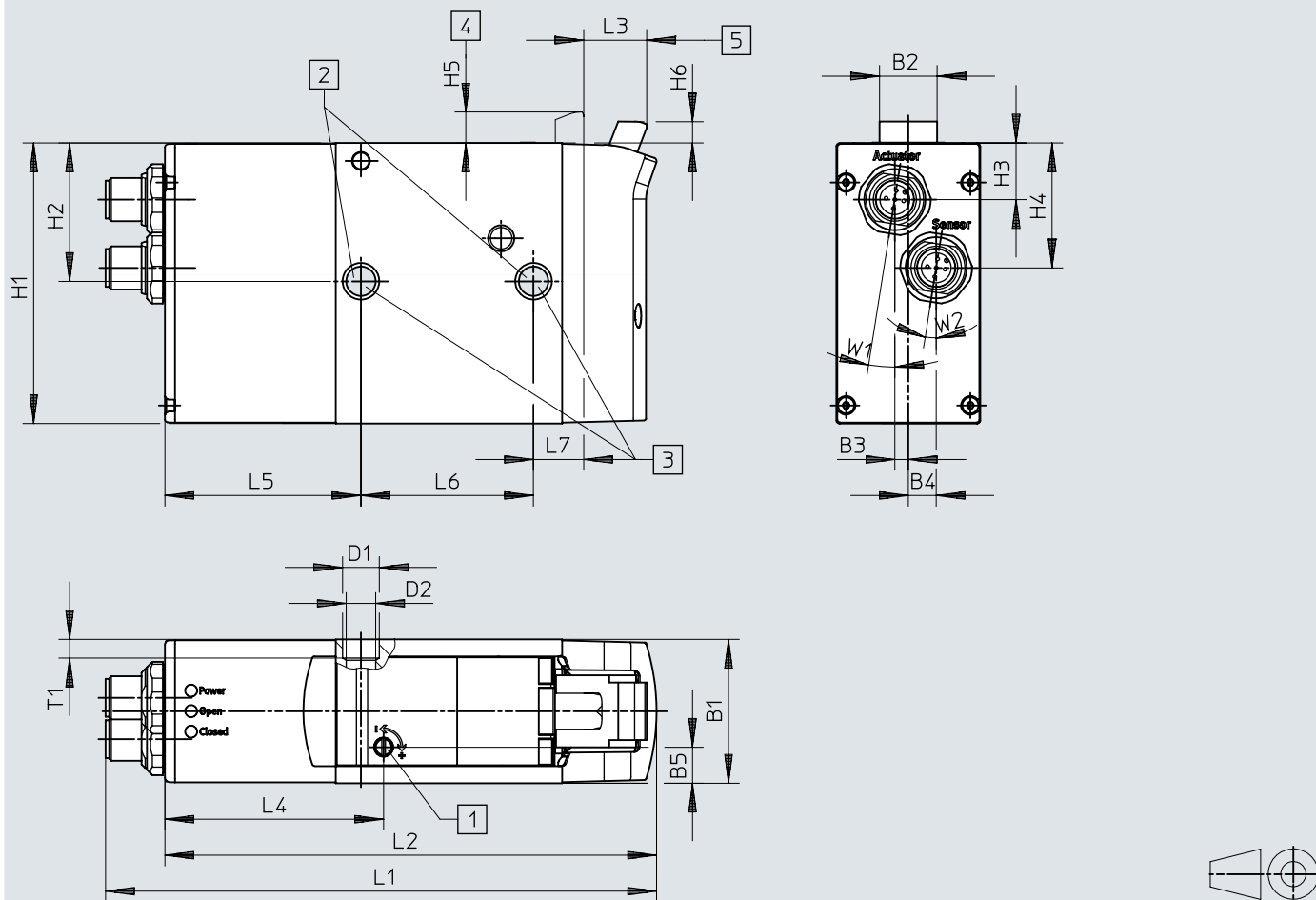
- [1] Cushioning setting
- [2] Hole for mounting screw
- [3] Drilled hole for centring pin
- [4] Return stroke min. dimension H5
- [5] Cushioning stroke

	B1	B2	B3	B4	B5	D2 ∅	D3 ∅	H1	H2	H3	H4	H5
	±0,05		±0,4	±0,4	±0,25	+0,1/-0,05	±0,05		±0,15	±0,5	±0,5	±0,55
EFSD-20	35	8	5,75	5,75	7,5	6,2	4,8	60,5	38,5	22,25	41,25	7

	H6	L1	L2	L3	L4	L5	L6	L7	L8	L9	T2	W1	W2
	±0,55	±1	±0,5	+0,5/-1	±0,5		±0,1	±0,5		±0,1	±0,2		
EFSD-20	5,1	132,8	116,4	11,5	54,4	56,6	34	12	45,6	34	6	9°	9°

Dimensions

Dimensions – EFSD-5 0/100-PV-M12

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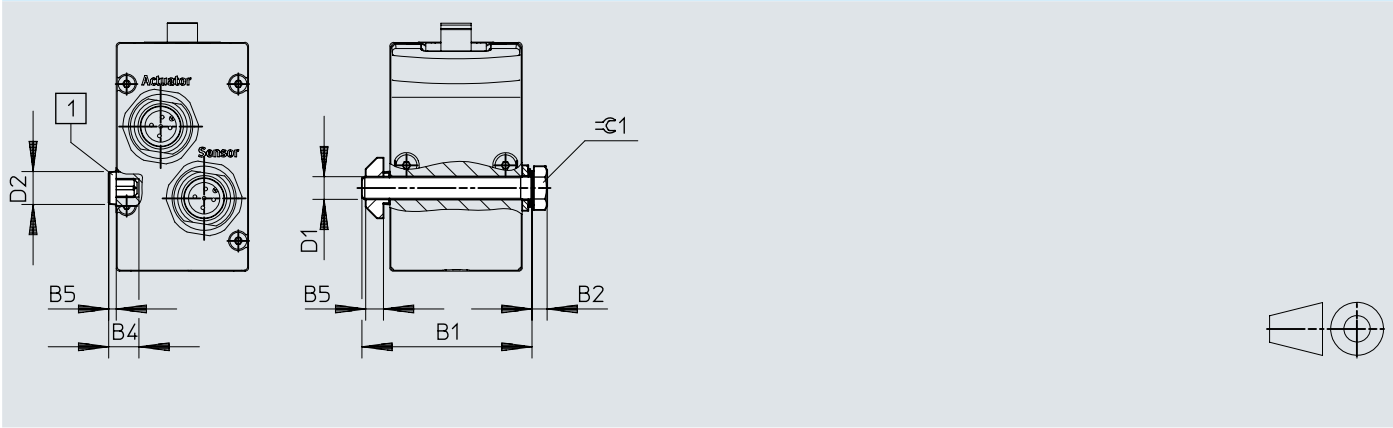
- [1] Cushioning setting
- [2] Drilled hole for centring sleeve
- [3] Hole for mounting screw
- [4] Return stroke min. dimension H5
- [5] Cushioning stroke

	B1	B2	B3	B4	B5	D1 Ø	D2 Ø	H1	H2	H3	H4	H5
	±0,05		±0,4	±0,4	±0,25	+0,07/-0,05	+0,1/-0,05		±0,15	±0,5	±0,5	±0,55
EFSD-50	40	16	3,75	7,75	10	10,2	8,2	78	38,5	15,75	34,75	8,6
EFSD-100	44	16	5,4	8,7	11,5	10,2	8,2	78	38,5	14	29,4	8,6

	H6	L1	L2	L3	L4	L5	L6	L7	T1	W1	W2
	±0,55	±1,1	±0,5	+0,5/-1	±0,5		±0,1		+0,1/-0,05		
EFSD-50	6	153,2	136,7	17,5	60,8	54,5	48	14 ±0,5	5,2	9°	9°
EFSD-100	6,3	163,7	147,2	18,2	67,3	58	52	13,8 ±0,6	5,2	9°	9°

Dimensions

Dimensions – Mounting kit EAHM-E18-K-20 Download CAD data www.festo.com

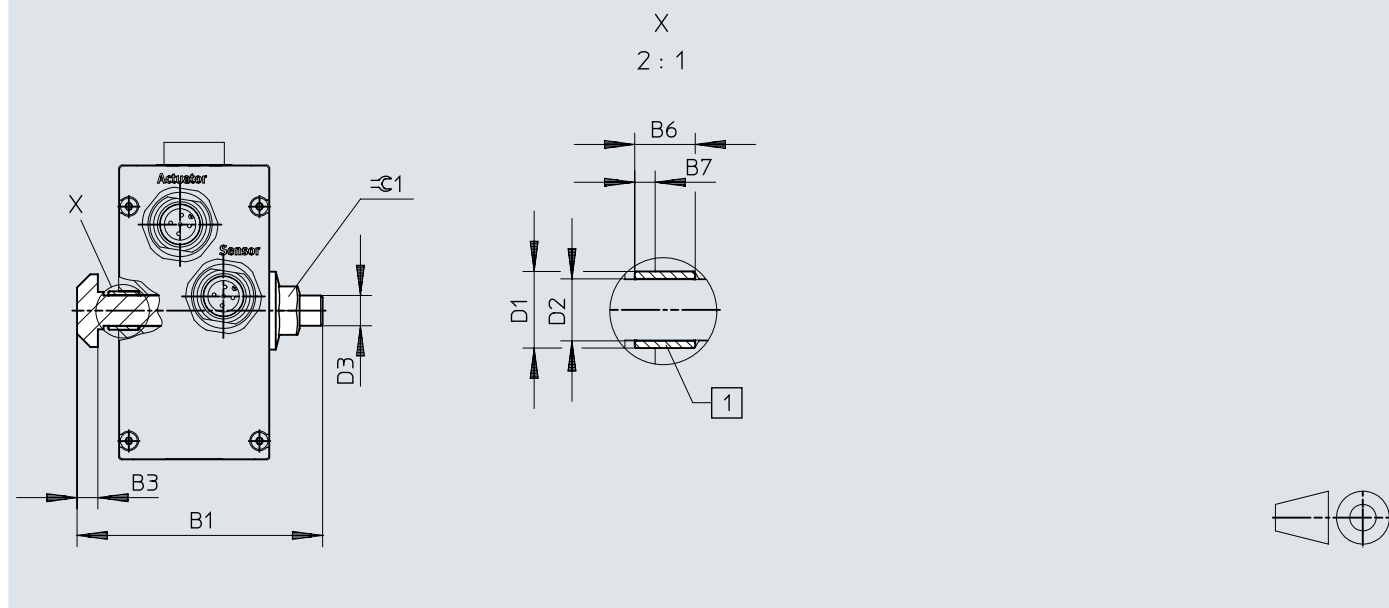


	B1	B2	B3	B4	B5	D1	D2 Ø	⌀ 1
	+1							
EAHM-E-18-K-20	45	4	4,7	7,5	2	M6	8,5	10

Dimensions

Dimensions – Mounting kit EAHM-E18-K-50-Z65, EAHM-E18-K-50

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		B1	B3	B6	B7	D1 Ø	D2 Ø	D3	≅ 1
		+1		-0,1		-0,02	+0,1		
EAHM-E-18-K-50-Z65	EFSD-50, 100 ¹⁾	65	5,5	6,5	1,2	10,1	8,2	M8	13
EAHM-E-18-K-50	EFSD-50, 100 ²⁾	65	5,5	8	2,7	10,1	8,2	M8	13

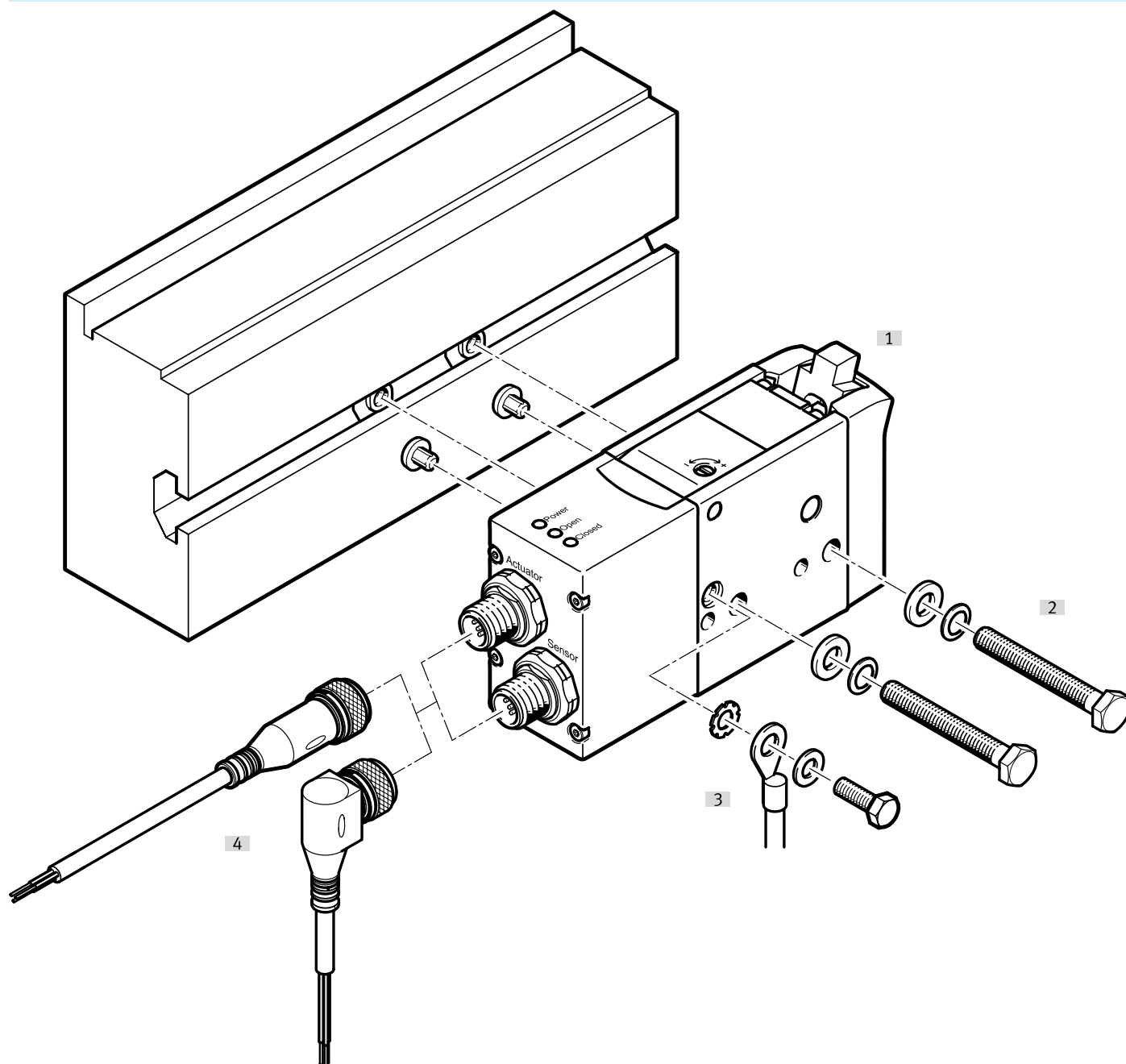
- 1) EAHM-E-18-K-50-Z65: for a profile with a web width of approx. 3.7 mm
 2) EAHM-E-18-K-50: for a profile with a web width of approx. 6 mm

Ordering data

	Size	Part no.	Type
	20	2942445	EFSD-20-PV-M12
	50	2942446	EFSD-50-PV-M12
	100	2942447	EFSD-100-PV-M12

Peripherals

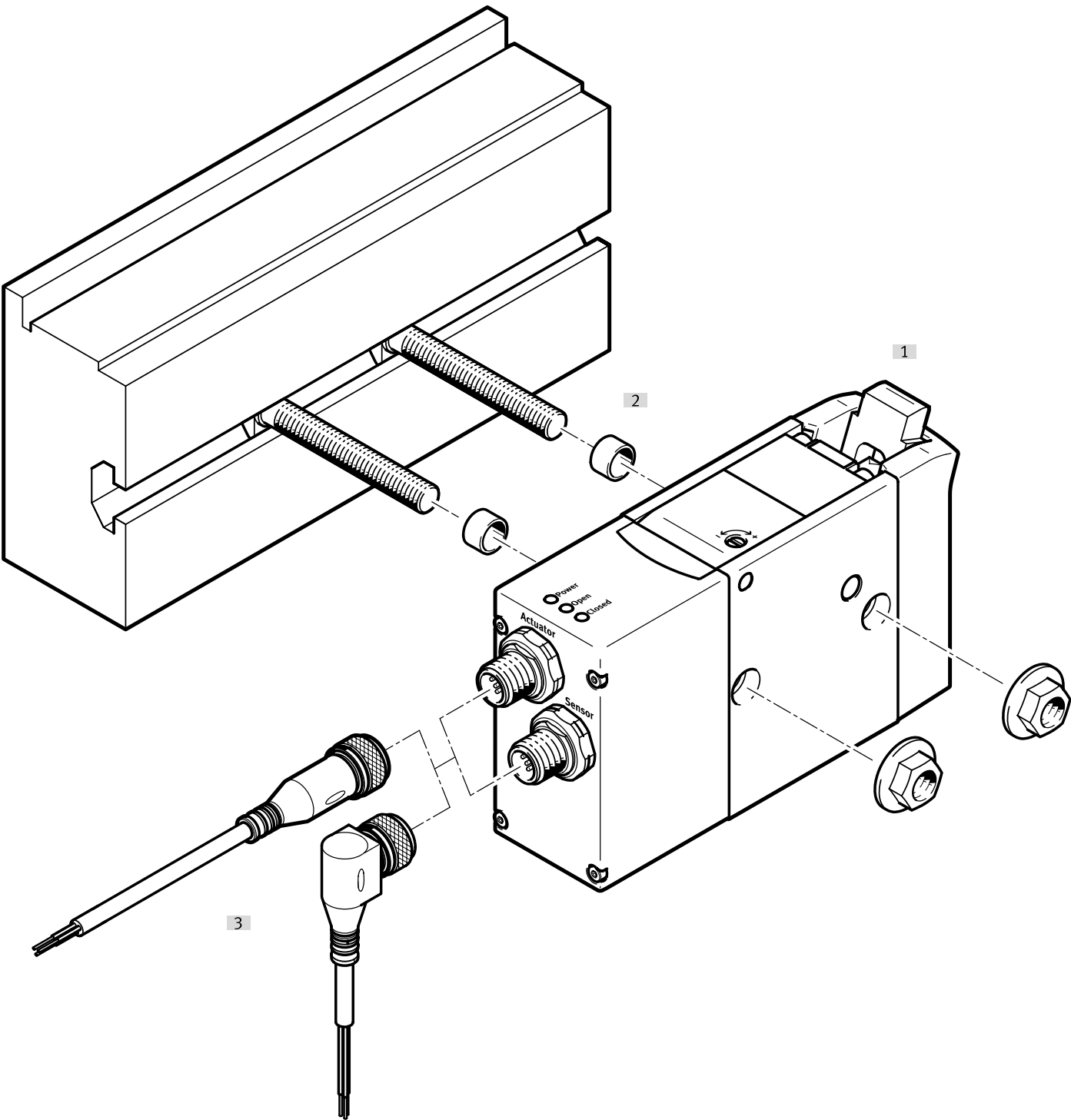
Peripherals overview EFSD-20



Accessories			→ Link
Type/order code	Description		
[1] Stopper cylinders EFSD	Electric stopper		efsd
[2] Mounting kit EAHM-E18-K-20	For mounting on a profile with slot 8		13
[3] Earthing kit	With size 20, electrostatic influences may cause malfunctions. An earthing kit is therefore included with the stopper cylinder		efsd
[4] Connecting cable NEBA	For connecting to a controller		13

Peripherals

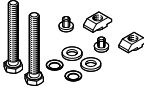
Peripherals overview EFSD-50/100



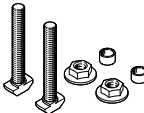
Accessories			→ Link
Type/order code	Description		
[1]	Stopper cylinders EFSD	Electric stopper	efsd
[2]	Mounting kit EAHM-E18-K-50	For mounting on a profile with slot 10 and flange width of approx. 6 mm	13
[2]	Mounting kit EAHM-E18-K-K-50-Z65	For mounting on a profile with slot 10 and flange width of approx. 3.7 mm	13
[3]	Connecting cable NEBA	For connecting to a controller	13

Accessories

Mounting kit EAHM for size 20 (for mounting on profile with slot 8)

	Material screws	Product weight	Part no.	Type
	Galvanised steel	34 g	8058454	EAHM-E18-K-20

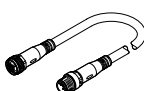
Mounting kit EAHM for size 50, 100 (for mounting on profile with slot 10)

	Material screws ¹⁾	Product weight	Part no.	Type
	Galvanised steel	85 g	8058455	EAHM-E18-K-50-Z65
			8058456	EAHM-E18-K-50

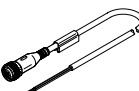
1) EAHM-E18-K-50-Z65 for profile with flange width of approx. 3.7 mm.

EAHM-E18-K-50 for profile with flange width of approx. 6 mm.

Connecting cable NEBU, straight

	Electrical connection 1, cable outlet	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	Straight	M12x1, A-coded to EN 61076-2-101	M12x1, A-coded to EN 61076-2-101	5	5 m	574321	NEBU-M12G5-E-5-Q8N-M12G5
					7.5 m	574322	NEBU-M12G5-E-7.5-Q8N-M12G5
					10 m	574323	NEBU-M12G5-E-10-Q8N-M12G5

Connecting cable NEBA-M12 with open end

	Electrical connection 1, cable outlet	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	Straight	M12x1, A-coded to EN 61076-2-101	Open end	5	2.5 m	8078242	NEBA-M12G5-U-2.5-N-LE5
					5 m	8078243	NEBA-M12G5-U-5-N-LE5
					10 m	8078244	NEBA-M12G5-U-10-N-LE5
	Angled				2.5 m	8078251	NEBA-M12W5-U-2.5-N-LE5
					5 m	8078252	NEBA-M12W5-U-5-N-LE5