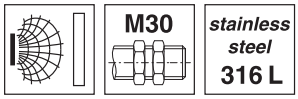
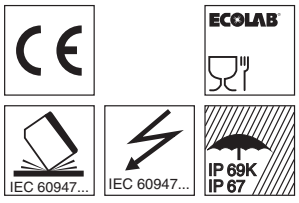
IS 230 Food & Beverage — Inductive switches

Part No. 501 11726





- Slim and short cylindrical metal housing M30x1.5
- V4A / AISI 316L stainless steel housing
- ECOLAB tested
- For food and beverage applications
- Built-in short circuit protection, inductive protection and polarity reversal protection
- LED for switching state visible from 360°

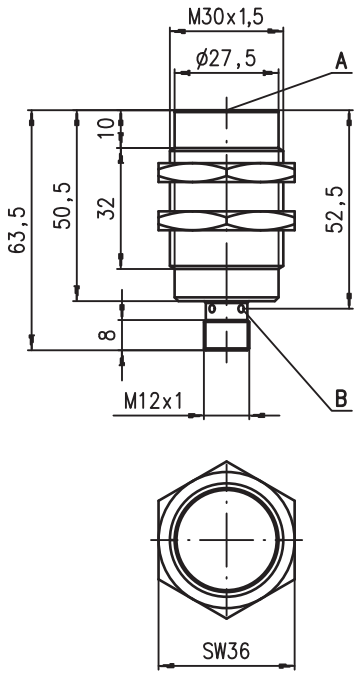


Accessories:

(available separately)

- M12 connectors (KD …)
- Ready-made cables (K-D …)
- Mounting clamp (MC 030…)

Dimensioned drawing



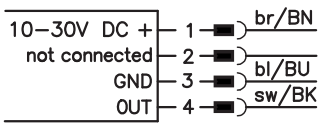
Tightening torque of the fastening nuts < 150 Nm !

A Active surface
B Yellow indicator diode

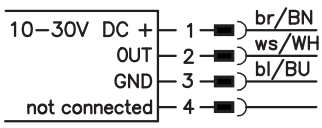
Electrical connection

M12 connector

…NO… (normally open)



…NC… (normally closed)



…NO…-S12 (normally open): 3-pin **or** 4-pin M12 connection cables can be used.
…NC…-S12 (normally closed): **only** 4-pin M12 connection cables can be used.

We reserve the right to make changes • 230_04gb.fm

Specifications

General specifications		**IS 230…-40N…**
Type of installation		non-embedded installation
Typ. operating range limit S_n		40.0mm
Operating range S_a		0 … 32.4mm
Electrical data		
Operating voltage U_B 1)		10 … 30VDC
Residual ripple σ		≤ 15% of U_B
Output current I_L		≤ 200mA
Open-circuit current I_0		≤ 10mA
Residual current I_r		≤ 100µA
Switching output/function	…/4NO…	PNP transistor, make-contact (NO)
	…/4NC…	PNP transistor, break-contact (NC)
	…/2NO…	NPN transistor, make-contact (NO)
	…/2NC…	NPN transistor, break-contact (NC)
Voltage drop U_d		≤ 2V
Hysteresis H of S_r		≤ 15%
Temperature drift of S_r		≤ 10% 2)
Repeatability		≤ 5% 3)
Timing		
Switching frequency f		90Hz
Delay before start-up		≤ 40ms
Indicators		
Yellow LED (visible from 360°)		switching state
Mechanical data		
Housing		stainless steel AISI 316L (DIN 1.4404)
Standard surface plate		120 x 120mm², Fe360
Active surface		stainless steel AISI 316L (DIN 1.4404)
Weight (M12 plug)		approx. 145g
Connection type		M12 connector, 4-pin
Environmental data		
Ambient temperature		-25°C … +85°C
Protection class		IP 67, IP 68, IP 69K
Environmentally tested acc. to		ECOLAB
Protective circuit 4)		1, 2, 3
Standards applied		IEC/EN 60947-5-2
Electromagnetic compatibility		IEC 60255-5 — 1kV
		IEC 61000-4-2 — Level 3 air 8kV (ESD)
		IEC 61000-4-3 — Level 3 10V/m (RFI)
		IEC 61000-4-4 — Level 3 2kV (Burst)

1) Observe the safety regulations and installation instructions regarding power supply and wiring; for UL applications: only for use in "Class 2" circuits acc. to NEC
2) Over the entire operating temperature range
3) For U_B = 20 … 30VDC, ambient temperature T_a = 23°C ± 5°C
4) 1=polarity reversal protection, 2=short circuit protection, 3=inductive protection for all outputs

Order guide

The sensors listed here are preferred types; current information at www.leuze.com.

	Designation	Part No.
S_n = 40mm	IS 230 FM/4NO.5F-40N-S12	501 11436

Tables

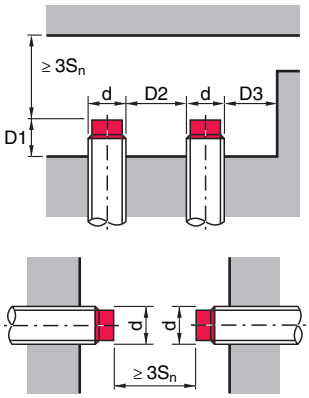
Reduction factors: for S_n = 40.0mm

Steel Fe360	1
Copper	0.90
Aluminum	1.00
Brass	1.20
Stainless steel	0.25 1)

1) Surface plate min. 2mm thick

Mounting

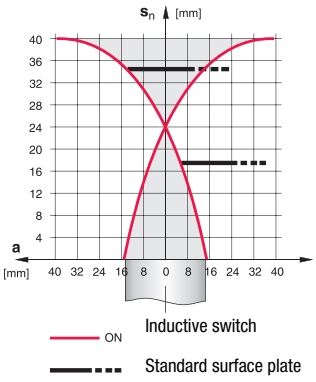
Non-embedded installation:



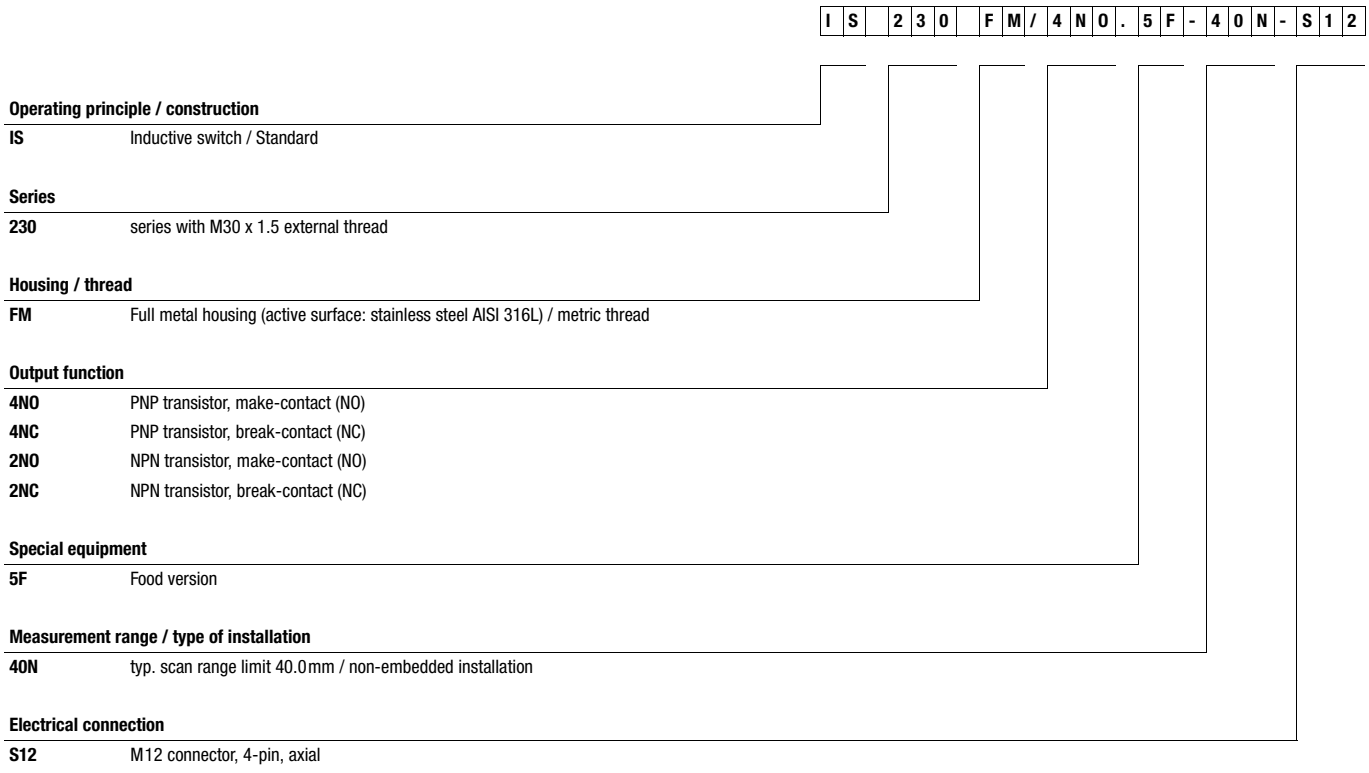
Ferromagnetic and non-ferromagnetic materials				
S_n [mm]	Installation in	D1 [mm]	D2 [mm]	D3 [mm]
40.0	Aluminum	34.0	270.0	75.0
	Steel Fe360	18.0		
	Brass	34.0		
	Stainless steel	18.0		

Diagrams

Models with **S_n = 40.0mm**



Type key



Remarks

- **Approved purpose**:
  Inductive switches are electronic sensors used for the inductive, contactless detection of objects.