

Proximity sensors SIE..., inductive



## Proximity sensors SIE..., inductive

Product range overview

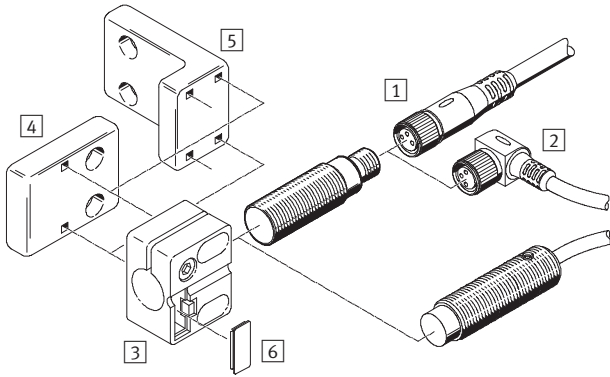
Version	Type	Operating voltage	Switching output/ analogue output	Mounting type	Size	→ Page/ Internet	
<b>Reduction factor, material-specific</b>							
Standard switching distance	SIEN Basic version	10 ... 30 V DC	PNP	Flush	∅ 4 mm, M5, ∅ 6.5 mm, M8, M12, M18, M30	5	
		15 ... 34 V DC	NPN	Non-flush			
	SIEN-...-PA Polyamide housing	10 ... 30 V DC	PNP	Flush	M12, M18, M30	11	
			NPN	Non-flush			
	SIED Basic version	20 ... 265 V AC	Contactless, 2-wire		Flush	M12, M18, M30	14
		20 ... 320 V DC			Non-flush		
SIED-...-PA Polyamide housing	20 ... 250 V AC	Contactless, 2-wire		Flush	M12, M18, M30	19	
	10 ... 300 V DC			Non-flush			
SIES Special design	10 ... 30 V DC	PNP		Flush	5x5x25 mm ... 40x40x120 mm	22	
		NPN					
Increased switching distance	SIEH Basic version	10 ... 30 V DC	PNP	Flush	∅ 3 mm, M12, M18	26	
		15 ... 34 V DC	NPN				
	SIEH-...-CR Stainless steel housing	10 ... 30 V DC	PNP	Flush	M12, M18	30	
Analogue output	SIEA	15 ... 30 V DC	0 ... 10 V and 4 ... 20 mA	Flush	M8, M12, M18, M30	33	
<b>Reduction factor 1 for all metals, welding field immune</b>							
Increased switching distance	SIEF Basic version	10 ... 30 V DC	PNP	Flush	M8, M12, M18, M30 40x40x65 mm	36	
			NPN	Partially flush			
	SIEF-...-WA Housing resistant to welding spatter	10 ... 65 V DC	PNP	Flush	M12, M18, M30	42	
			NPN	Partially flush			

## Proximity sensors SIE..., inductive

Peripherals overview

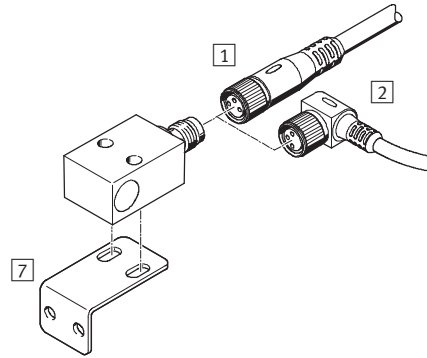
**FESTO**

SIE...



Mounting attachments and accessories	→ Page/Internet
1 Connecting cable, straight socket NEBU-M...G...	46
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6 Inscription label SIEZ-LB	46
7 Mounting bracket HV-M5	46

SIES-V3B



Mounting attachments and accessories	→ Page/Internet
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– Foot mounting for proximity sensor SIE...-M18 HBE-...	46
– Flange mounting for proximity sensor SIE...-M30 FBN-...	46
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# Proximity sensors SIE..., inductive

Type codes

FESTO

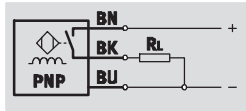
		SIE	N	-	M	30	NB	-	P	S	-	K	-	L	-	
<b>Type</b>																
SIE	Proximity sensor, inductive															
<b>Type</b>																
A	With analogue output															
D	For DC and AC voltage															
F	With reduction factor 1 for all metals, welding field immune															
H	With increased switching distance															
N	With standard switching distance															
S	Special design															
<b>Design</b>																
-	Round															
M	Metric thread															
Q	Block-shaped															
V3	Block-shaped															
<b>Size</b>																
<b>Mounting type</b>																
B	Flush															
NB	Non-flush															
S	Partially flush															
<b>Electrical output</b>																
P	Switching output PNP															
N	Switching output NPN															
Z	2-wire output															
PU	Analogue output 0 ... 10 V															
UI	Analogue output 0 ... 10 V and 4 ... 20 mA															
<b>Switching element function</b>																
S	N/O contact															
O	N/C contact															
A	Antivalent															
<b>Electrical connection</b>																
K	Cable															
S	Plug															
X	Screw terminals															
<b>Display</b>																
-	Without display															
L	Switching status															
2L	Switching status and ready status															
<b>Version</b>																
-	Standard															
CR	Stainless steel housing															
PA	Polyamide housing															
WA	Housing resistant to welding spatter															

# Proximity sensors SIEN, inductive

Technical data – Standard switching distance, basic version

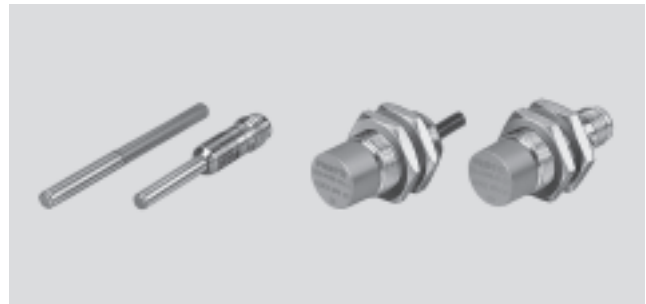


Function<sup>1)</sup>



- Standard switching distance
- For DC voltage
- Round design

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



General technical data							
Size	4 mm	M5	6.5 mm	M8	M12	M18	M30
Conforms to	EN 60947-5-2					EN 60947-5-2	
Certification	cULus listed (OL)					-	
	C-Tick					-	
CE mark (see declaration of conformity)	To EU EMC Directive					To EU EMC Directive	
Note on materials	Free of copper and PTFE					Free of copper and PTFE	
	RoHS-compliant		-			-	
	-		Contains PWIS (paint-wetting impairment substances)			-	

Input signal/measuring element							
Size	4 mm	M5	6.5 mm	M8	M12	M18	M30
Ambient temperature [°C]	-25 ... +70					-25 ... +85	

Output, general											
Mounting type	Flush							Non-flush			
	Size	4 mm	M5	6.5 mm	M8	M12	M18	M30	M8	M12	M18
Repetition accuracy [mm]	0.04	0.04	0.07	0.07	0.1	0.15	0.3	0.12	0.2	0.2	0.4

Switching output											
Mounting type	Flush							Non-flush			
	Size	4 mm	M5	6.5 mm	M8	M12	M18	M30	M8	M12	M18
Switching output	PNP							PNP			
	NPN							NPN			
Switching element function	N/O contact							N/O contact			
	N/C contact							N/C contact			
Rated operating distance [mm]	0.8	0.8	1.5	1.5	2	5	10	2.5	4	8	15
Assured switching distance [mm]	0.64	0.64	1.21	1.21	1.62	4.05	8.1	2.03	3.24	6.48	12.15

Reduction factors											
	4 mm	M5	6.5 mm	M8	M12	M18	M30	M8	M12	M18	M30
Aluminium	0.4	0.4	0.25	0.25	0.4	0.4	0.4	0.25	0.5	0.4	0.4
Stainless steel St 18/8	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.9	0.7	0.7
Copper	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.5	0.3	0.3
Brass	0.4	0.4	0.35	0.35	0.5	0.4	0.4	0.35	0.6	0.4	0.4
Steel St 37	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Hysteresis [mm]	-	-	≤ 0.07	≤ 0.07	≤ 0.18	-	-	≤ 0.12	≤ 0.36	-	-
Max. switching frequency [Hz]	3,000	3,000	5,000	5,000	3,000	800	350	3,000	2,000	300	300
Max. switching frequency DC [Hz]	3,000	3,000	-	-	-	800	350	-	-	300	300
Max. output current at ≤ 50 °C [mA]	-	-	-	-	-	200	200	-	-	200	200
Max. output current at ≤ 70 °C [mA]	200	200	200	200	200	-	-	200	200	-	-
Max. output current at ≤ 85 °C [mA]	-	-	-	-	-	150	150	-	-	150	150
Voltage drop [V]	2	2	≤ 2	≤ 2	≤ 2	3.2	3.2	≤ 2	≤ 2	3.2	3.2

# Proximity sensors SIEN, inductive

Technical data – Standard switching distance, basic version

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Output, additional data							
Size	4 mm	M5	6.5 mm	M8	M12	M18	M30
Protection against short circuit	Pulsed						
Inductive protective circuit	Integrated						
Induced voltage protection	Integrated			–			

Electronic components							
Size	4 mm	M5	6.5 mm	M8	M12	M18	M30
Operating voltage range [V DC]	10 ... 30					15 ... 34	
Residual ripple [%]	10		±10		10		
Idle current [mA]	≤ 10					≤ 30	
Reverse polarity protection	For all electrical connections						

Electromechanical components							
Size	4 mm	M5	6.5 mm	M8	M12	M18	M30
Cable							
Electrical connection	Cable, 3-wire						
Cable length [m]	2.5						
Cable sheath material	PUR						
Plug							
Electrical connection	Plug, M8x1, 3-pin	Plug, M8x1, 3-pin	Plug, M8x1, 3-pin	Plug, M8x1, 3-pin	Plug, M12x1, 3-pin	Plug, M12x1, 3-pin	Plug, M12x1, 3-pin
Cable sheath material	PUR			–			

Mechanical components											
Size	4 mm	M5	6.5 mm	M8	M12	M18	M30				
Attachment type	Clamped	Via lock nut	Clamped	Via lock nut			Via lock nut				
Mounting type	Flush		Flush	Non-flush	Flush	Non-flush	Flush	Non-flush	Flush	Non-flush	
Tightening torque [Nm]	–	2	–	–			25	50			
Cable											
Product weight [g]	48	48	45	53	110	90	120	170			
Housing material	High-alloy stainless steel				Chrome-plated brass		Nickel-plated brass				
	–		PA	–			–				
	–		–		PBT		–				
Plug											
Product weight [g]	9	9	4	18	18	30	25	40	40	100	100
Housing material	High-alloy stainless steel				–		–				
Housing material	–		Chrome-plated brass				Nickel-plated brass				
	–		PA				–				
	–		–		PBT		–				

Display/operation	
Switching status display	Yellow LED

# Proximity sensors SIEN, inductive

Technical data – Standard switching distance, basic version

Immissions/emissions							
Size	4 mm	M5	6.5 mm	M8	M12	M18	M30
Ambient temperature with flexible cable installation [°C]	–		–5 ... +70		–	–	
Protection class	–		IP65			–	
	IP67		IP67			IP67	
Corrosion resistance class CRC <sup>1)</sup>	–		2			–	

1) Corrosion resistance class 2 according to Festo standard 940 070

Components subject to moderate corrosion stress. 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.

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

**Dimensions – 4 mm** Download CAD data → [www.festo.com](http://www.festo.com)

Flush fitting Plug

Cable Cable

- 1 Connecting cable
- 2 Active surface
- 3 LED
- 4 4x LED

**Dimensions – M5** Download CAD data → [www.festo.com](http://www.festo.com)

Flush fitting Plug

Cable Cable

- 1 Connecting cable
- 2 Active surface
- 3 LED
- 4 4x LED

**Dimensions – 6.5 mm** Download CAD data → [www.festo.com](http://www.festo.com)

Flush fitting Plug

Cable Cable

- 1 Connecting cable
- 2 Active surface
- 3 LED
- 4 4x LED

# Proximity sensors SIEN, inductive

Technical data – Standard switching distance, basic version



**Dimensions – M8** Download CAD data → [www.festo.com](http://www.festo.com)

Flush fitting		Non-flush fitting	
Cable	Plug	Cable	Plug
<p>1 Connecting cable</p>	<p>2 Active surface</p>	<p>3 LED</p>	<p>4 4x LED</p>

**Dimensions – M12** Download CAD data → [www.festo.com](http://www.festo.com)

Flush fitting		Non-flush fitting	
Cable	Plug	Cable	Plug
<p>1 Connecting cable</p>	<p>2 Active surface</p>	<p>3 LED</p>	<p>4 4x LED</p>

**Dimensions – M18** Download CAD data → [www.festo.com](http://www.festo.com)

Flush fitting		Non-flush fitting	
Cable	Plug	Cable	Plug
<p>1 Connecting cable</p>	<p>2 Active surface</p>	<p>3 LED</p>	<p>4 4x LED</p>

**Dimensions – M30** Download CAD data → [www.festo.com](http://www.festo.com)

Flush fitting		Non-flush fitting	
Cable	Plug	Cable	Plug
<p>1 Connecting cable</p>	<p>2 Active surface</p>	<p>3 LED</p>	<p>4 4x LED</p>



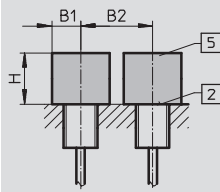
# Proximity sensors SIEN, inductive

Technical data – Standard switching distance, basic version



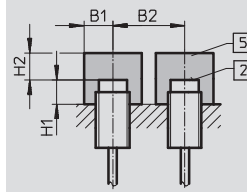
## Fitting instructions

### Flush fitting



- 2 Active surface
- 5 Metal-free zone

### Non-flush fitting



- 2 Active surface
- 5 Metal-free zone

Size	B1	B2	H
4 mm	2.5	5	2
M5	3.3	5	2.4
6.5 mm	5	9.5	4.5
M8	5.5	10	4.5
M12	8	18	6
M18	14	32	15
M30	25	60	30

Size	B1	B2	H1	H2
M8	9	16	8	7.5
M12	12	28	6	12
M18	20	50	10	24
M30	30	75	15	45

## Ordering data







Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection			
					Cable		Plug	
					Part No.	Type	Part No.	Type
<b>4 mm</b>								
	0.8	Flush	PNP	N/O contact	150362	SIEN-4B-PS-K-L	150363	SIEN-4B-PS-S-L
				N/C contact	150366	SIEN-4B-PO-K-L	150367	SIEN-4B-PO-S-L
			NPN	N/O contact	150360	SIEN-4B-NS-K-L	150361	SIEN-4B-NS-S-L
				N/C contact	150364	SIEN-4B-NO-K-L	150365	SIEN-4B-NO-S-L
<b>M5</b>								
	0.8	Flush	PNP	N/O contact	150370	SIEN-M5B-PS-K-L	150371	SIEN-M5B-PS-S-L
				N/C contact	150374	SIEN-M5B-PO-K-L	150375	SIEN-M5B-PO-S-L
			NPN	N/O contact	150368	SIEN-M5B-NS-K-L	150369	SIEN-M5B-NS-S-L
				N/C contact	150372	SIEN-M5B-NO-K-L	150373	SIEN-M5B-NO-S-L
<b>6.5 mm</b>								
	1.5	Flush	PNP	N/O contact	150378	SIEN-6,5B-PS-K-L	150379	SIEN-6,5B-PS-S-L
				N/C contact	150382	SIEN-6,5B-PO-K-L	150383	SIEN-6,5B-PO-S-L
			NPN	N/O contact	150376	SIEN-6,5B-NS-K-L	150377	SIEN-6,5B-NS-S-L
				N/C contact	150380	SIEN-6,5B-NO-K-L	150381	SIEN-6,5B-NO-S-L
<b>M8</b>								
	1.5	Flush	PNP	N/O contact	150386	SIEN-M8B-PS-K-L	150387	SIEN-M8B-PS-S-L
				N/C contact	150390	SIEN-M8B-PO-K-L	150391	SIEN-M8B-PO-S-L
			NPN	N/O contact	150384	SIEN-M8B-NS-K-L	150385	SIEN-M8B-NS-S-L
				N/C contact	150388	SIEN-M8B-NO-K-L	150389	SIEN-M8B-NO-S-L
	2.5	Non-flush	PNP	N/O contact	150394	SIEN-M8NB-PS-K-L	150395	SIEN-M8NB-PS-S-L
				N/C contact	150398	SIEN-M8NB-PO-K-L	150399	SIEN-M8NB-PO-S-L
			NPN	N/O contact	150392	SIEN-M8NB-NS-K-L	150393	SIEN-M8NB-NS-S-L
				N/C contact	150396	SIEN-M8NB-NO-K-L	150397	SIEN-M8NB-NO-S-L

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

# Proximity sensors SIEN, inductive

Technical data – Standard switching distance, basic version



Ordering data									
Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection				
					Cable			Plug	
					Part No.	Type	Part No.	Type	
<b>M12</b>									
	2.0	Flush	PNP	N/O contact	150402	SIEN-M12B-PS-K-L	150403	SIEN-M12B-PS-S-L	
				N/C contact	150406	SIEN-M12B-PO-K-L	150407	SIEN-M12B-PO-S-L	
			NPN	N/O contact	150400	SIEN-M12B-NS-K-L	150401	SIEN-M12B-NS-S-L	
				N/C contact	150404	SIEN-M12B-NO-K-L	150405	SIEN-M12B-NO-S-L	
	4.0	Non-flush	PNP	N/O contact	150410	SIEN-M12NB-PS-K-L	150411	SIEN-M12NB-PS-S-L	
				N/C contact	150414	SIEN-M12NB-PO-K-L	150415	SIEN-M12NB-PO-S-L	
			NPN	N/O contact	150408	SIEN-M12NB-NS-K-L	150409	SIEN-M12NB-NS-S-L	
				N/C contact	150412	SIEN-M12NB-NO-K-L	150413	SIEN-M12NB-NO-S-L	
<b>M18</b>									
	5.0	Flush	PNP	N/O contact	150418	SIEN-M18B-PS-K-L	150419	SIEN-M18B-PS-S-L	
				N/C contact	150422	SIEN-M18B-PO-K-L	150423	SIEN-M18B-PO-S-L	
			NPN	N/O contact	150416	SIEN-M18B-NS-K-L	150417	SIEN-M18B-NS-S-L	
				N/C contact	150420	SIEN-M18B-NO-K-L	150421	SIEN-M18B-NO-S-L	
	8.0	Non-flush	PNP	N/O contact	150426	SIEN-M18NB-PS-K-L	150427	SIEN-M18NB-PS-S-L	
				N/C contact	150430	SIEN-M18NB-PO-K-L	150431	SIEN-M18NB-PO-S-L	
			NPN	N/O contact	150424	SIEN-M18NB-NS-K-L	150425	SIEN-M18NB-NS-S-L	
				N/C contact	150428	SIEN-M18NB-NO-K-L	150429	SIEN-M18NB-NO-S-L	
<b>M30</b>									
	10.0	Flush	PNP	N/O contact	150434	SIEN-M30B-PS-K-L	150435	SIEN-M30B-PS-S-L	
				N/C contact	150438	SIEN-M30B-PO-K-L	150439	SIEN-M30B-PO-S-L	
			NPN	N/O contact	150432	SIEN-M30B-NS-K-L	150433	SIEN-M30B-NS-S-L	
				N/C contact	150436	SIEN-M30B-NO-K-L	150437	SIEN-M30B-NO-S-L	
	15.0	Non-flush	PNP	N/O contact	150442	SIEN-M30NB-PS-K-L	150443	SIEN-M30NB-PS-S-L	
				N/C contact	150446	SIEN-M30NB-PO-K-L	150447	SIEN-M30NB-PO-S-L	
			NPN	N/O contact	150440	SIEN-M30NB-NS-K-L	150441	SIEN-M30NB-NS-S-L	
				N/C contact	150444	SIEN-M30NB-NO-K-L	150445	SIEN-M30NB-NO-S-L	

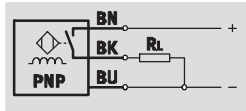
1) S<sub>n</sub> Rated operating distance [mm]

# Proximity sensors SIEN-...-PA, inductive

Technical data – Standard switching distance, polyamide housing

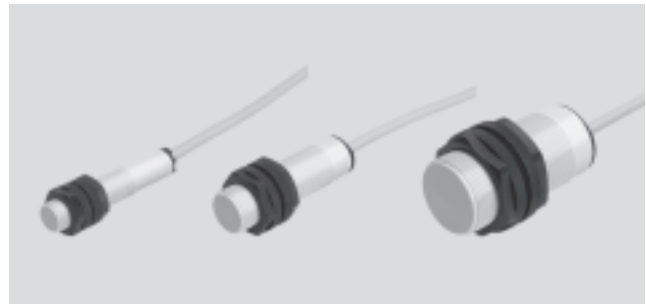


Function<sup>1)</sup>



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

- Standard switching distance
- Corrosion-resistant
- Polyamide housing
- For DC voltage
- Round design



General technical data	
Design	Round
Conforms to	EN 60947-5-2
Certification	cULus listed (OL)
	C-Tick
CE mark (see declaration of conformity)	To EU EMC Directive
Note on materials	Free of copper and PTFE

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

Output, general							
Mounting type	Flush			Non-flush			
Size	M12	M18	M30	M12	M18	M30	
Repetition accuracy	[mm]	0.04	0.1	0.2	0.08	0.16	0.3

Switching output							
Mounting type	Flush			Non-flush			
Size	M12	M18	M30	M12	M18	M30	
Switching output	PNP			PNP			
	NPN			NPN			
Switching element function	N/O contact			N/O contact			
Rated operating distance	[mm]	2	5	10	4	8	15
Assured switching distance	[mm]	1.62	4.05	8.1	3.24	6.48	12.15
Reduction factors							
Aluminium	0.35 ... 0.5			0.35 ... 0.5			
Stainless steel St 18/8	0.6 ... 1.0			0.6 ... 1.0			
Copper	0.25 ... 0.45			0.25 ... 0.45			
Brass	0.35 ... 0.5			0.35 ... 0.5			
Steel St 37	1.0			1.0			
Hysteresis	[mm]	0.06 ... 0.3	0.15 ... 0.75	0.3 ... 1.5	0.12 ... 0.6	0.24 ... 1.2	0.45 ... 2.25
Max. switching frequency DC	[Hz]	2,000	1,000	500	2,000	1,000	500
Max. output current	[mA]	200			200		
Voltage drop	[V]	≤ 1.8			≤ 1.8		

Output, additional data	
Protection against short circuit	Pulsed

# Proximity sensors SIEN-...-PA, inductive



Technical data – Standard switching distance, polyamide housing

Electronic components		
Operating voltage range	[V DC]	10 ... 30
Residual ripple	[%]	10
Idle current	[mA]	≤ 15
Reverse polarity protection		For all electrical connections

Electromechanical components	
Electrical connection	Cable, 3-wire
Cable length	[m] 2.5
Cable sheath material	PVC
Insulating sheath material	PVC

Mechanical components						
Size	M12		M18		M30	
Attachment type	Via lock nut					
Mounting type	Flush	Non-flush	Flush	Non-flush	Flush	Non-flush
Tightening torque	[Nm] –	25	–	25	15	15
Product weight	[g] 41	38	124	141	48	48
Housing material	PA-reinforced					

Display/operation	
Switching status display	Yellow LED

Immissions/emissions						
Mounting type	Flush			Non-flush		
Size	M12	M18	M30	M12	M18	M30
Ambient temperature with flexible cable installation	[°C] 0 ... +70			0 ... +70		
Protection class	IP65 IP67			IP67		
Corrosion resistance class CRC <sup>1)</sup>	4			4		

1) Corrosion resistance class 4 according to Festo standard 940 070  
Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

## Dimensions

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

### M12

1) Connecting cable      2) Active surface      3) LED

### M18

1) Connecting cable      2) Active surface      3) LED

# Proximity sensors SIEN-...-PA, inductive

Technical data – Standard switching distance, polyamide housing



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

M30

- 1 Connecting cable
- 2 Active surface
- 3 LED

## Fitting instructions

Flush fitting

- 2 Active surface
- 5 Metal-free zone

Non-flush fitting

- 2 Active surface
- 5 Metal-free zone

Size	B1	B2	H
M12	18	24	6
M18	27	36	15
M30	45	60	30

Size	B1	B2	H1	H2
M12	18	36	8	12
M18	27	54	16	24
M30	45	90	30	45

## Ordering data

Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection	
					Cable	Part No. Type
<b>M12</b>						
	2.0	Flush	PNP	N/O contact	538323	SIEN-M12B-PS-K-L-PA
			NPN			538324
	4.0	Non-flush	PNP		538329	SIEN-M12NB-PS-K-L-PA
			NPN		538330	SIEN-M12NB-NS-K-L-PA
<b>M18</b>						
	5.0	Flush	PNP	N/O contact	538325	SIEN-M18B-PS-K-L-PA
			NPN			538326
	8.0	Non-flush	PNP		538331	SIEN-M18NB-PS-K-L-PA
			NPN		538332	SIEN-M18NB-NS-K-L-PA
<b>M30</b>						
	10.0	Flush	PNP	N/O contact	538327	SIEN-M30B-PS-K-L-PA
			NPN			538328
	15.0	Non-flush	PNP		538333	SIEN-M30NB-PS-K-L-PA
			NPN		538334	SIEN-M30NB-NS-K-L-PA

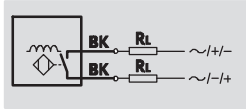
1) S<sub>n</sub> Rated operating distance [mm]

# Proximity sensors SIED, inductive

Technical data – Standard switching distance, for DC and AC voltage

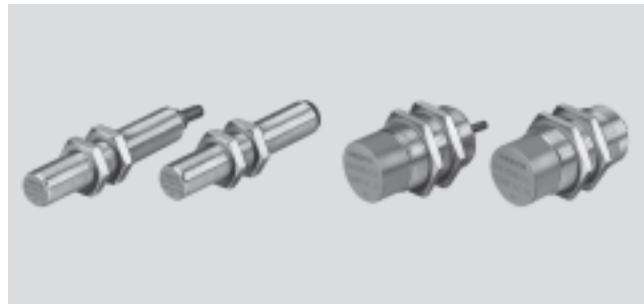


Function<sup>1)</sup>



1) e.g. N/O contact with cable

- Standard switching distance
- For DC and AC voltage
- Round design



General technical data	
Design	Round
Conforms to	EN 60947-5-2
Certification	cULus listed (OL)
	C-Tick
CE mark (see declaration of conformity)	To EU EMC Directive
	To EU Low Voltage Directive
Note on materials	Free of copper and PTFE

Input signal/measuring element		
Ambient temperature	[°C]	–25 ... +85

Output, general							
Mounting type	Flush			Non-flush			
Size	M12	M18	M30	M12	M18	M30	
Repetition accuracy	[mm]	0.1	0.15	0.3	0.2	0.2	0.4

Switching output							
Mounting type	Flush			Non-flush			
Size	M12	M18	M30	M12	M18	M30	
Switching output	Contactless, 2-wire			Contactless, 2-wire			
Switching element function	N/O contact			N/O contact			
	N/C contact			N/C contact			
Rated operating distance	[mm]	2	5	10	4	8	15
Assured switching distance	[mm]	1.62	4.05	8.1	3.24	6.5	12.5

Reduction factors							
Aluminium	0.5	0.4	0.4	0.6	0.4	0.5	
Stainless steel St 18/8	0.9	0.7	0.7	0.9	0.7	0.8	
Copper	0.4	0.3	0.3	0.5	0.3	0.4	
Brass	0.6	0.4	0.4	0.6	0.4	0.5	
Steel St 37	1.0	1.0	1.0	1.0	1.0	1.0	
Hysteresis	[mm]	0.02 ... 0.44	0.04 ... 1.15	0.05 ... 2.2	0.03 ... 0.88	0.03 ... 1.9	0.04 ... 3.3
Max. switching frequency AC	[Hz]	25			25		
Max. switching frequency DC	[Hz]	1,200	490	200	900	340	220
Max. output current	[mA]	200	300	300	200	300	300
Minimum load current	[mA]	5			5		
Voltage drop	[V]	≤ 8			≤ 8		

Output, additional data	
Protection against short circuit	No

# Proximity sensors SIED, inductive

Technical data – Standard switching distance, for DC and AC voltage

Electronic components		
Operating voltage range AC	[V AC]	20 ... 265
Operating voltage range DC	[V DC]	20 ... 320
Idle current	[mA]	≤ 1.5
Reverse polarity protection		For all electrical connections



Electromechanical components		
Electrical connection	Cable	Plug
Electrical connection	Cable, 2-wire	Plug, M12x1, 2-pin
Cable length	[m]	2.5
Cable sheath material	PUR	
Insulating sheath material	PVC	

Mechanical components						
Size	M12		M18		M30	
Electrical connection	Cable	Plug	Cable	Plug	Cable	Plug
Attachment type	Via lock nut		Via lock nut		Via lock nut	
Mounting type	Flush		Flush		Flush	
	Non-flush		Non-flush		Non-flush	
Tightening torque	[Nm]	10	20	40		
Product weight	[g]	90	20	110	50	190 140
Housing materials	Nickel-plated brass, PA		Nickel-plated brass, PA		Nickel-plated brass, PA	

Display/operation	
Switching status display	Yellow LED

Immissions/emissions		
Electrical connection	Cable	Plug
Ambient temperature with flexible cable installation	[°C]	-5 ... +50
Protection class	IP67	IP67
Corrosion resistance class CRC <sup>1)</sup>	1	1

1) Corrosion resistance class 1 according to Festo standard 940 070  
 Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Pin allocation to EN 60947-5-2							
M12x1, 2-pin							
N/O contact				N/C contact			
	Pin	Wire colour	Allocation	M12x1	Pin	Wire colour	Allocation
	3	Black	/+/-		1	Black	/+/-
	4	Black	/-/+		2	Black	/-/+

# Proximity sensors SIED, inductive

Technical data – Standard switching distance, for DC and AC voltage

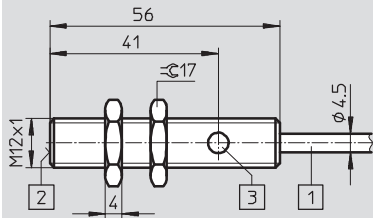


## Dimensions – M12

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

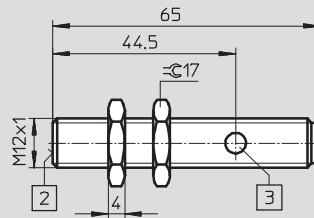
Flush fitting

Cable



- 1 Connecting cable
- 2 Active surface

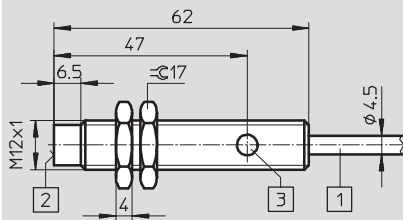
Plug



- 3 LED

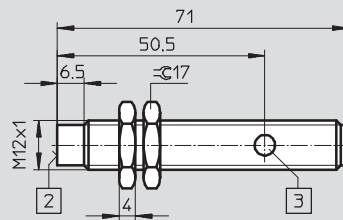
Non-flush fitting

Cable



- 1 Connecting cable
- 2 Active surface

Plug



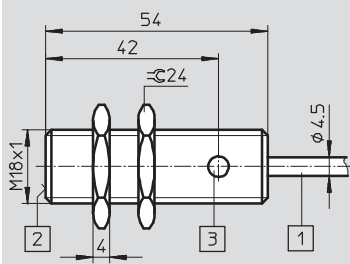
- 3 LED

## Dimensions – M18

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

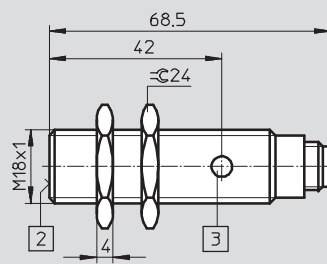
Flush fitting

Cable



- 1 Connecting cable
- 2 Active surface

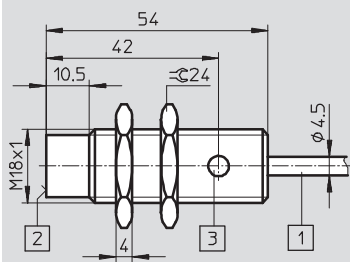
Plug



- 3 LED

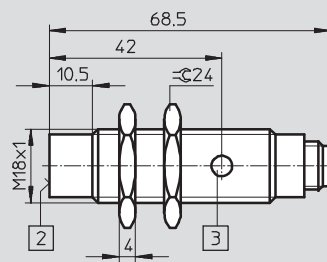
Non-flush fitting

Cable



- 1 Connecting cable
- 2 Active surface

Plug



- 3 LED



# Proximity sensors SIED, inductive

Technical data – Standard switching distance, for DC and AC voltage



**Dimensions – M30** Download CAD data → [www.festo.com](http://www.festo.com)

Flush fitting		Non-flush fitting	
Cable	Plug	Cable	Plug
1 Connecting cable	2 Active surface	3 LED	

**Fitting instructions**

Flush fitting	Non-flush fitting
<ul style="list-style-type: none"> <li>2 Active surface</li> <li>5 Metal-free zone</li> </ul>	<ul style="list-style-type: none"> <li>2 Active surface</li> <li>5 Metal-free zone</li> </ul>

Size	B1	B2	H
M12	6	12	6
M18	11	30	10
M30	25	37	16

Size	B1	B2	H1	H2
M12	15	27	8	8
M18	20	50	15	15
M30	30	80	15	25



**Ordering data**

Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection			
					Cable		Plug	
					Part No.	Type	Part No.	Type
<b>M12</b>								
	2.0	Flush	Contactless, 2-wire	N/O contact	538272	SIED-M12B-ZS-K-L	538271	SIED-M12B-ZS-S-L
				N/C contact	538274	SIED-M12B-ZO-K-L	538273	SIED-M12B-ZO-S-L
	4.0	Non-flush	Contactless, 2-wire	N/O contact	538268	SIED-M12NB-ZS-K-L	538267	SIED-M12NB-ZS-S-L
				N/C contact	538270	SIED-M12NB-ZO-K-L	538269	SIED-M12NB-ZO-S-L
<b>M18</b>								
	5.0	Flush	Contactless, 2-wire	N/O contact	538280	SIED-M18B-ZS-K-L	538279	SIED-M18B-ZS-S-L
				N/C contact	538282	SIED-M18B-ZO-K-L	538281	SIED-M18B-ZO-S-L
	8.0	Non-flush	Contactless, 2-wire	N/O contact	538276	SIED-M18NB-ZS-K-L	538275	SIED-M18NB-ZS-S-L
				N/C contact	538278	SIED-M18NB-ZO-K-L	538277	SIED-M18NB-ZO-S-L

# Proximity sensors SIED, inductive



Technical data – Standard switching distance, for DC and AC voltage

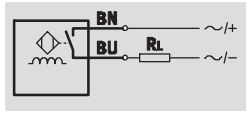
Ordering data								
Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection			
					Cable		Plug	
					Part No.	Type	Part No.	Type
<b>M30</b>								
	10.0	Flush	2-wire, contactless	N/O contact	<b>538288</b>	<b>SIED-M30B-ZS-K-L</b>	<b>538287</b>	<b>SIED-M30B-ZS-S-L</b>
				N/C contact	<b>538290</b>	<b>SIED-M30B-ZO-K-L</b>	<b>538289</b>	<b>SIED-M30B-ZO-S-L</b>
	15.0	Non-flush	2-wire, contactless	N/O contact	<b>538284</b>	<b>SIED-M30NB-ZS-K-L</b>	<b>538283</b>	<b>SIED-M30NB-ZS-S-L</b>
				N/C contact	<b>538286</b>	<b>SIED-M30NB-ZO-K-L</b>	<b>538285</b>	<b>SIED-M30NB-ZO-S-L</b>

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

# Proximity sensors SIED-...-PA, inductive

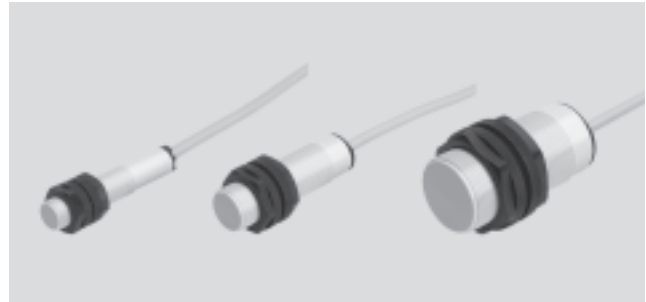
Technical data – Standard switching distance, polyamide housing, for DC and AC voltage

Function<sup>1)</sup>



1) e.g. N/O contact with cable

- Standard switching distance
- Corrosion-resistant
- Polyamide housing
- For DC and AC voltage
- Round design



General technical data	
Design	Round
Conforms to	EN 60947-5-2
Certification	cULus listed (OL)
	C-Tick
CE mark (see declaration of conformity)	To EU EMC Directive
	To EU Low Voltage Directive
Note on materials	Free of copper and PTFE

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

Output, general							
Mounting type	Flush			Non-flush			
Size	M12	M18	M30	M12	M18	M30	
Repetition accuracy	[mm]	0.04	0.1	0.2	0.08	0.16	0.3

Switching output							
Mounting type	Flush			Non-flush			
Size	M12	M18	M30	M12	M18	M30	
Switching output	Contactless, 2-wire			Contactless, 2-wire			
Switching element function	N/O contact			N/O contact			
Rated operating distance	[mm]	2	5	10	4	8	15
Assured switching distance	[mm]	1.62	4.05	8.1	3.24	6.48	12.15

Reduction factors						
Aluminium	0.35 ... 0.5			0.35 ... 0.5		
Stainless steel St 18/8	0.06 ... 0.1			0.06 ... 0.1		
Copper	0.25 ... 0.45			0.25 ... 0.45		
Brass	0.35 ... 0.5			0.35 ... 0.5		
Steel St 37	1.0			1.0		

Hysteresis	[mm]	0.06 ... 0.3	0.15 ... 0.75	0.3 ... 1.5	0.12 ... 0.6	0.24 ... 1.2	0.45 ... 2.25
Max. switching frequency AC	[Hz]	20			20		
Max. switching frequency DC	[Hz]	60			60		
Max. output current	[mA]	100	300	300	100	300	300
Minimum load current	[mA]	3			3		
Voltage drop	[V]	≤ 6			≤ 6		

Output, additional data	
Protection against short circuit	No

# Proximity sensors SIED-...-PA, inductive



Technical data – Standard switching distance, polyamide housing, for DC and AC voltage

Electronic components		
Operating voltage range AC	[V AC]	20 ... 250
Operating voltage range DC	[V DC]	10 ... 300
Idle current	[mA]	≤ 1.5
Reverse polarity protection		For all electrical connections

Electromechanical components	
Electrical connection	Cable, 2-wire
Cable length	[m] 2.5
Cable sheath material	PVC
Insulating sheath material	PVC

Mechanical components			
Size	M12	M18	M30
Attachment type	Via lock nut		
Mounting type	Flush		
Tightening torque	[Nm] 1	2	5
Product weight	[g] 109	123	175
Housing material	PA-reinforced		

Display/operation	
Switching status display	Yellow LED

Immissions/emissions	
Ambient temperature with flexible cable installation	[°C] 0 ... +70
Protection class	IP65, IP67
Corrosion resistance class CRC <sup>1)</sup>	4

1) Corrosion resistance class 4 according to Festo standard 940 070  
Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

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

**M12**

**M18**

1 Connecting cable     
 2 Active surface     
 3 LED

# Proximity sensors SIED-...-PA, inductive

Technical data – Standard switching distance, polyamide housing, for DC and AC voltage

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

M30

- 1 Connecting cable
- 2 Active surface
- 3 LED

**Fitting instructions**

**Flush fitting**

- 2 Active surface
- 5 Metal-free zone

**Non-flush fitting**

- 2 Active surface
- 5 Metal-free zone

Size	B1	B2	H
M12	18	24	6
M18	27	36	15
M30	45	60	30

Size	B1	B2	H1	H2
M12	18	36	8	12
M18	27	54	16	24
M30	45	90	30	45

Ordering data						
Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection	
					Cable	Part No. Type
<b>M12</b>						
	2.0	Flush	Contactless, 2-wire	N/O contact	538336	SIED-M12B-ZS-K-L-PA
	4.0	Non-flush			538335	SIED-M12NB-ZS-K-L-PA
<b>M18</b>						
	5.0	Flush	Contactless, 2-wire	N/O contact	538338	SIED-M18B-ZS-K-L-PA
	8.0	Non-flush			538337	SIED-M18NB-ZS-K-L-PA
<b>M30</b>						
	10.0	Flush	Contactless, 2-wire	N/O contact	538340	SIED-M30B-ZS-K-L-PA
	15.0	Non-flush			538339	SIED-M30NB-ZS-K-L-PA

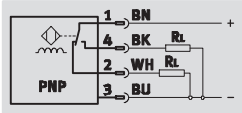
1) S<sub>n</sub> Rated operating distance [mm]

# Proximity sensors SIES, inductive

Technical data – Standard switching distance, special design

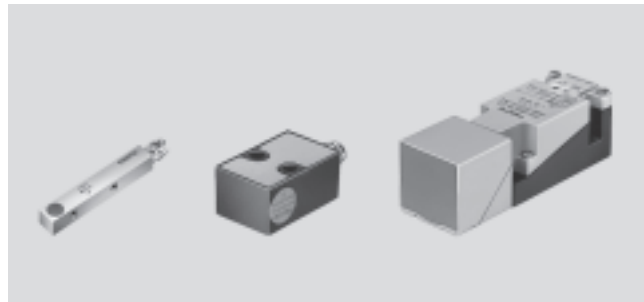


Function<sup>1)</sup>



1) e.g. antivalent with PNP output and terminals

- Standard switching distance
- For DC voltage
- Block-shaped design



General technical data	
Conforms to	EN 60947-5-2
Certification	cULus listed (OL)
	C-Tick
CE mark (see declaration of conformity)	To EU EMC Directive
Note on materials	Free of copper and PTFE

Input signal/measuring element						
Type		SIES-Q5	SIES-Q8	SIES-V3	SIES-QB	SIES-Q40
Size	[mm]	5x5x25	8x8x40	15x20x30	12x26x40	40x40x120
Ambient temperature	[°C]	-25 ... +70		-25 ... +85		

Output, general						
Type		SIES-Q5	SIES-Q8	SIES-V3	SIES-QB	SIES-Q40
Size	[mm]	5x5x25	8x8x40	15x20x30	12x26x40	40x40x120
Repetition accuracy	[mm]	0.04	0.075	0.1	0.1	0.75

Switching output						
Type		SIES-Q5	SIES-Q8	SIES-V3	SIES-QB	SIES-Q40
Size	[mm]	5x5x25	8x8x40	15x20x30	12x26x40	40x40x120
Switching output		PNP		PNP		PNP
		NPN		NPN		-
Switching element function		N/O contact		N/O contact		Antivalent
		N/C contact		-	N/C contact	
Rated operating distance	[mm]	0.8	1.5	2		15
Assured switching distance	[mm]	0.64	1.2	1.6		12.2
Reduction factors						
Aluminium		0.4		0.45		0.3
Stainless steel St 18/8		0.7	0.8	0.7	0.8	0.7
Copper		0.3	0.2	0.3	0.35	0.25
Brass		0.4	0.5	0.5		0.3
Steel St 37		1.0		1.0		1.0
Max. switching frequency DC	[Hz]	3,000	1,500	1,200		100
Max. output current	[mA]	200		-		-
Max. output current at ≤ 50 °C	[mA]	-		200		200
Max. output current at ≤ 85 °C	[mA]	-		150		150
Voltage drop	[V]	-		≤ 1.8		≤ 1.8

Output, additional data	
Protection against short circuit	Pulsed

# Proximity sensors SIES, inductive

Technical data – Standard switching distance, special design

Electronic components						
Type		SIES-Q5	SIES-Q8	SIES-V3	SIES-QB	SIES-Q40
Size	[mm]	5x5x25	8x8x40	15x20x30	12x26x40	40x40x120
Operating voltage range	[V DC]	10 ... 30				
Residual ripple	[%]	10				
Idle current	[mA]	≤ 10		≤ 30		≤ 40
Reverse polarity protection		For all electrical connections				

Electromechanical components						
Electrical connection		Cable			Plug	
Type		SIES-Q5	SIES-Q8	SIES-QB	SIES-Q8	SIES-V3
Size	[mm]	5x5x25	8x8x40	12x26x40	8x8x40	15x20x30
Electrical connection		Cable, 3-wire			Plug, M8x1, 3-pin	
Cable length	[m]	2.5			-	
Cable sheath material		PUR			-	
					Screw terminal	

Mechanical components						
Type		SIES-Q5	SIES-Q8	SIES-V3	SIES-QB	SIES-Q40
Size	[mm]	5x5x25	8x8x40	15x20x30	12x26x40	40x40x120
Attachment type		Via female thread		Via through-hole		
Mounting type		Flush		Flush		
Product weight	[g]	22	15	120	170	230
Housing material		Nickel-plated brass		Die-cast zinc	PBT-reinforced	PBT

Display/operation							
Type		SIES-Q5	SIES-Q8	SIES-Q8	SIES-V3	SIES-QB	
Size	[mm]	5x5x25	8x8x40	8x8x40	15x20x30	12x26x40	
Ready status display		-				Green LED	
Switching status display		Yellow LED				Yellow LED	

Immissions/emissions							
Type		SIES-Q5	SIES-Q8	SIES-Q8	SIES-V3	SIES-QB	
Size	[mm]	5x5x25	8x8x40	8x8x40	15x20x30	12x26x40	
Protection class		IP67				IP65	

Pin allocation to EN 60947-5-2			
M8x1, 3-pin			
N/O contact and N/C contact			
	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output





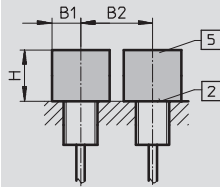
# Proximity sensors SIES, inductive

Technical data – Standard switching distance, special design



## Fitting instructions

Flush fitting



- 2 Active surface
- 5 Metal-free zone

Size	B1	B2	H
5x5x25	2.5	5	2
8x8x40	4	12	3
15x20x30	6	12	5
12x26x40	6	12	5
40x40x120	25	75	30

## Ordering data

Size [mm]	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection					
					Cable		Plug			
				Part No. Type		Part No. Type				
<b>5x5x25</b>										
	0.8	Flush	PNP	N/O contact	178291	SIES-Q5B-PS-K-L	-			
				N/C contact	174549	SIES-Q5B-PO-K-L				
			NPN	N/O contact	178290	SIES-Q5B-NS-K-L				
				N/C contact	174548	SIES-Q5B-NO-K-L				
<b>8x8x40</b>										
	1.5	Flush	PNP	N/O contact	178294	SIES-Q8B-PS-K-L	178295	SIES-Q8B-PS-S-L		
				N/C contact	174552	SIES-Q8B-PO-K-L	174553	SIES-Q8B-PO-S-L		
			NPN	N/O contact	178292	SIES-Q8B-NS-K-L	178293	SIES-Q8B-NS-S-L		
				N/C contact	174550	SIES-Q8B-NO-K-L	174551	SIES-Q8B-NO-S-L		
<b>15x20x30</b>										
	2.0	Flush	PNP	N/O contact	-		150491	SIES-V3B-PS-S-L		
			NPN				150490	SIES-V3B-NS-S-L		
<b>12x26x40</b>										
	2.0	Flush	PNP	N/O contact	150488	SIES-QB-PS-K-L	-			
				N/C contact	150489	SIES-QB-PO-K-L				
<b>40x40x120</b>										
	15.0	Flush	PNP	Antivalent	-		150492	SIES-Q40-PA-X-2L <sup>2)</sup>		

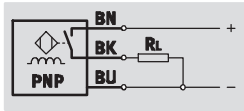
1) S<sub>n</sub> Rated operating distance [mm]  
2) Electrical connection via screw terminals

# Proximity sensors SIEH, inductive

Technical data – Increased switching distance

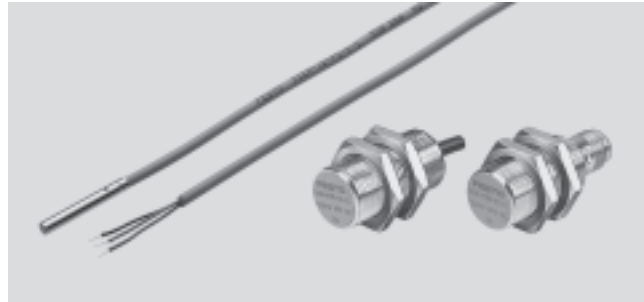


Function<sup>1)</sup>



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

- Increased switching distance
- For DC voltage
- Round design



General technical data			
Size	3 mm	M12	M18
Design	Round	–	–
Conforms to	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Certification	–	cULus listed (OL)	–
	–	C-Tick	–
CE mark (see declaration of conformity)	To EU EMC Directive	To EU EMC Directive	To EU EMC Directive
Note on materials	Free of copper and PTFE	Free of copper and PTFE	Free of copper and PTFE
	–	Contains PWIS (paint-wetting impairment substances)	–

Input signal/measuring element			
Size	3 mm	M12	M18
Ambient temperature [°C]	–25 ... +70	–25 ... +70	–25 ... +85

Output, general			
Size	3 mm	M12	M18
Output, general			
Repetition accuracy [mm]	0.02	–	0.2
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 contact	N/O contact	N/O contact
	–	N/C contact	N/C contact
Rated operating distance [mm]	1	4	7
Assured switching distance [mm]	0.81	3.24	4.9

Reduction factors			
Aluminium	0.5	0.4	0.4
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	–
Switch-on time [ms]	0.02	–	–
Max. switching frequency [Hz]	–	2,500	250
Max. switching frequency DC [Hz]	3,000	–	250
Max. output current [mA]	100	200	–
Max. output current at ≤ 50 °C [mA]	–	–	200
Max. output current at ≤ 85 °C [mA]	–	–	150
Voltage drop [V]	≤ 2	≤ 2	≤ 3.2

# Proximity sensors SIEH, inductive

Technical data – Increased switching distance

FESTO

Output, additional data			
Size	3 mm	M12	M18
Protection against short circuit	Pulsed	Pulsed	Pulsed
Inductive protective circuit	Integrated	Integrated	–
	Output current < 100 mA		
	and switching frequency < 10 Hz		

Electronic components			
Size	3 mm	M12	M18
Operating voltage range [V DC]	10 ... 30	10 ... 30	15 ... 34
Residual ripple [%]	20	±10	10
Idle current [mA]	≤ 10	≤ 10	≤ 30
Residual current [mA]	≤ 0.1	–	–
Reverse polarity protection	For all electrical connections	For all electrical connections	For all electrical connections

Electromechanical components						
Size	3 mm	M12	M18	3 mm	M12	M18
Electrical connection	Cable			Plug		
Electrical connection	Cable, 3-wire			Cable with plug, M8x1, 3-pin	Plug, M12x1, 3-pin	
Cable length [m]	2.5			0.15	–	
Cable sheath material	PUR			PUR		
Insulating sheath material	PVC	–	–	PVC	–	

Mechanical components						
Size	3 mm		M12		M18	
Electrical connection	Cable	Plug	Cable	Plug	Cable	Plug
Size	3 mm		M12		M18	
Attachment type	Clamped		Via lock nut			
Mounting type	Flush					
Tightening torque [Nm]	–				25	
Product weight [g]	18	4	110	30	120	40
Housing material	High-alloy stainless steel		Chrome-plated brass		Nickel-plated brass	
			PBT			
			–	PA		

Display/operation	
Switching status display	Yellow LED

Immissions/emissions						
Size	3 mm	M12	M18	3 mm	M12	M18
Electrical connection	Cable			Plug		
Ambient temperature with flexible cable installation [°C]	–5 ... +70	–5 ... +70	–	–5 ... +70	–5 ... +70	–
Protection class	IP67	IP65	IP67	IP67	IP65	IP67
		IP67			IP67	
Corrosion resistance class CRC <sup>1)</sup>	4	2	–	1	2	–

1) Corrosion resistance class 1 according to Festo standard 940 070  
 Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.  
 Corrosion resistance class 2 according to Festo standard 940 070  
 Components subject to moderate corrosion stress. 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.  
 Corrosion resistance class 4 according to Festo standard 940 070  
 Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

# Proximity sensors SIEH, inductive

Technical data – Increased switching distance



Pin allocation to EN 60947-5-2			
M8x1, 3-pin		M12x1, 3-pin	
N/O contact		N/O contact	
Pin	Wire colour	Allocation	
1	Brown	+	
3	Blue	-	
4	Black	Output	
M8x1, 3-pin		M12x1, 3-pin	
N/C contact		N/C contact	
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 Connecting cable
- 2 Active surface
- 3 LED

**Dimensions – M12** Download CAD data → [www.festo.com](http://www.festo.com)

Cable Plug

- 1 Connecting cable
- 2 Active surface
- 3 LED
- 4 4x LED

**Dimensions – M18** Download CAD data → [www.festo.com](http://www.festo.com)

Cable Plug

- 1 Connecting cable
- 2 Active surface
- 3 LED
- 4 4x LED

**Fitting instructions**



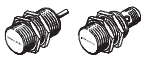
Flush fitting

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

- 2 Active surface
- 5 Metal-free zone

# Proximity sensors SIEH, inductive

Technical data – Increased switching distance

Ordering data								
Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection			
					Cable		Plug	
					Part No.	Type	Part No.	Type
<b>3 mm</b>								
	1.0	Flush	PNP	N/O contact	<b>538264</b>	<b>SIEH-3B-PS-K-L</b>	<b>538263</b>	<b>SIEH-3B-PS-S-L</b>
			NPN	N/O contact	<b>538266</b>	<b>SIEH-3B-NS-K-L</b>	<b>538265</b>	<b>SIEH-3B-NS-S-L</b>
<b>M12</b>								
	4.0	Flush	PNP	N/O contact	<b>150450</b>	<b>SIEH-M12B-PS-K-L</b>	<b>150451</b>	<b>SIEH-M12B-PS-S-L</b>
				N/C contact	<b>150454</b>	<b>SIEH-M12B-PO-K-L</b>	<b>150455</b>	<b>SIEH-M12B-PO-S-L</b>
			NPN	N/O contact	<b>150448</b>	<b>SIEH-M12B-NS-K-L</b>	<b>150449</b>	<b>SIEH-M12B-NS-S-L</b>
				N/C contact	<b>150452</b>	<b>SIEH-M12B-NO-K-L</b>	<b>150453</b>	<b>SIEH-M12B-NO-S-L</b>
<b>M18</b>								
	7.0	Flush	PNP	N/O contact	<b>150458</b>	<b>SIEH-M18B-PS-K-L</b>	<b>150459</b>	<b>SIEH-M18B-PS-S-L</b>
				N/C contact	<b>150462</b>	<b>SIEH-M18B-PO-K-L</b>	<b>150463</b>	<b>SIEH-M18B-PO-S-L</b>
			NPN	N/O contact	<b>150456</b>	<b>SIEH-M18B-NS-K-L</b>	<b>150457</b>	<b>SIEH-M18B-NS-S-L</b>
				N/C contact	<b>150460</b>	<b>SIEH-M18B-NO-K-L</b>	<b>150461</b>	<b>SIEH-M18B-NO-S-L</b>

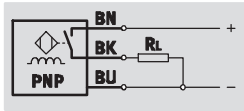
1) S<sub>n</sub> Rated operating distance [mm]

# Proximity sensors SIEH-...-CR, inductive

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 stress



General technical data				
Size	M12		M18	
Switching output	PNP	NPN	PNP	NPN
Conforms to	EN 60947-5-2		EN 60947-5-2	
Certification	cULus listed (OL)	-	cULus listed (OL)	-
	C-Tick		C-Tick	
CE mark (see declaration of conformity)	To EU EMC Directive		To EU EMC Directive	
Note on materials	Free of copper and PTFE		Free of copper and PTFE	

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 contact		N/O contact	
Rated operating distance	[mm]	6	10	
Assured switching 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]	400	600	200
Max. output current	[mA]	200		200
Voltage drop	[V]	2	≤ 2	2
				≤ 2

Output, additional data	
Protection against short circuit	Pulsed
Inductive protective circuit	Integrated
	Output current < 100 mA
	and switching frequency < 10 Hz

# Proximity sensors SIEH-...-CR, inductive

Technical data – Increased switching distance



Electronic components			
Switching output		PNP	NPN
Operating voltage range	[V DC]	10 ... 30	10 ... 30
Residual ripple	[%]	20	20
Idle current	[mA]	< 12	≤ 17
Reverse polarity protection		For all electrical connections	For all electrical connections

Electromechanical components		
Electrical connection	Cable	Plug
Electrical connection	Cable, 3-wire	Plug, M12x1, 3-pin
Cable sheath material	PUR	–

Mechanical components				
Size	M12		M18	
Electrical connection	Cable	Plug	Cable	Plug
Size	M12		M18	
Attachment type	Via lock nut		Via lock nut	
Mounting type	Flush		Flush	
Product weight	[g]	90	28	115
Housing material	High-alloy stainless steel		High-alloy stainless steel	

Display/operation	
Switching status display	Yellow LED

Immissions/emissions				
Size	M12		M18	
Switching output	PNP	NPN	PNP	NPN
Ambient temperature with flexible cable installation	[°C]	–5 ... +70		–5 ... +70
Protection class	IP67		IP67	
	IP69K		IP69K	
Corrosion resistance class CRC <sup>1)</sup>	2	4	2	4
Resistance to sensor fitting pressure	[bar]	80	60	

1) Corrosion resistance class 2 according to Festo standard 940 070  
 Components subject to moderate corrosion stress. 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.  
 Corrosion resistance class 4 according to Festo standard 940 070  
 Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

Pin allocation to EN 60947-5-2												
M8x1, 3-pin				M12x1, 3-pin				N/C contact				
N/O contact				N/O contact				N/C contact				
	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	

# Proximity sensors SIEH-...-CR, inductive

Technical data – Increased switching distance



## Dimensions – M12 Download CAD data → [www.festo.com](http://www.festo.com)

Cable	Plug
<ul style="list-style-type: none"> <li><span style="border: 1px solid black; padding: 0 2px;">1</span> Connecting cable</li> <li><span style="border: 1px solid black; padding: 0 2px;">2</span> Active surface</li> <li><span style="border: 1px solid black; padding: 0 2px;">3</span> LED</li> </ul>	

## Dimensions – M18 Download CAD data → [www.festo.com](http://www.festo.com)

Cable	Plug
<ul style="list-style-type: none"> <li><span style="border: 1px solid black; padding: 0 2px;">1</span> Connecting cable</li> <li><span style="border: 1px solid black; padding: 0 2px;">2</span> Active surface</li> <li><span style="border: 1px solid black; padding: 0 2px;">3</span> LED</li> </ul>	

### Fitting instructions

Flush fitting

- 2 Active surface
- 5 Metal-free zone

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

### Ordering data

Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching output	Switching element function	Electrical connection			
					Cable		Plug	
					Part No.	Type	Part No.	Type
<b>M12</b>								
	6.0	Flush	PNP	N/O contact	<b>538252</b>	<b>SIEH-M12B-PS-K-L-CR</b>	<b>538251</b>	<b>SIEH-M12B-PS-S-L-CR</b>
			NPN	N/O contact	<b>538254</b>	<b>SIEH-M12B-NS-K-L-CR</b>	<b>538253</b>	<b>SIEH-M12B-NS-S-L-CR</b>
<b>M18</b>								
	10.0	Flush	PNP	N/O contact	<b>538256</b>	<b>SIEH-M18B-PS-K-L-CR</b>	<b>538255</b>	<b>SIEH-M18B-PS-S-L-CR</b>
			NPN	N/O contact	<b>538258</b>	<b>SIEH-M18B-NS-K-L-CR</b>	<b>538257</b>	<b>SIEH-M18B-NS-S-L-CR</b>

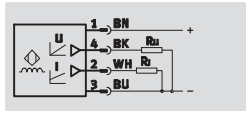
1) S<sub>n</sub> Rated operating distance [mm]



# Proximity sensors SIEA, inductive

Technical data – Analogue output

Function<sup>1)</sup>



1) e.g. with analogue output for current and voltage

- Analogue output
- For DC voltage
- Round design



General technical data	
Design	Round
CE mark (see declaration of conformity)	To EU EMC Directive
Note on materials	Free of copper and PTFE

Input signal/measuring element		M8	M12	M18	M30
Ambient temperature	[°C]	-25 ... +70		-25 ... +70	
Position measuring range	[mm]	0 ... 4	0 ... 6	0 ... 10	0 ... 20
Distance resolution	[mm]	0.001		0.002	0.005
Temperature drift of real switching distance	[%]	≤ ±10 (-25 ... 0 °C)		≤ ±10	
	[%]	≤ ±5 (0 ... 70 °C)			

Output, general		M8	M12	M18	M30
Repetition accuracy	[mm]	0.3		0.3	
Repetition accuracy under constant conditions	[mm]	±0.01		±0.02	±0.05

Switching output		M8	M12	M18	M30
Analogue output	[V]	0 ... 10	0 ... 10	0 ... 10	0 ... 10
	[mA]	-	4 ... 20	4 ... 20	4 ... 20
Output voltage at 23 °C	[V]	+10/±0.4 (s = 4 mm)	+10/±0.4 (s = 6 mm)	+10/±0.4 (s = 10 mm)	+10/±0.4 (s = 20 mm)
	[V]	+5.2/±0.4 (s = 2 mm)	+5.2/±0.4 (s = 3 mm)	+5.2/±0.4 (s = 5 mm)	+5.2/±0.4 (s = 10 mm)
	[V]	0/-0 +0.4 (s = 0 mm)	0/-0 +0.4 (s = 0 mm)	0/-0 +0.4 (s = 0 mm)	0/-0 +0.4 (s = 0 mm)
Output current at 23 °C	[mA]	-	20/±0.8 (s = 6 mm)	20/±0.8 (s = 10 mm)	20/±0.8 (s = 20 mm)
	[mA]	-	4/±0.8 (s = 0 mm)	4/±0.8 (s = 0 mm)	4/±0.8 (s = 0 mm)

Reduction factors		M8	M12	M18	M30
Aluminium		0.28	0.28	0.18	0.2
Stainless steel St 18/8		0.68	0.47	0.6	0.65
Copper		0.25	0.2	0.15	0.17
Brass		0.4	0.35	0.28	0.3
Steel St 37		1.0	1.0	1.0	1.0
Max. switching frequency DC	[Hz]	1,600	1,000	500	200
Bandwidth	[Hz]	1,600 (-3 dB at s = 2 mm)	1,000 (-3 dB at s = 3 mm)	500 (-3 dB at s = 5 mm)	200 (-3 dB at s = 10 mm)
Max. load at analogue current output	[Ω]	-	500	500	500
Max. load current at analogue voltage output	[mA]	10	10	10	10
Max. current/voltage output value without object	[%]	120	120	120	120

# Proximity sensors SIEA, inductive

Technical data – Analogue output



Output, additional data	
Protection against short circuit	Pulsed
Protection against overloading	Yes

Electronic components		
Operating voltage range	[V DC]	15 ... 30
Residual ripple	[%]	20
Idle current	[mA]	≤ 10
Reverse polarity protection		For operating voltage

Electromechanical components				
Size	M8	M12	M18	M30
Electrical connection	Plug, M8x1, 3-pin		Plug, M12x1, 4-pin	
Cable length	[m]	2.5		

Mechanical components					
Size	M8	M12	M18	M30	
Attachment type	Via lock nut				
Mounting type	Flush				
Tightening torque	[Nm]	4	10	25	70
Product weight	[g]	25	33	55	155
Housing material	Chrome-plated brass				

Immissions/emissions	
Protection class	IP67
Corrosion resistance class CRC <sup>3)</sup>	2

3) Corrosion resistance class 2 according to Festo standard 940 070  
 Components subject to moderate corrosion stress. 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.

Pin allocation			
M8x1, 3-pin		M12x1, 4-pin	
	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Voltage
	1	Brown	+
	2	White	Current
	3	Blue	-
	4	Black	Voltage

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

M8

M12

2 Active surface

# Proximity sensors SIEA, inductive

Technical data – Analogue output



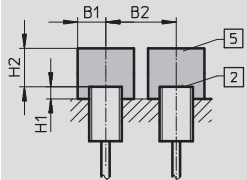
**Dimensions** Download CAD data → [www.festo.com](http://www.festo.com)

M18	M30

[2] Active surface

**Fitting instructions**

Flush fitting



[2] Active surface

[5] Metal-free zone

Size	B1	B2	H1	H2
M8	8	20	1	12
M12	12	30	2	18
M18	19	44	4	30
M30	35	80	6	60

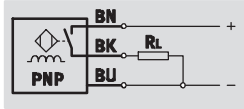
Ordering data						
Size	S <sup>1)</sup> [mm]	Mounting type	Analogue output		Electrical connection	
					Plug	Part No. Type
<b>M8</b>						
	0 ... 4	Flush	0 ... 10 V	–	538291	SIEA-M8B-PU-S
<b>M12</b>						
	0 ... 6	Flush	0 ... 10 V	4 ... 20 mA	538292	SIEA-M12B-UI-S
<b>M18</b>						
	0 ... 10	Flush	0 ... 10 V	4 ... 20 mA	538293	SIEA-M18B-UI-S
<b>M30</b>						
	0 ... 20	Flush	0 ... 10 V	4 ... 20 mA	538294	SIEA-M30B-UI-S

1) S Position measuring range [mm]

## Proximity sensors SIEF, inductive

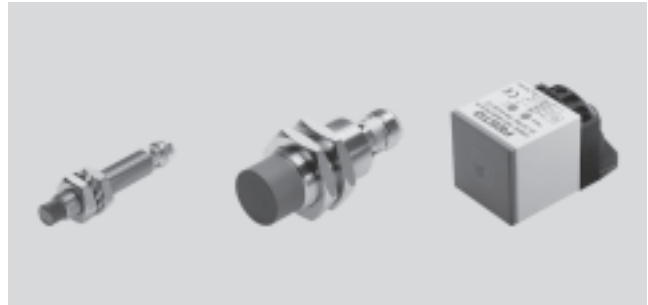
Technical data – Increased switching distance, reduction factor 1, welding field immune

Function<sup>1)</sup>



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

- Standard switching distance
- Reduction factor 1 for all metals
- For DC voltage
- Round design



General technical data									
Mounting type	Flush				Partially flush				
Size	M8	M12	M18	M30	M8	M12	M18	M30	Q40
Design	Round				Round				Block-shaped
Conforms to	EN 60947-5-2				EN 60947-5-2				
Certification	cULus listed (OL)				cULus listed (OL)				
	C-Tick				C-Tick				
CE mark (see declaration of conformity)	To EU EMC Directive				To EU EMC Directive				
Note on materials	Free of copper and PTFE				Free of copper and PTFE				
	RoHS-compliant				-				

Input signal/measuring element									
Mounting type	Flush				Partially flush				
Electrical connection	Cable			Plug	Cable			Plug	
Ambient temperature [°C]	-30 ... +70			-30 ... +85	-30 ... +85				

Output, general									
Mounting type	Flush				Partially flush				
Size	M8	M12	M18	M30	M8	M12	M18	M30	Q40
Repetition accuracy [mm]	0.08	0.16	0.28	0.55	0.08	0.16	0.24	0.4	0.7

Switching output										
Mounting type	Flush				Partially flush					
Size	M8	M12	M18	M30	M8	M12	M18	M30	Q40	
Switching output	PNP				PNP					
	NPN				NPN					
Switching element function	N/O contact				N/O contact				Antivalent	
Rated operating distance [mm]	1.5	3	5	10	4	8	12	20	35	
Assured switching distance [mm]	-	-	-	-	3.24	6.48	9.72	16.2	28.35	
Reduction factors										
Aluminium	-				1.0					
Stainless steel St 18/8	-				1.0					
Copper	-				1.0					
Brass	-				1.0					
Steel St 37	-				1.0					
Hysteresis [mm]	-				0.12...0.6	0.24...1.2	0.36...1.8	0.36...1.8	1.05...5.25	
Max. switching frequency DC [Hz]	2,000	3,000	2,500	2,000	2,000	2,000	2,000	1,500	250	
Max. output current [mA]	150	200				150	200			
Voltage drop [V]	-				≤ 1.8					

## Proximity sensors SIEF, inductive

FESTO

Technical data – Increased switching distance, reduction factor 1, welding field immune

Output, additional data	
Protection against short circuit	Pulsed

Electronic components		
Mounting type	Flush	Partially flush
Operating voltage range [V DC]	10 ... 30	10 ... 30
Residual ripple [%]	–	10
Idle current [mA]	–	≤ 15
Reverse polarity protection	For all electrical connections	For all electrical connections

Electromechanical components										
Mounting type	Flush				Partially flush					
Size	M8	M12	M18	M30	M8	M12	M18	M30	Q40	
Cable										
Electrical connection	Cable, 3-wire				Cable, 3-wire				–	
Cable length [m]	2.5				2.5					
Cable sheath material	TPE-U(PU)				PUR					
Insulating sheath material	PVC				PVC					
Plug										
Electrical connection	Plug, M8x1, 3-pin				Plug, M8x1, 3-pin		Plug, M12x1, 3-pin, Fixcon		Plug, M12x1, 4-pin, Fixcon	
Plug housing material	Chrome-plated brass				Chrome-plated brass					

Mechanical components									
Mounting type	Flush								
Size	M8		M12		M18		M30		Q40
Electrical connection	Cable	Plug	Cable	Plug	Cable	Plug	Cable	Plug	Plug
Product weight [g]	61.4	12	105	24	124	41	191	100	156
Housing material	High-alloy stainless steel		Chrome-plated brass		Chrome-plated brass		Chrome-plated brass		PBT-reinforced
	PA		LCP-reinforced		LCP-reinforced		LCP-reinforced		PA
	PP	–	TPE-O	–	TPE-O	–	TPE-O	–	–

Mechanical components									
Mounting type	Partially flush								
Size	M8		M12		M18		M30		Q40
Electrical connection	Cable	Plug	Cable	Plug	Cable	Plug	Cable	Plug	Plug
Attachment type	Via lock nut								Via through-hole
Tightening torque [Nm]	10	10	10	10	25	25	75	75	–
Product weight [g]	77	19	120	22	141	38	194	90	156
Housing material	High-alloy stainless steel		Chrome-plated brass		Chrome-plated brass		Chrome-plated brass		PBT-reinforced
	PA		PBT		PBT		PBT		PA

## Proximity sensors SIEF, inductive



**FESTO**



Technical data – Increased switching distance, reduction factor 1, welding field immune

Display/operation										
Mounting type	Flush				Partially flush					
Size	M8	M12	M18	M30	M8	M12	M18	M30	Q40S	
Ready status display	–				–					Green LED
Switching status display	–				Yellow LED					Yellow LED

Immissions/emissions										
Electrical connection	Cable				Plug					
Size	M8	M12	M18	M30	M8	M12	M18	M30	Q40	
Flush										
Ambient temperature with flexible cable installation [°C]	–5 ... +70				–					–
Protection class	IP68				IP68					
Resistance to interference from magnetic fields	Magnetic direct and alternating field				Magnetic direct and alternating field					
Surge resistance [kV]	0.8				0.8					
Corrosion resistance class CRC <sup>1)</sup>	2				2					
Degree of contamination	3				3					
Partially flush										
Ambient temperature with flexible cable installation [°C]	0 ... 80				–					
Protection class	IP67				IP67					
Resistance to interference from magnetic fields	Magnetic direct and alternating field				Magnetic direct and alternating field					
Surge resistance [kV]	–				–					
Corrosion resistance class CRC <sup>1)</sup>	4	2			4	2			–	
Degree of contamination	–				–					

- 1) Corrosion resistance class 2 according to Festo standard 940 070  
Components subject to moderate corrosion stress. 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.  
Corrosion resistance class 4 according to Festo standard 940 070  
Components subject to particularly high corrosion stress. Parts used with aggressive media, e.g. in the food or chemical industry. These applications should be supported with special tests with the media if required.

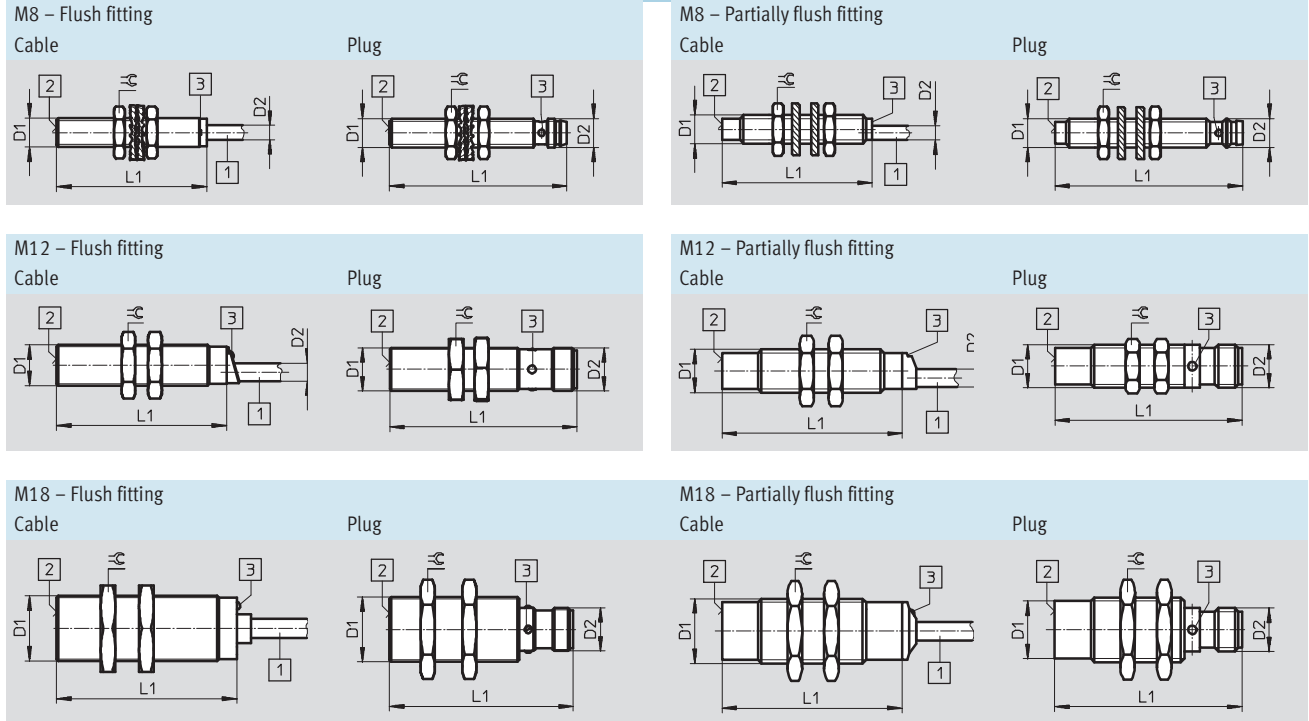
Pin allocation to EN 60947-5-2				Pin allocation to EN 60947-5-2			
M8x1, 3-pin				M12x1, 3-pin			
N/O contact				N/O contact			
	Pin	Wire colour	Allocation		Pin	Wire colour	Allocation
	1	Brown	+		1	Brown	+
	3	Blue	–		3	Blue	–
	4	Black	Output		4	Black	Output


Pin allocation to EN 60947-5-2				Pin allocation to EN 60947-5-2			
M12x1, 4-pin				M12x1, 4-pin			
NPN, antivalent				PNP, antivalent			
	Pin	Wire colour	Allocation		Pin	Wire colour	Allocation
	1	Brown	+		1	Brown	+
	2	White	N/O contact		2	White	N/C contact
	3	Blue	–		3	Blue	–
	4	Black	N/C contact		4	Black	N/O contact

## Proximity sensors SIEF, inductive

Technical data – Increased switching distance, reduction factor 1, welding field immune

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



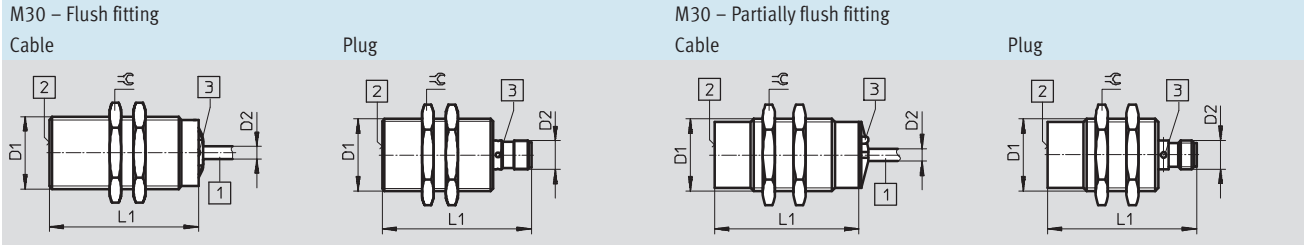
Mounting type	Electrical connection	D1	D2	L1	
<b>M8</b>					
Flush	Cable	M8x1	4	41.6	13
	Plug		M8x1		
Partially flush	Cable	M8x1	4	41.6	13
	Plug		M8x1		
<b>M12</b>					
Flush	Cable	M12x1	5.2	50	17
	Plug		M12x1		
Partially flush	Cable	M12x1	5	50	17
	Plug		M12x1		
<b>M18</b>					
Flush	Cable	M18x1	5.2	50	24
	Plug		M12x1		
Partially flush	Cable	M18x1	5.2	50	24
	Plug		M12x1		

- 1 Connecting cable
- 2 Active surface
- 3 LED

## Proximity sensors SIEF, inductive

Technical data – Increased switching distance, reduction factor 1, welding field immune

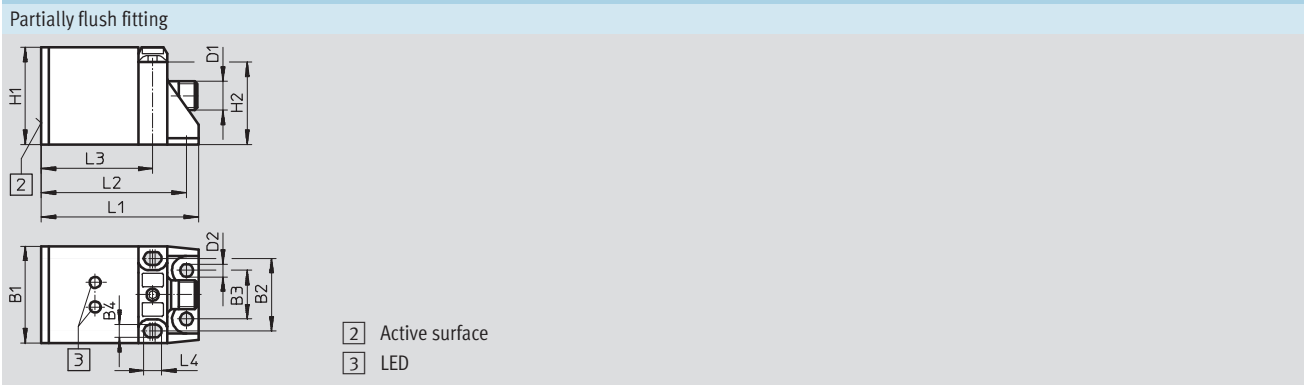
### Dimensions Download CAD data → [www.festo.com](http://www.festo.com)



Mounting type	Electrical connection	D1	D2	L1	⊘
<b>M30</b>					
Flush	Cable	M30x1.5	5.2	60	36
	Plug		M12x1	62	
Partially flush	Cable	M30x1.5	5.2	60	36
	Plug		M12x1	62	

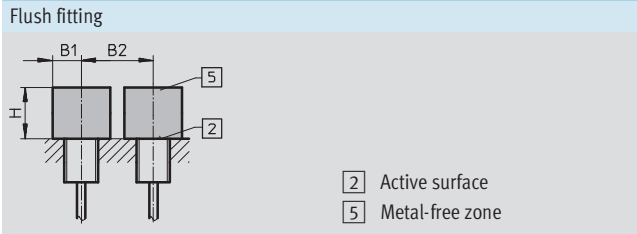
- 1 Connecting cable
- 2 Active surface
- 3 LED

### Dimensions – 40x40x65 mm Download CAD data → [www.festo.com](http://www.festo.com)

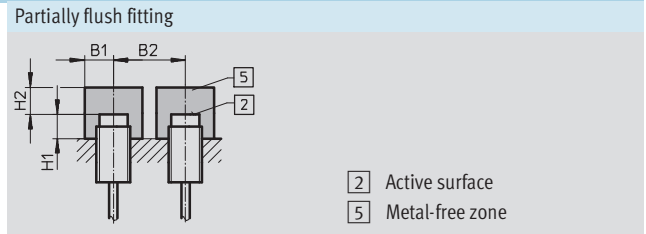


Mounting type	Electrical connection	B1	B2	B3	B4	D1	D2	H1	H2	L1	L2	L3	L4
<b>40x40x65 mm</b>													
Partially flush	Plug	40	30	20	5.3	M12x1	5.3	40	34	65	60	46	7.3

### Fitting instructions



Size	B1	B2	H
M8	12	16	4.5
M12	18	24	12
M18	27	36	15
M30	45	60	30



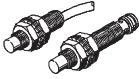




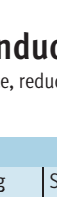




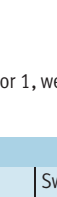




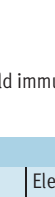





Size	B1	B2	H1	H2
M8	12	32	8	12
M12	18	48	16	24
M18	27	54	24	36
M30	45	90	30	60
40x40x65 mm	60	120	30	105



## Proximity sensors SIEF, inductive



Technical data – Increased switching distance, reduction factor 1, welding field immune

Ordering data										
Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching element function	Switching output	Electrical connection					
					Cable				Plug	
					Part No.	Type	Part No.	Type		
<b>M8</b>										
	1.5	Flush	N/O contact	PNP	553538	SIEF-M8B-PS-K-L		553537	SIEF-M8B-PS-S-L	
				NPN	553540	SIEF-M8B-NS-K-L		553539	SIEF-M8B-NS-S-L	
	4.0	Partially flush		PNP	538308	SIEF-M8NB-PS-K-L		538307	SIEF-M8NB-PS-S-L	
				NPN	538310	SIEF-M8NB-NS-K-L		538309	SIEF-M8NB-NS-S-L	
<b>M12</b>										
	3.0	Flush	N/O contact	PNP	553542	SIEF-M12B-PS-K-L		553541	SIEF-M12B-PS-S-L	
				NPN	553544	SIEF-M12B-NS-K-L		553543	SIEF-M12B-NS-S-L	
	8.0	Partially flush		PNP	538312	SIEF-M12NB-PS-K-L		538311	SIEF-M12NB-PS-S-L	
				NPN	538314	SIEF-M12NB-NS-K-L		538313	SIEF-M12NB-NS-S-L	
<b>M18</b>										
	5.0	Flush	N/O contact	PNP	553546	SIEF-M18B-PS-K-L		553545	SIEF-M18B-PS-S-L	
				NPN	553548	SIEF-M18B-NS-K-L		553547	SIEF-M18B-NS-S-L	
	12.0	Partially flush		PNP	538316	SIEF-M18NB-PS-K-L		538315	SIEF-M18NB-PS-S-L	
				NPN	538318	SIEF-M18NB-NS-K-L		538317	SIEF-M18NB-NS-S-L	
<b>M30</b>										
	10.0	Flush	N/O contact	PNP	553550	SIEF-M30B-PS-K-L		553549	SIEF-M30B-PS-S-L	
				NPN	553552	SIEF-M30B-NS-K-L		553551	SIEF-M30B-NS-S-L	
	20.0	Partially flush		PNP	538320	SIEF-M30NB-PS-K-L		538319	SIEF-M30NB-PS-S-L	
				NPN	538322	SIEF-M30NB-NS-K-L		538321	SIEF-M30NB-NS-S-L	
<b>40x40x65 mm</b>										
	35.0	Partially flush	Antivalent	PNP	–			538341	SIEF-Q40S-PA-S-2L	
				NPN	–			538342	SIEF-Q40S-NA-S-2L	

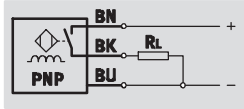
1) S<sub>n</sub> Rated operating distance [mm]

# Proximity sensors SIEF-...-WA, inductive



Technical data – Increased switching distance, reduction factor 1, welding field immune

Function<sup>1)</sup>



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

- Standard switching distance
- Reduction factor 1 for all metals
- Welding field immune
- For DC voltage
- Round design



General technical data			
Size	M12	M18	M30
Design	Round		
Conforms to	EN 60947-5-2		
Certification	cULus listed (OL)	cULus listed (OL)	cULus listed (OL)
	C-Tick		
CE mark (see declaration of conformity)	To EU EMC Directive		

Input signal/measuring element	
Ambient temperature	[°C] –30 ... +85

Output, general						
Mounting type	Flush			Partially flush		
Size	M12	M18	M30	M12	M18	M30
Repetition accuracy	[mm] 0.06	0.1	0.2	0.16	0.24	0.4

Switching output						
Mounting type	Flush			Partially flush		
Size	M12	M18	M30	M12	M18	M30
Switching output	PNP					
	NPN					
Switching element function	N/O contact					
Rated operating distance	[mm] 3	5	10	8	12	20
Assured switching distance	[mm] 2.43	4.05	16.2	6.48	9.72	16.2
Reduction factors						
Aluminium	1.0					
Stainless steel St 18/8	1.0					
Copper	1.0					
Brass	1.0					
Steel St 37	1.0					
Hysteresis	[mm] 0.24 ... 1.2	0.15 ... 0.75	0.36 ... 1.8	0.24 ... 1.2	0.36 ... 1.8	0.36 ... 1.8
Max. switching frequency DC	[Hz] 3,000	2,500	1,500	2,000	2,000	1,500
Max. output current	[mA] 200					
Voltage drop	[V] ≤ 1.8					

Output, additional data	
Protection against short circuit	Pulsed

# Proximity sensors SIEF-...-WA, inductive

Technical data – Increased switching distance, reduction factor 1, welding field immune


Electronic components		
Operating voltage range	[V DC]	10 ... 65
Residual ripple	[%]	10
Idle current	[mA]	≤ 15
Reverse polarity protection		For all electrical connections

Electromechanical components	
Electrical connection	Plug, M12x1, 3-pin, Fixcon
Plug housing material	PTFE-coated brass

Mechanical components								
Size	M12		M18		M30			
Mounting type	Flush	Partially flush	Flush	Partially flush	Flush		Partially flush	
Switching output	PNP/NPN	PNP/NPN	PNP/NPN	PNP/NPN	PNP	NPN	PNP	NPN
Attachment type	Via lock nut							
Tightening torque	[Nm]	7	15	75	75			
Product weight	[g]	26	48	373	464	919	1,010	
Housing material	PTFE-coated brass							
	PBT							

Display/operation	
Switching status display	Yellow LED

Immissions/emissions	
Protection class	IP67
Resistance to interference from magnetic fields	Magnetic direct and alternating field

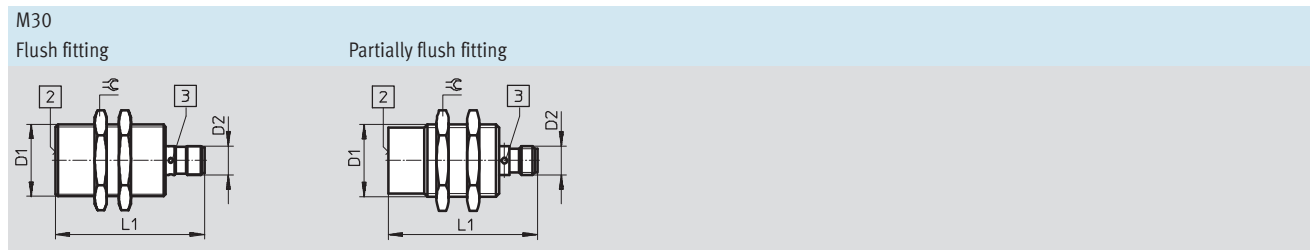
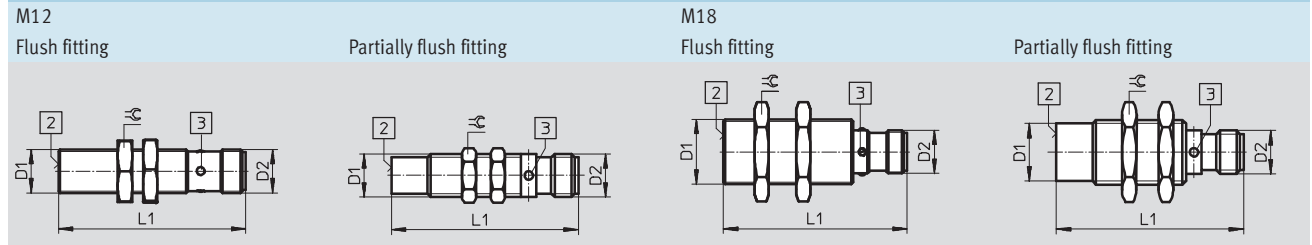
Pin allocation to EN 60947-5-2			
M12x1, 3-pin			
N/O contact			
	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output

# Proximity sensors SIEF-...-WA, inductive



Technical data – Increased switching distance, reduction factor 1, welding field immune

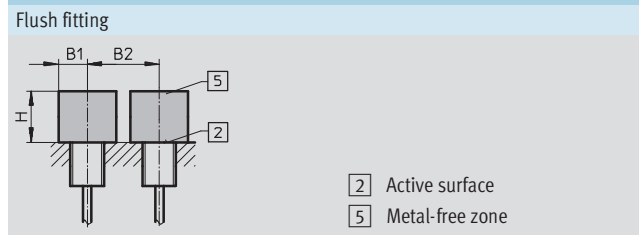
## Dimensions Download CAD data → [www.festo.com](http://www.festo.com)



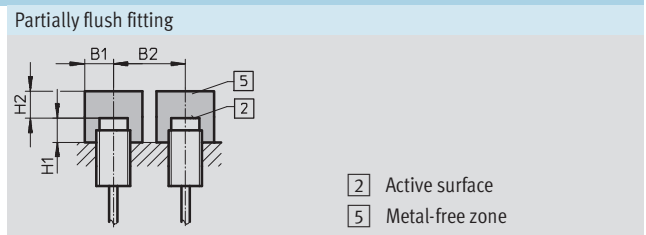
Mounting type	Electrical connection	D1	D2	L1	⌀
<b>M12</b>					
Flush	Plug	M12x1	M12x1	52	17
Partially flush					13
<b>M18</b>					
Flush	Plug	M18x1	M12x1	52	24
Partially flush					
<b>M30</b>					
Flush	Plug	M30x1.5	M12x1	62	36
Partially flush					

- 2 Active surface
- 3 LED

## Fitting instructions



Size	B1	B2	H
M12	18	24	9
M18	27	36	15
M30	45	60	30






Size	B1	B2	H1	H2
M12	18	48	16	24
M18	27	54	24	36
M30	45	90	40	60

# Proximity sensors SIEF-...-WA, inductive



Technical data – Increased switching distance, reduction factor 1, welding field immune




Ordering data						
Size	S <sub>n</sub> <sup>1)</sup> [mm]	Mounting type	Switching element function	Switching output	Electrical connection	
					Plug	
					Part No.	Type
<b>M12</b>						
	3.0	Flush	N/O contact	PNP	538297	SIEF-M12B-PS-S-L-WA
				NPN	538298	SIEF-M12B-NS-S-L-WA
	8.0	Partially flush		PNP	538295	SIEF-M12NB-PS-S-L-WA
				NPN	538296	SIEF-M12NB-NS-S-L-WA
<b>M18</b>						
	5.0	Flush	N/O contact	PNP	538301	SIEF-M18B-PS-S-L-WA
				NPN	538302	SIEF-M18B-NS-S-L-WA
	12.0	Partially flush		PNP	538299	SIEF-M18NB-PS-S-L-WA
				NPN	538300	SIEF-M18NB-NS-S-L-WA
<b>M30</b>						
	10.0	Flush	N/O contact	PNP	538305	SIEF-M30B-PS-S-L-WA
				NPN	538306	SIEF-M30B-NS-S-L-WA
	20.0	Partially flush		PNP	538303	SIEF-M30NB-PS-S-L-WA
				NPN	538304	SIEF-M30NB-NS-S-L-WA

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




# Proximity sensors SIE..., inductive

Accessories







FESTO




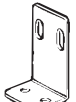

Ordering data – Connecting cables M8x1				Technical data → Internet: nebu	
	Number of wires	Cable length [m]	Part No.	Type	
<b>Straight socket</b>					
	3	2.5	541 333	NEBU-M8G3-K-2.5-LE3	
		5	541 334	NEBU-M8G3-K-5-LE3	
<b>Angled socket</b>					
	3	2.5	541 338	NEBU-M8W3-K-2.5-LE3	
		5	541 341	NEBU-M8W3-K-5-LE3	
<b>Straight socket, straight plug</b>					
	4	2.5	554 037	NEBU-M8G3-K-2.5-M8G4 <sup>1)</sup>	

1) For connecting proximity sensor SIEA-M8B to signal converter SVE4-US.

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	541 363	NEBU-M12G5-K-2.5-LE3	
		5	541 364	NEBU-M12G5-K-5-LE3	
	4	5	541 328	NEBU-M12G5-K-5-LE4 <sup>1)</sup>	
<b>Angled socket</b>					
	3	2.5	541 367	NEBU-M12W5-K-2.5-LE3	
		5	541 370	NEBU-M12W5-K-5-LE3	
	4	5	541 329	NEBU-M12W5-K-5-LE4 <sup>1)</sup>	
<b>Straight socket, straight plug</b>					
	4	2.5	554 036	NEBU-M12G5-K-2.5-M8G4 <sup>2)</sup>	

- 1) For connecting proximity sensor SIE...-M12/M18/M30 in N/C contact version with plug.  
2) For connecting proximity sensor SIEA-MxxB to signal converter SVE4.

Ordering data – Mounting attachments			
	For size	Part No.	Type
<b>Sensor bracket with stop for flush fitting</b>			
	M8	538 346	SIEZ-B-8
	M12	538 348	SIEZ-B-12
	M18	538 350	SIEZ-B-18
	M30	538 352	SIEZ-B-30
<b>Sensor bracket without stop</b>			
	4	538 343	SIEZ-NB-4
	6.5	538 344	SIEZ-NB-6,5
	M8	538 345	SIEZ-NB-8
	M12	538 347	SIEZ-NB-12
	M18	538 349	SIEZ-NB-18
	M30	538 351	SIEZ-NB-30
	M12, M18	538 354	SIEZ-UH
	M12, M18	538 355	SIEZ-UV
<b>Inscription label</b>			
	M12 ... M30	538 353	SIEZ-LB

Ordering data – Mounting attachments			
	For size	Part No.	Type
<b>Foot mounting</b>			
	M12	5 123	HBN-8/10x1
	M18	188 990	HBE-25
<b>Flange mounting</b>			
	M30	195 855	FBN-32
<b>Mounting bracket</b>			
	SIES-V3B	9 634	HV-M5
<b>Stop</b>			
	M8	11 542	SDA-8x1-B
	M12	11 541	SDA-12x1-B