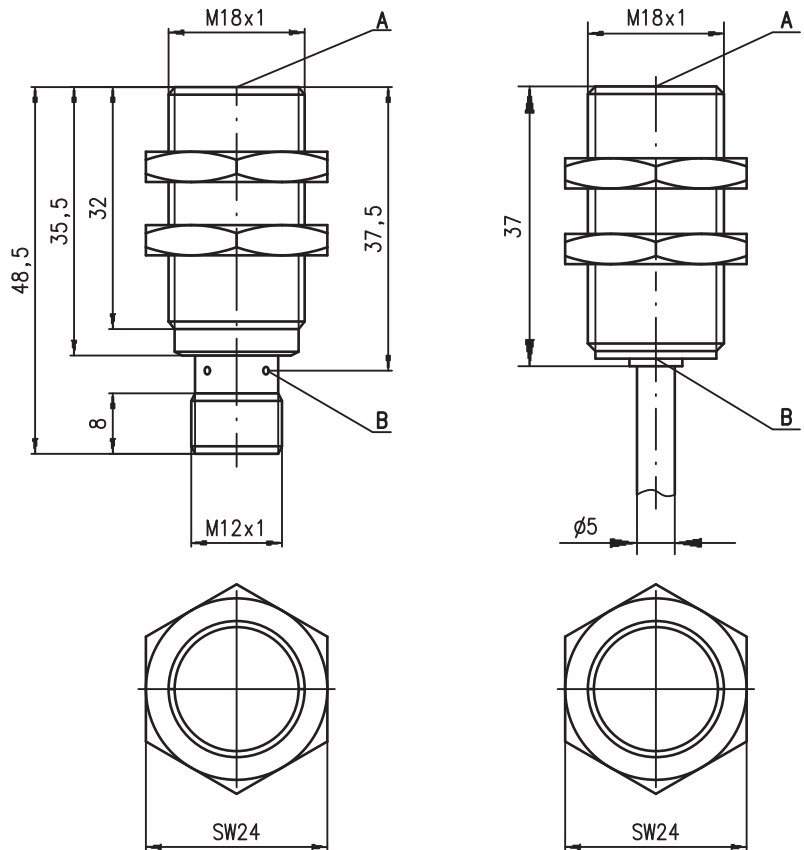


en 02-2015/05 50110215



Dimensioned drawing



	M18	5 mm
		8 mm
		12 mm
10 - 30 V		embedded
	2 kHz	

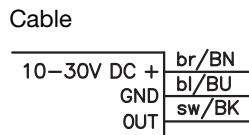
- Slim and very short cylindrical metal housing M8
- Chromium-plated brass housing
- Built-in short circuit protection, inductive protection and polarity reversal protection
- LED for switching state visible from 360°



Tightening torque of the fastening nuts
ISS 218...5E0..., IS 218...8E0... < 20Nm !
ISS 218...12E... < 25Nm !

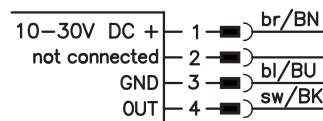
- A** Active surface
- B** Yellow indicator diode

Electrical connection

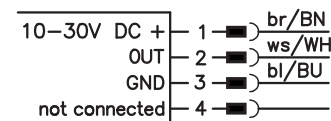


M12 connector

...NO... (normally open)



...NC... (normally closed)



...NO...-S12 (normally open):
 ...NC...-S12 (normally closed):

3-pin or 4-pin M12 connection cables can be used.
only 4-pin M12 connection cables can be used.

Accessories:

(available separately)

- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Mounting clamp (MC 018...)

We reserve the right to make changes • DS_ISS218E_en_50110215.fm

Specifications

General specifications

	ISS 218...-5E0...	ISS 218...-8E0...	ISS 218...-12E...
Type of installation	embedded installation		
Typ. operating range limit S_n	5.0mm	8.0mm	12.0mm
Operating range S_a	0 ... 4.0mm	0 ... 6.5mm	0 ... 9.7mm

Electrical data

Operating voltage U_B ¹⁾	10 ... 30VDC
Residual ripple σ	$\leq 20\%$ of U_B
Output current I_L	$\leq 200\text{mA}$
Open-circuit current I_0	$\leq 10\text{mA}$
Residual current I_r	$\leq 100\mu\text{A}$
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	$\leq 2\text{V}$
Hysteresis H of S_r	$\leq 10\%$
Temperature drift of S_r	$\leq 10\%$ ²⁾
Repeatability	$\leq 5\%$ ³⁾

Timing

Switching frequency f	2kHz	1.5kHz	500Hz
Delay before start-up	$\leq 40\text{ms}$	$\leq 70\text{ms}$	$\leq 50\text{ms}$

Indicators

Yellow LED (visible from 360°)	switching state
--------------------------------	-----------------

Mechanical data

Housing	chromium-plated brass		
Standard surface plate	18 x 18mm ² , Fe360	24 x 24mm ² , Fe360	36 x 36mm ² , Fe360
Active surface	PBTP		
Weight (M12 plug)	approx. 50g/ approx. 165g		
Connection type	M12 connector 4-pin or cable: 2m, PVC, 3 x 0.34mm ² , \varnothing 5.0mm		

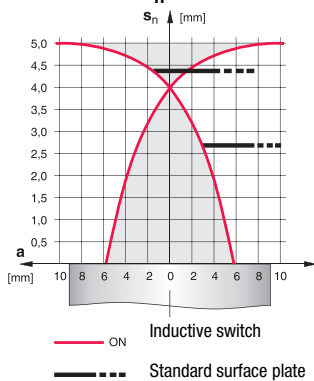
Environmental data

Ambient temperature	-25°C ... +70°C		
Protection class	IP 67		
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)	

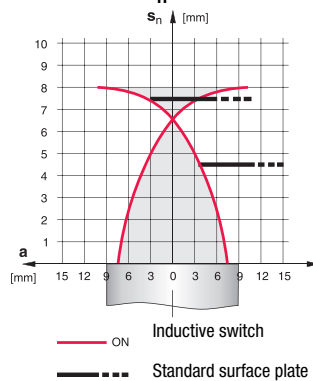
- 1) Observe the safety regulations and installation instructions regarding power supply and wiring; for UL applications: only for use in "Class 2" circuits acc. to NEC
- 2) Over the entire operating temperature range
- 3) For $U_B = 20 \dots 30\text{VDC}$, ambient temperature $T_a = 23^\circ\text{C}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

Diagrams

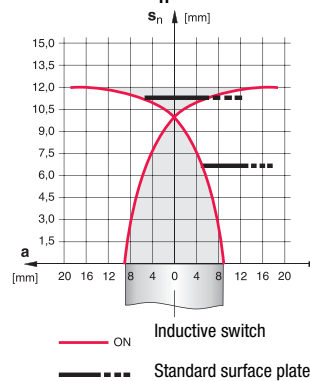
Models with $S_n = 5.0\text{mm}$



Models with $S_n = 8.0\text{mm}$



Models with $S_n = 12.0\text{mm}$



Tables

Reduction factors:

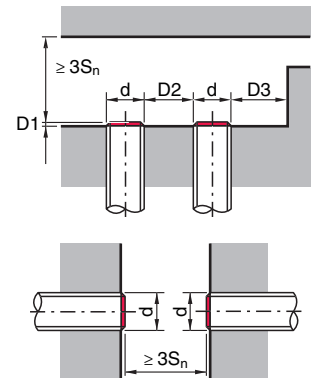
for $S_n = 5.0\text{mm}$		for $S_n = 8.0\text{mm}$	
Steel Fe360	1	Steel Fe360	1
Copper	0.40	Copper	0.30
Aluminum	0.40	Aluminum	0.35
Brass	0.50	Brass	0.40
Stainless steel	0.80	Stainless steel	0.70

for $S_n = 12.0\text{mm}$

Steel Fe360	1
Copper	0.20
Aluminum	0.26
Brass	0.33
Stainless steel	0.63

Mounting

Embedded installation:



Ferromagnetic and non-ferromagnetic materials				
S_n [mm]	D1 [mm]	D2 [mm]	D3 [mm]	
5.0	0	14.0	5.0	
8.0	0.75	22.0	9.0	
12.0	4.0	26.0	9.0	

Remarks

Operate in accordance with intended use!

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

Type key

I	S	S	2	1	8	M	M	/	4	N	O	-	8	E	O	-	S	1	2
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Operating principle / construction
ISS Inductive switch / short construction

Series
218 series with M12 x 1 external thread

Housing / thread
MM metal housing (active surface: plastic) / metric 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
5E0 typ. scan range limit 5.0mm / embedded installation

8E0 typ. scan range limit 8.0mm / embedded installation

12E typ. scan range limit 12.0mm / embedded installation

Electrical connection
N/A cable, PVC, standard length 2000mm

S12 M12 connector, 4-pin, axial

200-S12 cable, PVC, length 200mm with M12 connector, 4-pin, axial

Order guide

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

	Designation	Part No.
S_n = 5mm	ISS 218 MM/4NO-5E0-S12	50112293
	ISS 218 MM/4NC-5E0-S12	50129368
S_n = 8mm	ISS 218 MM/4NO-8E0-S12	50111743
	ISS 218 MM/4NC-8E0-S12	50111744
	ISS 218 MM/2NO-8E0-S12	50109703
	ISS 218 MM/2NC-8E0-S12	50111745
S_n = 12mm	ISS 218 MM/4NO-12E-S12	501 09707
	ISS 218 MM/2NO-12E-S12	501 09708

