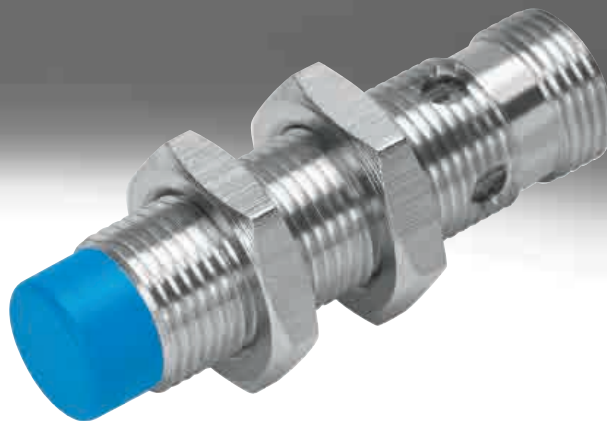


## Proximity switches SIEH, inductive

**FESTO**

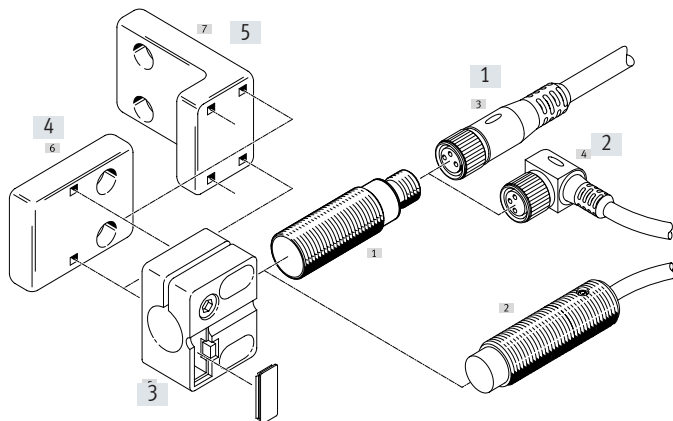


## Product range overview

Design	Type	Operating voltage	Switching output/ analogue output	Type of installation	Size	→ Page
<b>Reduction factor, material-specific</b>						
Standard switching distance	SIEN Basic version	10 ... 30 V DC 15 ... 34 V DC	PNP NPN	Flush Not flush	∅ 4 mm, M5, ∅ 6.5 mm, M8, M12, M18, M30	–
	SIEN-...-PA Polyamide housing	10 ... 30 V DC	PNP NPN	Flush Not flush	M12, M18, M30	–
	SIED Basic version	20 ... 265 V AC 20 ... 320 V DC	Contactless, 2-wire	Flush Not flush	M12, M18, M30	–
	SIED-...-PA Polyamide housing	20 ... 250 V AC 10 ... 300 V DC	Contactless, 2-wire	Flush Not flush	M12, M18, M30	–
	SIES Special design	10 ... 30 V DC	PNP NPN	Flush	5x5x25 mm ... 40x40x120 mm	–
	Increased switching distance	SIEH Basic version	10 ... 30 V DC 15 ... 34 V DC	PNP NPN	Flush	∅ 3 mm, M12, M18
SIEH-...-CR Stainless steel housing		10 ... 30 V DC	PNP NPN	Flush	M12, M18	9
<b>Reduction factor 1 for all metals, welding-field-resistant</b>						
Increased switching distance	SIEF Basic version	10 ... 65 V DC	PNP NPN	Flush Partially flush	M8, M12, M18, M30 40x40x65 mm	
	SIEF-...-WA Housing resistant to welding spatter	10 ... 30 V DC	PNP NPN	Flush Partially flush	M12, M18, M30	

## Peripherals overview

SIE...



Mounting attachments and accessories		→ Page
[1]	Connecting cable, straight socket NEBU-M...G...	13
[2]	Connecting cable, angled socket NEBU-M...W...	13
[3]	Sensor bracket SIEZ-...B	13
[4]	Sensor bracket SIEZ-NB	13
[5]	Sensor bracket SIEZ-UH	13
-	Mounting bracket HV-M5	13
Mounting attachments and accessories		→ Page
-	Foot mounting HBN	13
-	Flange mounting FBN	13
-	Stop SDA	13

## Type codes

<b>001</b>	<b>Series</b>	
<b>SIEH</b>	Proximity sensor, inductive, with increased switching distance	

<b>002</b>	<b>Design</b>	
<b>3</b>	Round, diameter 3 mm	
<b>M12</b>	Round, M12x1	
<b>M18</b>	Round, M18x1	

<b>003</b>	<b>Mounting type</b>	
<b>B</b>	Flush	

<b>004</b>	<b>Switching input/output</b>	
<b>N</b>	NPN	
<b>P</b>	PNP	

<b>005</b>	<b>Switching element function</b>	
<b>O</b>	N/C contact	
<b>S</b>	N/O contact	

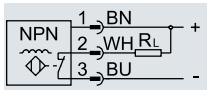
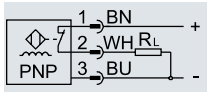
<b>006</b>	<b>Electrical connection</b>	
<b>K</b>	Open end	
<b>S</b>	Plug M8x1, 4-pin	

<b>007</b>	<b>Display</b>	
<b>L</b>	Switching status	

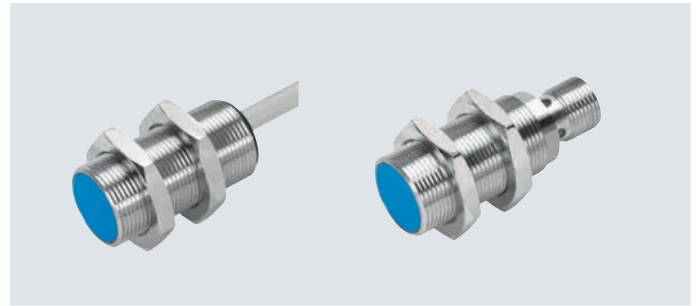
<b>008</b>	<b>Housing material</b>	
	Standard	
<b>CR</b>	Stainless steel housing	

## Technical data – Increased switching distance

### Function



- Increased switching distance
- For DC voltage
- Round design



General technical data			
Size	3 mm	M12	M18
Design	Round	–	–
Conforms to standard	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Certification	c UL us Listed (OL)	c UL us Listed (OL)	c UL us Listed (OL)
	RCM compliance mark	C-Tick	RCM compliance mark
CE marking (see declaration of conformity)	To EU EMC Directive <sup>1)</sup>	To EU EMC Directive <sup>1)</sup>	To EU EMC Directive <sup>1)</sup>
Note on materials	Free of copper and PTFE	Free of copper and PTFE	Free of copper and PTFE
	–	–	RoHS-compliant

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/SIEH](http://www.festo.com/catalogue/SIEH) → 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.

### Input signal/measuring element

Ambient temperature	[°C]	–25 ... +70
---------------------	------	-------------

### Output, general

Size	3 mm	M12	M18	
Repetition accuracy	[mm]	0.02	–	0.4
Repetition accuracy under constant conditions	[mm]	–	0.2	–

### Switching output

Size	3 mm	M12	M18	
Switching output	PNP	PNP	PNP	
	NPN	NPN	NPN	
Switching element function	N/O	N/C	N/O	
	–	N/C	N/C	
Rated operating distance	[mm]	1	4	8
Actual operating distance	[mm]	0.81	3.24	6.48

### Reduction factors

Aluminium		0.5	0.4	0.35
Stainless steel St 18/8		0.8	0.8	0.7
Copper		0.45	0.4	0.3
Brass		0.6	0.5	0.4
Steel St 37		1.0	1.0	1.0
Hysteresis	[mm]	≤ 0.12	≤ 0.36	≤ 0.88
Switch-on time	[ms]	0.02	–	–
Max. switching frequency	[Hz]	3 000	2 500	1 500
Max. output current	[mA]	100	200	200
Voltage drop	[V]	0 ... 2	–	–

## Technical data – Increased switching distance

<b>Output, additional data</b>						
Size	3 mm		M12		M18	
Short circuit current rating	Pulsed		Pulsed		Pulsed	
Inductive protective circuit	Integrated		Integrated		–	
	Output current < 100 mA					
	and switching frequency < 10 Hz					
<b>Electronics</b>						
Size	3 mm		M12		M18	
Operating voltage range	[V DC]	10 ... 30				
Residual ripple	[%]	20		±10		±20
No-load supply current	[mA]	0 ... 10				
Reverse polarity protection	For all electrical connections					
<b>Electromechanics</b>						
Electrical connection	Cable			Plug		
Size	3 mm	M12	M18	3 mm	M12	M18
Electrical connection	Cable, 3-wire			Cable with plug, M8x1, 3-pin	Plug, M12x1, 3-pin	
Cable length	[m]	2.5		0.15	–	
Information on materials: Cable sheath	TPE-U (PUR)			TPE-U (PUR)		
Information on materials: Insulating sheath	PVC	–	–	PVC	–	
<b>Mechanical system</b>						
Electrical connection	Cable			Plug		
Size	3 mm	M12	M18	3 mm	M12	M18
Type of mounting	Clamped		With lock nut		With lock nut	
Type of installation	Flush			Flush		
Tightening torque	[Nm]	–	–	20	–	20
Product weight	[g]	18	110	108	4	30
Information on materials: Housing	High-alloy stainless steel	Nickel-plated brass		High-alloy stainless steel	Nickel-plated brass	
		PBTP			PBTP	
		–			PA	
<b>Display/operation</b>						
Switching status indication	Yellow LED					
<b>Immission/emission</b>						
Electrical connection	Cable			Plug		
Size	3 mm	M12	M18	3 mm	M12	M18
Ambient temperature with flexible cable installation	[°C]	–5 ... +70		–5 ... +70		
Degree of protection	–	IP65	–	–	IP65	–
	IP67			IP67		
Surge resistance	[kV]	–	–	0.8	–	0.8
Corrosion resistance class CRC <sup>1)</sup>	4	2	–	1	2	–
Pollution degree	–	–	3	–	–	3

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry indoor application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries.

Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

### Technical data – Increased switching distance

**Pin allocation to EN 60947-5-2**

M8x1, 3-pin

N/O	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output

M12x1, 3-pin

N/O	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output

N/C

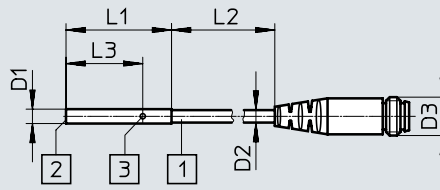
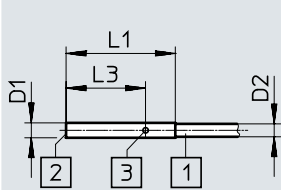
N/C	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	2	White	Output

**Dimensions – 3 mm**

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

Cable

Plug



- [1] 3-wire cable, 2.5 m long
- [2] Active surface
- [3] 1 switching status indication, yellow

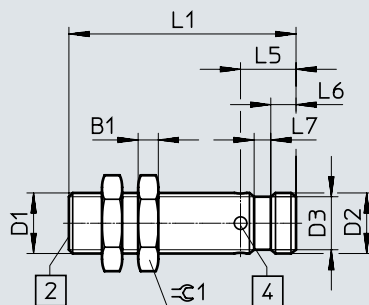
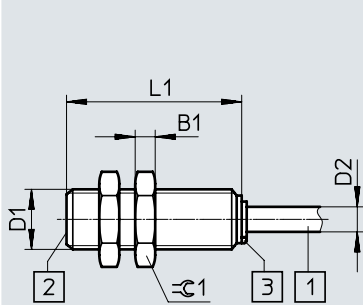
Type	D1 ∅	D2 ∅	D3	L1	L2	L3
SIEH-3B-...-S-K-L	3	2.6	-	22	-	16
SIEH-3B-...-S-S-L	3	2.6	M8x1	22	150	16

**Dimensions – M12**

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

Cable

Plug



- [1] 3-wire cable, 2.5 m long
- [2] Active surface
- [3] 1 switching status indication, yellow
- [4] 4 switching status indications, yellow

Type	B1	D1	D2 ∅	D2	D3 ∅	L1	L5	L6	L7	⊕ 1
SIEH-M12B-...-K-L	4	M12x1	5	-	-	35	-	-	-	17
SIEH-M12B-...-S-L	4	M12x1	-	M12x1	10.5	45	11	5	3.3	17

## Technical data – Increased switching distance

### Dimensions – M18

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

Cable

Plug

[1] 3-wire cable, 2.5 m long  
 [2] Active surface  
 [3] 1 switching status indication, yellow  
 [4] 4 switching status indications, yellow

Type	B1	D1	D2 ∅	D2	D3 ∅	L1	L4	L5	L6	L7	⊘ 1
SIEH-M18B-...-K-L	4	M18x1	5	-	-	35	-	-	-	-	24
SIEH-M18B-...-S-L	4	M18x1	-	M12x1	16.4	48.5	13.5	11	8	3	24

### Fitting instructions

#### Flush installation

[2] Active surface  
 [5] Metal-free zone

Size	B1	B2	H
3 mm	2.5	5	3
M12	10	24	12
M18	18	40	24

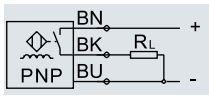
### Ordering data

Size	S <sub>n</sub> <sup>1)</sup> [mm]	Type of installation	Switching output	Switching element function	Electrical connection			
					Cable		Plug	
					Part No.	Type	Part No.	Type
	1.0	Flush	PNP	N/O	538264	SIEH-3B-PS-K-L	538263	SIEH-3B-PS-S-L
			NPN	N/O	538266	SIEH-3B-NS-K-L	538265	SIEH-3B-NS-S-L
	4.0	Flush	PNP	N/O	150450	SIEH-M12B-PS-K-L	150451	SIEH-M12B-PS-S-L
				N/C	150454	SIEH-M12B-PO-K-L	150455	SIEH-M12B-PO-S-L
			NPN	N/O	150448	SIEH-M12B-NS-K-L	150449	SIEH-M12B-NS-S-L
				N/C	150452	SIEH-M12B-NO-K-L	150453	SIEH-M12B-NO-S-L
	7.0	Flush	PNP	N/O	150458	SIEH-M18B-PS-K-L	150459	SIEH-M18B-PS-S-L
				N/C	150462	SIEH-M18B-PO-K-L	150463	SIEH-M18B-PO-S-L
			NPN	N/O	150456	SIEH-M18B-NS-K-L	150457	SIEH-M18B-NS-S-L
				N/C	150460	SIEH-M18B-NO-K-L	150461	SIEH-M18B-NO-S-L

1) S<sub>n</sub> Rated operating distance [mm]

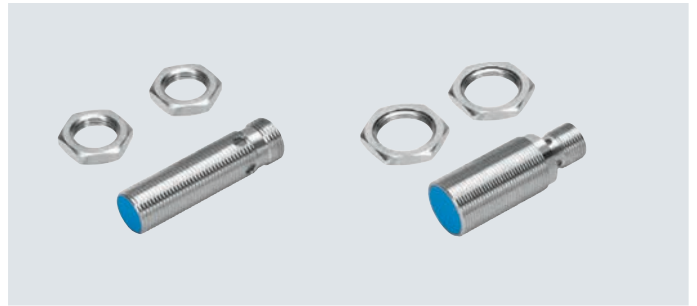


## Technical data – Increased switching distance

Function<sup>1)</sup>

1) e.g. N/O contact with PNP output and cable

- Increased switching distance
- For DC voltage
- Round design
- Resistant to chemicals and mechanical stresses



General technical data				
Size	M12		M18	
Switching output	PNP	NPN	PNP	NPN
Conforms to standard	EN 60947-5-2		EN 60947-5-2	
Certification	c UL us Listed (OL)		c UL us Listed (OL)	
	RCM compliance mark		RCM compliance mark	
CE marking (see declaration of conformity)	To EU EMC Directive <sup>1)</sup>		To EU EMC Directive <sup>1)</sup>	
Note on materials	Free of copper and PTFE		Free of copper and PTFE	

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/SIEH](http://www.festo.com/catalogue/SIEH) → 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.

Input signal/measuring element		
Ambient temperature	[°C]	-25 ... +70

Output, general		
Size	M12	M18
Reproducibility, switching value FS	[mm]	0.3
		0.5

Switching output				
Size	M12		M18	
Switching output	PNP	NPN	PNP	NPN
Switching output	PNP		PNP	
	NPN		NPN	
Switching element function	N/O		N/O	
Rated operating distance	[mm]	6	10	
Actual operating distance	[mm]	4.86	8.1	

Reduction factors				
Aluminium		1.0	1.0	
Stainless steel, 1 mm thick		0.45	0.4	
Stainless steel, 2 mm thick		0.9	0.8	
Copper		0.85	0.8	0.85
Brass		1.3	1.3	
Steel St 37		1.0	1.0	
Hysteresis	[mm]	≤ 0.73	≤ 1.22	
Max. switching frequency	[Hz]	600	200	
Max. output current	[mA]	200	200	
Voltage drop	[V]	2	≤ 2	2
				≤ 2

## Technical data – Increased switching distance

Output, additional data	
Short circuit current rating	Pulsed
Inductive protective circuit	Integrated
	Output current < 100 mA and switching frequency < 10 Hz

Electronics		
Switching output	PNP	NPN
Operating voltage range [V DC]	10 ... 30	10 ... 30
Residual ripple [%]	20	20
No-load supply current [mA]	< 12	≤ 17
Reverse polarity protection	For all electrical connections	For all electrical connections

Electromechanics		
Electrical connection	Cable	Plug
Electrical connection	Cable, 3-wire	Plug, M12x1, 3-pin
Information on materials: Cable sheath	TPE-U (PUR)	–

Mechanical system				
Size	M12		M18	
Electrical connection	Cable	Plug	Cable	Plug
Size	M12		M18	
Type of mounting	With lock nut		With lock nut	
Type of installation	Flush		Flush	
Product weight [g]	90	28	115	53
Information on materials: Housing	High-alloy steel		High-alloy steel	

Display/operation	
Switching status indication	Yellow LED

Immission/emission				
Size	M12		M18	
Switching output	PNP	NPN	PNP	NPN
Ambient temperature with flexible cable installation [°C]	–5 ... +70		–5 ... +70	
Degree of protection	IP67		IP67	
	IP69K		IP69K	
Corrosion resistance class CRC <sup>1)</sup>	2		2	
Resistance to sensor fitting pressure [bar]	80		60	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

## Pin allocation to EN 60947-5-2

M8x1, 3-pin				M12x1, 3-pin				N/C			
N/O				N/O				N/C			
	Pin	Wire colour	Allocation		Pin	Wire colour	Allocation		Pin	Wire colour	Allocation
	1	Brown	+		1	Brown	+		1	Brown	+
	3	Blue	–		3	Blue	–		3	Blue	–
	4	Black	Output		4	Black	Output		2	White	Output

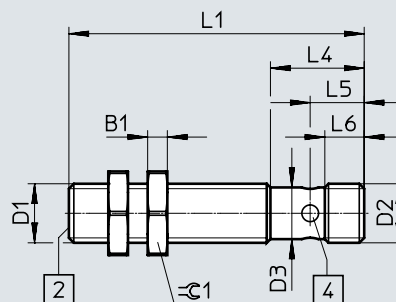
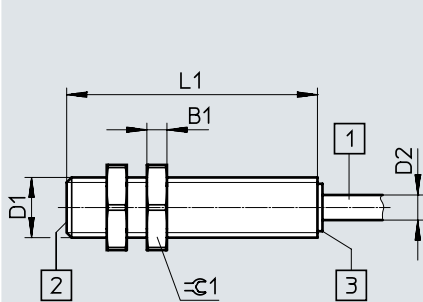
## Technical data – Increased switching distance

## Dimensions – M12

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

Cable

Plug



- [1] 3-wire cable, 2.5 m long
- [2] Active surface
- [3] 1 switching status indication, yellow
- [4] 4 switching status indications, yellow

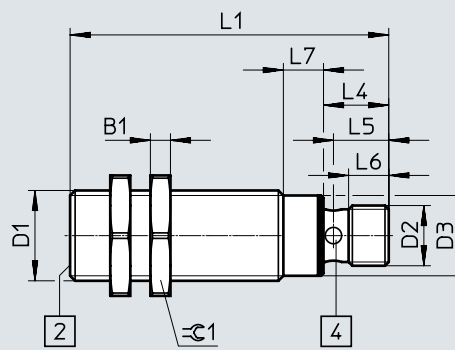
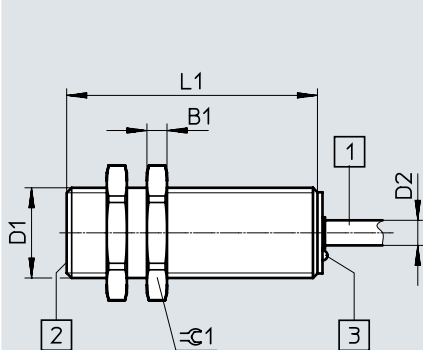
Type	B1	D1	D2 ∅	D2	D3 ∅	L1	L4	L5	L6	±1
SIEH-M12B-...-S-K-L-CR	4	M12x1	5	-	-	50	-	-	-	17
SIEH-M12B-...-S-S-L-CR	4	M12x1	-	M12x1	10.5	60	19	11	8	17

## Dimensions – M18

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

Cable

Plug



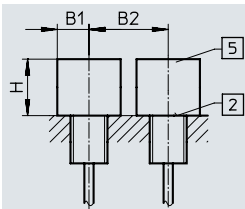
- [1] 3-wire cable, 2.5 m long
- [2] Active surface
- [3] 1 switching status indication, yellow
- [4] 4 switching status indications, yellow

Type	B1	D1	D2 ∅	D2	D3 ∅	L1	L4	L5	L6	L7	±1
SIEH-M18B-...-S-K-L-CR	4	M18x1	5	-	-	50	-	-	-	-	24
SIEH-M18B-...-S-S-L-CR	4	M18x1	-	M12x1	16	63.5	13	11	8	8	24

## Technical data – Increased switching distance

### Fitting instructions

Flush installation



[2] Active surface  
[5] Metal-free zone



Size	B1	B2	H
M12	12	40	18
M18	25	60	30



### Ordering data

Size	$S_n^{1)}$ [mm]	Type of installation	Switching output	Switching element function	Electrical connection			
					Cable		Plug	
					Part No.	Type	Part No.	Type
<b>M12</b>								
	6.0	Flush	PNP	N/O	538252	SIEH-M12B-PS-K-L-CR	538251	SIEH-M12B-PS-S-L-CR
			NPN	N/O	538254	SIEH-M12B-NS-K-L-CR	538253	SIEH-M12B-NS-S-L-CR
<b>M18</b>								
	10.0	Flush	PNP	N/O	538256	SIEH-M18B-PS-K-L-CR	538255	SIEH-M18B-PS-S-L-CR
			NPN	N/O	538258	SIEH-M18B-NS-K-L-CR	538257	SIEH-M18B-NS-S-L-CR






1)  $S_n$  Rated operating distance [mm]

## Accessories





Ordering data – Connecting cables M8x1			Technical data → Internet: nebu	
	Number of wires	Cable length [m]	Part No.	Type
<b>Straight socket</b>				
	3	2.5	★ 541333	NEBU-M8G3-K-2.5-LE3
		5	★ 541334	NEBU-M8G3-K-5-LE3
<b>Angled socket</b>				
	3	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3
		5	★ 541341	NEBU-M8W3-K-5-LE3

Ordering data – Connecting cables M12x1			Technical data → Internet: nebu	
	Number of wires	Cable length [m]	Part No.	Type
<b>Straight socket</b>				
	3	2.5	★ 541363	NEBU-M12G5-K-2.5-LE3
		5	★ 541364	NEBU-M12G5-K-5-LE3
	4	2.5	★ 550326	NEBU-M12G5-K-2.5-LE4 <sup>1)</sup>
		5	★ 541328	NEBU-M12G5-K-5-LE4 <sup>1)</sup>
<b>Angled socket</b>				
	3	2.5	541367	NEBU-M12W5-K-2.5-LE3
		5	541370	NEBU-M12W5-K-5-LE3
	4	2.5	550325	NEBU-M12W5-K-2.5-LE4 <sup>1)</sup>
		5	541329	NEBU-M12W5-K-5-LE4 <sup>1)</sup>

1) For connecting proximity switches SIE...-M12/M18/M30 in N/C contact version with plug.

Ordering data – Mounting components				
	For size	Part No.	Type	
<b>Sensor bracket with stop for flush mounting</b>				
	M8	538346	SIEZ-B-8	
	M12	538348	SIEZ-B-12	
	M18	538350	SIEZ-B-18	
	M30	538352	SIEZ-B-30	
<b>Sensor bracket without stop</b>				
	4	538343	SIEZ-NB-4	
	6.5	538344	SIEZ-NB-6.5	
	M8	538345	SIEZ-NB-8	
	M12	538347	SIEZ-NB-12	
	M18	538349	SIEZ-NB-18	
	M30	538351	SIEZ-NB-30	
	M12, M18	538354	SIEZ-UH	

## Accessories

Ordering data – Mounting components		Part No.	Type
	For size		
<b>Foot mounting</b>			
	M12	5123	HBN-8/10X1
<b>Flange mounting</b>			
	M30	195855	FBN-32
<b>Mounting bracket</b>			
	SIES-V3B	9634	HV-M5
<b>Stop</b>			
	M8	11542	SDA-8x1-B
	M12	11541	SDA-12x1-B

# Festo - Your Partner in Automation



**1 Festo Inc.**  
5300 Explorer Drive  
Mississauga, ON L4W 5G4  
Canada

**Festo Customer Interaction Center**  
Tel: 1 877 463 3786  
Fax: 1 877 393 3786  
Email: [customer.service.ca@festo.com](mailto:customer.service.ca@festo.com)

**2 Festo Pneumatic**  
Av. Ceylán 3,  
Col. Tequesquináhuac  
54020 Tlalnepantla,  
Estado de México

**Multinational Contact Center**  
01 800 337 8669  
[ventas.mexico@festo.com](mailto:ventas.mexico@festo.com)

**3 Festo Corporation**  
1377 Motor Parkway  
Suite 310  
Islandia, NY 11749

**Festo Customer Interaction Center**  
1 800 993 3786  
1 800 963 3786  
[customer.service.us@festo.com](mailto:customer.service.us@festo.com)

**4 Regional Service Center**  
7777 Columbia Road  
Mason, OH 45040

Connect with us



[www.festo.com/socialmedia](http://www.festo.com/socialmedia)



[www.festo.com](http://www.festo.com)

Subject to change