Proximity Inductive Sensors - Ecolab certified Standard and Extended Range, Stainless Steel Housing Types ICS, IP69K, M30



Sensing distance: 10 to 22 mm Flush or non-flush mountable

- Short or long body versions
- Rated operational voltage (U_b): 10 36 VDC
- Output: DC 200 mA, NPN or PNP
- Normally open or normally closed
- LED indication for output ON, short-circuit and overload
- Protection: reverse polarity, short circuit and transients
 M12 plug version

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- According to IEC 60947-5-2
- High-pressure washdown resistant
- Ecolab certified, FDA-certified plastic
- · Laser engraved on the housing, permanently legible
- Extended temperature range: -40°C...+85°C
- CSA certified for Hazardous Locations



Ordering Key ICS30LF10NOM1-FB

Туре	
Housing style	
Housing material	
Housing size	
Housing length	
Detection principle —	
Sensing distance	
Output type	
Output configuration _	
Connection	
Washdown series	

Product Description

A family of inductive proximity switches in stainless steel (AISI 316L) ideal for food and beverage applications where sensors are exposed to high pressure and high temperature cleaning processes. They are fully sealed and resistant to all common acid and alkaline cleaning agents and disinfectants (Ecolab certified). IP68 and IP69K-rated products. Output is open collector NPN or PNP transistors.

Type Selection

Connec- tion	Body style	Rated operating distance S _n	Ordering no. NPN, Normally open	Ordering no. PNP, Normally open	Ordering no. NPN, Normally closed	Ordering no. PNP, Normally closed
Standard	d range					
Plug	Short	10 mm ¹⁾	ICS30SF10N0M1-FB	ICS30SF10P0M1-FB	ICS30SF10NCM1-FB	ICS30SF10PCM1-FB
Plug	Short	15 mm ²⁾	ICS30SN15N0M1-FB	ICS30SN15P0M1-FB	ICS30SN15NCM1-FB	ICS30SN15PCM1-FB
Plug	Long	10 mm ¹⁾	ICS30LF10N0M1-FB	ICS30LF10P0M1-FB	ICS30LF10NCM1-FB	ICS30LF10PCM1-FB
Plug	Long	15 mm ²⁾	ICS30LN15N0M1-FB	ICS30LN15POM1-FB	ICS30LN15NCM1-FB	ICS30LN15PCM1-FB
Extended	d range					
Plug	Short	15 mm ¹⁾	ICS30SF15N0M1-FB	ICS30SF15P0M1-FB	ICS30SF15NCM1-FB	ICS30SF15PCM1-FB
Plug	Short	22 mm ²⁾	ICS30SN22N0M1-FB	ICS30SN22P0M1-FB	ICS30SN22NCM1-FB	ICS30SN22PCM1-FB
Plug	Long	15 mm ¹⁾	ICS30LF15N0M1-FB	ICS30LF15P0M1-FB	ICS30LF15NCM1-FB	ICS30LF15PCM1-FB
Plug	Long	22 mm ²⁾	ICS30LN22N0M1-FB	ICS30LN22P0M1-FB	ICS30LN22NCM1-FB	ICS30LN22PCM1-FB

¹⁾ For flush mounting in metal

²⁾ For non-flush mounting in metal

Specifications

Rated operational voltage (U _b)	10 to 36 VDC (ripple incl.)
Ripple	≤ 10%
Output current (I _e)	≤ 200 mA @ 50°C (≤ 150 mA @ 50-80°C) (≤ 100 mA @ 80-85°C)
OFF-state current (I _r)	≤ 10 μA
No load supply current (I _o)	≤ 15 mA
Voltage drop (U _d)	Max. 2 VDC @ 200 mA
Protection	Reverse polarity, short-circuit, transients

Voltage transient	1 kV/0.5 J
Power ON delay (t _v)	≤ 20 ms
Operating frequency (f)	≤ 1000 Hz
Indication for output ON NO version NC version	Activated LED, yellow Target present Target not present
Indication for short circuit/ overload	LED blinking (f = 2 Hz)
Assured operating sensing distance (S _a)	$0 \leq S_a \leq 0.81 \ x \ S_n$

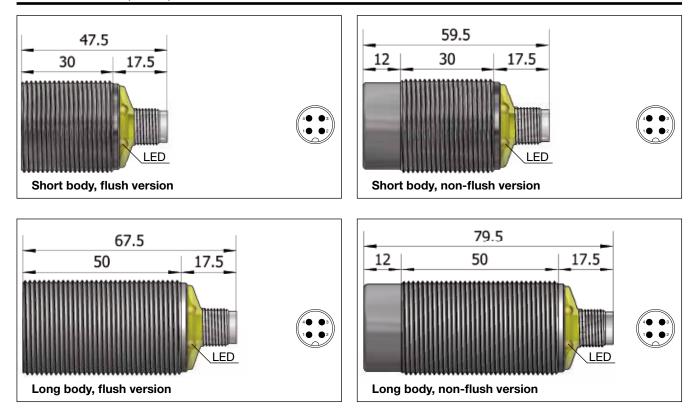
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Effective operating distance (S _r)	$0.9 \ x \ S_n \le S_r \le 1.1 \ x \ S_n$
Usable operating distance (S _u)	$0.85 \; x \; S_r \leq S_u \leq 1.15 \; x \; S_r$
Repeat accuracy (R)	≤ 5%
Differential travel (H)	
(Hysteresis)	1 to 20% of sensing dist.
Ambient temperature	
Operating	-40° to +85°C (-40° to +185°F)
	short exposure (15') to
	100°C during cleaning
_	process
Storage	-40° to +85°C (-40° to +185°F)
Shock and vibration	IEC 60947-5-2/7.4
Housing material	
Body	Stainless steel (AISI 316L)
Plug	Plastic
Front	Grey PPS - FDA-certified
Back part	Grilamid
Connection	
Plug	M12 x 1
Degree of protection	IIP67, IP68 (1 m, 7 days), IP69K
Weight (cable/nuts included)	Max. 130 g

Specifications	(cont.)
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Dimensions		See diagrams below
Tightening torque		75 Nm
Approvals	cULus	(UL508)
Note: The terminal (versionM1) was evaluated. The suit the terminal conne- be determined in th application.	not ability of ctor should	As Process Control Equipment for Hazardous Locations. - Class I, Division 2, Groups A, B, C and D. - T5, Enclosure Type 4. Ambient temperature Ta: -25° to +60°C CCC is not required for products with a maximum
EMC protection IEC 61000-4-2 (E IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-6 IEC 61000-4-8	SD)	operating voltage of ≤ 36 V According to IEC 60947-5- 8 KV air discharge, 4 KV contact discharge 3 V/m 2 kV 3 V 30 A/m
MTTF _d		750 years @ 50°C (122°F)

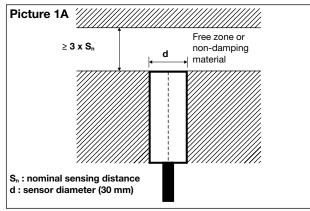
Dimensions (mm)



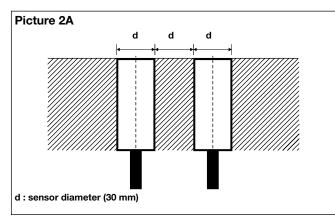
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Installation

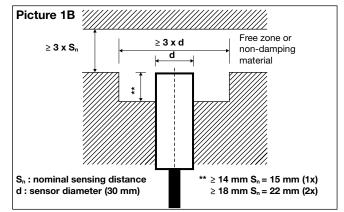
Flush mountable proximity switches, when installed in damping material, must be according to Picture 1A.



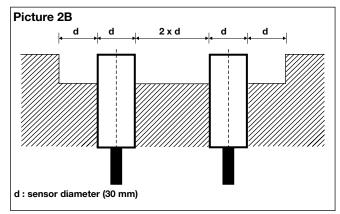
Flush mountable proximity switches, when installed together in damping material, must be according to Picture 2A.



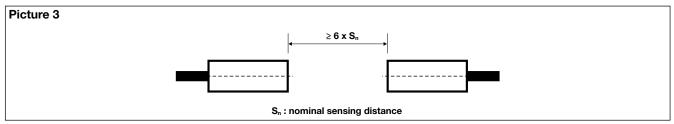
Non-flush mountable proximity switches, when installed in damping material, must be according to Picture 1B.



Non-flush mountable proximity switches, when installed together in damping material, must be according to Picture 2B.



For sensors installed opposite each other, a minimum space of $6 \times S_n$ (the nominal sensing distance) must be observed (See Picture 3).



Wiring Diagram

