

# COMPACT CATALOG

***SENSEABLE***<sup>TM</sup>

LED INDICATORS

SMART BUTTONS


PHOTOELECTRIC SENSORS

CYLINDER POSITION SENSORS

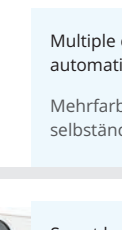
INDUCTIVE PROXIMITY SWITCHES

CAPACITIVE PROXIMITY SWITCHES



**4**  Beacons  
multiple colored LED + sound  
Signalleuchten  
mehrfarbig LED + Signalton

**6**  Multiple colored LED indicators  
automatically flashing  
Mehrfarbige LED-Anzeigen  
selbständig blinkend

**8**  Smart buttons  
touch and push sensitive  
Intelligente Taster  
berührungs- und druckempfindl.

**10**  Fork light barriers  
red light, infrared light, laser  
Gabel-Lichtschranken  
Rotlicht, Infrarotlicht, Laser

**14**  Frame light barriers  
detecting falling objects  
Rahmen-Lichtschranken  
erkennen Objekte im freien Fall

**16**  Area sensors (light curtains)  
high resolution crossed beams  
Lichtgitter mit gekreuzten Strahlen  
hochauflösend

**18**  Cylinder position sensors  
electronic  
Zylinderschalter  
elektronisch


**20**  Photoelectric sensors  
reflective, background suppress.  
Optische Sensoren  
reflektiv, Hintergrundausschaltung

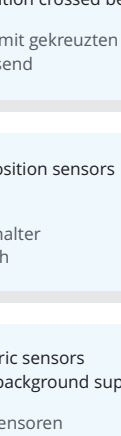
**22**  Ring sensors  
inductive, capacitive, optical  
Ringsensoren  
induktiv, kapazitiv, optisch

**24**  Inductive proximity switches  
Miniature  
Induktive Näherungsschalter  
Miniatur


**26**  Inductive proximity switches  
high performance, 4x  $S_N$   
Induktive Sensoren  
Hochleistung, 4x  $S_N$


**32**  Inductive proximity switches  
closed stainless steel housing  
Induktive Sensoren  
Vollmetallgehäuse

**34**  Inductive proximity switches  
high temperature up to 180 °C  
Induktive Sensoren  
Hochtemperatur bis zu 180 °C

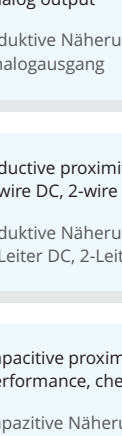
**36**  Inductive proximity switches  
food safe, IP69k, -40 °C  
Induktive Sensoren  
lebensmitteltauglich, IP69k, -40 °C

**38**  Inductive proximity switches  
pressure proof up to 1000 bar  
Induktive Näherungsschalter  
druckfest bis zu 1000 bar

**40**  Inductive proximity switches  
analog output  
Induktive Näherungsschalter  
Analogausgang

**42**  Inductive proximity switches  
2-wire DC, 2-wire AC  
Induktive Näherungsschalter  
2-Leiter DC, 2-Leiter AC

**44**  Capacitive proximity switches  
performance, chem. resistant  
Kapazitive Näherungsschalter  
Hochleistung, chem. resistent

**48**  Capacitive proximity switches  
high temperature up to 150 °C  
Kapazitive Näherungsschalter  
Hochtemperatur bis zu 150 °C

# LED Beacons, multiple colored LED

## LED-Anzeigen, mehrfarbige LED

- ▶ Fits into Ø22.5 mm mounting standard  
Passt in Ø22,5 mm Montagestandard
- ▶ Up to 7 colors, blink patterns and sounds  
Bis zu 7 Farben, Blinkmuster und Signaltöne
- ▶ Homogeneous bright illumination  
Gleichmäßige helle Ausleuchtung
- ▶ Food-grade hygienic version available  
Hygieneausführung erhältlich
- ▶ Versions with synchronization available  
Ausführungen mit Synchronisation erhältlich
- ▶ Also available with low-current inputs  
Auch mit Low-Current-Eingängen erhältlich

### Customer-specific configuration

A color, a blink pattern, and a sound can be assigned to each of the seven pin combinations.

### Kundenspezifische Konfiguration

Jeder der sieben Pin-Kombinationen kann jeweils eine Farbe, ein Blinkmuster und ein Signalton zugeordnet werden.



**IO-Link**  
Universal · Smart · Easy

#### Technical data (typ.)

Supply voltage	20...35 V <sub>DC</sub>
Current consumption	<200 mA
Reverse polarity protection	built-in
Light source	high efficient LED
PWM dimmable	no
Max. self-generated frequency	20 Hz*
Bulb material	polycarbonate
Operating temperature	-20...+50 °C   -4...+122 °F
IP code	IP67
devices with sound	Ip67   IP63

\* Note: These multiple colored LED indicators can not be dimmed by PWM.

#### Technische Daten (typ.)

Versorgungsspannung (V <sub>CC</sub> )	20...35 V <sub>DC</sub>
Eigenstromaufnahme	<200 mA
Verpolungsschutz	integriert
Leuchtmittel	Hocheffizienz-LED
PWM dimmbar	Nein
Max. selbsterzeugte Frequenz	20 Hz*
Material Leuchtkörper	Polykarbonat
Betriebstemperatur	-20...+50 °C
Schutzart	IP67
Geräte mit Signalton	Ip67   IP63

\* Anmerkung: Diese LED-Anzeigen können nicht per PWM gedimmt werden.



Self-blinking selbstblinkend	Synchronization Synchronisation	Connection Anschluss	Input · Eingang			Blink Mode Blinkmodus	Sound Signalton	Housing Gehäuse	Order Code Bestellnummer
			1	4	2				
R-G-B, mixed colors R-G-B, Mischfarben						Activating more than one color at the same time results in mixed colors. Die gleichzeitige Aktivierung mehrerer Farben ergibt Mischfarben.			
○	○	Connector M12 Stecker M12	○	○	○	off	○	Zinc die-cast Zinkdruckguss	SD60Z-PW-N12#001
			○	○	●				
			○	●	○				
			○	●	●				
			●	○	○				
			●	○	●				
●	●	○							
●	●	●							
R-G-Y alternating R-G-Y alternierend						When more than one color is activated at the same time, the selected colors cycle. Wird mehr als eine Farbe gleichzeitig angesteuert, die gewählten Farben wechseln zyklisch.			
●	○	Connector M12 Stecker M12	○	○	○	off	○	Zinc die-cast Zinkdruckguss	SD60Z-PW-N12#002
			○	○	●				SD60Z-PWS-N12#002
			○	●	○				
			○	●	●				
			●	○	○				
			●	○	●				
●	●	○							
●	●	●							
R-G-Y with prioritized inputs R-G-Y mit priorisierten Eingängen						GREEN can remain permanently activated. YELLOW overrides green, RED overrides yellow. GRÜN kann dauerhaft aktiviert bleiben. GELB übersteuert grün, ROT übersteuert gelb.			
○	○	Connector M12 Stecker M12	○	○	○	off	○	Zinc die-cast Zinkdruckguss	SD60Z-PW-N12#003
			○	○	●				SD60Z-PWS-N12#003
			○	●	○				
			○	●	●				
			●	○	○				
			●	○	●				
●	●	○							
●	●	●							
R-G-Y with prioritized inputs R-G-Y mit priorisierten Eingängen						GREEN can remain permanently activated. YELLOW blinks slowly and overrides green, RED blinks quickly and overrides yellow. GRÜN kann dauerhaft aktiviert bleiben. GELB blinkt langsam und übersteuert grün, ROT blinkt schnell und übersteuert gelb.			
●	○	Connector M12 Stecker M12	○	○	○	off	○	Zinc die-cast Zinkdruckguss	SD60Z-PW-N12#004
			○	○	●				SD60Z-PWS-N12#004
			○	●	○				
			○	●	●				
			●	○	○				
			●	○	●				
●	●	○							
●	●	●							
R-G-Y with prioritized inputs R-G-Y mit priorisierten Eingängen						GREEN can remain permanently activated. YELLOW blinks quickly and overrides green, RED bursts and overrides yellow. GRÜN kann dauerhaft aktiviert bleiben. GELB blinkt schnell und übersteuert grün, ROT flackert und übersteuert gelb.			
●	○	Connector M12 Stecker M12	○	○	○	off	○	Zinc die-cast Zinkdruckguss	SD60Z-PW-N12#005
			○	○	●				SD60Z-PWS-N12#005
			○	●	○				
			○	●	●				
			●	○	○				
			●	○	●				
●	●	○							
●	●	●							
R-G-Y with SYNCHRONIZATION R-G-Y mit SYNCHRONISIERUNG						Multiple interconnected indicators synchronize their blink patterns. Mehrere miteinander verbundene Anzeigen synchronisieren ihre Blinkmuster.			
●	●	Connector M12 Stecker M12	○	interconnected verbunden	○		○	Zinc die-cast Zinkdruckguss	SD60Z-SY-N12#006
			○		○				SD60Z-SYS-N12#006
			○		○				
			○		○				
●	○	○							
●	○	●							
●	○	○							
●	○	●							
R-G-B with IO-Link R-G-B mit IO-Link			Connection · Anschluss			Arbitrary access to 7 colors, 5 blink patterns, and 3 sounds. Freier Zugriff auf 7 Farben, 5 Blinkmuster und 3 Signaltöne.			
●	○	Connector M12 Stecker M12	1	4	2		○	Zinc die-cast Zinkdruckguss	SD60Z-IO-N12#000
			Vcc	IO-Link	GND				SD60Z-IOS-N12#000
			○	○	○				SD60S-IO-N12#000
			○	○	○				SD60S-IOS-N12#000

Small selection from our range of products. Devices with low current inputs are also available.  
Kleine Auswahl aus unserem Sortiment. Geräte mit Low-Current-Eingängen sind ebenfalls verfügbar.

Order codes are valid for M12 connector. Cable connection (-N2P) also available.  
Bestellnummern gelten für M12-Stecker. Festkabel (-N2P) ebenfalls erhältlich.

# LED Indicators, multiple colored LED LED-Anzeigen, mehrfarbige LED

- ▶ Field and panel mount versions  
Vor-Ort-Montage und Fronttafeleinbau
- ▶ Up to 7 colors and blink patterns  
Bis zu 7 Farben und Blinkmuster
- ▶ Homogeneous bright illumination  
Gleichmäßig helle Ausleuchtung
- ▶ Food-grade hygienic version available  
Hygieneausführung erhältlich
- ▶ Versions with synchronization available  
Ausführungen mit Synchronisation erhältlich
- ▶ Also available with low current inputs  
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## Customer-specific configuration

A color and a blink pattern can be assigned to each of the seven pin combinations.

## Kundenspezifische Konfiguration

Jeder der sieben Pin-Kombinationen kann jeweils eine Farbe und ein Blinkmuster zugeordnet werden.



### Technical data (typ.)

Supply voltage	10...35 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<50 mA*
Light source	high efficient LED
PWM dimmable	no
<b>Housing material</b>	
MLS18	brass, nickel plated
MLS30	brass, nickel plated
ML*22	stainless steel 1.4305
<b>Bezel material</b>	
ML*22	stainless steel 1.4305
MLH22	stainless steel 1.4404
Pane material	polycarbonate
Operating temperature	-20...+50 °C   -4...+122 °F
IP code	IP67, Ø22,5 IP69k / IP67

\* Note: These multiple colored LED indicators can not be dimmed by PWM.

### Technische Daten (typ.)



Versorgungsspannung	10...35 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<50 mA*
Leuchtmittel	Hocheffizienz-LED
PWM dimmbar	Nein
<b>Gehäusematerial</b>	
MLS18	Messing, vernickelt
MLS30	Messing, vernickelt
ML*22	Edelstahl 1.4305
<b>Material Abdeckung</b>	
ML*22	Edelstahl 1.4305
MLH22	Edelstahl 1.4404 (V4A)
Scheibenmaterial	Polycarbonat
Betriebstemperatur	-20...+50 °C
Schutzart	IP67, Ø22,5 IP69k / IP67

\* Anmerkung: Diese LED-Anzeigen können nicht per PWM gedimmt werden.

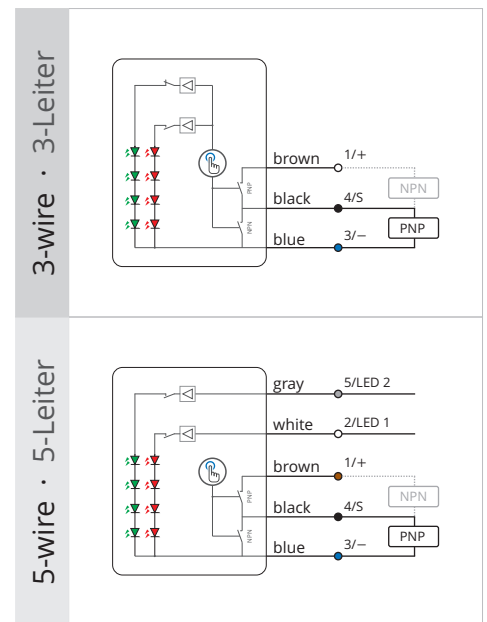
self-blinking selbst blinkend	Synchronization Synchronisation	Connection Anschluss	Input · Eingang			Blink Mode Blinkmodus	Version Ausführung	Order Code Bestellnummer	
			1	4	2				
R-G-B, mixed colors R-G-B, Mischfarben		Activating more than one color at the same time results to mixed colors. Die gleichzeitige Aktivierung mehrerer Farben führt zu Mischfarben.							
○	○	Connector M12 Stecker M12	○	○	○	off	M18×1	MLS18-PW-N12#001	
			○	○	●	Green	M30×1.5	MLS30-PW-N12#001	
			○	●	○	Blue	Ø22.5, Standard	MLS22-PW-N12#001	
			○	●	●	Blue	Ø22.5, Protector	MLP22-PW-N12#001	
			●	○	○	Red	Ø22.5, Flush	MLF22-PW-N12#001	
			●	●	○	Yellow	Ø22.5, Hygienic	MLH22-PW-N12#001	
R-G-Y alternating R-G-Y alternierend		When more than one color is activated at the same time, the selected colors cycle. Wird mehr als eine Farbe gleichzeitig angesteuert, die gewählten Farben wechseln zyklisch.							
●	○	Connector M12 Stecker M12	○	○	○	off	M18×1	MLS18-PW-N12#002	
			○	○	●	Green	M30×1.5	MLS30-PW-N12#002	
			○	●	○	Yellow	Ø22.5, Standard	MLS22-PW-N12#002	
			○	●	●	0.5 s 0.5 s Yellow	Ø22.5, Protector	MLP22-PW-N12#002	
			●	○	○	0.5 s 0.5 s Red	Ø22.5, Flush	MLF22-PW-N12#002	
			●	●	○	0.5 s 0.5 s Red	Ø22.5, Hygienic	MLH22-PW-N12#002	
R-G-Y with prioritized inputs R-G-Y mit priorisierten Eingängen		GREEN can remain permanently activated. YELLOW overrides green, RED overrides yellow. GRÜN kann dauerhaft aktiviert bleiben. GELB übersteuert grün, ROT übersteuert gelb.							
○	○	Connector M12 Stecker M12	○	○	○	off	M18×1	MLS18-PW-N12#003	
			○	○	●	Green	M30×1.5	MLS30-PW-N12#003	
			○	●	○	Yellow	Ø22.5, Standard	MLS22-PW-N12#003	
			○	●	●	Yellow	Ø22.5, Protector	MLP22-PW-N12#003	
			●	○	○	Red	Ø22.5, Flush	MLF22-PW-N12#003	
			●	●	○	Red	Ø22.5, Hygienic	MLH22-PW-N12#003	
R-G-Y with prioritized inputs R-G-Y mit priorisierten Eingängen		GREEN can remain permanently activated. YELLOW blinks slowly and overrides green, RED blinks quickly and overrides yellow. GRÜN kann dauerhaft aktiviert bleiben. GELB blinkt langsam und übersteuert grün, ROT blinkt schnell und übersteuert gelb.							
●	○	Connector M12 Stecker M12	○	○	○	off	M18×1	MLS18-PW-N12#004	
			○	○	●	Green	M30×1.5	MLS30-PW-N12#004	
			○	●	○	0.5 s 0.5 s Yellow	Ø22.5, Standard	MLS22-PW-N12#004	
			○	●	●	0.5 s 0.5 s Yellow	Ø22.5, Protector	MLP22-PW-N12#004	
			●	○	○	0.25 s 0.25 s Red	Ø22.5, Flush	MLF22-PW-N12#004	
			●	●	○	0.25 s 0.25 s Red	Ø22.5, Hygienic	MLH22-PW-N12#004	
R-G-Y with prioritized inputs R-G-Y mit priorisierten Eingängen		GREEN can remain permanently activated. YELLOW blinks quickly and overrides green, RED bursts and overrides yellow. GRÜN kann dauerhaft aktiviert bleiben. GELB blinkt schnell und übersteuert grün, ROT flackert und übersteuert gelb.							
●	○	Connector M12 Stecker M12	○	○	○	off	M18×1	MLS18-PW-N12#005	
			○	○	●	Green	M30×1.5	MLS30-PW-N12#005	
			○	●	○	0.25 s 0.25 s Yellow	Ø22.5, Standard	MLS22-PW-N12#005	
			○	●	●	0.25 s 0.25 s Yellow	Ø22.5, Protector	MLP22-PW-N12#005	
			●	○	○	Burst Red	Ø22.5, Flush	MLF22-PW-N12#005	
			●	●	○	Burst Red	Ø22.5, Hygienic	MLH22-PW-N12#005	
R-G-Y with SYNC capabilities R-G-Y mit SYNC-Funktion		Multiple interconnected indicators <b>synchronize</b> their blink patterns. Mehrere miteinander verbundene Anzeigen <b>synchronisieren</b> ihre Blinkmuster.							
●	●	Connector M12 Stecker M12	○	interconnected verbunden	○	off	M18×1	MLS18-SY-N12#006	
			○		○	●	Green	M30×1.5	MLS30-SY-N12#006
			○		○	○	0.5 s 0.5 s Yellow	Ø22.5, Standard	MLS22-SY-N12#006
			○		○	●	0.25 s 0.25 s Yellow	Ø22.5, Protector	MLP22-SY-N12#006
			●		○	○	Burst Red	Ø22.5, Flush	MLF22-SY-N12#006
			●		○	●	Burst Red	Ø22.5, Hygienic	MLH22-SY-N12#006
R-G-Y with SYNCHRONIZATION R-G-Y mit SYNCHONISIERUNG		Multiple interconnected indicators <b>synchronize</b> their blink patterns. Mehrere miteinander verbundene Anzeigen <b>synchronisieren</b> ihre Blinkmuster.							
●	●	Connector M12 Stecker M12	○	interconnected verbunden	○	off	M18×1	MLS18-SY-N12#007	
			○		○	●	Green	M30×1.5	MLS30-SY-N12#007
			○		○	○	0.25 s 0.25 s Yellow	Ø22.5, Standard	MLS22-SY-N12#007
			○		○	●	Burst Red	Ø22.5, Protector	MLP22-SY-N12#007
			●		○	○	Burst Red	Ø22.5, Flush	MLF22-SY-N12#007
			●		○	●	Burst Red	Ø22.5, Hygienic	MLH22-SY-N12#007

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Order codes are valid for M12 connector. Cable connection (-N2P) also available.  
Bestellnummern gelten für M12-Stecker. Festkabel (-N2P) ebenfalls erhältlich.

# Electronic Buttons, Touch or Push Sensitive Elektronische Taster, berührungs- oder druckempfindlich

- ▶ Fits into  $\varnothing$  22.5 mm mounting standard holes  
Passt in  $\varnothing$  22,5 mm Montagestandardbohrungen
- ▶ Touch or push sensitive  
Berührungs- oder druckempfindlich
- ▶ No moving parts — no wear  
Keine bewegten Teile – kein Verschleiß
- ▶ 100% water tight and oil tight — IP69k  
100% wasser- und öldicht – IP69k
- ▶ Shock resistant — completely potted  
Erschütterungsfest – vollständig vergossen
- ▶ Bright optical dual-color feedback  
Helle optische zweifarbige Rückmeldung
- ▶ Up to two inputs for individual LED control  
Bis zu zwei externe Eingänge zur LED-Ansteuerung



**IO-Link**  
Universal · Smart · Easy

## Technical data (typ.)

Number of operations	no mechanical wear
Supply voltage	10...35 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<30 mA @ 24 V
Light source	high efficient LED
Housing material	stainless steel 1.4305
Bezel material	stainless steel 1.4305
Hygienic bezel material	stainless steel 1.4404
Sensing face material	polycarbonate
Operating temperature	-20...+55 °C   -4...+131 °F
IP code, on the front	IP69k

## Technische Daten (typ.)

Anzahl der Betätigungen	kein mechanischer Verschleiß
Versorgungsspannung	10...35 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<30 mA @ 24 V
Leuchtmittel	Hocheffizienz-LED
Gehäusematerial	Edelstahl 1.4305
Material Gehäuse ring	Edelstahl 1.4305
Hygienischer Gehäuse ring	Edelstahl 1.4404, V4A
Material der Tastfläche	Polycarbonat
Betriebstemperatur	-20...+55 °C
Schutzart, frontseitig	IP69k



Note: *Touch* buttons also react to water on the touch surface. This must be taken into account when selecting the button. Push buttons are immune to water.

Anmerkung: *Touch*-Taster reagieren auch auf Wasser auf der Tastfläche. Dies ist bei der Auswahl des Tasters zu berücksichtigen. Drucktaster sind gegen Wasser immun.



Operating mode Betriebsart	Stand-by Bereitschaft	Activated Betätigt	Output Ausgang	Bezel Gehäusering	Activation principle Betätigungsart	Wiring Anschluss	Connection Anschluss	Order code Bestellnummer	
Static Statisch	Green Grün	Red Rot	PNP, NO	Standard	Touch · Berührung	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	TS22S-3POGR-N12 TS22S-5POGR-3U12	
					Pressure · Druck	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	PS22S-3POGR-N12 PS22S-5POGR-3U12	
	Green Grün	Red Rot	PNP, NO	Protector Schutzkragen	Touch · Berührung	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	TP22S-3POGR-N12 TP22S-5POGR-3U12	
					Pressure · Druck	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	PP22S-3POGR-N12 PP22S-5POGR-3U12	
	Green Grün	Red Rot	PNP, NO	Flush Bündig	Touch · Berührung	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	TF22S-3POGR-N12 TF22S-5POGR-3U12	
					Pressure · Druck	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	PF22S-3POGR-N12 PF22S-5POGR-3U12	
	Green Grün	Red Rot	PNP, NO	Hygienic Hygienisch	Touch · Berührung	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	TH22S-3POGR-N12 TH22S-5POGR-3U12	
					Pressure · Druck	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	PH22S-3POGR-N12 PH22S-5POGR-3U12	
	Latching Rastend	Green Grün	Red Rot	PNP, NO	Standard	Touch · Berührung	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	TS22T-3POGR-N12 TS22T-5POGR-3U12
						Pressure · Druck	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	PS22T-3POGR-N12 PS22T-5POGR-3U12
		Green Grün	Red Rot	PNP, NO	Protector Schutzkragen	Touch · Berührung	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	TP22T-3POGR-N12 TP22T-5POGR-3U12
						Pressure · Druck	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	PP22T-3POGR-N12 PP22T-5POGR-3U12
Green Grün		Red Rot	PNP, NO	Flush Bündig	Touch · Berührung	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	TF22T-3POGR-N12 TF22T-5POGR-3U12	
					Pressure · Druck	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	PF22T-3POGR-N12 PF22T-5POGR-3U12	
Green Grün		Red Rot	PNP, NO	Hygienic Hygienisch	Touch · Berührung	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	TH22T-3POGR-N12 TH22T-5POGR-3U12	
					Pressure · Druck	3-wire · 3-adrig 5-wire · 5-adrig	Connector M12 Cable 2 m, PVC	PH22T-3POGR-N12 PH22T-5POGR-3U12	
<ul style="list-style-type: none"> <li>· Dynamic</li> <li>· Static</li> <li>· Latching</li> </ul> <ul style="list-style-type: none"> <li>· Dynamisch</li> <li>· Statisch</li> <li>· Rastend</li> </ul>					Standard	Touch · Berührung Pressure · Druck	3-wire · 3-adrig 3-wire · 3-adrig	Connector M12 Connector M12	TS22T-3IO-N12 PS22T-3IO-N12
					Protector Schutzkragen	Touch · Berührung Pressure · Druck	3-wire · 3-adrig 3-wire · 3-adrig	Connector M12 Connector M12	TP22T-3IO-N12 PP22T-3IO-N12
					Flush Bündig	Touch · Berührung Pressure · Druck	3-wire · 3-adrig 3-wire · 3-adrig	Connector M12 Connector M12	TF22T-3IO-N12 PF22T-3IO-N12
					Hygienic Hygienisch	Touch · Berührung Pressure · Druck	3-wire · 3-adrig 3-wire · 3-adrig	Connector M12 Connector M12	TH22T-3IO-N12 PH22T-3IO-N12

Small selection from our range of products.  
Kleine Auswahl aus unserem Sortiment.

Order codes are for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
Other color combinations like white-red (WR), white-green (WG), blue-red (BR) are also available.  
Bestellnummern für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.  
Andere Farbkombinationen wie Weiß-Rot (WR), Weiß-Grün (WG), Blau-Rot (BR) sind ebenfalls erhältlich.

Available Symbols · Verfügbare Symbole

Connector M12 · Stecker M12

Hygienic  
Hygienisch

Flush  
Bündig

Protector  
Schutzkragen

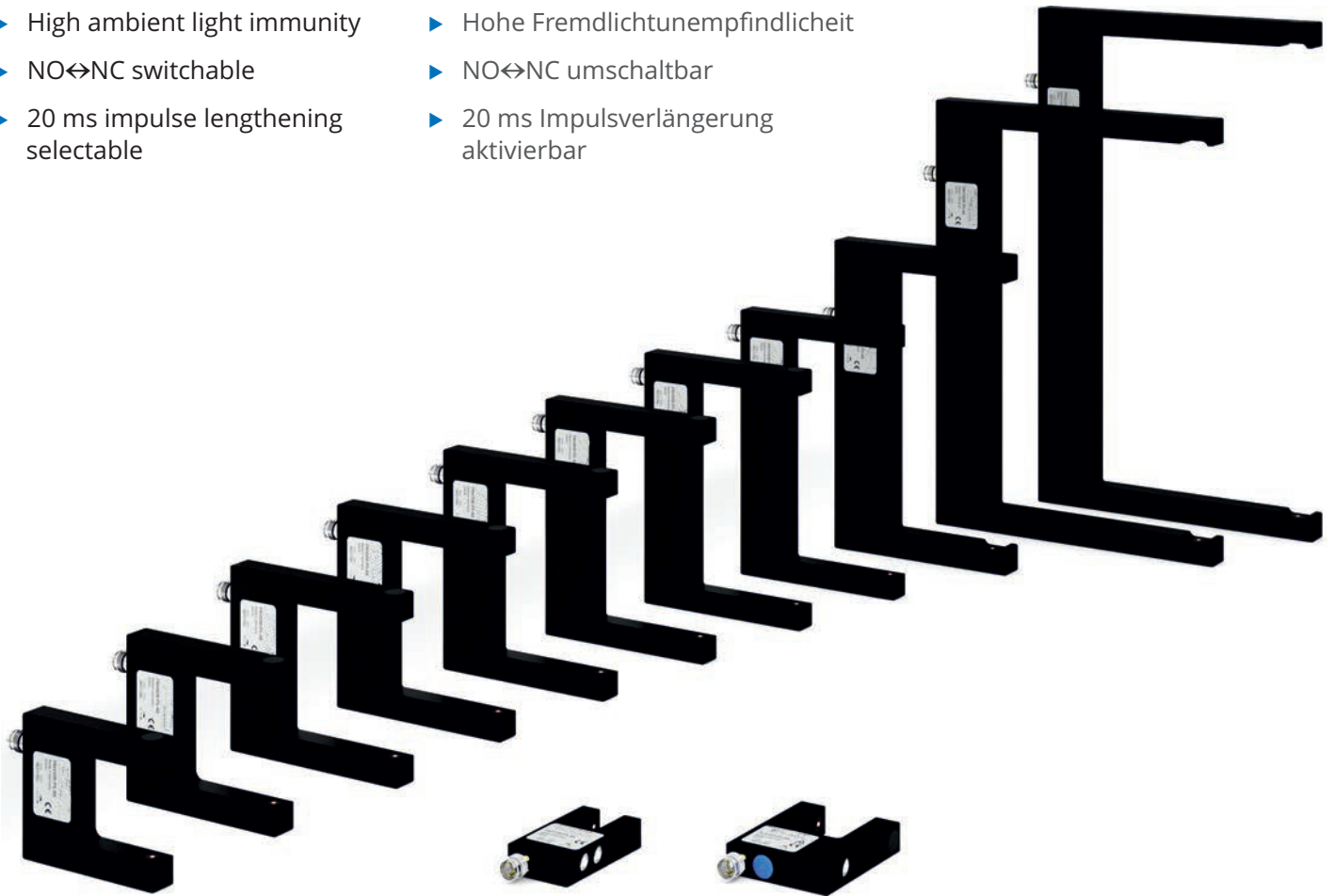
Standard

Connecting cable · Kabelanschluss

# Fork Light Barriers

## Gabellichtschranken

- ▶ One-piece housings only
- ▶ Identical dimensions for laser, red light, and infrared light versions
- ▶ Potentiometer or Teach-in function
- ▶ Static and dynamic evaluation
- ▶ High switching frequency
- ▶ High ambient light immunity
- ▶ NO↔NC switchable
- ▶ 20 ms impulse lengthening selectable
- ▶ Ausschließlich einteilige Gehäuse
- ▶ Identische Abmessungen für Laser-, Rotlicht- und Infrarotlicht-Ausführungen
- ▶ Potentiometer oder Teach-in-Funktion
- ▶ Statische und dynamische Auswertung
- ▶ Hohe Schaltfrequenz
- ▶ Hohe Fremdlichtunempfindlichkeit
- ▶ NO↔NC umschaltbar
- ▶ 20 ms Impulsverlängerung aktivierbar



### Technical data (typ.)

Supply voltage	10...35 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<50 mA
Current load capability	200 mA
Short circuit protection	built-in, self-resetting
Impulse lengthening	20 ms, selectable*
<b>Red light · Infrared light</b>	
Operating temperature	-20...+55 °C   -4...+131 °F
<b>Laser · Laser</b>	
Operating temperature	-10...+45 °C   14...+113 °F
Laser protection class	1 (EN 60825-1)
Ambient light immunity	100 kLux
Switching indicator	LED, yellow
Housing material	zinc die-cast, powder coated
IP code	IP67

\* selected models

### Technische Daten (typ.)



Versorgungsspannung	10...35 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<50 mA
Ausgangsbelastbarkeit	200 mA
Kurzschlusschutz	integriert, selbstrückstellend
Impulsverlängerung	20 ms, zuschaltbar*
<b>Rotlicht · Infrarotlicht</b>	
Betriebstemperatur	-20...+55 °C
<b>Laser · Laser</b>	
Betriebstemperatur	-10...+45 °C
Laserschutzklasse	1 (EN 60825-1)
Fremdlichtunempfindlichkeit	100 kLux
Schaltanzeige	LED, gelb
Gehäusematerial	Zinkdruckguss, pulverbeschichtet
Schutzart	IP67

\* ausgewählte Modelle

Fork opening [mm] Gabelweite [mm]	Resolution [Ø mm] Auflösung [Ø mm]	Switching frequency [Hz] Schaltfrequenz [Hz]	Repeatability [mm] Wiederholgenauigkeit [mm]	Red light, $\lambda = 630$ nm, modulated Rotlicht, $\lambda = 630$ nm, moduliert	Infrared, $\lambda = 940$ nm, modulated Infrarot, $\lambda = 940$ nm, moduliert	Potentiometer for sensitivity adjustment Potentiometer für Empfindlichkeitseinstellung	Selectable impulse lengthening 20 ms Zuschaltbare Impulsverlängerung 20 ms	IO-Link capable protocol 1.1 IO-Link-fähig, Protokoll 1.1	<b>Order code</b> <b>Bestellnummer</b>
									<b>Order code</b> <b>Bestellnummer</b>

Standard version · Standardausführung									
10	0.2	10000	0.01		✓	✓			FIS10P-PS-A8
20	0.2	10000	0.01	✓		✓			FRS20P-PS-A8
30	0.2	5000	0.01	✓		✓			FRS30P-PS-A8
40	0.2	5000	0.01	✓		✓			FRS40P-PS-A8
50	0.2	5000	0.01	✓		✓			FRS50P-PS-A8
60	0.2	5000	0.01	✓		✓			FRS60P-PS-A8
70	0.2	5000	0.01	✓		✓			FRS70P-PS-A8
80	0.2	5000	0.01	✓		✓			FRS80P-PS-A8
90	0.2	5000	0.01	✓		✓			FRS90P-PS-A8
100	0.2	5000	0.01	✓		✓			FRS100P-PS-A8
120	0.2	5000	0.01	✓		✓			FRS120P-PS-A8
180	0.2	2500	0.01	✓		✓			FRS180P-PS-A8
220	0.2	1250	0.01	✓		✓			FRS220P-PS-A8

High resolution · Hochauflösend													
10	0.08	10000	0.01		✓	✓	✓		FIH10P-PS-A8	✓	✓	✓	FIH10T-PS-A8
20	0.08	10000	0.01	✓		✓	✓		FRH20P-PS-A8	✓	✓	✓	FRH20T-PS-A8
30	0.08	5000	0.01	✓		✓	✓		FRH30P-PS-A8	✓	✓	✓	FRH30T-PS-A8
40	0.08	5000	0.01	✓		✓	✓		FRH40P-PS-A8	✓	✓	✓	FRH40T-PS-A8
50	0.08	5000	0.01	✓		✓	✓		FRH50P-PS-A8	✓	✓	✓	FRH50T-PS-A8
60	0.08	5000	0.01	✓		✓	✓		FRH60P-PS-A8	✓	✓	✓	FRH60T-PS-A8
70	0.08	5000	0.01	✓		✓	✓		FRH70P-PS-A8	✓	✓	✓	FRH70T-PS-A8
80	0.08	5000	0.01	✓		✓	✓		FRH80P-PS-A8	✓	✓	✓	FRH80T-PS-A8
90	0.08	5000	0.01	✓		✓	✓		FRH90P-PS-A8	✓	✓	✓	FRH90T-PS-A8
100	0.08	5000	0.01	✓		✓	✓		FRH100P-PS-A8	✓	✓	✓	FRH100T-PS-A8
120	0.08	5000	0.01	✓		✓	✓		FRH120P-PS-A8	✓	✓	✓	FRH120T-PS-A8
180	0.08	2500	0.01	✓		✓	✓		FRH180P-PS-A8	✓	✓	✓	FRH180T-PS-A8
220	0.08	1250	0.01	✓		✓	✓		FRH220P-PS-A8	✓	✓	✓	FRH220T-PS-A8





Fork opening [mm] Gabelweite [mm]	Resolution [∅ mm] Auflösung [∅ mm]	Switching frequency [Hz] Schaltfrequenz [Hz]	Repeatability [mm] Wiederholgenauigkeit [mm]	Red light, λ = 630 nm, modulated Rotlicht, λ = 630 nm, moduliert	Infrared, λ = 940 nm, modulated Infrarot, λ = 940 nm, moduliert	Potentiometer for sensitivity adjustment Potentiometer für Empfindlichkeitseinstellung	Selectable on-delay 50 ms Zuschaltbare Einschaltverzögerung 50 ms	IO-Link capable, protocol 1.1 IO-Link-fähig, Protokoll 1.1	<b>Order code</b> <b>Bestellnummer</b>	Teach-in button for sensitivity adjustment Teach-in-Taste für Empfindlichkeitseinstellung	Selectable impulse lengthening 20 ms Zuschaltbar Impulsverlängerung 20 ms	IO-Link capable, protocol 1.1 IO-Link-fähig, Protokoll 1.1	<b>Order code</b> <b>Bestellnummer</b>
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Dynamic evaluation · dynamische Auswertung													
10	0.08	10000	0.02		✓					✓	✓	✓	FIH10D-PS-A8
20	0.08	10000	0.02	✓						✓	✓	✓	FRH20D-PS-A8
30	0.08	5000	0.02	✓						✓	✓	✓	FRH30D-PS-A8
40	0.08	5000	0.02	✓						✓	✓	✓	FRH40D-PS-A8
50	0.08	5000	0.02	✓						✓	✓	✓	FRH50D-PS-A8
60	0.08	5000	0.02	✓						✓	✓	✓	FRH60D-PS-A8
70	0.08	5000	0.02	✓						✓	✓	✓	FRH70D-PS-A8
80	0.08	5000	0.02	✓						✓	✓	✓	FRH80D-PS-A8
90	0.08	5000	0.02	✓						✓	✓	✓	FRH90D-PS-A8
100	0.08	5000	0.02	✓						✓	✓	✓	FRH100D-PS-A8
120	0.08	5000	0.02	✓						✓	✓	✓	FRH120D-PS-A8
180	0.08	2500	0.02	✓						✓	✓	✓	FRH180D-PS-A8
220	0.08	1250	0.02	✓						✓	✓	✓	FRH220D-PS-A8
increased contamination resistance · erhöhte Schmutzunempfindlichkeit													
10	0.2	10000	0.01		✓	✓	✓						FIC10P-PS-A8
20	0.2	10000	0.01		✓	✓	✓						FIC20P-PS-A8
30	0.2	5000	0.01		✓	✓	✓						FIC30P-PS-A8
40	0.2	5000	0.01		✓	✓	✓						FIC40P-PS-A8
50	0.2	5000	0.01		✓	✓	✓						FIC50P-PS-A8
60	0.2	5000	0.01		✓	✓	✓						FIC60P-PS-A8
70	0.2	5000	0.01		✓	✓	✓						FIC70P-PS-A8
80	0.2	5000	0.01		✓	✓	✓						FIC80P-PS-A8
90	0.2	5000	0.01		✓	✓	✓						FIC90P-PS-A8
100	0.2	5000	0.01		✓	✓	✓						FIC100P-PS-A8
120	0.2	5000	0.01		✓	✓	✓						FIC120P-PS-A8
180	0.2	2500	0.01		✓	✓	✓						FIC180P-PS-A8
220	0.2	1250	0.01		✓	✓	✓						FIC220P-PS-A8

Fork opening [mm] Gabelweite [mm]	Resolution [Ø mm] Auflösung [Ø mm]	Switching frequency [Hz] Schaltfrequenz [Hz]	Repeatability [mm] Wiederholgenauigkeit [mm]	Red light laser, $\lambda = 630$ nm, modulated Rotlicht-Laser, $\lambda = 630$ nm, moduliert	Infrared, $\lambda = 940$ nm, modulated Infrarot, $\lambda = 940$ nm, moduliert	Potentiometer for sensitivity adjustment Potentiometer für Empfindlichkeitseinstellung	Selectable impulse lengthening 20 ms Zuschaltbare Impulsverlängerung 20 ms	IO-Link capable protocol 1.1 IO-Link-fähig, Protokoll 1.1	<b>Order code</b> <b>Bestellnummer</b>
									<b>Order code</b> <b>Bestellnummer</b>

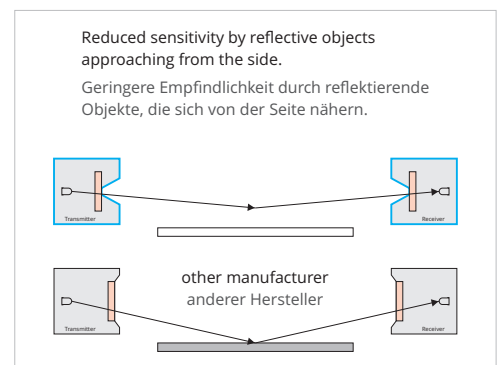
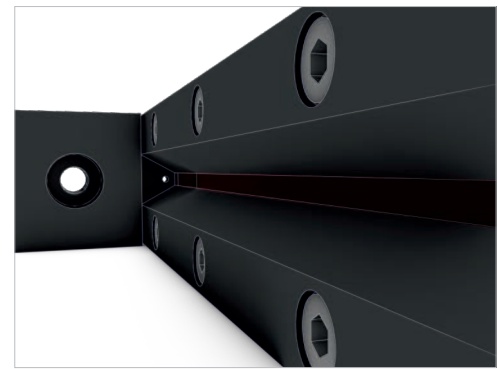
<b>Laser standard version · Laser Standardausführung</b>										
10										
20	0.2	10000	0.01	✓		✓			FLS20P-PS-A8	
30	0.2	5000	0.01	✓		✓			FLS30P-PS-A8	
40	0.2	5000	0.01	✓		✓			FLS40P-PS-A8	
50	0.2	5000	0.01	✓		✓			FLS50P-PS-A8	
60	0.2	5000	0.01	✓		✓			FLS60P-PS-A8	
70	0.2	5000	0.01	✓		✓			FLS70P-PS-A8	
80	0.2	5000	0.01	✓		✓			FLS80P-PS-A8	
90	0.2	5000	0.01	✓		✓			FLS90P-PS-A8	
100	0.2	5000	0.01	✓		✓			FLS100P-PS-A8	
120	0.2	5000	0.01	✓		✓			FLS120P-PS-A8	
180	0.2	2500	0.01	✓		✓			FLS180P-PS-A8	
220	0.2	1250	0.01	✓		✓			FLS220P-PS-A8	

<b>Laser high resolution · Laser hochauflösend</b>										
10										
20	0.08	10000	0.01	✓		✓	✓		FLH20P-PS-A8	✓ ✓ ✓
30	0.08	5000	0.01	✓		✓	✓		FLH30P-PS-A8	✓ ✓ ✓
40	0.08	5000	0.01	✓		✓	✓		FLH40P-PS-A8	✓ ✓ ✓
50	0.08	5000	0.01	✓		✓	✓		FLH50P-PS-A8	✓ ✓ ✓
60	0.08	5000	0.01	✓		✓	✓		FLH60P-PS-A8	✓ ✓ ✓
70	0.08	5000	0.01	✓		✓	✓		FLH70P-PS-A8	✓ ✓ ✓
80	0.08	5000	0.01	✓		✓	✓		FLH80P-PS-A8	✓ ✓ ✓
90	0.08	5000	0.01	✓		✓	✓		FLH90P-PS-A8	✓ ✓ ✓
100	0.08	5000	0.01	✓		✓	✓		FLH100P-PS-A8	✓ ✓ ✓
120	0.08	5000	0.01	✓		✓	✓		FLH120P-PS-A8	✓ ✓ ✓
180	0.08	2500	0.01	✓		✓	✓		FLH180P-PS-A8	✓ ✓ ✓
220	0.08	1250	0.01	✓		✓	✓		FLH220P-PS-A8	✓ ✓ ✓



# Frame Light Barriers Rahmenlichtschranken

- ▶ Resolution from 0.3 mm
- ▶ Response time from 25  $\mu$ s
- ▶ Impact protection for optics
- ▶ Also with soft impact protection
- ▶ Static and dynamic evaluation, selectable
- ▶ Adjustable impulse lengthening
- ▶ High ambient light immunity
- ▶ Integrated blow-out connections
- ▶ Sturdy metal housing
- ▶ Auflösung ab 0,3 mm
- ▶ Ansprechzeit ab 25  $\mu$ s
- ▶ Prallschutz für Optik
- ▶ Wahlweise mit nachgiebigem Prallschutz
- ▶ Statische und dynamische Auswertung, umschaltbar
- ▶ Einstellbare Impulsverlängerung
- ▶ Hohe Fremdlichtunempfindlichkeit
- ▶ Integrierte Freiblasanschlüsse
- ▶ Robustes Metallgehäuse



## Technical data (typ.)

Supply voltage	10...35 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<50 mA
<b>Detecting — switching output</b>	
Current load capability	200 mA
Short circuit protection	built-in, self-resetting
Impulse lengthening	...150 ms, adjustable
<b>Measuring — analog output</b>	
Output type	current
Output offset	0...4 mA, adjustable
Output range	20 mA, adjustable
Output invertible	yes
Ambient light immunity	100 kLux
Housing material	aluminum, black anodized
Impact protector material	aluminum, black anodized
alternatively	nitrile rubber (shore A70)
Operating temperature	-20...+55 °C   -4...+131 °F
IP code	IP67

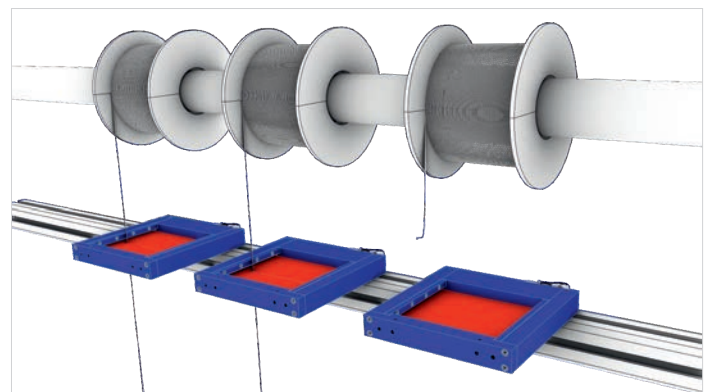
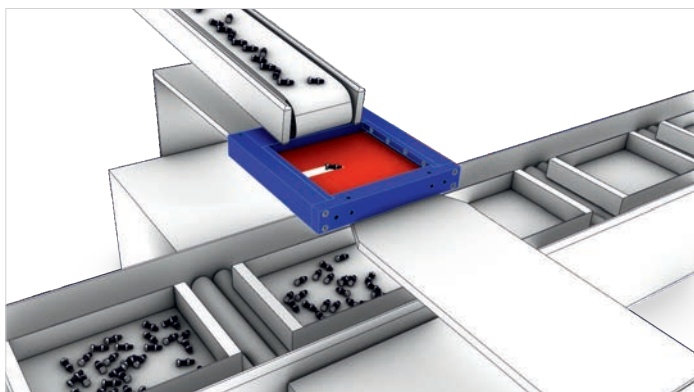
## Technische Daten (typ.)

Versorgungsspannung	10...35 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<50 mA
<b>Erkennend - Schaltausgang</b>	
Ausgangsbelastbarkeit	200 mA
Kurzschlusschutz	integriert, selbstrückstellend
Impulsverlängerung	...150 ms, einstellbar
<b>Messend - Analogausgang</b>	
Ausgangstyp	Strom
Ausgangs-Offset	0...4 mA, einstellbar
Ausgangsbereich	20 mA, einstellbar
Ausgang umkehrbar	ja
Fremdlichtunempfindlichkeit	100 kLux
Gehäusematerial	Aluminium, schwarz eloxiert
Prallschutzmaterial	Aluminium, schwarz eloxiert
alternativ	Nitrilkautschuk (shore A70)
Betriebstemperatur	-20...+55 °C
Schutzart	IP67



Active area [mm <sup>2</sup> ] Aktive Fläche [mm <sup>2</sup> ]	Resolution Auflösung	Ambient light immunity Fremdlichtunempfindlichkeit	Response time, release time Ansprechzeit, Abfallzeit	Dimensions, w × l × h Abmessungen, b × l × h	Output function Ausgangsfunktion	Output polarity Ausgangspolarität	Impact protector material Prallschutzwerkstoff	Order code Bestellnummer
<b>Standard</b>								
50×48	0.7 mm	200 klx	0.1 ms	90 × 100 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT50A-PS-A8 OFT50N-PS-A8
70×68	1.5 mm	100 klx	0.1 ms	110 × 118 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT70A-PS-A8 OFT70N-PS-A8
100×98	2.5 mm	60 klx	0.1 ms	140 × 148 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT100A-PS-A8 OFT100N-PS-A8
150×148	3.0 mm	30 klx	0.1 ms	190 × 198 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT150A-PS-A8 OFT150N-PS-A8
<b>High resolution · Hochauflösend</b>								
50×48	0.3 mm	200 klx	0.1 ms	90 × 100 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT50A-RPS-A8 OFT50N-RPS-A8
70×68	0.4 mm	100 klx	0.1 ms	110 × 118 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT70A-RPS-A8 OFT70N-RPS-A8
100×98	0.6 mm	60 klx	0.1 ms	140 × 148 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT100A-RPS-A8 OFT100N-RPS-A8
150×148	0.8 mm	30 klx	0.1 ms	190 × 198 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT150A-RPS-A8 OFT150N-RPS-A8
<b>High speed · Hochgeschwindigkeit</b>								
50×48	0.7 mm	200 klx	25 μs	90 × 100 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT50A-SPS-A8 OFT50N-SPS-A8
70×68	1.5 mm	100 klx	25 μs	110 × 118 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT70A-SPS-A8 OFT70N-SPS-A8
100×98	2.5 mm	60 klx	25 μs	140 × 148 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT100A-SPS-A8 OFT100N-SPS-A8
150×148	3.0 mm	30 klx	25 μs	190 × 198 × 20 mm	NO↔NC	PNP	Aluminum · Aluminium Nitrile rubber · Nitrilkautschuk	OFT150A-SPS-A8 OFT150N-SPS-A8
<b>Analog output · Analogausgang</b>								
50×48	0.3 mm	200 klx	1 kHz	90 × 100 × 20 mm	Current Strom	4...20 mA	Aluminum · Aluminium	OF50A-AI420-A8
70×68	0.4 mm	100 klx		110 × 118 × 20 mm			Aluminum · Aluminium	OF70A-AI420-A8
100×98	0.6 mm	60 klx		140 × 148 × 20 mm			Aluminum · Aluminium	OF100A-AI420-A8
150×148	0.8 mm	30 klx		190 × 198 × 20 mm			Aluminum · Aluminium	OF150A-AI420-A8

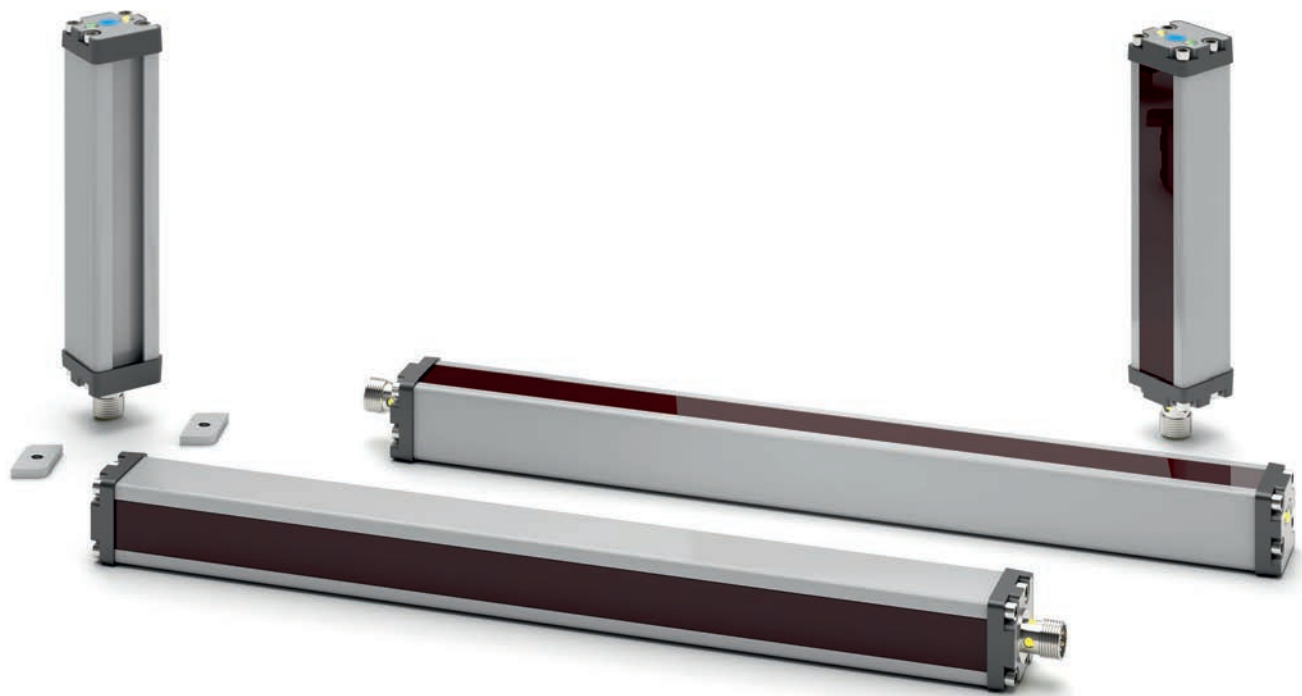
Order codes are valid for PNP (PS) configuration. All devices also available in NPN (NS) configuration.  
Bestellnummern gelten für PNP (PS) Konfiguration. Alle Geräte auch erhältlich als NPN (NS) Konfiguration.



# Crossed Beams Area Sensors (Light Curtains)

## Lichtgitter mit gekreuzten Strahlen

- ▶ Fully crossed beam geometry
- ▶ Extremely short blind zone
- ▶ High switching frequency
- ▶ High ambient light immunity
- ▶ Dual output NO and NC
- ▶ Mute input (PNP or NPN) available
- ▶ Robust metal housing with rubber-coated end caps
- ▶ Recessed optical window protected against mechanical impact
- ▶ T-slot nuts allow flexible mounting and height adjustment
- ▶ IP code IP65
- ▶ Vollständig gekreuzte Strahlgeometrie
- ▶ Extrem kurze Totzone
- ▶ Hohe Schaltfrequenz
- ▶ Hohe Fremdlichtunempfindlichkeit
- ▶ Doppelausgang NO und NC
- ▶ Muting-Eingang (PNP oder NPN) verfügbar
- ▶ Robustes Metallgehäuse mit gummierten Endkappen
- ▶ Zurückgesetzte Frontscheibe geschützt vor mechanischem Aufprall
- ▶ Nutensteine erlauben eine flexible Montage und Höheneinstellung
- ▶ Schutzart IP65



### Technical data (typ.)

Supply voltage	10...35 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<50 mA
Current load capability	2 × 200 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1,2 V @ 200 mA
Ambient light immunity	100 kLux
Switching indicator	LED, yellow
Housing material	aluminum, powder coated
Operating temperature	−20...+55 °C   −4...+131 °F
IP code	IP65

\* Transmitters can be delivered with mute input (PNP or NPN) on request.

### Technische Daten (typ.)

Versorgungsspannung	10...35 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<50 mA
Ausgangsbelastbarkeit	2 × 200 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Fremdlichtunempfindlichkeit	100 kLux
Schaltanzeige	LED, gelb
Gehäusematerial	Aluminium, pulverbeschichtet
Betriebstemperatur	−20...+55 °C
Schutzart	IP65

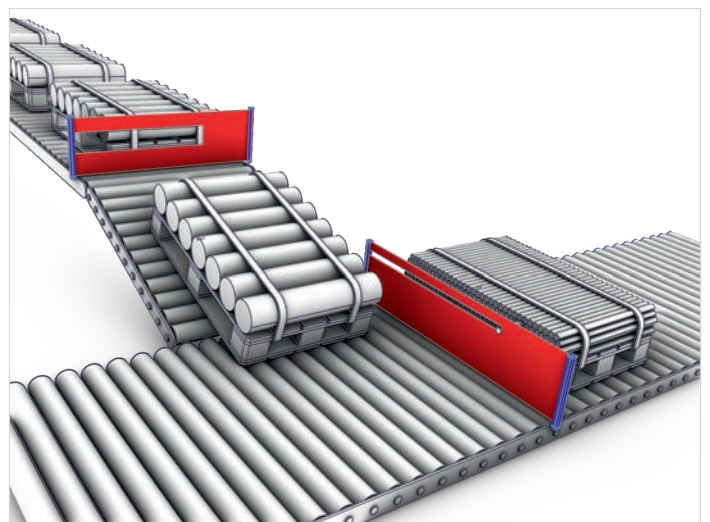
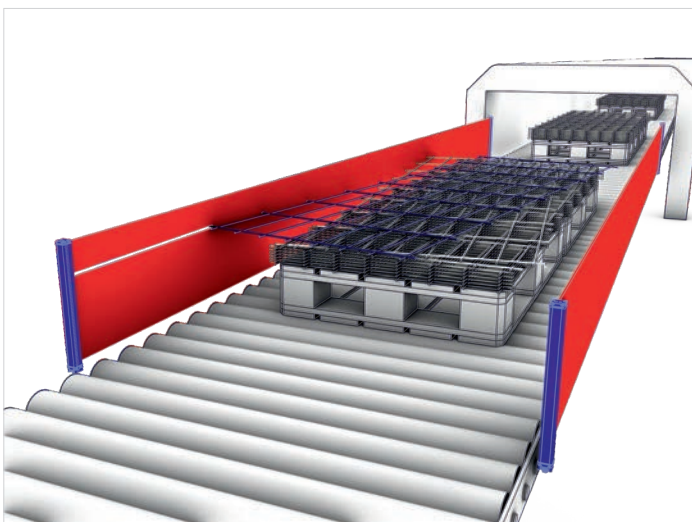
\* Auf Anfrage können Sender mit Muting-Eingang (PNP oder NPN) geliefert werden.





Active area [mm] Aktive Zone [mm]	Connection Anschluss	Min. distance TX<->RX [mm] Mindestabstand TX<->RX [mm]	Range [mm] Reichweite [mm]	Cycle time [ms] Zykluszeit [ms]	Dimensions, w x l x h [mm] Abmessungen, b x l x h [mm]	Mute input polarity Polarität Muting-Eingang	Output polarity Ausgangspolarität	Transmitter Sender	Receiver Empfänger
<b>100 mm version · 100 mm Ausführung</b>									
100	Cable 2 m, PVC	100	1500	7.5	30 x 30 x 130	PNP	PNP, NO		
		600	4000					CBAS100-T4-G2P	CBAS100-R4PCO-A2P
	30 cm, PUR, M12	100	1500						
		600	4000					CBAS100-T4-3G12	CBAS100-R4PCO-3A12
	Connector M12	100	1500						
		600	4000					30 x 30 x 135	
<b>300 mm version · 300 mm Ausführung</b>									
300	Cable 2 m, PVC	400	1500	13.5	30 x 30 x 330	PNP	PNP, NO		
		1000	4000					CBAS300-T4-G2P	CBAS300-R4PCO-A2P
	30 cm, PUR, M12	400	1500						
		1000	4000					CBAS300-T4-3G12	CBAS300-R4PCO-3A12
	Connector M12	400	1500						
		1000	4000					30 x 30 x 335	

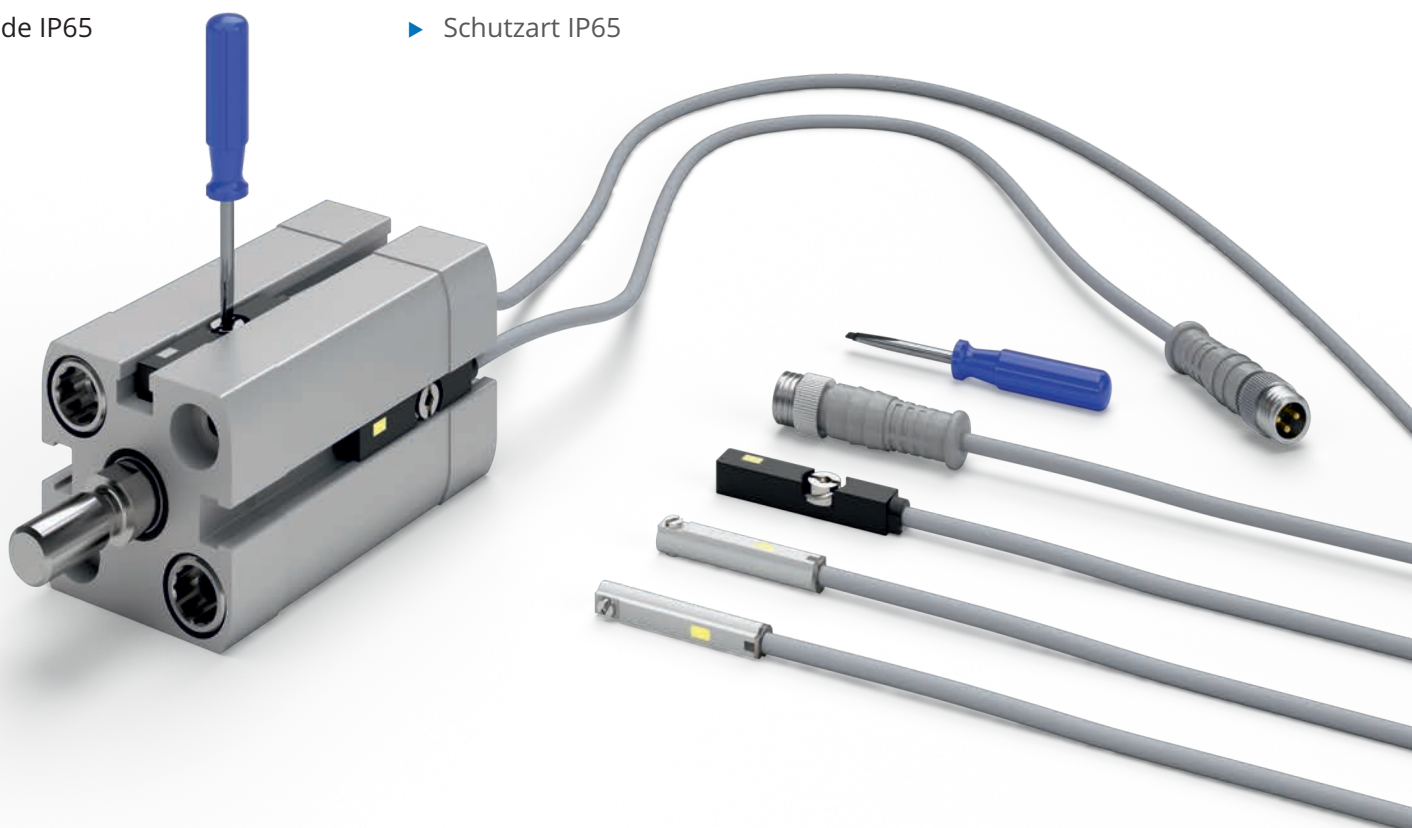
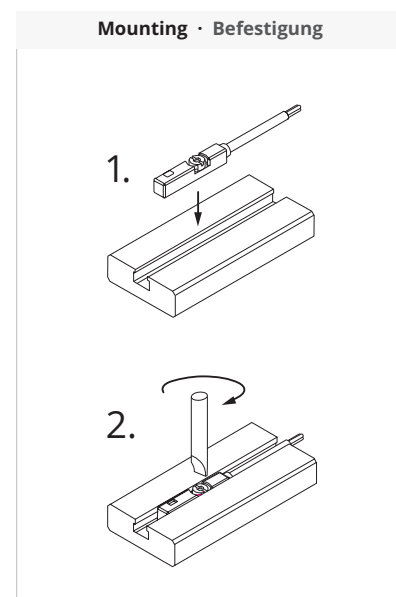
Order codes are valid for PNP, NO+NC (PCO) configuration. All devices also available in NPN, NO+NC (NCO) configuration.  
Bestellnummern gelten für PNP, NO+NC (PCO) Konfiguration. Alle Geräte auch erhältlich als NPN, NO+NC (NCO) Konfiguration.



# Cylinder Position Sensors

## Positionssensoren für Pneumatikzylinder

- ▶ Fully crossed beam geometry
  - ▶ Extremely short blind zone
  - ▶ High switching frequency
  - ▶ High ambient light immunity
  - ▶ Dual output NO and NC
  - ▶ Mute input (PNP or NPN) available
  - ▶ Robust metal housing with rubber-coated end caps
  - ▶ Recessed optical window protected against mechanical impact
  - ▶ T-slot nuts allow flexible mounting and height adjustment
  - ▶ IP code IP65
- ▶ Vollständig gekreuzte Strahlgeometrie
  - ▶ Extrem kurze Totzone
  - ▶ Hohe Schaltfrequenz
  - ▶ Hohe Fremdlichtunempfindlichkeit
  - ▶ Doppelausgang NO und NC
  - ▶ Muting-Eingang (PNP oder NPN) verfügbar
  - ▶ Robustes Metallgehäuse mit gummierten Endkappen
  - ▶ Zurückgesetzte Frontscheibe geschützt vor mechanischem Aufprall
  - ▶ Nutensteine erlauben eine flexible Montage und Höheneinstellung
  - ▶ Schutzart IP65



### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Current load capability	200 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1,5 V @ 200 mA
Sensing element	solid state
Switching frequency	1000 Hz
Switching indicator	LED, yellow
Housing material	PBT
Operating temperature	-10...+75 °C   14...+167 °F
IP code	IP67

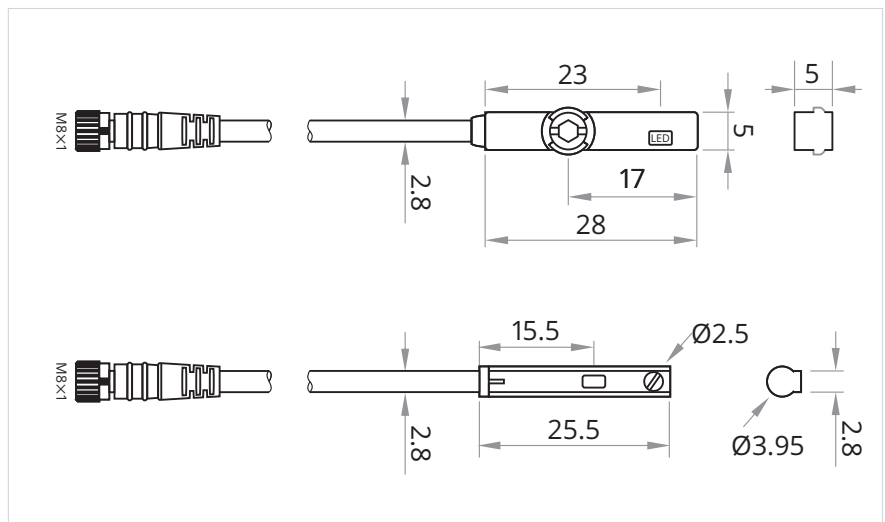
### Technische Daten (typ.)

Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Ausgangsbearbeitbarkeit	200 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,5 V @ 200 mA
Sensortyp	Halbleiter
Schaltfrequenz	1000 Hz
Schaltanzeige	LED, gelb
Gehäusematerial	PBT
Betriebstemperatur	-10...+75 °C
Schutzart	IP67



Active area [mm] Aktive Zone [mm]	Connection Anschluss	Range [mm] Reichweite [mm]	Min distance TX<math>\leftrightarrow</math>RX [mm] Mindestabstand TX<math>\leftrightarrow</math>RX [mm]	Cycle time [ms] Zykluszeit [ms]	Dimensions, w x l x h [mm] Abmessungen, b x l x h [mm]	Mute input polarity Polarität Muting-Eingang	Output polarity Ausgangspolarität	Transmitter Sender	Receiver Empfänger		
<b>100 mm version · 100 mm Ausführung</b>											
100	Cable 2 m, PVC	2000	400	7.5	30 × 30 × 130	PNP	PNP, NO	CBAS100-T2-G2P	CBAS100-R2PCO-A2P		
	Cable 2 m, PVC							CBAS100-T4-G2P	CBAS100-R4PCO-A2P		
	Cable 2 m, PVC	4000						CBAS100-T2-3G12	CBAS100-R2PCO-3A12		
	Cable 2 m, PVC							CBAS100-T4-3G12	CBAS100-R4PCO-3A12		
	30 cm, PUR, M12	2000						30 × 30 × 135	CBAS100-T2-G12	CBAS100-R2PCO-A12	
	30 cm, PUR, M12								CBAS100-T4-G12	CBAS100-R4PCO-A12	
	30 cm, PUR, M12	4000							CBAS100-T2-G12	CBAS100-R2PCO-A12	
	30 cm, PUR, M12								CBAS100-T4-G12	CBAS100-R4PCO-A12	
	Connector M12	2000							30 × 30 × 135	CBAS100-T2-G12	CBAS100-R2PCO-A12
	Connector M12									CBAS100-T4-G12	CBAS100-R4PCO-A12
	Connector M12	4000								CBAS100-T2-G12	CBAS100-R2PCO-A12
	Connector M12									CBAS100-T4-G12	CBAS100-R4PCO-A12
<b>300 mm version · 300 mm Ausführung</b>											
300	Cable 2 m, PVC	2000	900	13.5	30 × 30 × 330	PNP	PNP, NO			CBAS300-T2-G2P	CBAS300-R2PCO-A2P
	Cable 2 m, PVC									CBAS300-T4-G2P	CBAS300-R4PCO-A2P
	Cable 2 m, PVC	4000								CBAS300-T2-3G12	CBAS300-R2PCO-3A12
	Cable 2 m, PVC							CBAS300-T4-3G12		CBAS300-R4PCO-3A12	
	30 cm, PUR, M12	2000						30 × 30 × 335		CBAS300-T2-G12	CBAS300-R2PCO-A12
	30 cm, PUR, M12									CBAS300-T4-G12	CBAS300-R4PCO-A12
	30 cm, PUR, M12	4000								CBAS300-T2-G12	CBAS300-R2PCO-A12
	30 cm, PUR, M12								CBAS300-T4-G12	CBAS300-R4PCO-A12	
	Connector M12	2000							30 × 30 × 335	CBAS300-T2-G12	CBAS300-R2PCO-A12
	Connector M12									CBAS300-T4-G12	CBAS300-R4PCO-A12
	Connector M12	4000								CBAS300-T2-G12	CBAS300-R2PCO-A12
	Connector M12									CBAS300-T4-G12	CBAS300-R4PCO-A12

Order codes are valid for PNP, NO+NC (PCO) configuration. All devices also available in NPN, NO+NC (NCO) configuration. Bestellnummern gelten für PNP, NO+NC (PCO) Konfiguration. Alle Geräte auch erhältlich als NPN, NO+NC (NCO) Konfiguration.



# Photoelectric Sensors

## Optische Sensoren

- ▶ Compact housing
- ▶ Long sensing ranges
- ▶ Light↔dark selector
- ▶ Indicator for output and stability
- ▶ Background suppression
- ▶ Diffuse reflective
- ▶ Retro-reflective, polarized
- ▶ Kompaktes Gehäuse
- ▶ Hohe Betriebsreichweiten
- ▶ Hell↔Dunkel-Umschalter
- ▶ Ausgangs- und Stabilitätsanzeige
- ▶ Hintergrundausbldung
- ▶ Lichttaster, energetisch
- ▶ Reflex-Lichtschanke, polarisiert




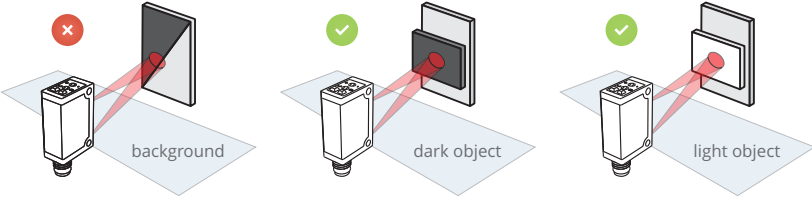
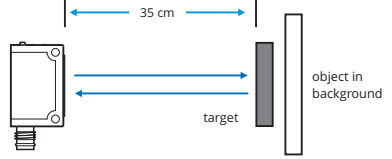

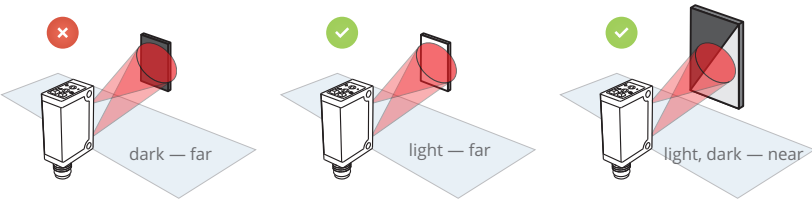
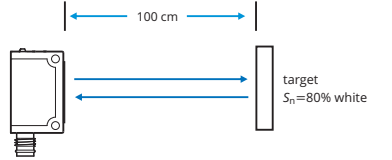

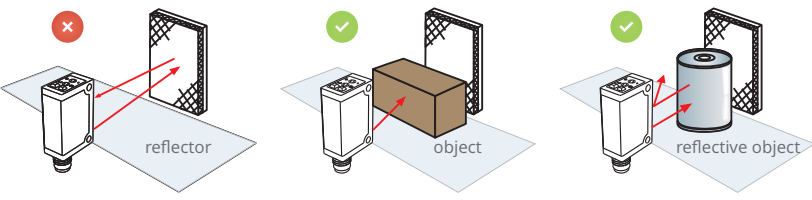
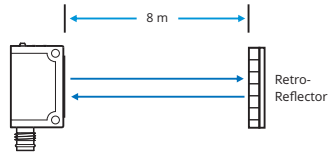
### Technical data (typ.)

Supply voltage	12...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<16 mA
Current load capability	100 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.5 V @ 200 mA
<b>Background suppression</b>	
Light source	infrared light, $\lambda = 880 \text{ nm}$
<b>Diffuse Reflective</b>	
Light source	infrared light, $\lambda = 880 \text{ nm}$
<b>Retro-Reflective</b>	
Light source	red light, $\lambda = 650 \text{ nm}$
Ambient light immunity	15 kLux
Supply indicator	LED, yellow
Stability indicator	LED, green
Housing material	ABS, PC
Operating temperature	-20...+55 °C   -4...+131 °F
IP code	IP67

### Technische Daten (typ.)

Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<16 mA
Ausgangsbelastbarkeit	100 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,5 V @ 200 mA
<b>Lichttaster mit Hintergrundausbldung</b>	
Lichtquelle	Infrarotlicht, $\lambda = 880 \text{ nm}$
<b>Lichttaster, energetisch</b>	
Lichtquelle	Infrarotlicht, $\lambda = 880 \text{ nm}$
<b>Reflexions-Lichtschanke, polarisiert</b>	
Lichtquelle	Rotlicht, $\lambda = 650 \text{ nm}$
Fremdlichtunempfindlichkeit	15 kLux
Spannungsanzeige	LED, gelb
Stabilitätsanzeige	LED, grün
Gehäusematerial	ABS, PC
Betriebstemperatur	-20...+55 °C
Schutzart	IP67



Sensing range [m] Reichweite [m]	Connection Anschluss	Response time [ms] Ansprechzeit [ms]	Dimensions w × l × h [mm] Abmessungen, b × l × h [mm]	Output function Ausgangsfunktion	Output polarity Ausgangspolarität	Order code Bestellnummer
<b>Background suppression · Lichttaster mit Hintergrundausblendung</b>						
0.35 	Cable 2 m, PVC	2	11 × 20 × 31	NO↔NC	PNP	OD31-B04-PS-A2P
	Connector M8					OD31-B04-PS-A8
	Cable 2 m, PVC				NPN	OD31-B04-NS-A2P
	Connector M8					OD31-B04-NS-A8
						
<b>Diffuse reflection · Lichttaster, energetisch</b>						
1 	Cable 2 m, PVC	2	11 × 20 × 31	NO↔NC	PNP	OD31-D1-PS-A2P
	Connector M8					OD31-D1-PS-A8
	Cable 2 m, PVC				NPN	OD31-D1-NS-A2P
	Connector M8					OD31-D1-NS-A8
						
<b>Retro-reflective, polarized · Retro-reflektiv, polarisiert</b>						
8 	Cable 2 m, PVC	3	11 × 20 × 31	NO↔NC	PNP	OD31-P8-PS-A2P
	Connector M8					OD31-P8-PS-A8
	Cable 2 m, PVC				NPN	OD31-P8-NS-A2P
	Connector M8					OD31-P8-NS-A8
						

**Retro-reflective, effective range against reflectors**

<b>MR82</b>	(∅ 82 mm)	solid	8.00 m	(100%)
<b>MR80</b>	(∅ 80 mm)	solid	6.50 m	
<b>MQ4060</b>	(40 × 60 mm <sup>2</sup> )	solid	6.50 m	
<b>PRT50</b>	(50 × 50 mm <sup>2</sup> )	adhesive tape	5.00 m	
<b>PRT75</b>	(75 × 75 mm <sup>2</sup> )	adhesive tape	5.50 m	
<b>PRT100</b>	(100 × 100 mm <sup>2</sup> )	adhesive tape	6.00 m	

**Retro-reflektiv, Effektivreichweite gegen Reflektor**

<b>MR82</b>	(∅ 82 mm)	starr	8,00 m	(100%)
<b>MR80</b>	(∅ 80 mm)	starr	6,50 m	
<b>MQ4060</b>	(40 × 60 mm <sup>2</sup> )	starr	6,50 m	
<b>PRT50</b>	(50 × 50 mm <sup>2</sup> )	Klebestreifen	5,00 m	
<b>PRT75</b>	(75 × 75 mm <sup>2</sup> )	Klebestreifen	5,50 m	
<b>PRT100</b>	(105 × 100 mm <sup>2</sup> )	Klebestreifen	6,00 m	

# Ring Sensors — inductive, capacitive, and photoelectric

## Ringsensoren – induktive, kapazitive und optische

- ▶ Inductive ring sensors to detect metal parts  
Induktive Ringsensoren zur Erkennung von Metallteilen
- ▶ Capacitive sensors to detect liquids in tubes  
Kapazitive Sensoren zur Erkennung von Flüssigkeiten in Schläuchen
- ▶ Optical ring sensors to detect metallic or non-metallic parts  
Optische Ringsensoren für die Erkennung von metallischen oder nicht-metallischen Teilen
- ▶ Versions with impulse lengthening are available  
Ausführungen mit Impulsverlängerung erhältlich



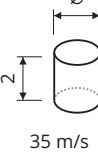
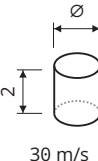
### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current load capability	200 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.5 V @ 200 mA
<b>Inductive, Capacitive</b>	
Housing material	PBT
Ring material	PA 6.6
Current consumption	<10 mA
<b>Photoelectric</b>	
Housing material	zinc die-cast, black painted
Ring material	PMMA
Current consumption	<50 mA
Switching indicator	LED, yellow
Operating temperature	-20...+70 °C   -4...+158 °F
IP code	IP67

### Technische Daten (typ.)

Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Ausgangslastbarkeit	200 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,5 V @ 200 mA
<b>Induktiv, Kapazitiv</b>	
Gehäusematerial	PBT
Ringmaterial	PA 6.6
Eigenstromaufnahme	<10 mA
<b>Optisch</b>	
Gehäusematerial	Zinkdruckguss, schwarz lackiert
Ringmaterial	PMMA
Eigenstromaufnahme	<50 mA
Schaltanzeige	LED, gelb
Betriebstemperatur	-20...+70 °C
Schutzart	IP67



	Resolution Auflösung	Max. object speed Max. Objektgeschw.	Impulse lengthening Impulsverlängerung	Inner diameter Innendurchmesser	Evaluation Auswertung	Connection Anschluss	Order code Bestellnummer
Inductive	>0.5 mm Ø		0.1...150 ms adjustable einstellbar	Ø 6.1 mm	Static	Connector M12, straight	IR06S-PS150-A12
						Connector M12, angled	IR06S-PS150-RA12
	>0.6 mm Ø			Ø 10.1 mm	Static	Connector M12, straight	IR10S-PS150-A12
						Connector M12, angled	IR10S-PS150-RA12
	>0.8 mm Ø			Ø 15.1 mm	Dynamic	Connector M12, straight	IR10D-PS150-A12
						Connector M12, angled	IR10D-PS150-RA12
	>1.0 mm Ø			Ø 15.1 mm	Static	Connector M12, straight	IR15S-PS150-A12
						Connector M12, angled	IR15S-PS150-RA12
	>1.0 mm Ø			Ø 21.1 mm	Dynamic	Connector M12, straight	IR15D-PS150-A12
						Connector M12, angled	IR15D-PS150-RA12
	>1.0 mm Ø			Ø 21.1 mm	Static	Connector M12, straight	IR21S-PS150-A12
						Connector M12, angled	IR21S-PS150-RA12
>1.0 mm Ø	Ø 21.1 mm	Dynamic	Connector M12, straight	IR21D-PS150-A12			
			Connector M12, angled	IR21D-PS150-RA12			
Capacitive	Depends on permittivity $\epsilon_r$ Abhängig von Permittivität $\epsilon_r$	Static	None Keine	Ø 6.1 mm	Static	Connector M12, straight	CR06S-PO-A12
						Connector M12, angled	CR06S-PO-RA12
				Ø 10.1 mm		Connector M12, straight	CR10S-PO-A12
						Connector M12, angled	CR10S-PO-RA12
				Ø 15.1 mm		Connector M12, straight	CR15S-PO-A12
						Connector M12, angled	CR15S-PO-RA12
				Ø 21.1 mm		Connector M12, straight	CR21S-PO-A12
						Connector M12, angled	CR21S-PO-RA12
Photoelectric	>1.0 mm Ø in the center im Zentrum		0.1...20 ms selectable wählbar	Ø 6.1 mm	Static	Connector M8	OR06S-PS20-A8
					Dynamic	Connector M8	OR06D-PS20-A8
				Ø 10.1 mm	Static	Connector M8	OR10S-PS20-A8
					Dynamic	Connector M8	OR10D-PS20-A8
				Ø 15.1 mm	Static	Connector M8	OR15S-PS20-A8
					Dynamic	Connector M8	OR15D-PS20-A8
				Ø 20.1 mm	Static	Connector M8	OR20S-PS20-A8
					Dynamic	Connector M8	OR20D-PS20-A8
				Ø 25.1 mm	Static	Connector M8	OR25S-PS20-A8
					Dynamic	Connector M8	OR25D-PS20-A8
				Ø 20.1 mm	Static	Connector M8	OR30S-PS20-A8
					Dynamic	Connector M8	OR30D-PS20-A8

Order codes are valid for PNP, NO (PO) or PNP, NO↔NC (PS) configuration. All devices also available in NPN configuration.  
Bestellnummern gelten für PNP, NO (PO) oder PNP, NO↔NC (PS) Konfiguration. Alle Geräte auch erhältlich mit NPN Konfiguration.

# Proximity Switches, inductive

## Näherungsschalter, induktiv

- ▶ **Miniature, Ø3 mm...Ø5×5 mm**  
**Miniatur, Ø3 mm...Ø5×5 mm**
- ▶ High performance with up to  $4 \times S_n$   
Hochleistung mit bis zu  $4 \times S_n$
- ▶ Closed stainless steel housing with IP69k  
Vollmetallgehäuse mit IP69k
- ▶ High temperature proof versions up to 180 °C | 356 °F  
Hochtemperaturfeste Ausführungen bis 180 °C
- ▶ Low temperature –40 °C | –40 °F, food grade, IP69k  
Tiefemperatur –40 °C, lebensmitteltauglich, IP69k
- ▶ Pressure proof versions up to 1000 bar | 14500 psi  
Druckfeste Ausführungen bis 1000 bar
- ▶ Devices with analog output  
Geräte mit Analogausgang
- ▶ 2-wire 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>  
2-Leiter 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>

>5000 different proximity switches

### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Current load capability	200 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.2 V @ 200 mA
Switching indicator	LED, yellow
Operating temperature	–20...+70 °C   –4...+158 °F
IP code	IP67

### Technische Daten (typ.)

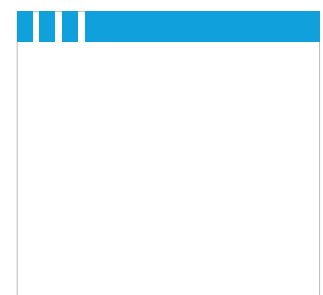
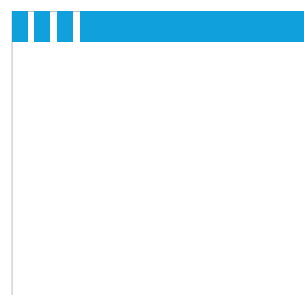
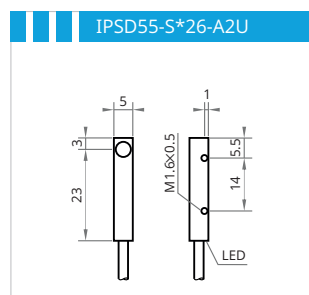
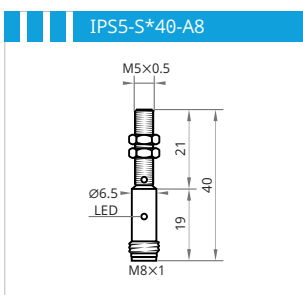
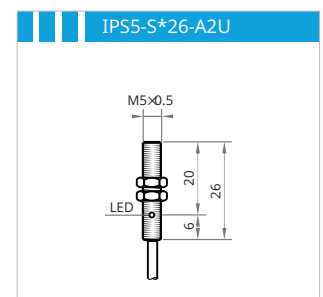
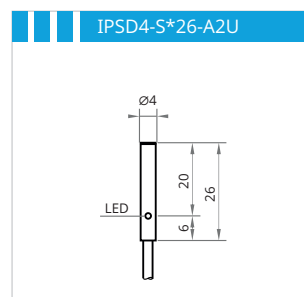
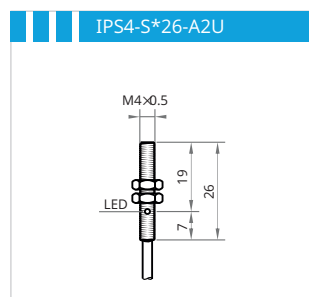
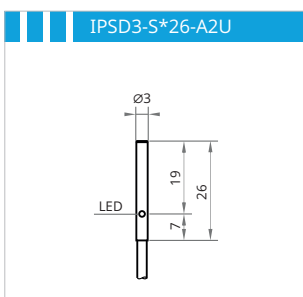
Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Ausgangsbelastbarkeit	200 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Schaltanzeige	LED, gelb
Betriebstemperatur	–20...+70 °C
Schutzart	IP67





	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing length · Gehäuselänge [mm]		Housing material Gehäusematerial	Switching frequency Schaltfrequenz
				26	40		
∅3 mm	●	0.6	Cable 2 m, PUR	IPSD3-S06PO26-A2U		Stainless steel   Edelstahl	2000 Hz
			30 cm, PUR, M8	IPSD3-S06PO26-3U8		Stainless steel   Edelstahl	2000 Hz
		1	Cable 2 m, PUR	IPSD3-S1PO26-A2U		Stainless steel   Edelstahl	2000 Hz
			30 cm, PUR, M8	IPSD3-S1PO26-3U8		Stainless steel   Edelstahl	2000 Hz
M4×0.5	●	0.6	Cable 2 m, PUR	IPS4-S06PO26-A2U		Stainless steel   Edelstahl	2000 Hz
			30 cm, PUR, M8	IPS4-S06PO26-3U8		Stainless steel   Edelstahl	2000 Hz
		1	Cable 2 m, PUR	IPS4-S1PO26-A2U		Stainless steel   Edelstahl	2000 Hz
			30 cm, PUR, M8	IPS4-S1PO26-3U8		Stainless steel   Edelstahl	2000 Hz
∅4 mm	●	0.8	Cable 2 m, PUR	IPSD4-S08PO26-A2U		Stainless steel   Edelstahl	2000 Hz
			30 cm, PUR, M8	IPSD4-S08PO26-3U8		Stainless steel   Edelstahl	2000 Hz
		1.5	Cable 2 m, PUR	IPSD4-S1.5PO26-A2U		Stainless steel   Edelstahl	2000 Hz
			30 cm, PUR, M8	IPSD4-S1.5PO26-3U8		Stainless steel   Edelstahl	2000 Hz
M5×0.5	●	0.8	Cable 2 m, PUR	IPSS-S08PO26-A2U		Stainless steel   Edelstahl	2000 Hz
			30 cm, PUR, M8	IPSS-S08PO26-3U8		Stainless steel   Edelstahl	2000 Hz
			Connector M8		IPSS-S08PO40-A8	Stainless steel   Edelstahl	2000 Hz
		1.5	Cable 2 m, PUR	IPSS-S1.5PO26-A2U		Stainless steel   Edelstahl	2000 Hz
			30 cm, PUR, M8	IPSS-S1.5PO26-3U8		Stainless steel   Edelstahl	2000 Hz
			Connector M8		IPSS-S1.5PO40-A8	Stainless steel   Edelstahl	2000 Hz
∅5×5	●	0.8	Cable 2 m, PUR	IPSS5-S08PO26-A2U		Nickel plated brass   Messing vernickelt	2000 Hz
			30 cm, PUR, M8	IPSS5-S08PO26-3U8		Nickel plated brass   Messing vernickelt	2000 Hz
		1.5	Cable 2 m, PUR	IPSS5-S1.5PO26-A2U		Nickel plated brass   Messing vernickelt	2000 Hz
			30 cm, PUR, M8	IPSS5-S1.5PO26-3U8		Nickel plated brass   Messing vernickelt	2000 Hz

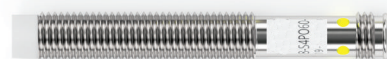
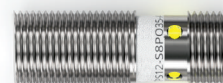
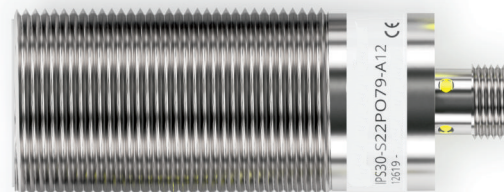
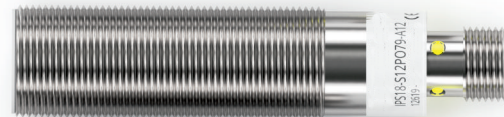
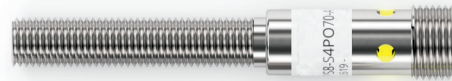
Order codes are valid for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
 Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



# Proximity Switches, inductive

## Näherungsschalter, induktiv

- ▶ Miniature, Ø3 mm...Ø5×5 mm  
Miniatur, Ø3 mm...Ø5×5 mm
- ▶ **High performance with up to 4× S<sub>n</sub>**  
**Hochleistung mit bis zu 4× S<sub>n</sub>**
- ▶ Closed stainless steel housing with IP69k  
Vollmetallgehäuse mit IP69k
- ▶ High temperature proof versions up to 180 °C | 356 °F  
Hochtemperaturfeste Ausführungen bis 180 °C
- ▶ Low temperature –40 °C | –40 °F, food grade, IP69k  
Tiefemperatur –40 °C, lebensmitteleuglich, IP69k
- ▶ Pressure proof versions up to 1000 bar | 14500 psi  
Druckfeste Ausführungen bis 1000 bar
- ▶ Devices with analog output  
Geräte mit Analogausgang
- ▶ 2-wire 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>  
2-Leiter 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>



### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Current load capability	200 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.2 V @ 200 mA
Switching indicator	LED, yellow
Operating temperature	–20...+70 °C   –4...+158 °F
IP code	IP67

### Technische Daten (typ.)

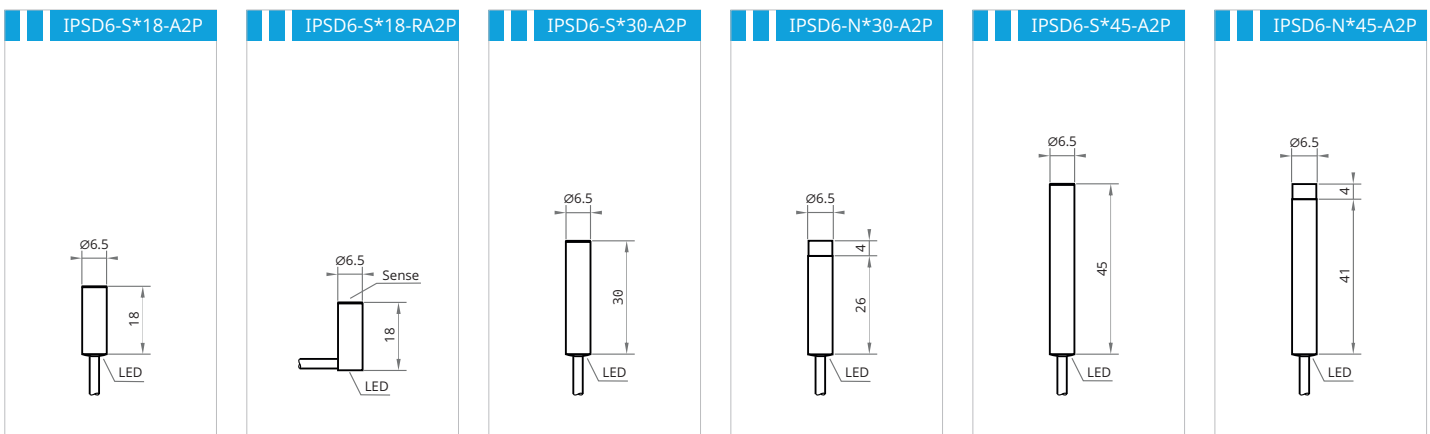
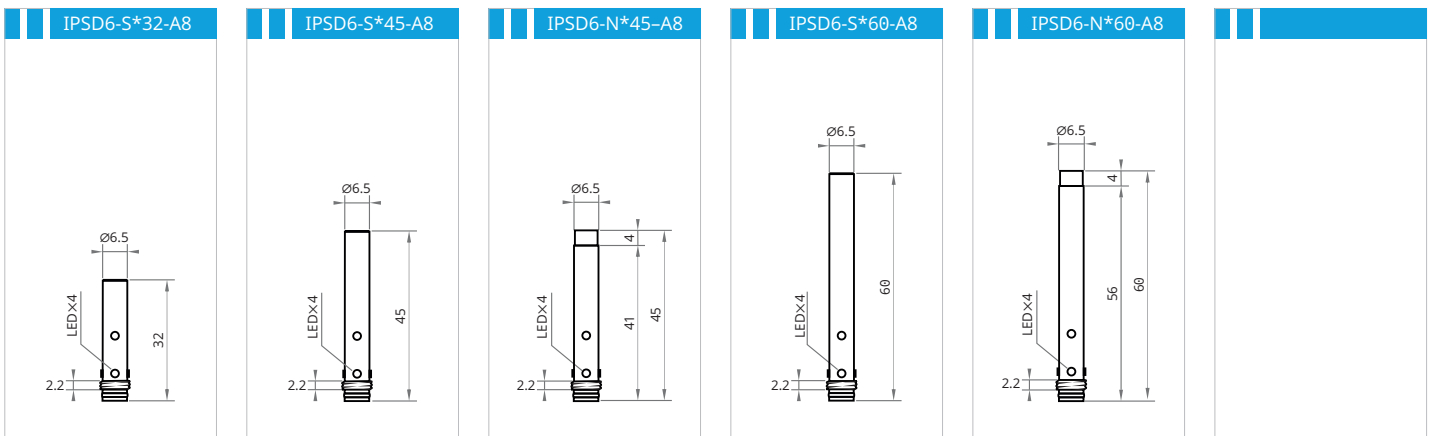
Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Ausgangsbelastbarkeit	200 mA
Kurzschlusschutz	integriert, selbststrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Schaltanzeige	LED, gelb
Betriebstemperatur	–20...+70 °C
Schutzart	IP67



	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing length · Gehäuselänge [mm]					Switching frequency Schaltfrequenz
				18	30	32	45	60	
Standard	●	1	Cable 2 m, PVC Connector M8		IPSD6-S1PO30-A2P		IPSD6-S1PO45-A2P IPSD6-S1PO45-A8	IPSD6-S1PO60-A8	2000 Hz
	○	2	Cable 2 m, PVC Connector M8		IPSD6-N2PO30-A2P		IPSD6-N2PO45-A2P IPSD6-N2PO45-A8	IPSD6-N2PO60-A8	2000 Hz
Increased · Erhöht	●	2	Cable 2 m, PVC	IPSD6-S2PO18-A2P	IPSD6-S2PO30-A2P		IPSD6-S2PO45-A2P		2000 Hz
			Cable 2 m, radial	IPSD6-S2PO18-RA2P					
			30 cm, PUR, M8	IPSD6-S2PO18-3U8	IPSD6-S2PO30-3U8				
			30cm, M8, radial	IPSD6-S2PO18-R3U8					
	Connector M8			IPSD6-S2PO32-A8	IPSD6-S2PO45-A8	IPSD6-S2PO60-A8			
○	4	Cable 2 m, PVC Connector M8		IPSD6-N4PO30-A2P		IPSD6-N4PO45-A2P IPSD6-N4PO45-A8	IPSD6-N4PO60-A8	1000 Hz	
Extended · Erweitert	●	3	Cable 2 m, PVC	IPSD6-S3PO18-A2P	IPSD6-S3PO30-A2P		IPSD6-S3PO45-A2P		1000 Hz
			Cable 2 m, radial	IPSD6-S3PO18-RA2P					
			30 cm, PUR, M8	IPSD6-S3PO18-3U8	IPSD6-S3PO30-3U8				
			30 cm, M8, radial	IPSD6-S3PO18-R3U8					
	Connector M8			IPSD6-S3PO32-A8	IPSD6-S3PO45-A8	IPSD6-S3PO60-A8			
○	6	Cable 2 m, PVC Connector M8		IPSD6-N64PO30-A2P		IPSD6-N6PO45-A2P IPSD6-N6PO45-A8	IPSD6-N6PO60-A8	500 Hz	

Selection from our range of products.  
Auszug aus unserem Lieferprogramm.

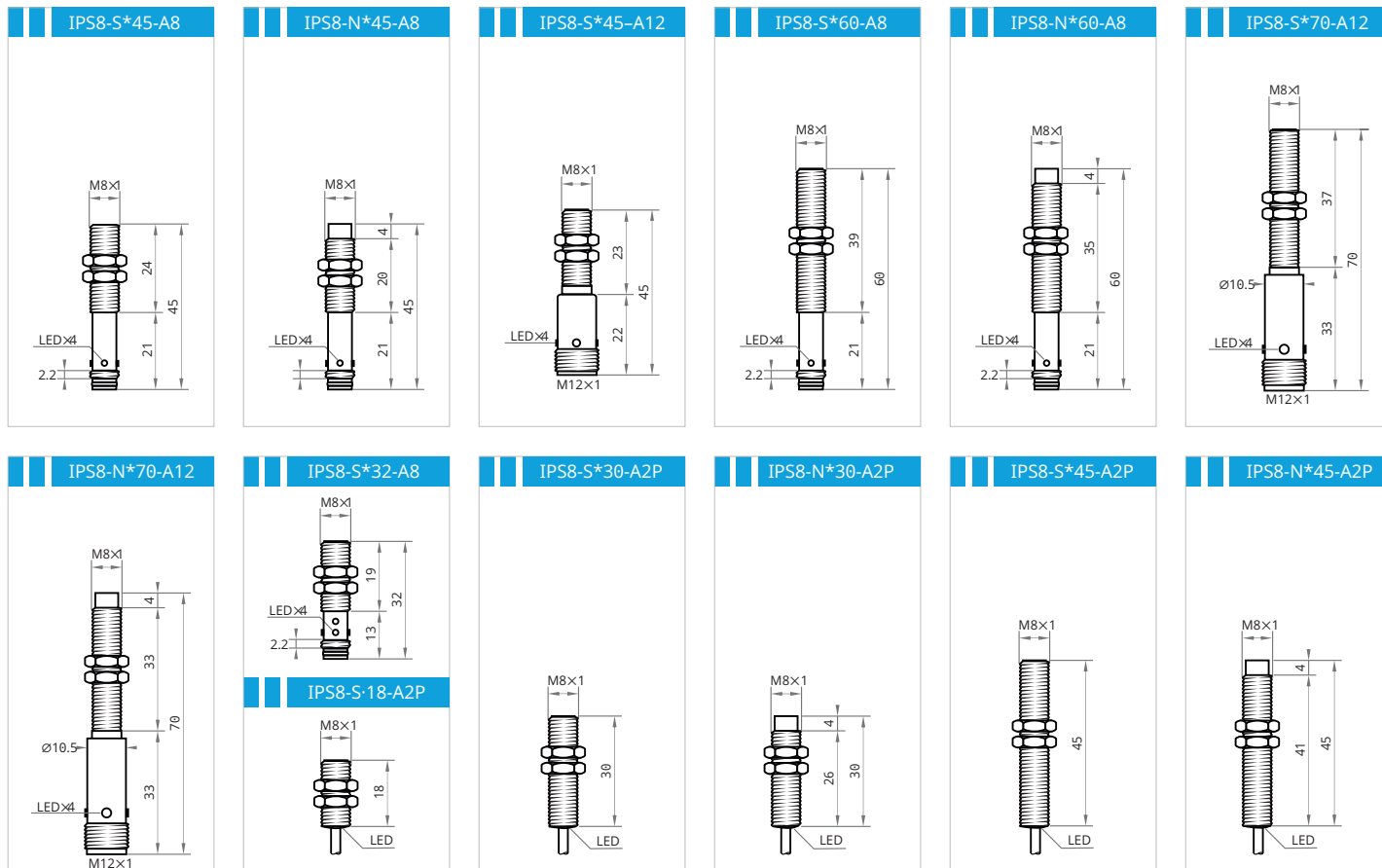
Order codes are valid for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing length · Gehäuselänge [mm]					
				18	30	32	45	60	70
Standard	●	1	Cable 2 m, PVC Connector M8	IPS8-S1PO18-A2P	IPS8-S1PO30-A2P	IPS8-S1PO32-A8	IPS8-S1PO45-A2P IPS8-S1PO45-A8	IPS8-S1PO60-A8	2000 Hz
	○	2	Cable 2 m, PVC Connector M8		IPS8-N2PO30-A2P		IPS8-N2PO45-A2P IPS8-N2PO45-A8	IPS8-N2PO60-A8	2000 Hz
Increased · Erhöht	●	2	Cable 2 m, PVC	IPS8-S2PO18-A2P	IPS8-S2PO30-A2P		IPS8-S2PO45-A2P		2000 Hz
			30 cm, PUR, M8	IPS8-S2PO18-3U8					
			Connector M8		IPS8-S2PO32-A8	IPS8-S2PO45-A8	IPS8-S2PO60-A8		
	○	4	Cable 2 m, PVC Connector M8		IPS8-N4PO30-A2P		IPS8-N4PO45-A2P IPS8-N4PO45-A8	IPS8-N4PO60-A8 IPS8-N4PO70-A12	1000 Hz
Extended · Erweitert	●	3	Cable 2 m, PVC	IPS8-S3PO18-A2P	IPS8-S3PO30-A2P		IPS8-S3PO45-A2P		1000 Hz
			30 cm, PUR, M8	IPS8-S3PO18-3U8					
			Connector M8		IPS8-S3PO32-A8	IPS8-S3PO45-A8	IPS8-S3PO60-A8		
	○	6	Cable 2 m, PVC Connector M8		IPS8-N6PO30-A2P		IPS8-N6PO45-A2P IPS8-N6PO45-A8	IPS8-N6PO60-A8 IPS8-N6PO70-A12	500 Hz
Performance	●	4	Cable 2 m, PVC	IPS8-S4PO18-A2P	IPS8-S4PO30-A2P		IPS8-S4PO45-A2P		500 Hz
			30 cm, PUR, M8	IPS8-S4PO18-3U8					
			Connector M8		IPS8-S4PO32-A8	IPS8-S4PO45-A8	IPS8-S4PO60-A8		
			Connector M12			IPS8-S4PO45-A12	IPS8-S4PO70-A12		

Selection from our range of products.  
Auszug aus unserem Lieferprogramm.

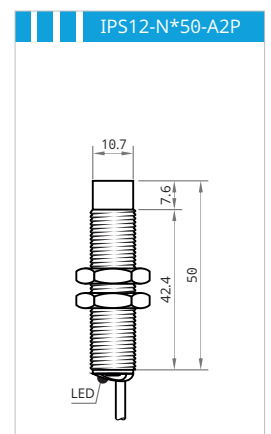
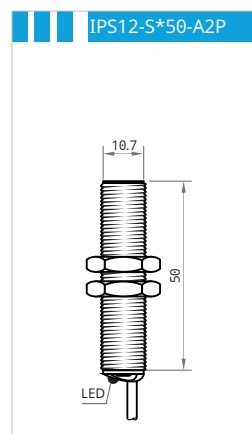
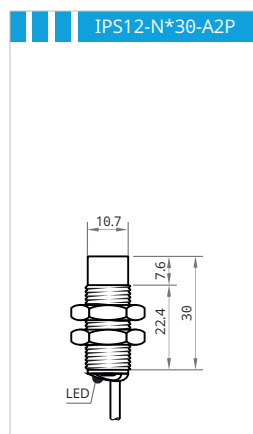
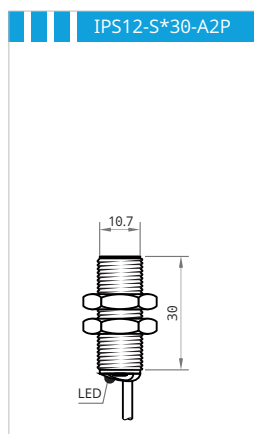
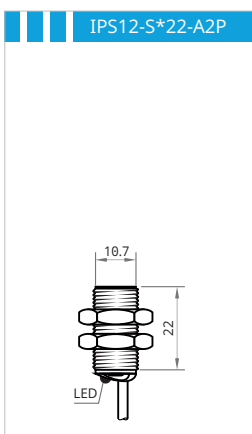
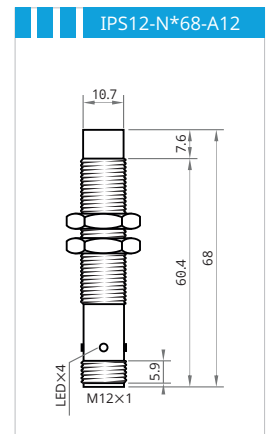
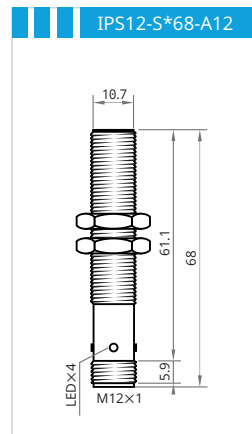
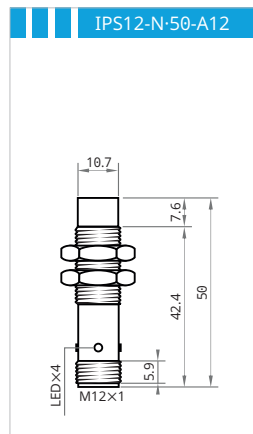
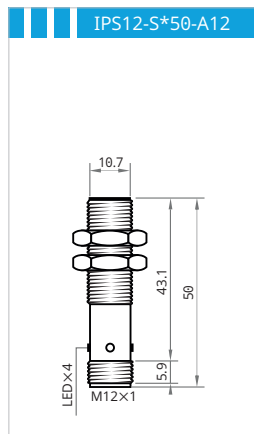
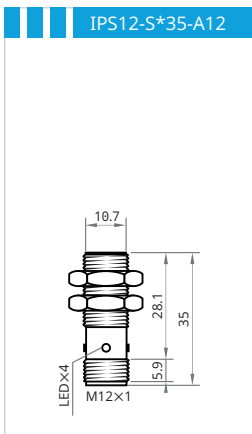
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Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing length · Gehäuselänge [mm]					Switching frequency Schaltfrequenz
				22	30	35	50	68	
Standard	●	2	Cable 2 m, PVC		IPS12-S2PO30-A2P		IPS12-S2PO50-A2P		2000 Hz
			Connector M12				IPS12-S2PO50-A12	IPS12-S2PO68-A12	
	○	4	Cable 2 m, PVC		IPS12-N4PO30-A2P		IPS12-N4PO50-A2P		1000 Hz
			Connector M12				IPS12-N4PO50-A12	IPS12-N4PO68-A12	
Increased · Erhöht	●	4	Cable 2 m, PVC	IPS12-S4PO22-A2P	IPS12-S4PO30-A2P		IPS12-S4PO50-A2P		1000 Hz
			30 cm, PUR, M12	IPS12-S4PO22-3U12					
			Connector M12			IPS12-S4PO35-A12	IPS12-S4PO50-A12	IPS12-S4PO68-A12	
	○	8	Cable 2 m, PVC		IPS12-N8PO30-A2P		IPS12-N8PO50-A2P		500 Hz
Connector M12						IPS12-N8PO50-A12	IPS12-N8PO68-A12		
Extended · Erweitert	●	6	Cable 2 m, PVC	IPS12-S6PO22-A2P	IPS12-S6PO30-A2P		IPS12-S6PO50-A2P		800 Hz
			30 cm, PUR, M12	IPS12-S6PO22-3U12					
			Connector M12			IPS12-S6PO35-A12	IPS12-S6PO50-A12	IPS12-S6PO68-A12	
	○	10	Cable 2 m, PVC		IPS12-N10PO30-A2P		IPS12-N10PO50-A2P		400 Hz
Connector M12						IPS12-N10PO50-A12	IPS12-N10PO68-A12		
Performance	●	8	Cable 2 m, PVC	IPS12-S8PO22-A2P	IPS12-S8PO30-A2P		IPS12-S8PO50-A2P		500 Hz
			30 cm, PUR, M12	IPS12-S8PO22-3U12					
			Connector M12			IPS12-S8PO35-A12	IPS12-S8PO50-A12	IPS12-S8PO68-A12	

Selection from our range of products.  
Auszug aus unserem Lieferprogramm.

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Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.

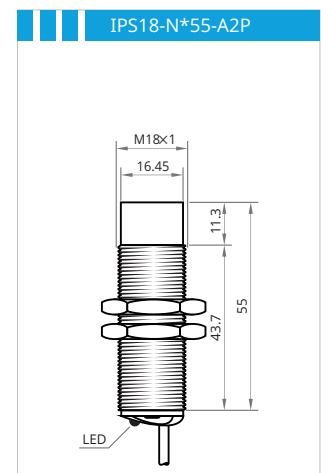
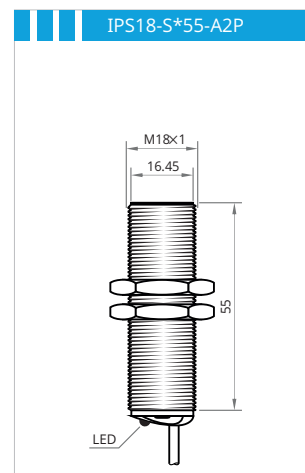
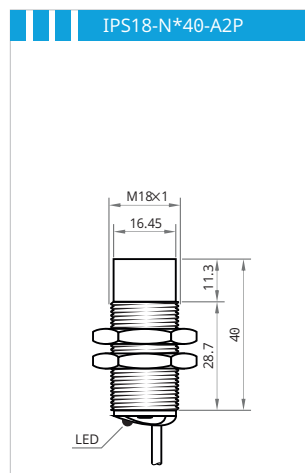
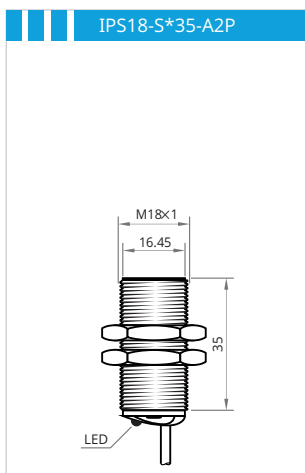
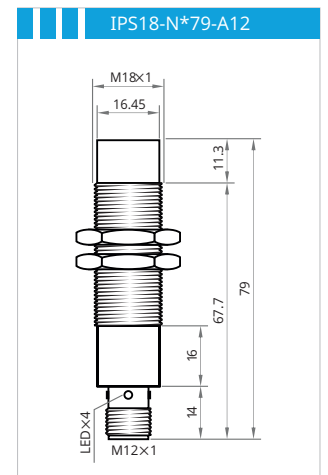
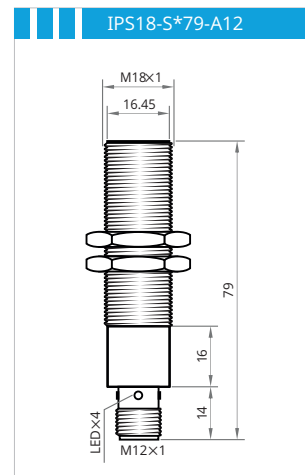
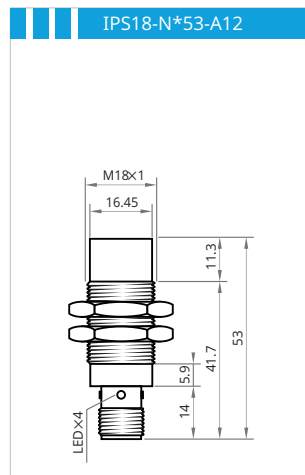
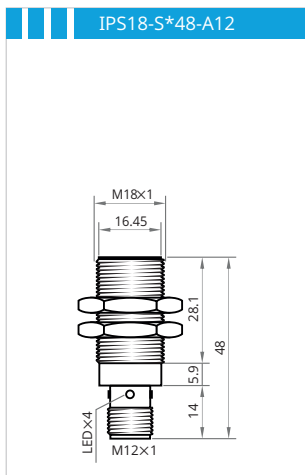


# M18x1

	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing length · Gehäuselänge [mm]						
				35	40	48	53	55	79	
Standard	●	5	Cable 2 m, PVC	IPS18-S5PO35-A2P				IPS18-S5PO55-A2P		1000 Hz
			Connector M12			IPS18-S5PO48-A12		IPS18-S5PO79-A12		
	○	8	Cable 2 m, PVC			IPS18-N8PO40-A2P		IPS18-N8PO55-A2P		500 Hz
			Connector M12			IPS18-N8PO53-A12		IPS18-N8PO79-A12		
Increased · Erhöht	●	8	Cable 2 m, PVC	IPS18-S8PO35-A2P				IPS18-S8PO55-A2P		500 Hz
			Connector M12			IPS18-S8PO48-A12		IPS18-S8PO79-A12		
	○	16	Cable 2 m, PVC			IPS18-N16PO40-A2P		IPS18-N16PO55-A2P		150 Hz
			Connector M12			IPS18-N16PO53-A12		IPS18-N16PO79-A12		
Extended · Erweitert	●	12	Cable 2 m, PVC	IPS18-S12PO35-A2P				IPS18-S12PO55-A2P		300 Hz
			Connector M12			IPS18-S12PO48-A12		IPS18-S12PO79-A12		
	○	20	Cable 2 m, PVC			IPS18-N20PO40-A2P		IPS18-N20PO55-A2P		100 Hz
			Connector M12			IPS18-N20PO53-A12		IPS18-N20PO79-A12		

Selection from our range of products.  
Auszug aus unserem Lieferprogramm.

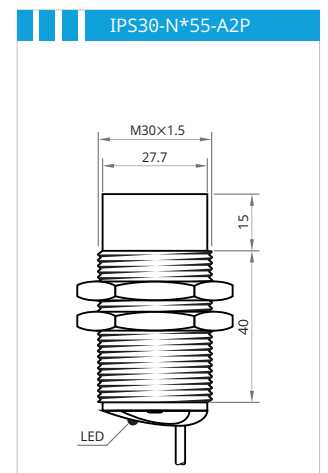
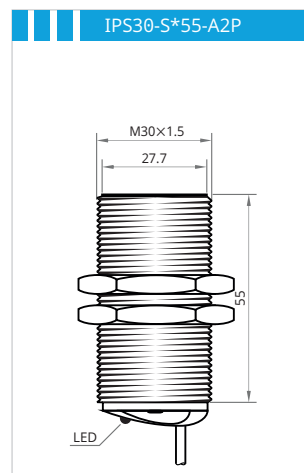
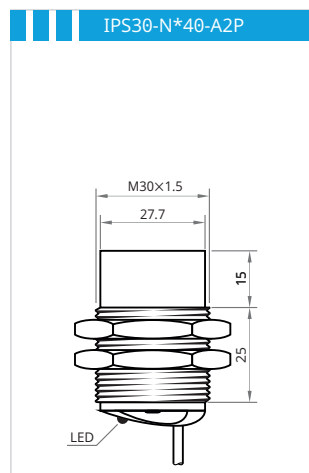
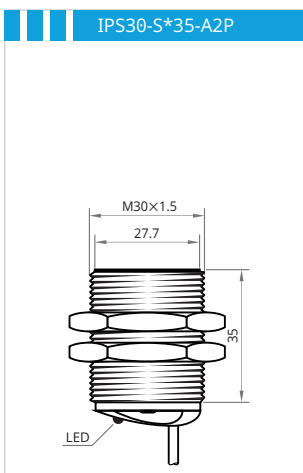
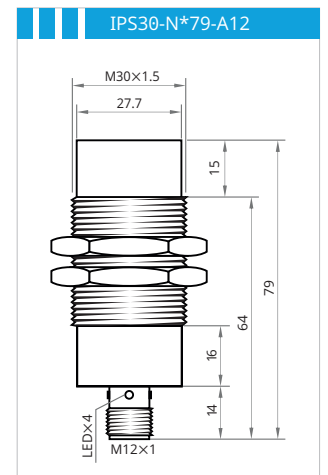
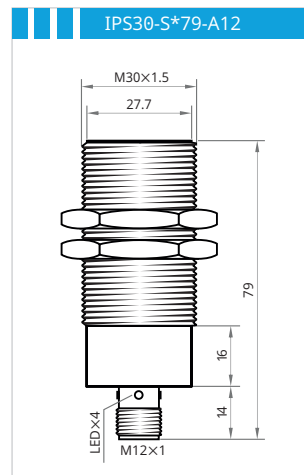
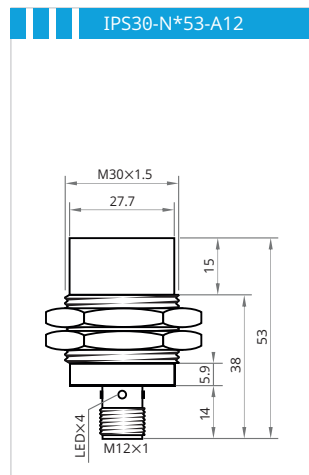
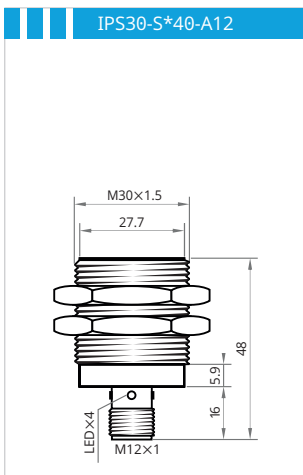
Order codes are valid for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing length · Gehäuselänge [mm]						
				35	40	48	53	55	79	
Standard	●	10	Cable 2 m, PVC	IPS30-S10PO35-A2P				IPS30-S10PO55-A2P		1000 Hz
			Connector M12			IPS30-S10PO48-A12		IPS30-S10PO79-A12		
	○	15	Cable 2 m, PVC	IPS30-N15PO40-A2P				IPS30-N15PO55-A2P		500 Hz
			Connector M12			IPS30-N15PO53-A12		IPS30-N15PO79-A12		
Increased · Erhöht	●	16	Cable 2 m, PVC	IPS30-S16PO35-A2P				IPS30-S16PO55-A2P		500 Hz
			Connector M12			IPS30-S16PO48-A12		IPS30-S16PO79-A12		
	○	25	Cable 2 m, PVC	IPS30-N25PO40-A2P				IPS30-N25PO55-A2P		150 Hz
			Connector M12			IPS30-N25PO53-A12		IPS30-N25PO79-A12		
Extended · Erweitert	●	22	Cable 2 m, PVC	IPS30-S22PO35-A2P				IPS30-S22PO55-A2P		300 Hz
			Connector M12			IPS30-S22PO48-A12		IPS30-S22PO79-A12		
	○	40	Cable 2 m, PVC	IPS30-N40PO40-A2P				IPS30-N40PO55-A2P		100 Hz
			Connector M12			IPS30-N40PO53-A12		IPS30-N40PO79-A12		
Performance	○	50	Cable 2 m, PVC	IPS30-N50PO40-A2P				IPS30-N50PO55-A2P		100 Hz
			Connector M12			IPS30-N50PO53-A12		IPS30-N50PO79-A12		

Selection from our range of products.  
Auszug aus unserem Lieferprogramm.

Order codes are valid for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



# Proximity Switches, inductive

## Näherungsschalter, induktiv

- ▶ Miniature,  $\varnothing 3 \text{ mm} \dots \varnothing 5 \times 5 \text{ mm}$   
Miniatur,  $\varnothing 3 \text{ mm} \dots \varnothing 5 \times 5 \text{ mm}$
- ▶ High performance with up to  $4 \times S_n$   
Hochleistung mit bis zu  $4 \times S_n$
- ▶ **Closed stainless steel housing with IP69k**  
**Vollmetallgehäuse mit IP69k**
- ▶ High temperature proof versions up to  $180 \text{ }^\circ\text{C}$  |  $356 \text{ }^\circ\text{F}$   
Hochtemperaturfeste Ausführungen bis  $180 \text{ }^\circ\text{C}$
- ▶ Low temperature  $-40 \text{ }^\circ\text{C}$  |  $-40 \text{ }^\circ\text{F}$ , food grade, IP69k  
Tiefemperatur  $-40 \text{ }^\circ\text{C}$ , lebensmitteltauglich, IP69k
- ▶ Pressure proof versions up to  $1000 \text{ bar}$  |  $14500 \text{ psi}$   
Druckfeste Ausführungen bis  $1000 \text{ bar}$
- ▶ Devices with analog output  
Geräte mit Analogausgang
- ▶ 2-wire  $10 \dots 55 \text{ V}_{\text{DC}}$  |  $20 \dots 250 \text{ V}_{\text{AC}}$   
2-Leiter  $10 \dots 55 \text{ V}_{\text{DC}}$  |  $20 \dots 250 \text{ V}_{\text{AC}}$



### Technical data (typ.)

Supply voltage	$10 \dots 30 \text{ V}_{\text{DC}}$
Reverse polarity protection	built-in
Current consumption	$< 10 \text{ mA}$
Short circuit protection	built-in, self-resetting
Voltage drop	$< 1.2 \text{ V @ } 200 \text{ mA}$
Switching indicator	LED, yellow
Operating temperature	$-20 \dots +70 \text{ }^\circ\text{C}$   $-4 \dots +158 \text{ }^\circ\text{F}$
IP code	IP67

### Technische Daten (typ.)

Versorgungsspannung	$10 \dots 30 \text{ V}_{\text{DC}}$
Verpolungsschutz	integriert
Eigenstromaufnahme	$< 10 \text{ mA}$
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	$< 1,2 \text{ V @ } 200 \text{ mA}$
Schaltanzeige	LED, gelb
Betriebstemperatur	$-20 \dots +70 \text{ }^\circ\text{C}$
Schutzart	IP67





	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing length · Gehäuselänge [mm]					
				30	45	50	60	68	70
M8x1	●	2	Cable 2 m, PVC	IMF8-S2PO30-A2P	IMF8-S2PO45-A2P				
			Connector M8		IMF8-S2PO45-A8		IMF8-S2PO60-A8		
			Connector M12						IMF8-S2PO70-A12
	○	3.5	Cable 2 m, PVC	IMF8-N4PO30-A2P	IMF8-N4PO45-A2P				
			Connector M8		IMF8-N4PO45-A8		IMF8-N4PO60-A8		
			Connector M12						IMF8-N4PO70-A12
M12x1	●	4	Cable 2 m, PVC	IMF12-S4PO30-A2P		IMF12-S4PO50-A2P			
			Connector M12			IMF12-S4PO50-A12		IMF12-S4PO68-A12	
			Cable 2 m, PVC	IMF12-N6PO30-A2P		IMF12-N6PO50-A2P			
	○	6	Connector M12			IMF12-N6PO50-A12		IMF12-N6PO68-A12	
			Cable 2 m, PVC	IMF12-S10PO35-A2P			IMF12-S10PO55-A2P		
			Connector M12						IMF12-S10PO79-A12
				<b>35</b>	<b>48</b>	<b>53</b>	<b>55</b>	<b>79</b>	
M18x1	●	8	Cable 2 m, PVC	IMF18-S8PO35-A2P			IMF18-S8PO55-A2P		
			Connector M12		IMF18-S8PO48-A12			IMF18-S8PO79-A12	
	○					not available · nicht erhältlich			
M30x1.5	●	10	Cable 2 m, PVC	IMF30-S10PO35-A2P			IMF30-S10PO55-A2P		
			Connector M12		IMF30-S10PO48-A12			IMF30-S10PO79-A12	
	○	15	Cable 2 m, PVC	IMF30-N15PO35-A2P			IMF30-N15PO55-A2P		
			Connector M12			IMF30-N15PO53-A12		IMF30-N15PO79-A12	

Order codes are valid for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration. Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.

**Inductive Metal Face**

The dimensions of the IMF series correspond to those of the IPS series on the pages 26–29.

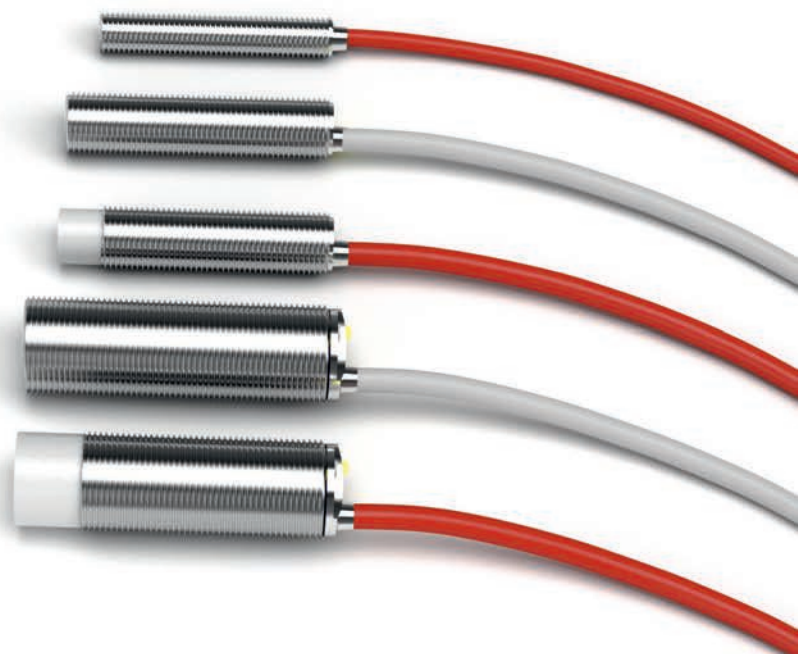
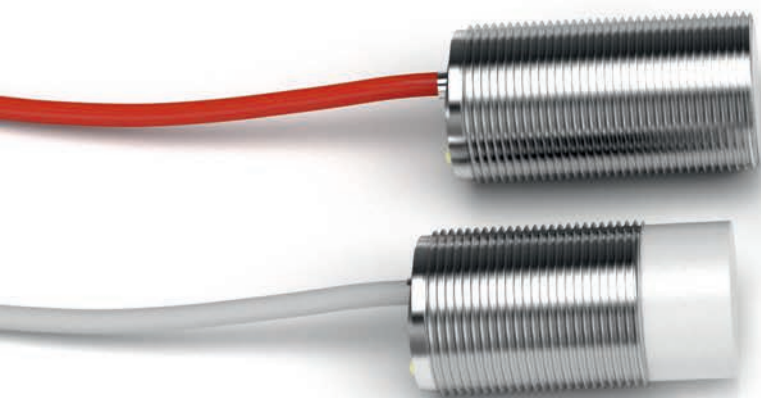
**Induktiv Vollmetall**

Die Abmessungen der IMF-Serie entsprechen denen der IPS-Serie auf den Seiten 26–29.

# Proximity Switches, inductive

## Näherungsschalter, induktiv

- ▶ Miniature, Ø3 mm...Ø5×5 mm  
Miniatur, Ø3 mm...Ø5×5 mm
- ▶ High performance with up to 4× S<sub>n</sub>  
Hochleistung mit bis zu 4× S<sub>n</sub>
- ▶ Closed stainless steel housing with IP69k  
Vollmetallgehäuse mit IP69k
- ▶ **High temperature proof versions up to 180 °C | 356 °F**  
**Hochtemperaturfeste Ausführungen bis 180 °C**
- ▶ Low temperature –40 °C | –40 °F, food grade, IP69k  
Tieftemperatur –40 °C, lebensmitteltauglich, IP69k
- ▶ Pressure proof versions up to 1000 bar | 14500 psi  
Druckfeste Ausführungen bis 1000 bar
- ▶ Devices with analog output  
Geräte mit Analogausgang
- ▶ 2-wire 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>  
2-Leiter 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>



### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.2 V @ 200 mA
Switching indicator	on request
Operating temperature	–20... °C   –4... °F
IP code	IP67

#### Annotation:

To simplify mechanical setup, all high temperature proximity switches up to 150 °C can optionally be equipped with a LED to indicate the status of the switching output. High temperature can damage permanently this LED. However, the failure of the LED does not affect the function of the device.

A failure of the LED is no warranty case.

### Technische Daten (typ.)



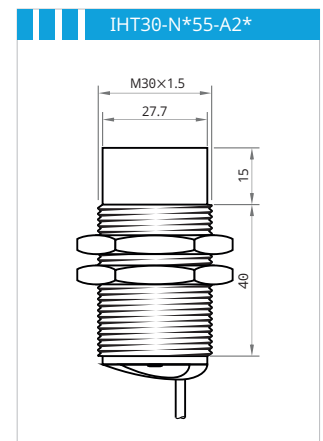
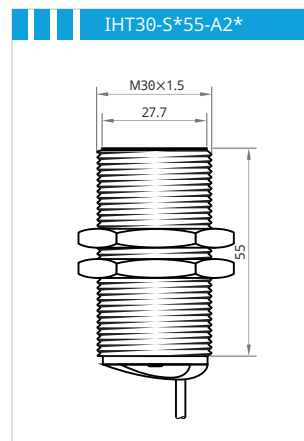
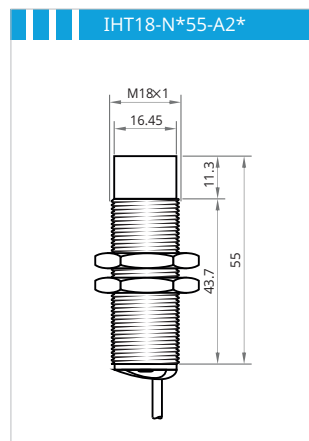
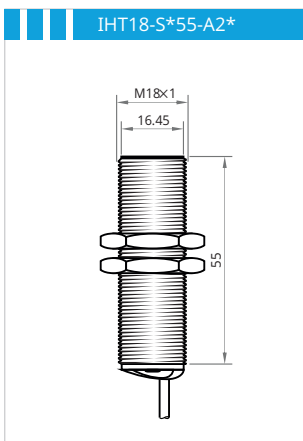
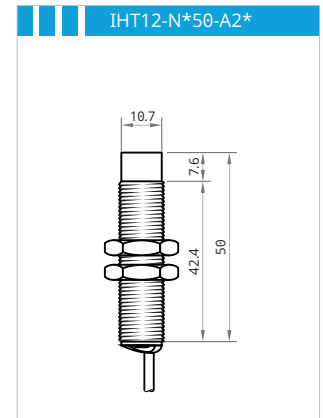
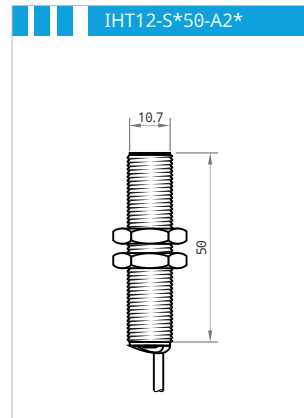
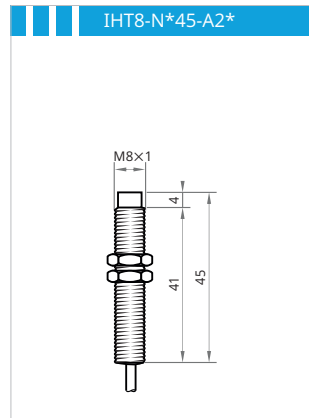
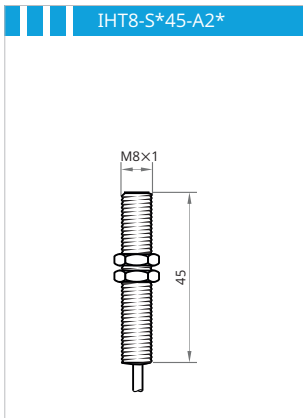
Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Schaltanzeige	auf Anfrage
Betriebstemperatur	–20... °C
Schutzart	IP67

#### Anmerkung:

Zur Erleichterung der mechanischen Einrichtung können optional alle Hochtemperatur-Näherungsschalter bis 150 °C mit einer LED zur Anzeige des Schaltzustands ausgerüstet werden. Hohe Temperaturen werden diese LED ggf. dauerhaft schädigen. Der Ausfall der LED hat jedoch keinen Einfluss auf die Funktion des Gerätes. Ein Ausfall der LED ist kein Garantiefall.

	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Temperature · Temperatur [permanent]			Output load capability Ausgangsbelastbarkeit
				120 °C   250 °F	150 °C   300 °F	180 °C   355 °F	
M8×1	●	2	Cable 2 m, silicone	IHT8-S2APO45-N2S	IHT8-S2BPO45-N2S		<120 mA
			Cable, 2 m, PTFE	IHT8-S2APO45-N2T	IHT8-S2BPO45-N2T		<120 mA
	○	4	Cable 2 m, silicone	IHT8-N4APO45-N2S	IHT8-N4BPO45-N2S		<120 mA
			Cable, 2 m, PTFE	IHT8-N4APO45-N2T	IHT8-N4BPO45-N2T		<120 mA
M12×1	●	2	Cable 2 m, silicone	IHT12-S2APO50-N2S	IHT12-S2BPO50-N2S		<120 mA
			Cable, 2 m, PTFE	IHT12-S2APO50-N2T	IHT12-S2BPO50-N2T		<120 mA
	○	4	Cable 2 m, silicone	IHT12-N4APO50-N2S	IHT12-N4BPO50-N2S		<120 mA
			Cable, 2 m, PTFE	IHT12-N4APO50-N2T	IHT12-N4BPO50-N2T		<120 mA
	●	4	Cable 2 m, silicone	IHT12-S4APO50-N2S	IHT12-S4BPO50-N2S		<120 mA
			Cable, 2 m, PTFE	IHT12-S4APO50-N2T	IHT12-S4BPO50-N2T		<120 mA
	○	8	Cable 2 m, silicone	IHT12-N8APO50-N2S	IHT12-N8BPO50-N2S		<120 mA
			Cable, 2 m, PTFE	IHT12-N8APO50-N2T	IHT12-N8BPO50-N2T		<120 mA
M18×1	●	5	Cable 2 m, silicone	IHT18-S5APO55-N2S	IHT18-S5BPO55-N2S	IHT18-S5CPO55-N2S	<150 mA
			Cable, 2 m, PTFE	IHT18-S5APO55-N2T	IHT18-S5BPO55-N2T	IHT18-S5CPO55-N2T	<150 mA
	○	8	Cable 2 m, silicone	IHT18-N8APO55-N2S	IHT18-N8BPO55-N2S	IHT18-N8CPO55-N2S	<150 mA
			Cable, 2 m, PTFE	IHT18-N8APO55-N2T	IHT18-N8BPO55-N2T	IHT18-N8CPO55-N2T	<150 mA
M30×1.5	●	10	Cable 2 m, silicone	IHT30-S10APO55-N2S	IHT30-S10BPO55-N2S	IHT30-S10CPO55-N2S	<150 mA
			Cable, 2 m, PTFE	IHT30-S10APO55-N2T	IHT30-S10BPO55-N2T	IHT30-S10CPO55-N2T	<150 mA
	○	15	Cable 2 m, silicone	IHT30-N15APO55-N2S	IHT30-N15BPO55-N2S	IHT30-N15CPO55-N2S	<150 mA
			Cable, 2 m, PTFE	IHT30-N15APO55-N2T	IHT30-N15BPO55-N2T	IHT30-N15CPO55-N2T	<150 mA

Order codes are for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
 Bestellnummern für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



# Proximity Switches, inductive

## Näherungsschalter, induktiv

- ▶ Miniature, Ø3 mm...Ø5×5 mm  
Miniatur, Ø3 mm...Ø5×5 mm
- ▶ High performance with up to 4× S<sub>n</sub>  
Hochleistung mit bis zu 4× S<sub>n</sub>
- ▶ Closed stainless steel housing with IP69k  
Vollmetallgehäuse mit IP69k
- ▶ High temperature proof versions up to 180 °C | 356 °F  
Hochtemperaturfeste Ausführungen bis 180 °C
- ▶ **Low temperature –40 °C | –40 °F, food grade, IP69k**  
**Tiefemperatur –40 °C, lebensmitteltauglich, IP69k**
- ▶ Pressure proof versions up to 1000 bar | 14500 psi  
Druckfeste Ausführungen bis 1000 bar
- ▶ Devices with analog output  
Geräte mit Analogausgang
- ▶ 2-wire 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>  
2-Leiter 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>



### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.2 V @ 200 mA
Switching indicator	LED, yellow
Housing material	PBT
Operating temperature	–40...+70 °C   –40...+158 °F
IP code	IP69k / IP67

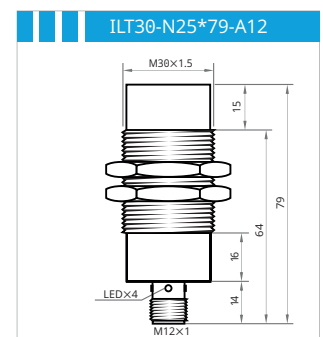
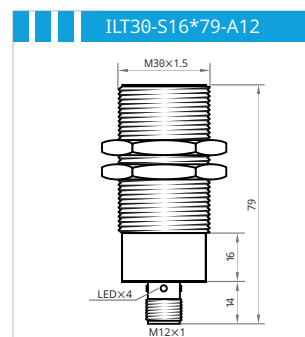
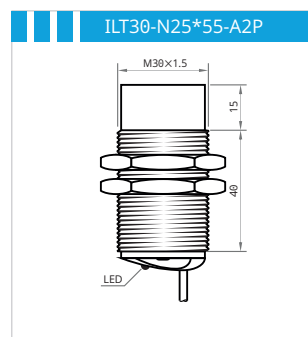
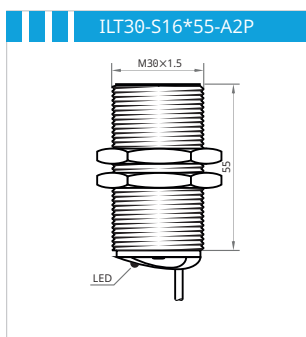
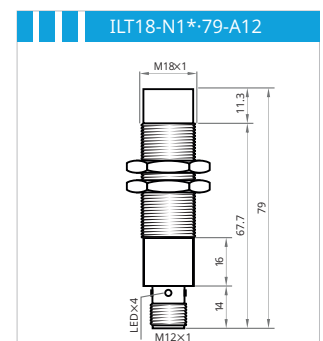
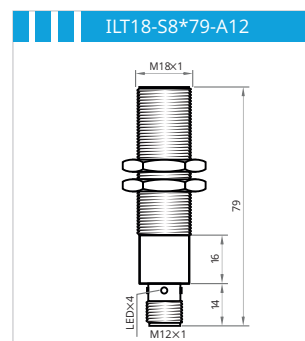
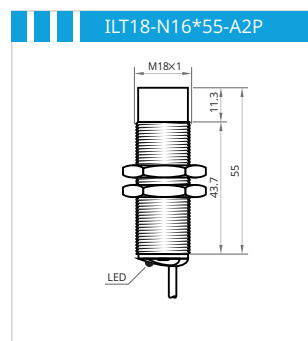
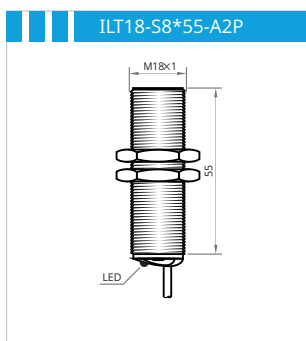
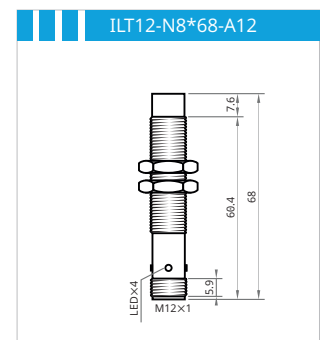
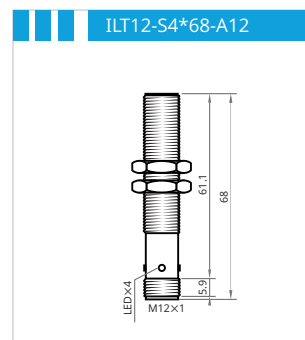
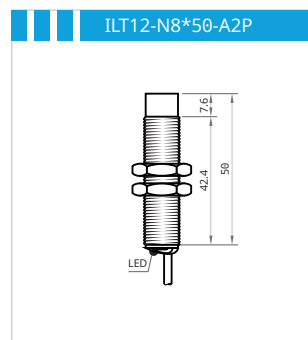
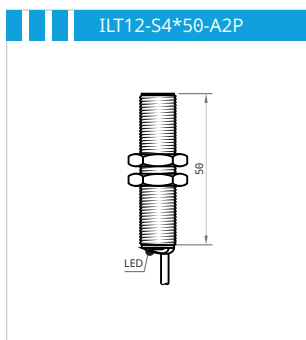
### Technische Daten (typ.)

Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Schaltanzeige	LED, gelb
Gehäusematerial	PBT
Betriebstemperatur	–40...+70 °C
Schutzart	IP69k / IP67



	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Output Ausgang	Housing length · Gehäuselänge [mm]				
					50	55	68	79	
M12×1	●	4	Cable 2 m, PVC	ILT12-S4PO50-A2P					1000 Hz
			Connector M12			ILT12-S4PO68-A12			
	○	8	Cable 2 m, PVC	ILT12-N8PO50-A2P					500 Hz
			Connector M12			ILT12-N8PO68-A12			
M18×1	●	8	Cable 2 m, PVC		ILT18-S8PO55-A2P				500 Hz
			Connector M12				ILT18-S8PO79-A12		
	○	16	Cable 2 m, PVC		ILT18-N16PO55-A2P				150 Hz
			Connector M12				ILT18-N25PO79-A12		
M30×1.5	●	16	Cable 2 m, PVC		ILT30-S16PO55-A2P				500 Hz
			Connector M12				ILT30-S16PO79-A12		
	○	25	Cable 2 m, PVC		ILT30-N25PO55-A2P				150 Hz
			Connector M12				ILT30-N16PO79-A12		

Order codes are for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
 Bestellnummern für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



# Proximity Switches, inductive

## Näherungsschalter, induktiv

- ▶ Miniature, Ø3 mm...Ø5×5 mm  
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- ▶ Low temperature -40 °C | -40 °F, food grade, IP69k  
Tieftemperatur -40 °C, lebensmitteltauglich, IP69k
- ▶ **Pressure proof versions up to 1000 bar | 14500 psi**  
**Druckfeste Ausführungen bis 1000 bar**
- ▶ Devices with analog output  
Geräte mit Analogausgang
- ▶ 2-wire 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>  
2-Leiter 10...55 V<sub>DC</sub> | 20...250 V<sub>AC</sub>



### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.2 V @ 200 mA
Switching indicator	LED, yellow — some models
Operating temperature	-20...+70 °C   -4...+158 °F
IP code	IP67

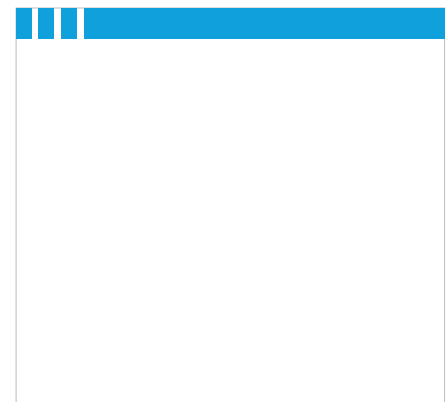
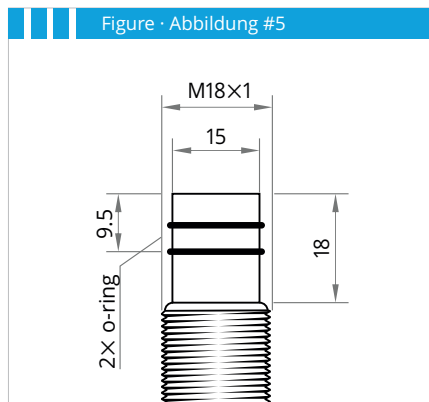
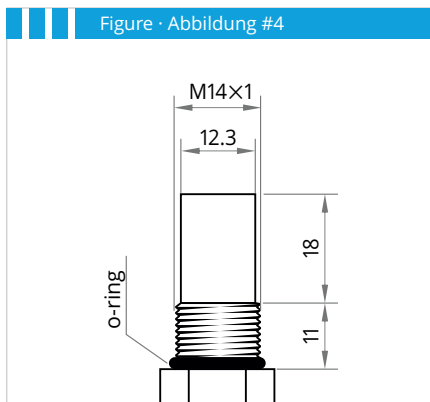
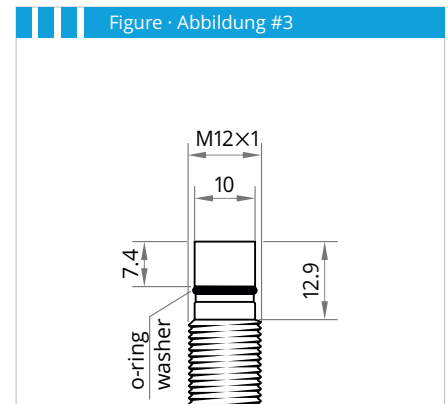
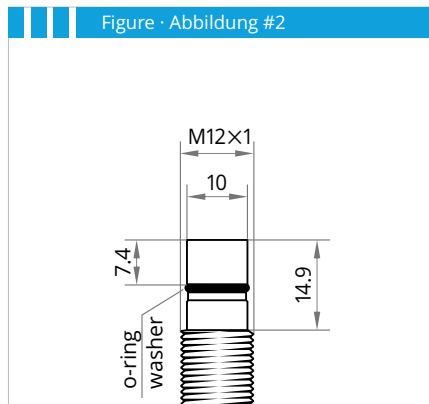
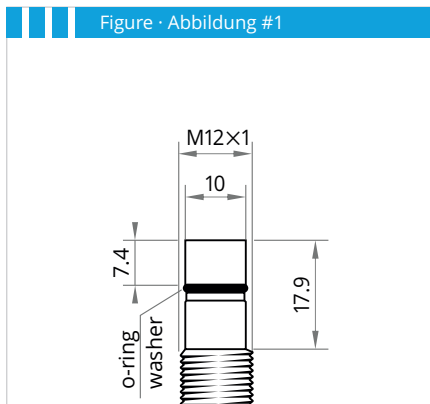
### Technische Daten (typ.)

Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Schaltanzeige	LED, gelb – einige Ausführungen
Betriebstemperatur	-20...+70 °C
Schutzart	IP67



	S <sub>n</sub> [mm]	Connection Anschluss	Pressure proof Druckfest	Overall length [mm] Gesamtbaulänge [mm]	Switching indicator · Schaltanzeige		Figure Abbildung
					without · ohne	with · mit	
M12X1	1.5	Cable 2 m, PVC	500 bar   7251 psi	43	IHP12-S1.5PO43-N2P	IHP12-S1.5PO43-A2P	1
	1.5	Cable 2 m, PVC	500 bar   7251 psi	47	IHP12-S1.5PO47-N2P	IHP12-S1.5PO47-A2P	1
	1.5	Connector M12	500 bar   7251 psi	56	IHP12-S1.5PO56-N12		1
	1.5	Connector M12	500 bar   7251 psi	56	IHP12-S1.5PO57-N12		2
	1.5	Connector M12	500 bar   7251 psi	69	IHP12-S1.5PO69-N12	IHP12-S1.5PO69-A12	3
	1.5	Cable 2 m, PVC	500 bar   7251 psi	78	IHP12-S1.5PO78-N2P	IHP12-S1.5PO78-A2P	1
	1.5	Connector M12	500 bar   7251 psi	78	IHP12-S1.5PO78-N12	IHP12-S1.5PO78-A12	1
	1.5	Connector M12	500 bar   7251 psi	93	IHP12-S1.5PO93-N12	IHP12-S1.5PO93-A12	3
	1.5	Connector M12	500 bar   7251 psi	93	IHP12-S1.5PO94-N12	IHP12-S1.5PO94-A12	1
	1.5	Connector M12	500 bar   7251 psi	138	IHP12-S1.5PO138-N12	IHP12-S1.5PO138-A12	3
	2	Connector M12	500 bar   7251 psi	56	IHP12-S2PO56-N12	IHP12-S2PO56-A12	1
	2	Connector M12	500 bar   7251 psi	78	IHP12-S2PO78-N12	IHP12-S2PO78-A12	1
M14X1	3	Cable 2 m, PVC	500 bar   7251 psi	56	IHP14-S3PO56-N2P		4
	3	Connector M12	500 bar   7251 psi	65	IHP14-S3PO65-N12		4
	3	Cable 2 m, PVC	1000 bar   14500 psi	56	IHP14-S3PO56S-N2P		4
	3	Connector M12	1000 bar   14500 psi	65	IHP14-S3PO65S-N12		4
M18X1	3	Cable 2 m, PVC	500 bar   7251 psi	65	IHP18-S3PO65S-N2P	IHP18-S3PO65S-A2P	5
	3	Connector M12	1000 bar   14500 psi	79	IHP18-S3PO79S-N12	IHP18-S3PO79S-A12	5

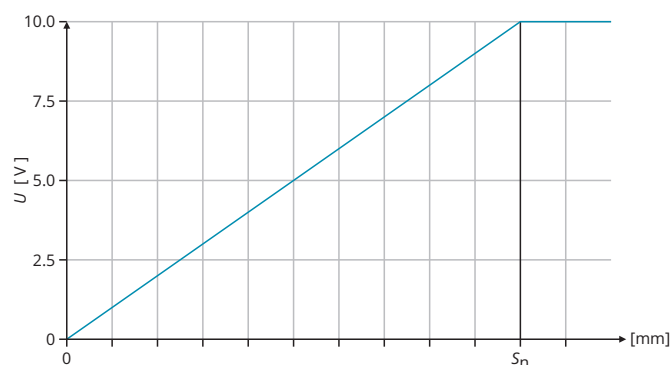
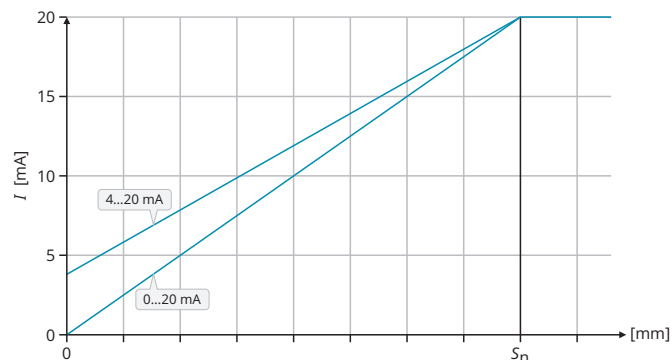
Order codes are for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration. Bestellnummern für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



# Proximity Switches, inductive

## Näherungsschalter, induktiv

- ▶ Miniature,  $\varnothing 3 \text{ mm} \dots \varnothing 5 \times 5 \text{ mm}$   
Miniatur,  $\varnothing 3 \text{ mm} \dots \varnothing 5 \times 5 \text{ mm}$
- ▶ High performance with up to  $4 \times S_n$   
Hochleistung mit bis zu  $4 \times S_n$
- ▶ Closed stainless steel housing with IP69k  
Vollmetallgehäuse mit IP69k
- ▶ High temperature proof versions up to  $180 \text{ }^\circ\text{C}$  |  $356 \text{ }^\circ\text{F}$   
Hochtemperaturfeste Ausführungen bis  $180 \text{ }^\circ\text{C}$
- ▶ Low temperature  $-40 \text{ }^\circ\text{C}$  |  $-40 \text{ }^\circ\text{F}$ , food grade, IP69k  
Tiefemperatur  $-40 \text{ }^\circ\text{C}$ , lebensmitteleuglich, IP69k
- ▶ Pressure proof versions up to  $1000 \text{ bar}$  |  $14500 \text{ psi}$   
Druckfeste Ausführungen bis  $1000 \text{ bar}$
- ▶ **Devices with analog output**  
**Geräte mit Analogausgang**
- ▶ 2-wire  $10 \dots 55 \text{ V}_{\text{DC}}$  |  $20 \dots 250 \text{ V}_{\text{AC}}$   
2-Leiter  $10 \dots 55 \text{ V}_{\text{DC}}$  |  $20 \dots 250 \text{ V}_{\text{AC}}$



### Technical data (typ.)

Supply voltage	18...35 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Output, Pin 4, black	
Voltage	0...10 V
Current load capability	<7 mA
Bandwidth	500 Hz
Short circuit protection	built-in, self-resetting
Output, pin 2, white	
Current	0...20 mA / 4...20 mA
Bandwidth	500 Hz
Supply indicator	LED, green
Operating temperature	$-20 \dots +70 \text{ }^\circ\text{C}$   $-4 \dots +158 \text{ }^\circ\text{F}$
IP code	IP67

### Technische Daten (typ.)

Versorgungsspannung	18...35 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Ausgang, Pin 4, schwarz	
Spannung	0...10 V
Strombelastbarkeit	<7 mA
Bandbreite	500 Hz
Kurzschlusschutz	integriert, selbstrückstellend
Ausgang, Pin 2, weiß	
Strom	0...20 mA / 4...20 mA
Bandbreite	500 Hz
Spannungsanzeige	LED, grün
Betriebstemperatur	$-20 \dots +70 \text{ }^\circ\text{C}$
Schutzart	IP67





	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Configuration Konfiguration	Housing length · Gehäuselänge [mm]					
					45	50	55	60	68	79
M8X1	●	2	Cable 2 m, PVC	0...10 V	IA8-S2V-G2P					
			Connector M8	0...10 V			IA8-S2V-G8			
	○	4	Cable 2 m, PVC	0...10 V	IA8-N4V-G2P					
			Connector M8	0...10 V			IA8-N4V-G8			
●	3	Cable 2 m, PVC	0...10 V	IA8-S3V-G2P						
		Connector M8	0...10 V			IA8-S3V-G8				
○	6	Cable 2 m, PVC	0...10 V	IA8-N6V-G2P						
		Connector M8	0...10 V			IA8-N6V-G8				
M12X1	●	4	Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
			Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
	○	8	Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   0...20 mA						
			Cable 2 m, PVC	0...10 V   4...20 mA						
			Connector M12	0...10 V   4...20 mA						
	●	6	Cable 2 m, PVC	0...10 V   0...20 mA		IA12-S6VI0-G2P				
			Connector M12	0...10 V   4...20 mA		IA12-S6VI4-G2P				
Cable 2 m, PVC			0...10 V   0...20 mA				IA12-S6VI020-G12			
Connector M12			0...10 V   4...20 mA				IA12-S6VI420-G12			
○	10	Cable 2 m, PVC	0...10 V   0...20 mA		IA12-N10VI020-G2P					
		Connector M12	0...10 V   4...20 mA		IA12-N10VI420-G2P					
		Cable 2 m, PVC	0...10 V   0...20 mA				IA12-N10VI020-G12			
		Connector M12	0...10 V   4...20 mA				IA12-N10VI420-G12			
M18X1	●	8	Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
			Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
	○	16	Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
			Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
	●	12	Cable 2 m, PVC	0...10 V   0...20 mA		IA18-S12VI020-G2P				
			Connector M12	0...10 V   4...20 mA		IA18-S12VI420-G2P				
			Cable 2 m, PVC	0...10 V   0...20 mA				IA18-S12VI020-G12		
			Connector M12	0...10 V   4...20 mA				IA18-S12VI420-G12		
○	20	Cable 2 m, PVC	0...10 V   0...20 mA		IA18-N20VI020-G2P					
		Connector M12	0...10 V   4...20 mA		IA18-N20VI420-G2P					
		Cable 2 m, PVC	0...10 V   0...20 mA				IA18-N20VI020-G12			
		Connector M12	0...10 V   4...20 mA				IA18-N20VI420-G12			
M30X1.5	●	16	Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
			Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
	○	25	Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
			Cable 2 m, PVC	0...10 V   0...20 mA						
			Connector M12	0...10 V   4...20 mA						
	●	20	Cable 2 m, PVC	0...10 V   0...20 mA		IA30-S20VI020-G2P				
			Connector M12	0...10 V   4...20 mA		IA30-S20VI420-G2P				
			Cable 2 m, PVC	0...10 V   0...20 mA				IA30-S20VI020-G12		
			Connector M12	0...10 V   4...20 mA				IA30-S20VI420-G12		
○	40	Cable 2 m, PVC	0...10 V   0...20 mA		IA30-N40VI020-G2P					
		Connector M12	0...10 V   4...20 mA		IA30-N40VI420-G2P					
		Cable 2 m, PVC	0...10 V   0...20 mA				IA30-N40VI020-G12			
		Connector M12	0...10 V   4...20 mA				IA30-N40VI420-G12			

# Proximity Switches, inductive

## Näherungsschalter, induktiv

- ▶ Miniature,  $\varnothing 3 \text{ mm} \dots \varnothing 5 \times 5 \text{ mm}$   
Miniatur,  $\varnothing 3 \text{ mm} \dots \varnothing 5 \times 5 \text{ mm}$
- ▶ High performance with up to  $4 \times S_n$   
Hochleistung mit bis zu  $4 \times S_n$
- ▶ Closed stainless steel housing with IP69k  
Vollmetallgehäuse mit IP69k
- ▶ High temperature proof versions up to  $180 \text{ }^\circ\text{C}$  |  $356 \text{ }^\circ\text{F}$   
Hochtemperaturfeste Ausführungen bis  $180 \text{ }^\circ\text{C}$
- ▶ Low temperature  $-40 \text{ }^\circ\text{C}$  |  $-40 \text{ }^\circ\text{F}$ , food grade, IP69k  
Tiefemperatur  $-40 \text{ }^\circ\text{C}$ , lebensmittelecht, IP69k
- ▶ Pressure proof versions up to  $1000 \text{ bar}$  |  $14500 \text{ psi}$   
Druckfeste Ausführungen bis  $1000 \text{ bar}$
- ▶ Devices with analog output  
Geräte mit Analogausgang
- ▶ **2-wire  $10 \dots 55 \text{ V}_{\text{DC}}$  |  $20 \dots 250 \text{ V}_{\text{AC}}$**   
**2-Leiter  $10 \dots 55 \text{ V}_{\text{DC}}$  |  $20 \dots 250 \text{ V}_{\text{AC}}$**



### Technical data (typ.)

Supply voltage	$10 \dots 30 \text{ V}_{\text{DC}}$
Reverse polarity protection	built-in
Current consumption	$< 10 \text{ mA}$
<b><math>10 \dots 55 \text{ V}_{\text{DC}}</math></b>	
Reverse polarity protection	built-in
Current load capability	$200 \text{ mA}$
Short circuit protection	built-in, self-resetting
Voltage drop	$< 1.5 \text{ V @ } 200 \text{ mA}$
<b><math>20 \dots 255 \text{ V}_{\text{AC}}</math></b>	
Reverse polarity protection	inherently
Current load capability	$400 \text{ mA}$
Short circuit protection	none
Switching indicator	LED, yellow
Operating temperature	$-20 \dots +70 \text{ }^\circ\text{C}$   $-4 \dots +158 \text{ }^\circ\text{F}$
IP code	IP67

### Technische Daten (typ.)



Versorgungsspannung	$10 \dots 30 \text{ V}_{\text{DC}}$
Verpolungsschutz	integriert
Eigenstromaufnahme	$< 10 \text{ mA}$
<b><math>10 \dots 55 \text{ V}_{\text{DC}}</math></b>	
Verpolungsschutz	integriert
Ausgangsbelaubarkeit	$200 \text{ mA}$
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	$< 1,5 \text{ V @ } 200 \text{ mA}$
<b><math>20 \dots 255 \text{ V}_{\text{AC}}</math></b>	
Verpolungsschutz	prinzipbedingt
Ausgangsbelaubarkeit	$400 \text{ mA}$
Kurzschlusschutz	ohne
Schaltanzeige	LED, gelb
Betriebstemperatur	$-20 \dots +70 \text{ }^\circ\text{C}$
Schutzart	IP67

▶ 2-wire 10...55 V <sub>DC</sub>			Housing length · Gehäuselänge [mm]							
Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	45	50	55	60	68	79		
M8×1	●	2	Cable 2 m, PVC	IPS8-S2DO45-A2P					2000 Hz	
			Connector M8			IPS8-S2DO60-A8				
	○	4	Cable 2 m, PVC	IPS8-N4DO45-A2P					2000 Hz	
			Connector M8			IPS8-N4DO60-A8				
M12×1	●	4	Cable 2 m, PVC		IPS12-S4DO50-A2P				1000 Hz	
			Connector M12				IPS12-S4DO68-A12			
	○	8	Cable 2 m, PVC		IPS12-N8DO50-A2P				500 Hz	
			Connector M12				IPS12-N8DO68-A12			
M18×1	●	8	Cable 2 m, PVC			IPS18-S8DO55-A2P			500 Hz	
			Connector M12					IPS18-S8DO79-A12		
	○	16	Cable 2 m, PVC			IPS18-N16DO55-A2P			150 Hz	
			Connector M12					IPS18-N16DO79-A12		
M30×1.5	●	16	Cable 2 m, PVC			IPS30-S16DO55-A2P			150 Hz	
			Connector M12					IPS30-S16DO79-A12		
	○	25	Cable 2 m, PVC			IPS30-N25DO55-A2P			150 Hz	
			Connector M12					IPS30-N25DO79-A12		

Selection from our range of products.  
Auszug aus unserem Lieferprogramm.

Order codes are valid for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
Bestellnummern gültig für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.

▶ 2-wire 20...255 V <sub>AC</sub>			Housing length · Gehäuselänge [mm]				Switching frequency Schaltfrequenz	
Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	55	60	68	79		
M12×1	●	4	Cable 2 m, PVC		IPS12-S4AO60-A2P			25 Hz
			Connector M12			IPS12-S4AO68-A12		
	○	8	Cable 2 m, PVC		IPS12-N8DO60-A2P			25 Hz
			Connector M12			IPS12-N8AO68-A12		
M18×1	●	8	Cable 2 m, PVC	IPS18-S8AO55-A2P				25 Hz
			Connector M12				IPS18-S8AO79-A12	
	○	16	Cable 2 m, PVC	IPS18-N16AO55-A2P				25 Hz
			Connector M12				IPS18-N16AO79-A12	
M30×1.5	●	16	Cable 2 m, PVC	IPS30-S16AO55-A2P				25 Hz
			Connector M12				IPS30-S16AO79-A12	
	○	25	Cable 2 m, PVC	IPS30-N25AO55-A2P				25 Hz
			Connector M12				IPS30-N25AO79-A12	

Selection from our range of products.  
Auszug aus unserem Lieferprogramm.

Order codes are valid for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.

# Proximity Switches, capacitive

## Näherungsschalter, kapazitiv

- ▶ **Metal housings from Ø6.5 mm...M30**  
Metallgehäuse Ø6,5 mm...M30
- ▶ **Chemical resistant PTFE housings for M18 and M30**  
Chemisch beständige PTFE-Gehäuse für M18 und M30
- ▶ Highest sensing distances in its class  
Höchste Schaltabstände ihrer Klasse
- ▶ Sensitivity adjustment by multi-turn potentiometer  
Einstellung des Schaltpunktes mit Mehrgang-Potentiometer
- ▶ Plastic housings made of PBT M12...M30  
Kunststoffgehäuse aus PBT M12...M30



### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.2 V @ 200 mA
Switching indicator	LED, yellow
Operating temperature	-20...+70 °C   -4...+158 °F
IP code	IP67

### Technische Daten (typ.)

Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Schaltanzeige	LED, gelb
Betriebstemperatur	-20...+70 °C
Schutzart	IP67



	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing Material Gehäusematerial	Housing length · Gehäuselänge [mm]			
					45	60	70	80
M8X1	●	2	Cable 2 m, PVC	Brass · Messing	CS8-S2PO45-A2P			
			Connector M8	Brass · Messing		CS8-S2PO60-A8		
			Connector M12	Brass · Messing			CS8-S2PO70-A12	
	○	4	Cable 2 m, PVC	Brass · Messing	CS8-N4PO45-A2P			
			Connector M8	Brass · Messing		CS8-N4PO60-A8		
			Connector M12	Brass · Messing			CS8-N4PO70-A12	
M12X1	●	4	Cable 2 m, PVC	Brass · Messing		CS12-S4PO60-A2P		
			Connector M12	Brass · Messing		CS12-S4PO60-A12		
		6	Cable 2 m, PVC	Brass · Messing		CS12-S6PO60-A2P		
			Connector M12	Brass · Messing		CS12-S6PO60-A12		
	○	8	Cable 2 m, PVC	Brass · Messing		CS12-N8PO60-A2P		
			Connector M12	Brass · Messing		CS12-N8PO60-A12		
		10	Cable 2 m, PVC	Brass · Messing		CS12-N10PO60-A2P		
			Connector M12	Brass · Messing		CS12-N10PO60-A12		
M18X1	●	8	Cable 2 m, PVC	Brass · Messing				CS18-S8PO80-A2P
			Cable 2 m, PTFE	PTFE				CS18-S8PO80T-A2P
			Connector M12	Brass · Messing				CS18-S8PO80-A12
		12	Cable 2 m, PVC	Brass · Messing				CS18-S12PO80-A2P
			Cable 2 m, PTFE	PTFE				CS18-S12PO80T-A2P
			Connector M12	Brass · Messing				CS18-S12PO80-A12
	○	15	Cable 2 m, PVC	Brass · Messing				CS18-N15PO80-A2P
			Cable 2 m, PTFE	PTFE				CS18-N15PO80T-A2P
			Connector M12	Brass · Messing				CS18-N15PO80-A12
		20	Cable 2 m, PVC	Brass · Messing				CS18-N20PO80-A2P
			Cable 2 m, PTFE	PTFE				CS18-N20PO80T-A2P
			Connector M12	Brass · Messing				CS18-N20PO80-A12
M30X1.5	●	20	Cable 2 m, PVC	Brass · Messing				CS30-S20PO80-A2P
			Cable 2 m, PTFE	PTFE				CS30-S20PO80T-A2P
			Connector M12	Brass · Messing				CS30-S20PO80-A12
		25	Cable 2 m, PVC	Brass · Messing				CS30-S25PO80-A2P
			Cable 2 m, PTFE	PTFE				CS30-S25PO80T-A2P
			Connector M12	Brass · Messing				CS30-S25PO80-A12
	○	30	Cable 2 m, PVC	Brass · Messing				CS30-N30PO80-A2P
			Cable 2 m, PTFE	PTFE				CS30-N30PO80T-A2P
			Connector M12	Brass · Messing				CS30-N30PO80-A12
		35	Cable 2 m, PVC	Brass · Messing				CS30-N35PO80-A2P
			Cable 2 m, PTFE	PTFE				CS30-N35PO80T-A2P
			Connector M12	Brass · Messing				CS30-N35PO80-A12

Selection from our range of products.  
Auszug aus unserem Lieferprogramm.

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# Proximity Switches, capacitive

## Näherungsschalter, kapazitiv

- ▶ Metal housings from Ø6.5 mm...M30  
Metallgehäuse Ø6,5 mm...M30
- ▶ Chemical resistant PTFE housings for M18 and M30  
Chemisch beständige PTFE-Gehäuse für M18 und M30
- ▶ **Highest sensing distances in its class**  
**Höchste Schaltabstände ihrer Klasse**
- ▶ Sensitivity adjustment by multi-turn potentiometer  
Einstellung des Schaltpunktes mit Mehrgang-Potentiometer
- ▶ **Plastic housings made of PBT M12...M30**  
**Kunststoffgehäuse aus PBT M12...M30**



### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.2 V @ 200 mA
Switching indicator	LED, yellow
Housing material	PBT
Operating temperature	-20...+70 °C   -4...+158 °F
IP code	IP67

### Technische Daten (typ.)

Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Schaltanzeige	LED, gelb
Gehäusematerial	PBT
Betriebstemperatur	-20...+70 °C
Schutzart	IP67



	Mounting Montage	S <sub>n</sub> [mm]	Connection Anschluss	Housing length · Gehäuselänge [mm]			
				60	80	30 × 50 × 7	40 × 40 × 7
M12×1	●	4	Cable 2 m, PVC	CS12-S4PO60P-A2P			
			Connector M12	CS12-S4PO60P-A12			
		6	Cable 2 m, PVC	CS12-S6PO60P-A2P			
			Connector M12	CS12-S6PO60P-A12			
	○	8	Cable 2 m, PVC	CS12-N8PO60P-A2P			
			Connector M12	CS12-N8PO60P-A12			
		10	Cable 2 m, PVC	CS12-N10PO60P-A2P			
			Connector M12	CS12-N10PO60P-A12			
M18×1	●	8	Cable 2 m, PVC		CS18-S8PO80P-A2P		
			Connector M12		CS18-S8PO80P-A12		
		12	Cable 2 m, PVC		CS18-S12PO80P-A2P		
			Connector M12		CS18-S12PO80P-A12		
	○	15	Cable 2 m, PVC		CS18-N15PO80P-A2P		
			Connector M12		CS18-N15PO80P-A12		
		20	Cable 2 m, PVC		CS18-N20PO80P-A2P		
			Connector M12		CS18-N20PO80P-A12		
M30×1	●	20	Cable 2 m, PVC		CS30-S20PO80P-A2P		
			Connector M12		CS30-S20PO80P-A12		
		25	Cable 2 m, PVC		CS30-S25PO80P-A2P		
			Connector M12		CS30-S25PO80P-A12		
	○	30	Cable 2 m, PVC		CS30-N30PO80P-A2P		
			Connector M12		CS30-N30PO80P-A12		
		35	Cable 2 m, PVC		CS30-N35PO80P-A2P		
			Connector M12		CS30-N35PO80P-A12		
30×50 mm	●	6	Cable, 2 m			CS3050-S6PO-A2P	
			30 cm, PUR, M8			CS3050-S6PO-3U8	
	○	10	Cable, 2 m			CS3050-N10PO-A2P	
			30 cm, PUR, M8			CS3050-N10PO-3U8	
40×40 mm	●	20	Screw terminal				CS40-S20POL-PG13
		25	Screw terminal				CS40-S20POL-PG13
	○	30	Screw terminal				CS40-S25POL-PG13
		35	Screw terminal				CS40-S25POL-PG13

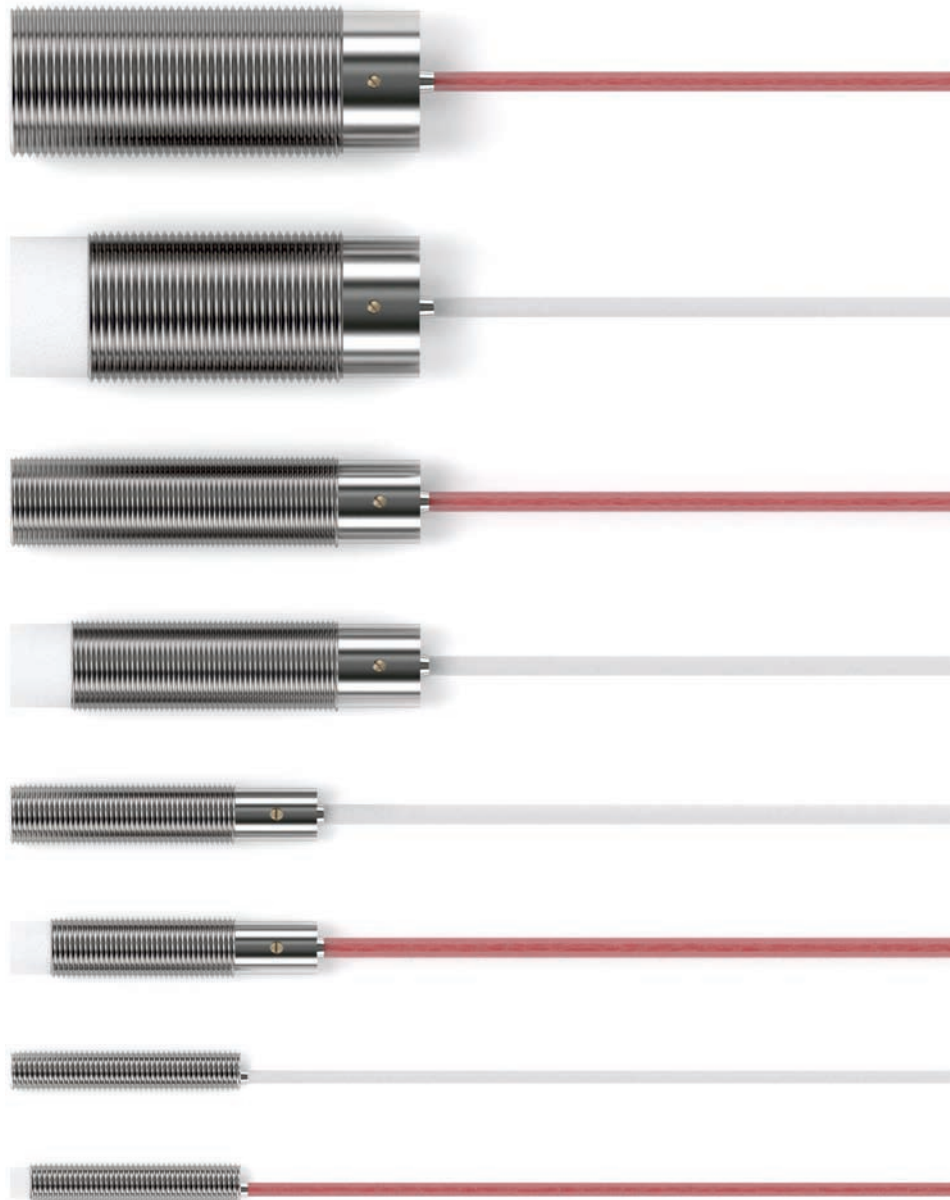
Selection from our range of products.  
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Bestellnummern gelten für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.

# Proximity Switches, capacitive

## Näherungsschalter, kapazitiv

- ▶ **Permanent temperature up to 150 °C | 302 °F**  
**Dauerhaft temperaturbeständig bis zu 150 °C**
- ▶ Highest sensing distances in its class  
Höchste Schaltabstände ihrer Klasse
- ▶ Sensitivity adjustment by multi-turn potentiometer  
Einstellung des Schaltpunktes mit Mehrgang-Potentiometer
- ▶ Metal housings Ø6.5 mm...M30  
Metallgehäuse Ø6,5 mm...M30



### Technical data (typ.)

Supply voltage	10...30 V <sub>DC</sub>
Reverse polarity protection	built-in
Current consumption	<10 mA
Short circuit protection	built-in, self-resetting
Voltage drop	<1.2 V @ 200 mA
Operating temperature	-20... °C   -4... °F
IP code	IP67

### Technische Daten (typ.)

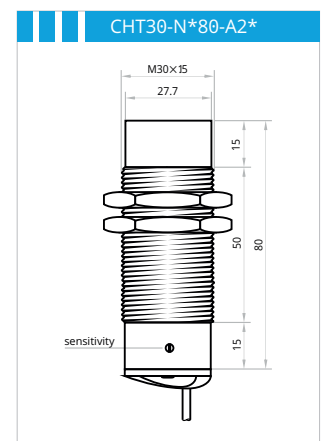
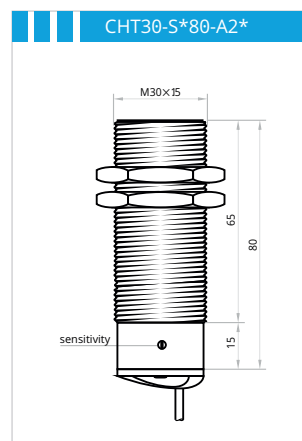
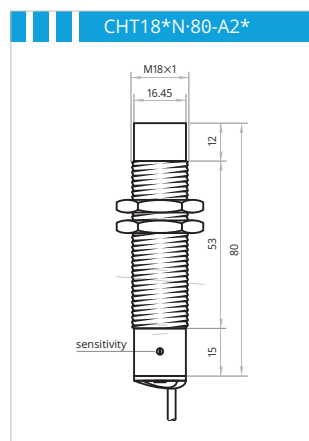
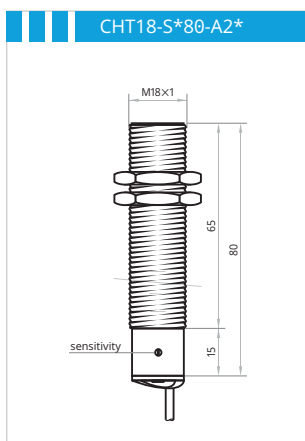
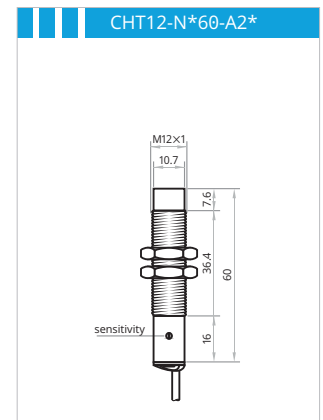
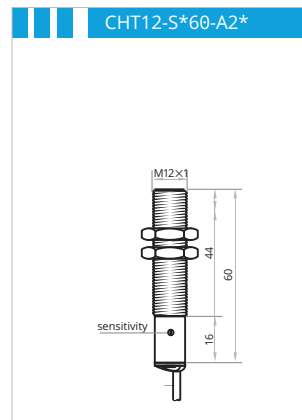
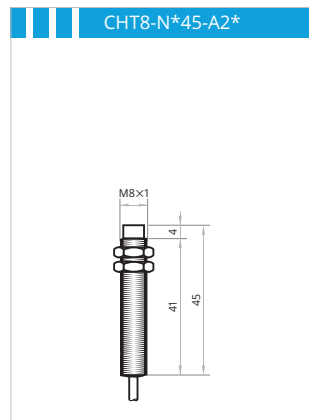
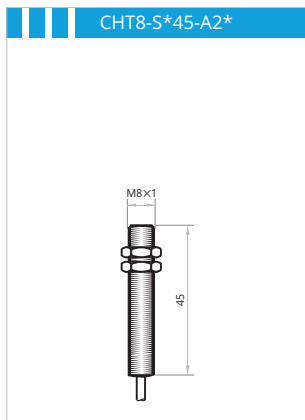
Versorgungsspannung	10...30 V <sub>DC</sub>
Verpolungsschutz	integriert
Eigenstromaufnahme	<10 mA
Kurzschlusschutz	integriert, selbstrückstellend
Spannungsabfall	<1,2 V @ 200 mA
Betriebstemperatur	-20... °C
Schutzart	IP67





	Mounting Montage	Sn [mm]	Connection Anschluss	Temperature · Temperatur [permanent]		Output load capability Ausgangsbelastbarkeit
				120 °C   250 °F	150 °C   300 °F	
M8×1	●	2	Cable 2 m, silicone	CHT8-S2APO45-N2S	CHT8-S2BPO45-N2S	<120 mA
			Cable, 2 m PTFE	CHT8-S2APO45-N2T	CHT8-S2BPO45-N2T	<120 mA
	○	4	Cable 2 m, silicone	CHT8-N4APO45-N2S	CHT8-N4BPO45-N2S	<120 mA
			Cable, 2 m PTFE	CHT8-N4APO45-N2T	CHT8-N4BPO45-N2T	<120 mA
M12×1	●	2	Cable 2 m, silicone	CHT12-S2APO60-N2S	CHT12-S2BPO60-N2S	<120 mA
			Cable, 2 m PTFE	CHT12-S2APO60-N2T	CHT12-S2BPO60-N2T	<120 mA
	○	4	Cable 2 m, silicone	CHT12-N4APO60-N2S	CHT12-N4BPO60-N2S	<120 mA
			Cable, 2 m PTFE	CHT12-N4APO60-N2T	CHT12-N4BPO60-N2T	<120 mA
	●	4	Cable 2 m, silicone	CHT12-S4APO60-N2S	CHT12-S4BPO60-N2S	<120 mA
			Cable, 2 m PTFE	CHT12-S4APO60-N2T	CHT12-S4BPO60-N2T	<120 mA
	○	8	Cable 2 m, silicone	CHT12-N8APO60-N2S	CHT12-N8BPO60-N2S	<120 mA
			Cable, 2 m PTFE	CHT12-N8APO60-N2T	CHT12-N8BPO60-N2T	<120 mA
M18×1	●	5	Cable 2 m, silicone	CHT18-S5APO80-N2S	CHT18-S5BPO80-N2S	<150 mA
			Cable, 2 m PTFE	CHT18-S5APO80-N2T	CHT18-S5BPO80-N2T	<150 mA
	○	8	Cable 2 m, silicone	CHT18-N8APO80-N2S	CHT18-N8BPO80-N2S	<150 mA
			Cable, 2 m PTFE	CHT18-N8APO80-N2T	CHT18-N8BPO80-N2T	<150 mA
M30×1.5	●	10	Cable 2 m, silicone	CHT30-S10APO80-N2S	CHT30-S10BPO80-N2S	<150 mA
			Cable, 2 m PTFE	CHT30-S10APO80-N2T	CHT30-S10BPO80-N2T	<150 mA
	○	15	Cable 2 m, silicone	CHT30-N15APO80-N2S	CHT30-N15BPO80-N2S	<150 mA
			Cable, 2 m PTFE	CHT30-N15APO80-N2T	CHT30-N15BPO80-N2T	<150 mA

Order codes are for PNP, NO (PO) configuration. All devices also available in PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) configuration.  
Bestellnummern für PNP, NO (PO) Konfiguration. Alle Geräte auch erhältlich als PNP, NC (PC), NPN, NO (NO), NPN, NC (NC) Konfiguration.



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