

IS 206

Inductive switches

Part No. 501 11722



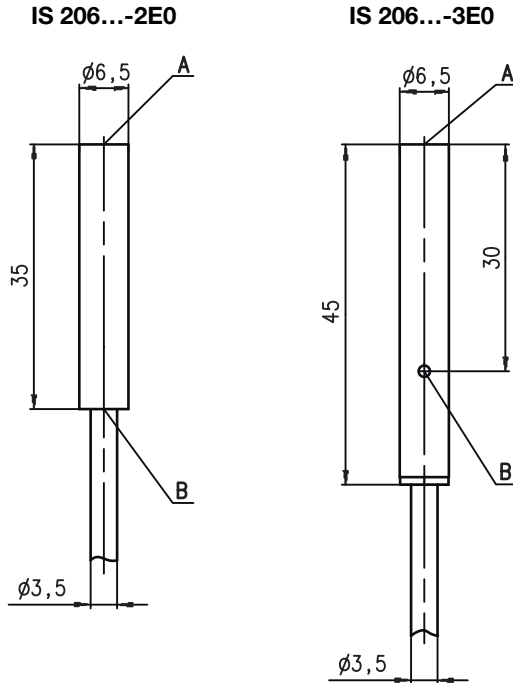
Ø 6.5
2 mm
3 mm



10 - 30 V
DC
5 kHz
embedded

- Slim and short cylindrical metal housing Ø 6.5 mm
- Chromium-plated brass or stainless steel housing
- Built-in short circuit protection, inductive protection and polarity reversal protection
- LED for switching state visible from 360°

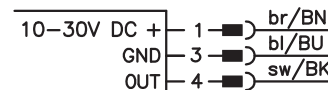
Dimensioned drawing



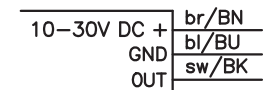
- A** Active surface
- B** Yellow indicator diode

Electrical connection

M8 connector



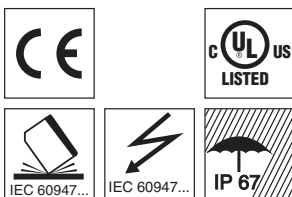
Cable



Accessories:

(available separately)

- M8 connectors (D M8...)
- Ready-made cables (K-D ...)
- Mounting clamp (MC 006...)



We reserve the right to make changes • 206_01gb.fm

Specifications

General specifications

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

IS 206...-2E0...
 embedded installation
 2.0mm
 0 ... 1.6mm

IS 206...-3E0...
 3.0mm
 0 ... 2.4mm

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

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

$\leq 5\%$

Timing

Switching frequency f
 Delay before start-up

5kHz
 $\leq 10\text{ms}$

1kHz
 $\leq 50\text{ms}$

Indicators

Yellow LED (visible from 360°)

switching state

Mechanical data

Housing
 Standard surface plate
 Active surface
 Weight (M8 plug/cable)
 Connection type

stainless steel
 6.5 x 6.5mm², Fe360
 PA12
 approx. 5g/approx. 60g
 M8 connector 3-pin or
 cable: 2m, PVC, 3 x 0.14mm², \varnothing 3.5mm

chromium-plated brass
 9 x 9mm², Fe360
 PBTP

Environmental data

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

-25°C ... +70°C
 IP 67
 1, 2, 3
 IEC/EN 60947-5-2
 IEC 60255-5
 IEC 61000-4-2
 IEC 61000-4-3
 IEC 61000-4-4

1 kV
 Level 3 air 8kV (ESD)
 Level 3 10V/m (RFI)
 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 $U_B = 20 \dots 30\text{VDC}$, 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.
$S_n = 2\text{mm}$	IS 206 MP/4NO-2E0	501 11437
$S_n = 3\text{mm}$	IS 206 MP/4NO-3E0	501 09686

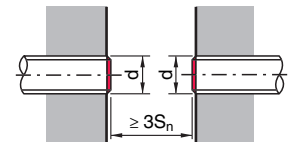
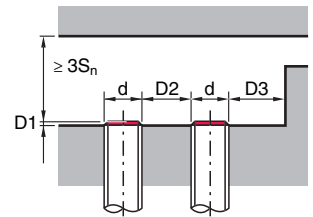
Tables

Reduction factors:

for $S_n = 2.0\text{mm}$		for $S_n = 3.0\text{mm}$	
Steel Fe360	1	Steel Fe360	1
Copper	0.25	Copper	0.18
Aluminum	0.30	Aluminum	0.26
Brass	0.40	Brass	0.35
Stainless steel	0.70	Stainless steel	0.67

Mounting

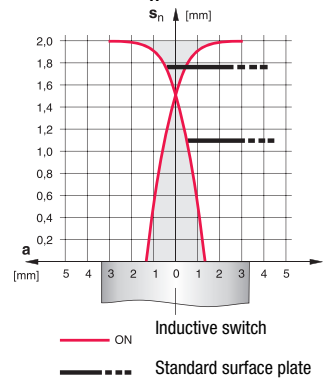
Embedded installation:



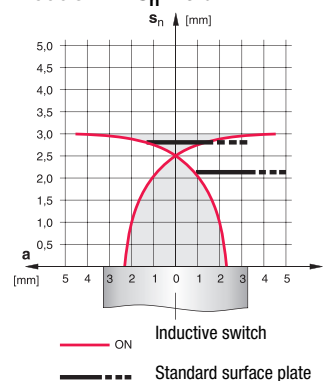
Ferromagnetic and non-ferromagnetic materials			
S_n [mm]	D1 [mm]	D2 [mm]	D3 [mm]
2.0	0	4.5	1.75
3.0	1.0	9.5	2.75

Diagrams

Models with $S_n = 2.0\text{mm}$



Models with $S_n = 3.0\text{mm}$



Type key

I	S	2	0	6	MP	/	4	N	O	-	2	E	0	-	S	8	.	3
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Operating principle / construction

IS Inductive switch / Standard

Series

206 series with Ø 6.5 mm

Housing / thread

MP metal housing (active surface: plastic) / smooth (without thread)

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)

Measurement range / type of installation

2E0 typ. scan range limit 2.0 mm / embedded installation

3E0 typ. scan range limit 3.0 mm / embedded installation

Electrical connection

N/A cable, PVC, standard length 2000 mm

S8.3 M8 connector, 3-pin, axial

200-S8.3 cable, PVC, length 200 mm with M8 connector, 3-pin, axial

Remarks

- **Approved purpose:**

Inductive switches are electronic sensors used for the inductive, contactless detection of objects.

