

en 01-2011/09 50114652



stainless steel

6mm

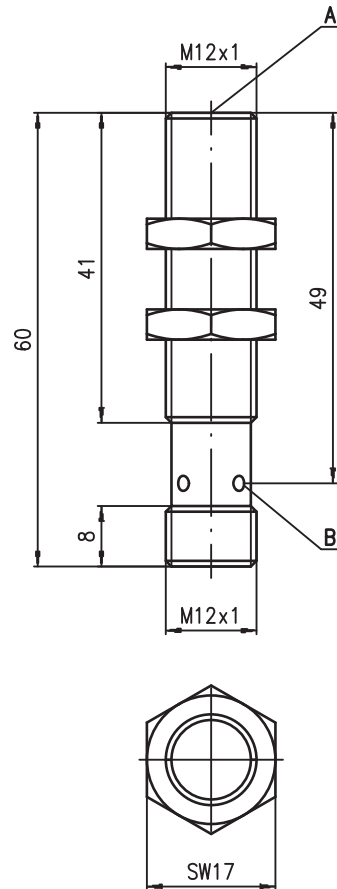
10 - 30 V
DC



embedded

- Slim and short cylindrical metal housing M12x1
- Stainless steel housing V2A
- For welding applications (resistant to electromagnetic fields and weld spatters)
- Built-in short circuit protection, inductive protection and polarity reversal protection
- LED for switching state visible from 360°

Dimensioned drawing



Tightening torque of the fastening nuts < 20Nm !

- A** Active surface
B Yellow indicator diode

Electrical connection

M12 connector

...NO... (normally open)

10-30V DC +	1	br/BN
not connected	2	
GND	3	bl/BU
OUT	4	sw/BK



Accessories:

(available separately)

- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Mounting clamp (MC 012...)

We reserve the right to make changes • DS_IS_212_WE_en.fm

Specifications

General specifications

Type of installation
Typ. operating range limit S_n
Operating range S_a

IS 212... .5W-6E0...

embedded installation
6.0mm
0 ... 4.8mm

Electrical data

Operating voltage U_B 1)
Residual ripple σ
Output current I_L
Open-circuit current I_0
Residual current I_r
Switching output/function

10 ... 30VDC
 $\leq 20\%$ of U_B
 $\leq 200\text{mA}$
 $\leq 10\text{mA}$
 $\leq 100\mu\text{A}$
.../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
Hysteresis H of S_r
Temperature drift of S_r
Repeatability

$\leq 2\text{V}$
 $\leq 15\%$
 $\leq 10\%$ 2)
 $\leq 5\%$ 3)

Timing

Switching frequency f
Delay before start-up

15Hz
 $\leq 80\text{ms}$

Indicators

Yellow LED (visible from 360°)

switching state

Mechanical data

Housing
Standard surface plate
Active surface
Weight (M12 plug)
Connection type

stainless steel AISI 303L (DIN 1.4305)
18 x 18mm², Fe360
stainless steel AISI 303L (DIN 1.4305)
approx. 24g
M12 connector, 4-pin

Environmental data

Ambient temperature
Protection class
Protective circuit 4)
Standards applied
Electromagnetic compatibility

-25°C ... +70°C
IP 67, IP 69K
1, 2, 3
IEC/EN 60947-5-2
IEC/EN 60947-5-2 (7.2.3.1) 1 kV
IEC 61000-4-2 air 15kV (ESD)
IEC 61000-4-3 10V/m (RFI)
IEC 61000-4-4 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 $U_B = 20 \dots 30\text{VDC}$, ambient temperature $T_a = 23^\circ\text{C} \pm 5^\circ\text{C}$
- 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.
$S_n = 6\text{mm}$	IS 212 FM/4NO.5W-6E0-S12	50117127

Remarks

● Approved purpose:

This product may only be used by qualified personnel and must only be used for the approved purpose.
This sensor is not a safety sensor and is not to be used for the protection of persons.

Tables

Reduction factors for surface plates made of:
for $S_n = 6.0\text{mm}$

Steel Fe360	1
Copper	0.85
Aluminum	1.00
Brass	1.30
Stainless steel	0.9 ¹⁾

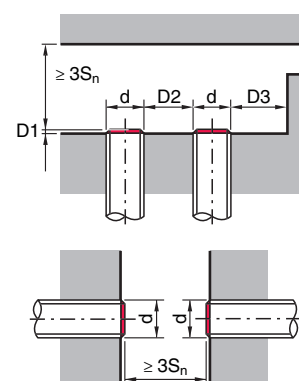
Reduction factors for installation in:
for $S_n = 6.0\text{mm}$

Steel Fe360	0.7
Aluminum	1.15
Brass	1.05
Stainless steel	0.80

1) Surface plate min. 2mm thick

Mounting

Embedded installation:



Ferromagnetic and non-ferromagnetic materials			
S_n [mm]	D1 [mm]	D2 [mm]	D3 [mm]
6.0	0	38.0	6.0

Diagrams

Models with $S_n = 6.0\text{mm}$

