

**IS 206**

**Inductive switches**

Part No. 501 11722



Ø 6.5  
2 mm  
3 mm

2 mm  
3 mm

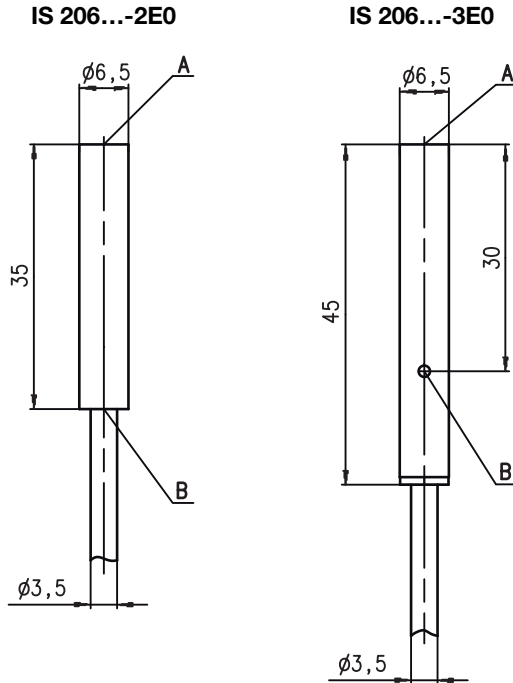
10 - 30 V  
DC

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°

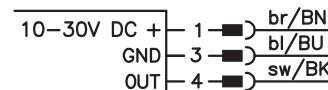
**Dimensioned drawing**



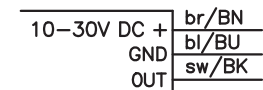
- A** Active surface
- B** Yellow indicator diode

**Electrical connection**

M8 connector



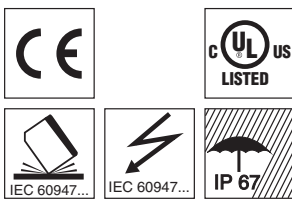
Cable



**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  $S_a$

### Electrical data

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

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

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

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 6.5mm<sup>2</sup>, Fe360  
PA12  
approx. 5g/approx. 60g  
M8 connector 3-pin or  
cable: 2m, PVC, 3 x 0.14mm<sup>2</sup>,  $\varnothing$  3.5mm

chromium-plated brass  
9 x 9mm<sup>2</sup>, 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](http://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

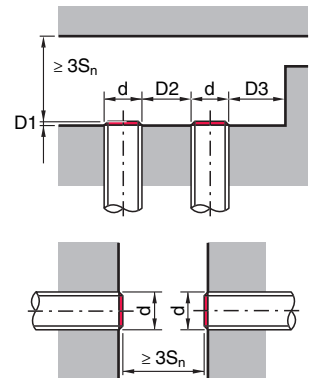
## Tables

### 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

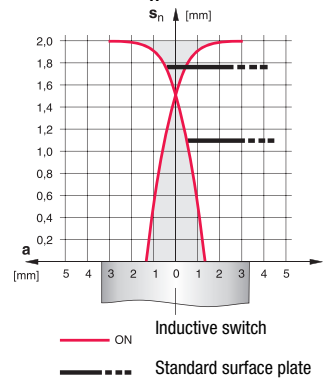
### Embedded installation:



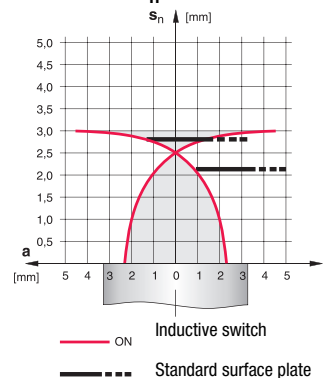
Ferromagnetic and non-ferromagnetic materials			
$S_n$ [mm]	D1 [mm]	D2 [mm]	D3 [mm]
2.0	0	4.5	1.75
3.0	1.0	9.5	2.75

## Diagrams

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



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



## Type key

I	S	2	0	6	M	P	/	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.

