

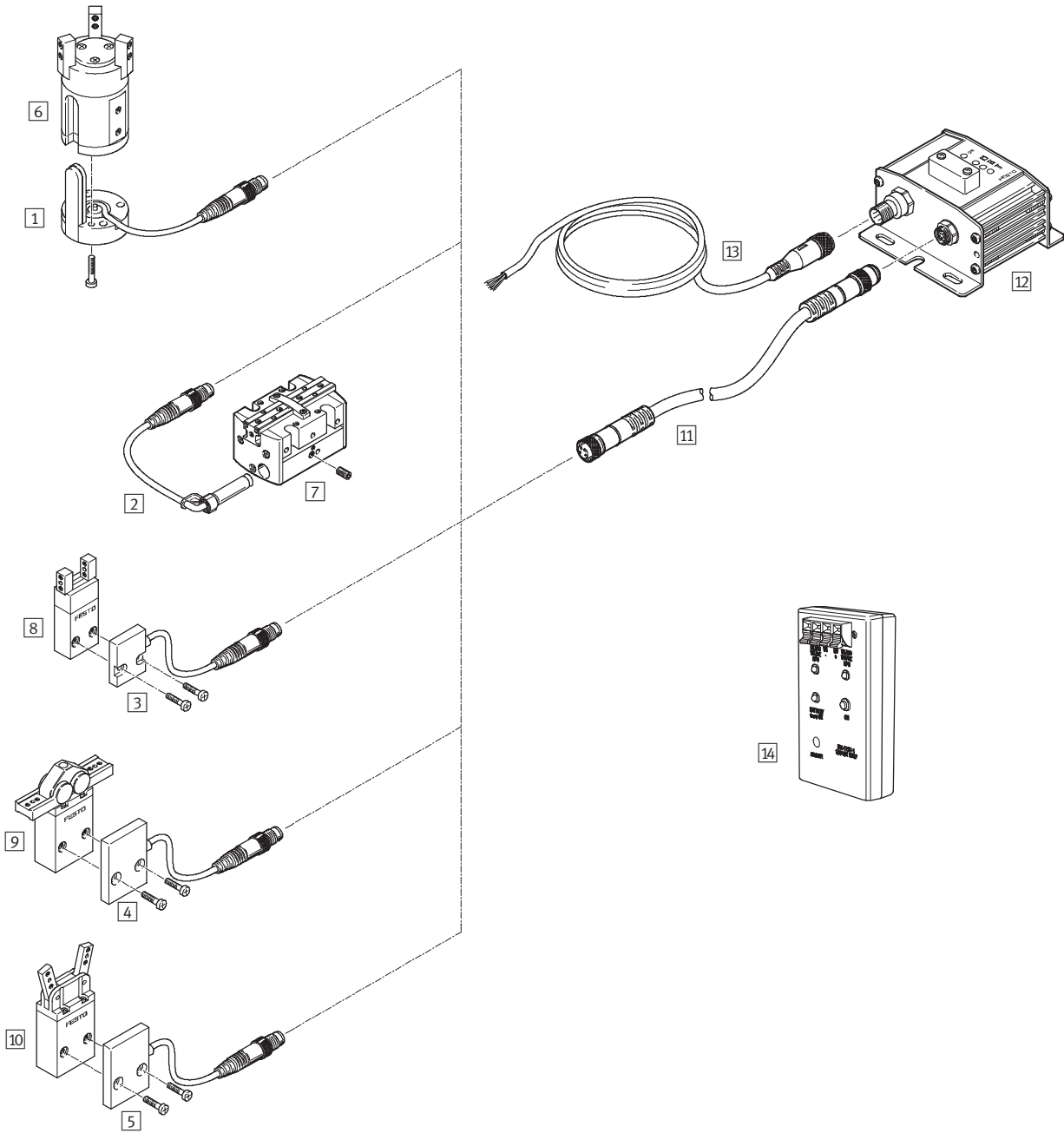
Position sensors SMH, for grippers

Peripherals overview

FESTO

Drive accessories
Cylinder sensors

10.2



Position sensors SMH, for grippers

Peripherals overview

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Mounting attachments and accessories		
	Brief description	→ Page
Position sensors		
1	SMH-S1-HGD16	For three-point grippers HGD-16-A
2	SMH-S1-HGPP-...	For parallel grippers HGPP-...
3	SMH-S1-HGP06	For parallel grippers HGP-06-A
4	SMH-S1-HGR10	For radial grippers HGR-10-A
5	SMH-S1-HGW10	For angle grippers HGW-10-A
Drives		
6	Three-point grippers HGD-16-A	1 / 7.5-1
7	Parallel grippers HGPP-...	Ø 10 ... 32 mm
8	Parallel grippers HGP-06-A	
9	Radial grippers HGR-10-A	
10	Angle grippers HGW-10-A	
Accessories		
11	Connecting cable KSMH-1-M8-2-M8	Position sensor/evaluation unit connecting cable, plug/straight socket, M8x1, 4-pin
12	Evaluation unit SMH-AE1-...	1 / 10.2-110
13	Plug socket with cable SIM-M12-5GD-...-PU	Evaluation unit/controller connecting cable, straight socket, M12x1, 5-pin
14	Sensor tester SM-TEST-1	1 / 10.2-113

Drive accessories
Cylinder sensors

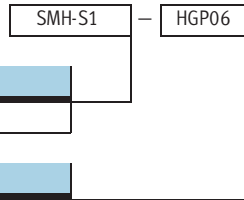
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Position sensors SMH, for grippers

Type codes

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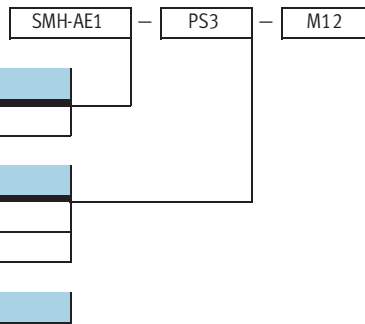
Position sensor



Type	
SMH-S1	Position sensor for gripper

Associated grippers	
HGD16	Three-point gripper HGD-16-...
HGP06	Parallel gripper HGP-06-...
HGR10	Radial gripper HGR-10-...
HGW10	Angle gripper HGW-10-...
HGPP-10/12	Parallel gripper HGPP-10-... and HGPP-12-...
HGPP-16	Parallel gripper HGPP-16-...
HGPP20/25	Parallel gripper HGPP-20-... and HGPP-25-...
HGPP-32	Parallel gripper HGPP-32-...

Evaluation unit



Type	
SMH-AE1	Evaluation unit

Switch output	
PS3	N/O contact, PNP, 3 switch outputs
NS3	N/O contact, NPN, 3 switch outputs

Electrical connection	
M12	Plug M12x1, 5-pin

Position sensors SMH, for grippers

Technical data

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Position sensor SMH-S1-...

- Magnetic Hall measuring principle

Function



Design	
Constructional design	For grippers
Type of mounting	Screwed to gripper

Technical data	
Electrical connection	Cable with plug M8x1, 4-pin
Cable length [m]	0.5
Protection against short circuit	No
Protection against polarity reversal	No
Protection class	IP65
CE symbol (declaration of conformity)	In accordance with EU EMC directive
Product weight [g]	20 (30) ¹⁾

1) Weight in brackets applies to SMH-S1-HGD16

Materials	
Housing	Polyamide
Cable sheath	Polyurethane
Note on materials	Free of copper and PTFE

Operating and environmental conditions	
Electrical connection	Cable
Ambient temperature [°C]	5 ... +60
Corrosion resistance class CRC ¹⁾	2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Drive accessories
Cylinder sensors

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Position sensors SMH, for grippers

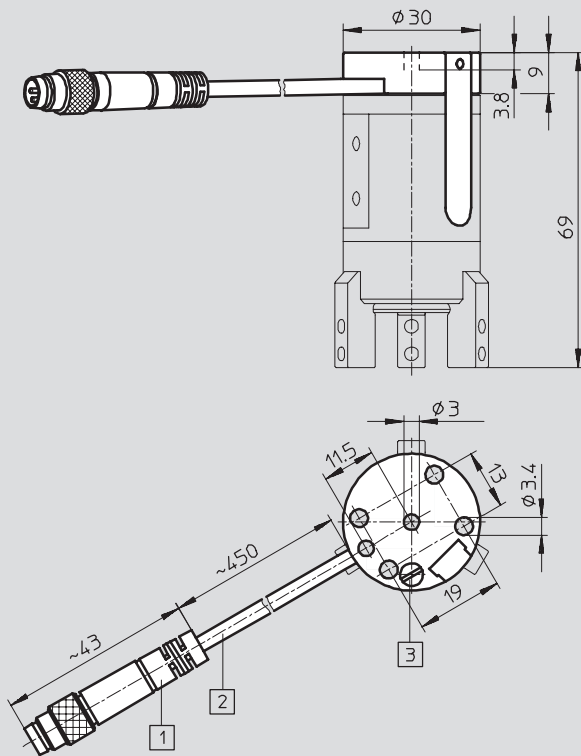
Technical data

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Dimensions

Download CAD data → www.festo.com/en/engineering

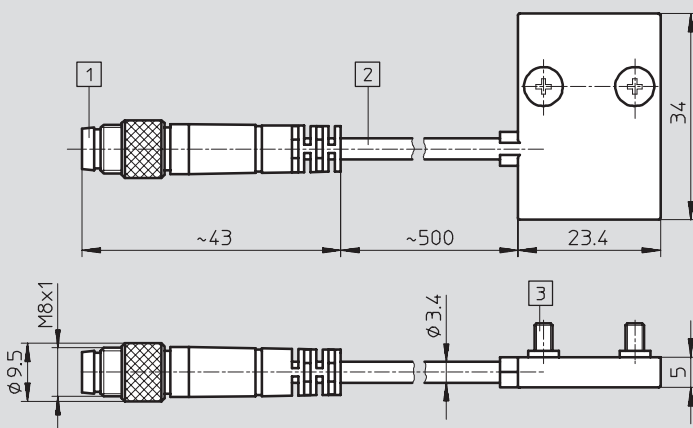
SMH-S1-HGD16



- 1 Plug suitable for plug socket with cable KSMH-1-M8-2-M8 or evaluation unit SMH-AE1-...
- 2 Connecting cable
- 3 Mounting screw

SMH-S1-HGR10

SMH-S1-HGW10



- 1 Plug suitable for plug socket with cable KSMH-1-M8-2-M8 or evaluation unit SMH-AE1-...
- 2 Connecting cable
- 3 Mounting screw

Position sensors SMH, for grippers

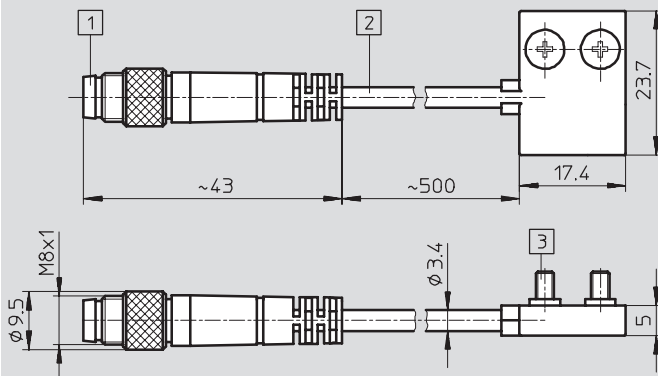
Technical data

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Dimensions

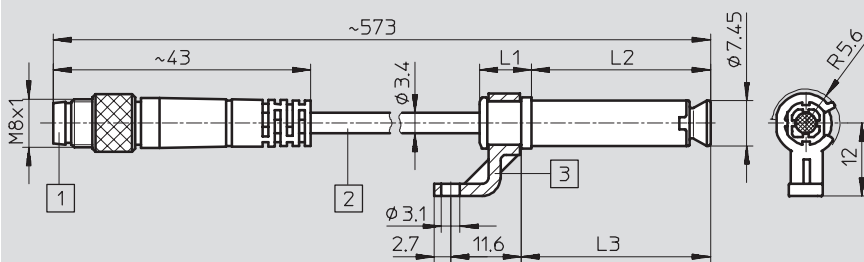
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SMH-S1-HGP06



- 1 Plug suitable for plug socket with cable KSMH-1-M8-2-M8 or evaluation unit SMH-AE1-...
- 2 Connecting cable
- 3 Mounting screw

SMH-S1-HGPP-...



- 1 Plug suitable for plug socket with cable KSMH-1-M8-2-M8 or evaluation unit SMH-AE1-...
- 2 Connecting cable
- 3 Clip for lateral cable exit

Type	L1	L2	L3
SMH-S1-HGPP10/12	8.6	29.5	31.2
SMH-S1-HGPP16	9.1	36.4	38.6
SMH-S1-HGPP20/25	9.1	39.5	41.7
SMH-S1-HGPP32	9.1	46.9	49

Ordering data

Associated grippers	Part No.	Type
HGD-16-A	175 713	SMH-S1-HGD16
HGP-06-A	175 710	SMH-S1-HGP06
HGR-10-A	175 712	SMH-S1-HGR10
HGW-10-A	175 711	SMH-S1-HGW10
HGPP-10-...	189 040	SMH-S1-HGPP10/12
HGPP-12-...		
HGPP-16-...	189 041	SMH-S1-HGPP16
HGPP-20-...	189 042	SMH-S1-HGPP20/25
HGPP-25-...		
HGPP-32-...	526 895	SMH-S1-HGPP32

Position sensors SMH, for grippers

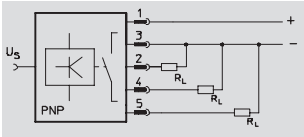
Technical data – Evaluation unit



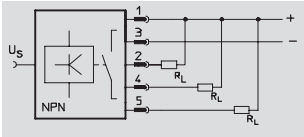
Evaluation unit SMH-AE1-...

Function

PNP



NPN



Design	
Type of mounting	Via through-holes
Switching status display	Yellow LED
Ready status display	Green LED

Technical data		
Switch output	PNP	NPN
Electrical connection	Plug M12x1, 5-pin	
Sensor connection	4-pin	
Operating voltage range	[V DC]	12 ... 30
Protection class	IP53	
CE symbol (declaration of conformity)	In accordance with EU EMC directive	

Materials	
Housing	Wrought aluminium alloy
Note on materials	Free of copper and PTFE

Operating and environmental conditions	
Electrical connection	Cable
Ambient temperature	[°C] 5 ... +60
Corrosion resistance class CRC ¹⁾	2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Terminal allocation			
	Terminal	Symbol	Meaning
	1	—	0 V DC
	2		Large object gripped
	3	—	24 V DC
	4		Small object gripped
	5		Gripper closed (no object gripped)

Position sensors SMH, for grippers

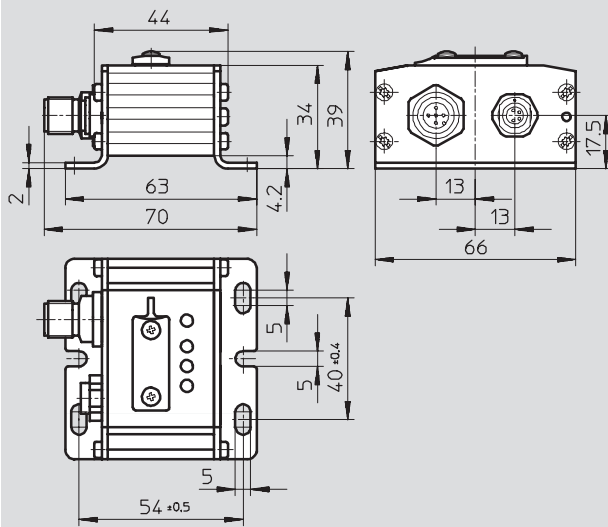
Technical data – Evaluation unit

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Dimensions

Download CAD data → www.festo.com/en/engineering

SMH-AE1-...



Ordering data		
Switch output	Part No.	Type
PNP	175 708	SMH-AE1-PS3-M12
NPN	175 709	SMH-AE1-NS3-M12

Drive accessories
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Position sensors SMH, for grippers

Accessories

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Connecting cable M8x1 KSMH-1-M8-2-M8

Material:
Housing: Polyurethane
Cable sheath: Polyurethane
Free of copper and PTFE

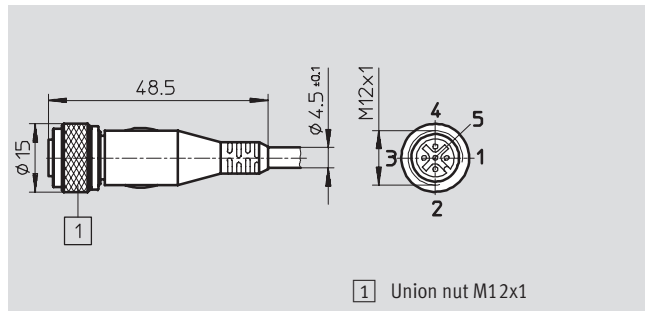


Ordering data		Technical data → 4 / 8.3-2	
Cable length [m]	CRC ¹⁾	Part No.	Type
Straight socket			
2	2	175 714	KSMH-1-M8-2-M8

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Plug socket with cable M12x1 SIM-M12-5GD-...

Material:
Housing: Polyurethane
Cable sheath: Polyurethane



Ordering data		Technical data → 4 / 8.3-2	
Cable length [m]	CRC ¹⁾	Part No.	Type
Straight socket			
2.5	2	175 715	SIM-M12-5GD-2,5-PU
5	2	175 716	SIM-M12-5GD-5-PU

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.