

## Proximity switches SIED, inductive

**FESTO**

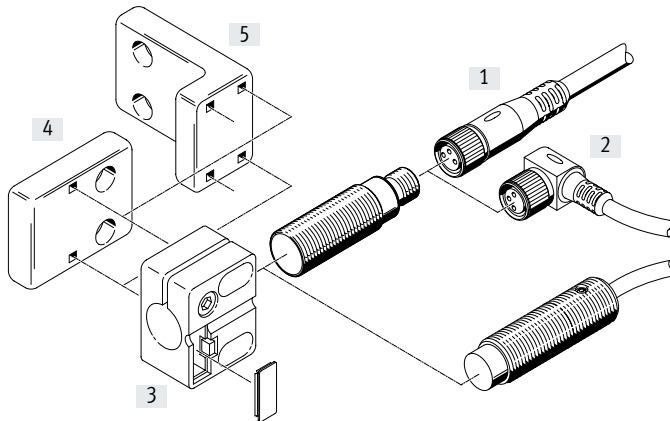


## Product range overview

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	5
	SIED-...-PA Polyamide housing	20 ... 250 V AC 10 ... 300 V DC	Contactless, 2-wire	Flush Not flush	M12, M18, M30	11
	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	–
<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...	14
[2]	Connecting cable, angled socket NEBU-M...W...	14
[3]	Sensor bracket SIEZ-...B	14
[4]	Sensor bracket SIEZ-NB	14
[5]	Sensor bracket SIEZ-UH	14
-	Mounting bracket HV-M5	14
Mounting attachments and accessories		→ Page
-	Foot mounting HBN	14
-	Flange mounting FBN	14
-	Stop SDA	14

## Type codes

001	Series
<b>SIED</b>	Proximity sensor, inductive, for DC and AC voltage

002	Design
<b>M12</b>	Round, M12x1
<b>M18</b>	Round, M18x1
<b>M30</b>	Round, M30x1.5

003	Mounting type
<b>B</b>	Flush
<b>NB</b>	Not flush

004	Switching input/output
<b>Z</b>	Contactless 2-wire

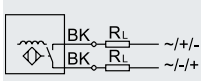
005	Switching element function
<b>O</b>	N/C contact
<b>S</b>	N/O contact

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

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

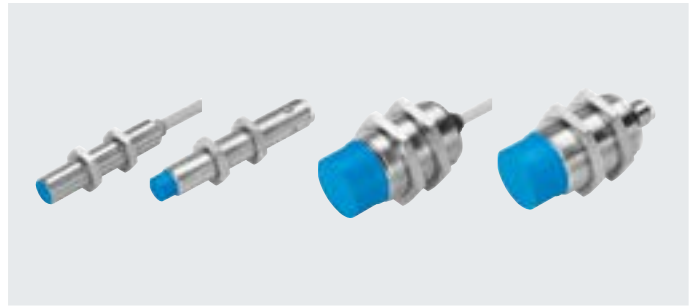
008	Housing material
	Standard
<b>PA</b>	Polyamide housing

## 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 type	Round
Conforms to standard	EN 60947-5-2
Certification	c UL us Listed (OL) RCM
CE marking (see declaration of conformity)	To EU EMC Directive <sup>1)</sup> To EU Low Voltage Directive
Note on materials	Free of copper and PTFE

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/SIED](http://www.festo.com/catalogue/SIED) → 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 ... +85
---------------------	------	-------------

### Output, general

Type of installation	Flush			Not 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

Type of installation	Flush			Not flush			
	Size	M12	M18	M30	M12	M18	M30
Switching output	Contactless, 2-wire			Contactless, 2-wire			
Switching element function	N/O			N/O			
	N/C			N/C			
Rated operating distance	[mm]	2	5	10	4	8	15
Actual operating 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		

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

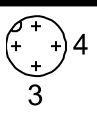
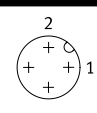
Output, additional data								
Short circuit current rating		No						
Electronics								
Operating voltage range AC		[V AC]	20 ... 265					
Operating voltage range DC		[V DC]	20 ... 320					
No-load supply current		[mA]	≤ 1.5					
Reverse polarity protection		For all electrical connections						
Electromechanics								
Electrical connection		Cable			Plug			
Electrical connection		Cable, 2-wire			Plug, M12x1, 2-pin			
Cable length		[m]	2.5					
Information on materials: Cable sheath		TPE-U (PUR)						
Information on materials: Insulating sheath		PVC						
Mechanical system								
Size		M12		M18		M30		
Electrical connection		Cable	Plug	Cable	Plug	Cable	Plug	
Type of mounting		With lock nut		With lock nut		With lock nut		
Type of installation		Flush		Flush		Flush		
		Not flush		Not flush		Not flush		
Tightening torque		[Nm]	10		20		40	
Product weight		[g]	90		20		110	
					50		190	
Information on materials: Housing		Nickel-plated brass, PA		Nickel-plated brass, PA		Nickel-plated brass, PA		
Display/operation								
Switching status indication		Yellow LED						
Immission/emission								
Electrical connection		Cable			Plug			
Ambient temperature with flexible cable installation		[°C]	-5 ... +50					
Degree of protection		IP67			IP67			
Corrosion resistance class CRC <sup>1)</sup>		1			1			

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).

## Pin allocation to EN 60947-5-2

M12x1, 2-pin

N/O				N/C			
	Pin	Wire colour	Allocation	M12x1	Pin	Wire colour	Allocation
	3	Black	/+/-		1	Black	/+/-
	4	Black	/-/+		2	Black	/-/+

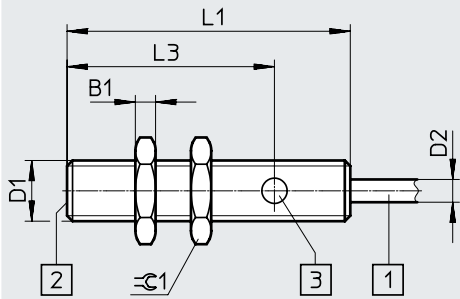
## Technical data – Standard switching distance, for DC and AC voltage

## Dimensions – M12

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

## Flush installation

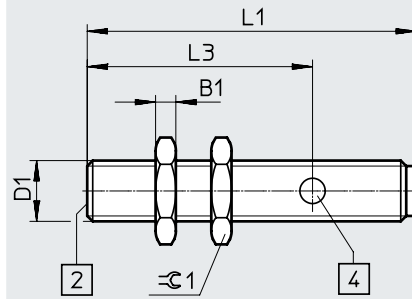
## Cable



- [1] 3-wire cable, 2.5 m long  
[2] Active surface

- [3] 1 switching status indication,  
yellow

## Plug



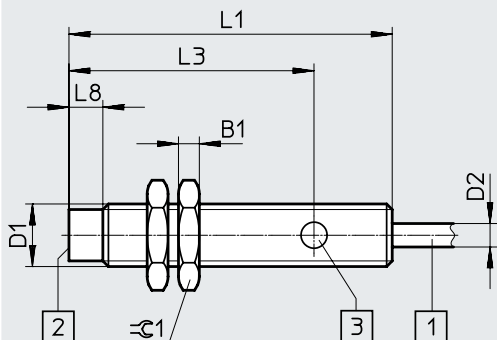
- [2] Active surface

- [4] 1 switching status indication,  
yellow

Type	B1 -0.3	D1	D2 $\varnothing$ $\pm 0.15$	L1	L3	$\varnothing 1$
SIED-M12B-Z-...-K-L	4	M12x1	4.5	56	41	17
SIED-M12B-Z-...-S-L	4	M12x1	-	65	44.5	17

## Non-flush installation

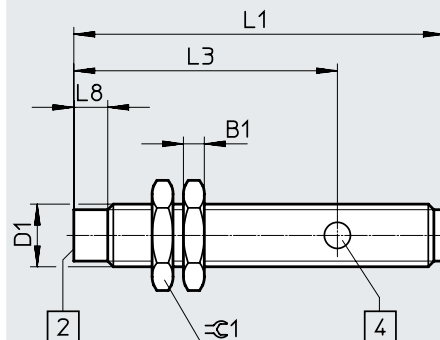
## Cable



- [1] 3-wire cable, 2.5 m long  
[2] Active surface

- [3] 1 switching status indication,  
yellow

## Plug



- [2] Active surface

- [4] 1 switching status indication,  
yellow

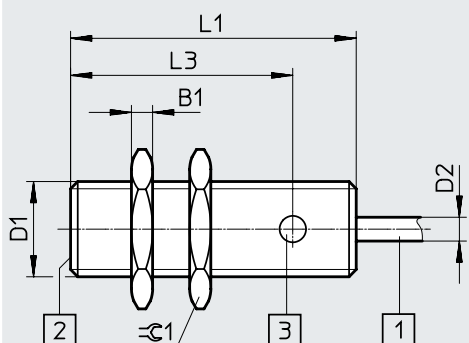
Type	B1 -0.3	D1	D2 $\varnothing$ $\pm 0.15$	L1	L3	L8	$\varnothing 1$
SIED-M12NB-Z-...-K-L	4	M12x1	4.5	62	47	6.5	17
SIED-M12NB-Z-...-S-L	4	M12x1	-	71	50.5	6.5	17

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

Dimensions – M18

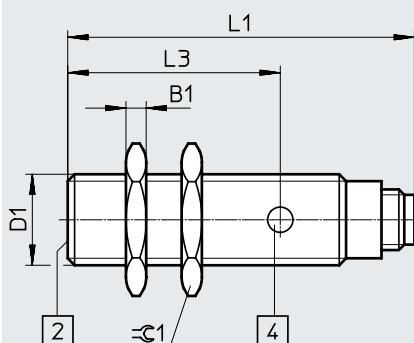
Download CAD data → [www.festo.com](http://www.festo.com)

Flush installation  
Cable



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

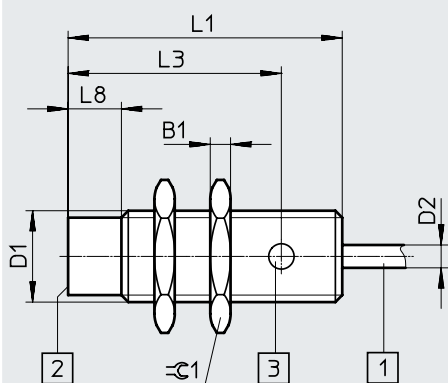
Plug



- [2] Active surface
- [4] 1 switching status indication, yellow

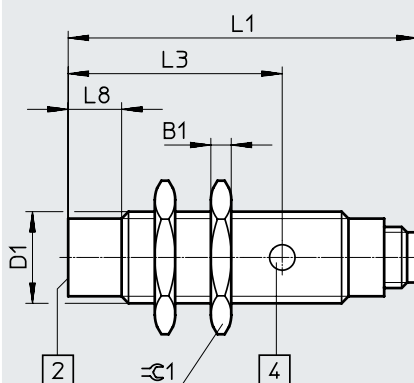
Type	B1 -0.3	D1	D2 $\varnothing$ $\pm 0.15$	L1	L3	$\approx 1$
SIED-M18B-Z...-K-L	4	M18x1	4.5	54	42	24
SIED-M18B-Z...-S-L	4	M18x1	-	68.5	42	24

Non-flush installation  
Cable



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

Plug



- [2] Active surface
- [4] 1 switching status indication, yellow

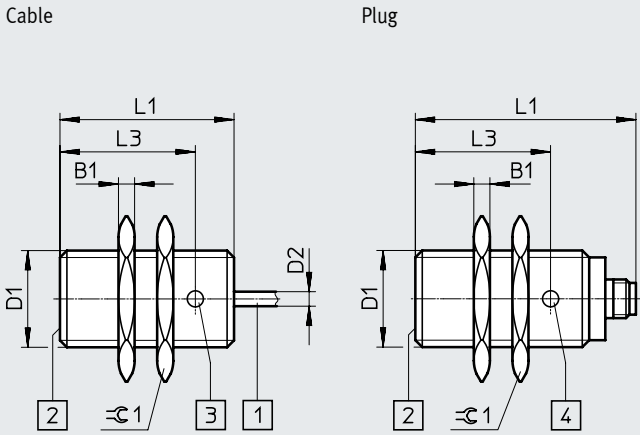
Type	B1 -0.3	D1	D2 $\varnothing$ $\pm 0.15$	L1	L3	L8	$\approx 1$
SIED-M18NB-Z...-K-L	4	M18x1	4.5	54	42	10.5	24
SIED-M18NB-Z...-S-L	4	M18x1	-	68.5	42	10.5	24



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

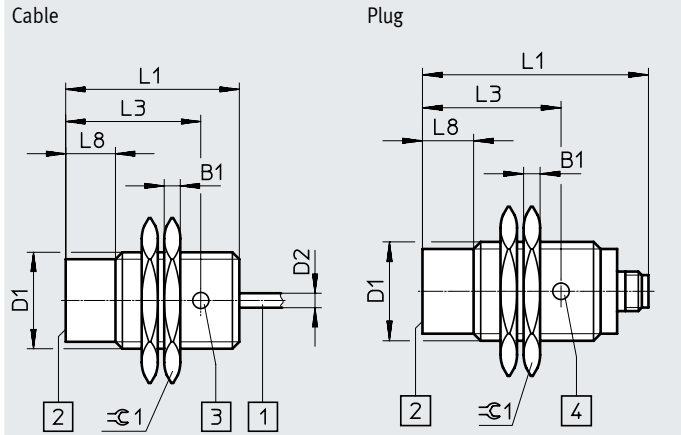
Dimensions – M30

Flush installation  
Cable



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

Non-flush installation  
Cable



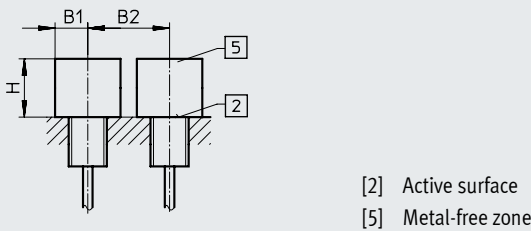
- [1] 2-wire cable, 2.5 m long
- [2] Active surface
- [3] 1 switching status indication, yellow

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

Type	B1 -0.3	D1	D2 $\varnothing$ $\pm 0.15$	L1	L3	L8	$\varnothing 1$
SIED-M30B-Z...-K-L	5	M30x1.5	4.5	54	42	-	36
SIED-M30B-Z...-S-L	5	M30x1.5	-	68.5	42	-	36
SIED-M30NB-Z...-K-L	5	M30x1.5	4.5	54	42	15.5	36
SIED-M30NB-Z...-S-L	5	M30x1.5	-	68.5	42	15.5	36

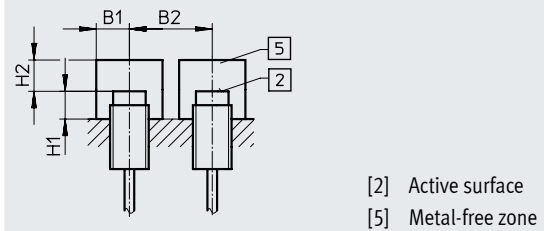
Fitting instructions

Flush installation



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

Non-flush installation

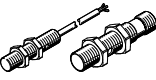

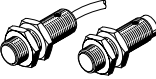
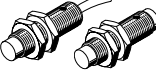




Size	B1	B2	H
M12	6	12	6
M18	11	30	10
M30	25	37	16

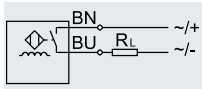
Size	B1	B2	H1	H2
M12	15	27	8	8
M18	20	50	15	15
M30	30	80	15	25

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

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
<b>M12</b>								
	2.0	Flush	Contactless, 2-wire	N/O	538272	SIED-M12B-ZS-K-L	538271	SIED-M12B-ZS-S-L
				N/C	538274	SIED-M12B-ZO-K-L	538273	SIED-M12B-ZO-S-L
	4.0	Not flush	Contactless, 2-wire	N/O	538268	SIED-M12NB-ZS-K-L	538267	SIED-M12NB-ZS-S-L
				N/C	538270	SIED-M12NB-ZO-K-L	538269	SIED-M12NB-ZO-S-L
<b>M18</b>								
	5.0	Flush	Contactless, 2-wire	N/O	538280	SIED-M18B-ZS-K-L	538279	SIED-M18B-ZS-S-L
				N/C	538282	SIED-M18B-ZO-K-L	538281	SIED-M18B-ZO-S-L
	8.0	Not flush	Contactless, 2-wire	N/O	538276	SIED-M18NB-ZS-K-L	538275	SIED-M18NB-ZS-S-L
				N/C	538278	SIED-M18NB-ZO-K-L	538277	SIED-M18NB-ZO-S-L
<b>M30</b>								
	10.0	Flush	2-wire, contactless	N/O	538288	SIED-M30B-ZS-K-L	538287	SIED-M30B-ZS-S-L
				N/C	538290	SIED-M30B-ZO-K-L	538289	SIED-M30B-ZO-S-L
	15.0	Not flush	2-wire, contactless	N/O	538284	SIED-M30NB-ZS-K-L	538283	SIED-M30NB-ZS-S-L
				N/C	538286	SIED-M30NB-ZO-K-L	538285	SIED-M30NB-ZO-S-L

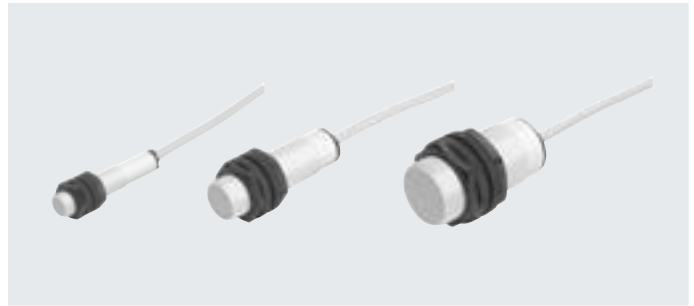
1) S<sub>n</sub> Rated operating distance [mm]

## 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 type	Round
Conforms to standard	EN 60947-5-2
Certification	c UL us Listed (OL) RCM
CE marking (see declaration of conformity)	To EU EMC Directive <sup>1)</sup> To EU Low Voltage Directive
Note on materials	Free of copper and PTFE

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

Type of installation	Flush			Not 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

Type of installation	Flush			Not flush			
Size	M12	M18	M30	M12	M18	M30	
Switching output	Contactless, 2-wire			Contactless, 2-wire			
Switching element function	N/O			N/O			
Rated operating distance	[mm]	2	5	10	4	8	15
Actual operating 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

Short circuit current rating	No
------------------------------	----

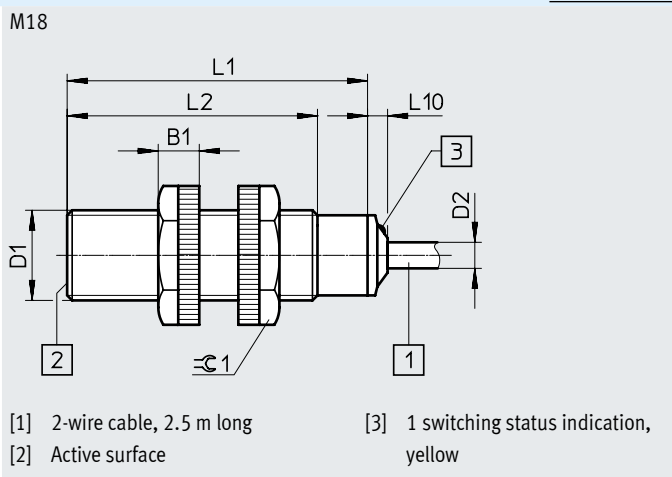
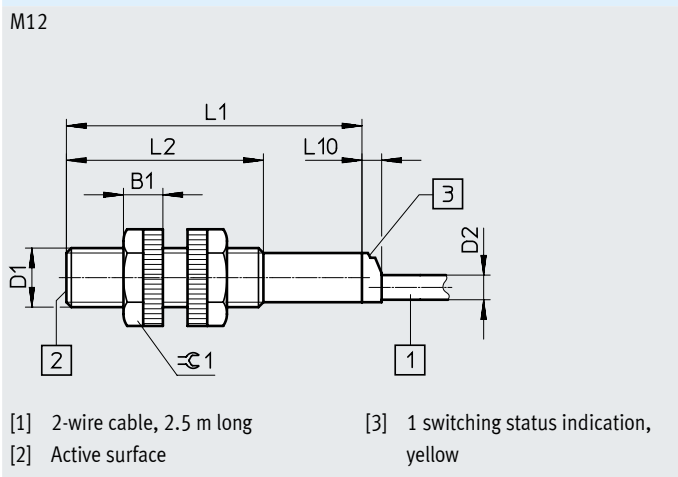
## Technical data – Standard switching distance, polyamide housing, for DC and AC voltage

Electronics	
Operating voltage range AC	[V AC] 20 ... 250
Operating voltage range DC	[V DC] 10 ... 300
No-load supply current	[mA] ≤ 1.5
Reverse polarity protection	For all electrical connections
Electromechanics	
Electrical connection	Cable, 2-wire
Cable length	[m] 2.5
Information on materials: Cable sheath	PVC
Information on materials: Insulating sheath	PVC
Mechanical system	
Size	M12   M18   M30
Type of mounting	With lock nut
Type of installation	Flush
Tightening torque	[Nm] 1   2   5
Product weight	[g] 109   123   175
Information on materials: Housing	PA-reinforced
Display/operation	
Switching status indication	Yellow LED
Immission/emission	
Ambient temperature with flexible cable installation	[°C] 0 ... +70
Degree of protection	IP65, IP67
Corrosion resistance class CRC <sup>1)</sup>	4

1) 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.

### Dimensions

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



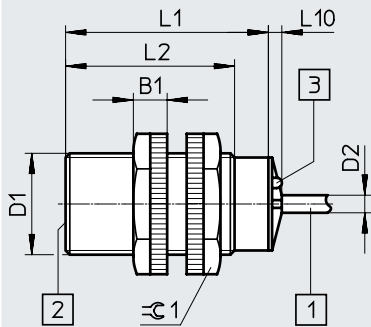
Type	B1	D1	D2 ø	L1	L2	L10	⊕ 1
SIED-M12-...-B-ZS-...-K-L-PA	8	M12x1	5	60	40	4	17
SIED-M18-...-B-ZS-...-K-L-PA	8.2	M18x1	5.2	60	50	4	24

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

## Dimensions

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

M30

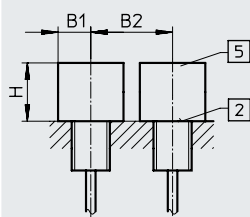


- [1] 2-wire cable, 2.5 m long
- [2] Active surface
- [3] 1 switching status indication, yellow

Type	B1	D1	D2 ∅	L1	L2	L10	∅1
SIED-M30-...-B-ZS-...-K-L-PA	10	M30x1.5	5	60	50	4	36

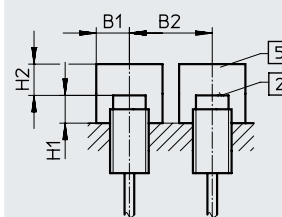
## Fitting instructions

Flush installation



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

Non-flush installation


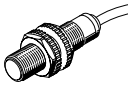
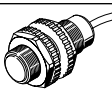


- [2] Active surface
- [5] Metal-free zone



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

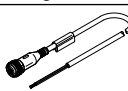
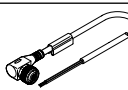
Size	B1	B2	H1	H2
M12	18	36	8	12
M18	27	54	16	24
M30	45	90	30	45

## Ordering data






Size	S <sub>n</sub> <sup>1)</sup> [mm]	Type of installation	Switching output	Switching element function	Electrical connection	
					Cable Part No.	Type
	2.0	Flush	Contactless, 2-wire	N/O	538336	SIED-M12B-ZS-K-L-PA
	4.0	Not flush			538335	SIED-M12NB-ZS-K-L-PA
	5.0	Flush	Contactless, 2-wire	N/O	538338	SIED-M18B-ZS-K-L-PA
	8.0	Not flush			538337	SIED-M18NB-ZS-K-L-PA
	10.0	Flush	Contactless, 2-wire	N/O	538340	SIED-M30B-ZS-K-L-PA
	15.0	Not flush			538339	SIED-M30NB-ZS-K-L-PA

## 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