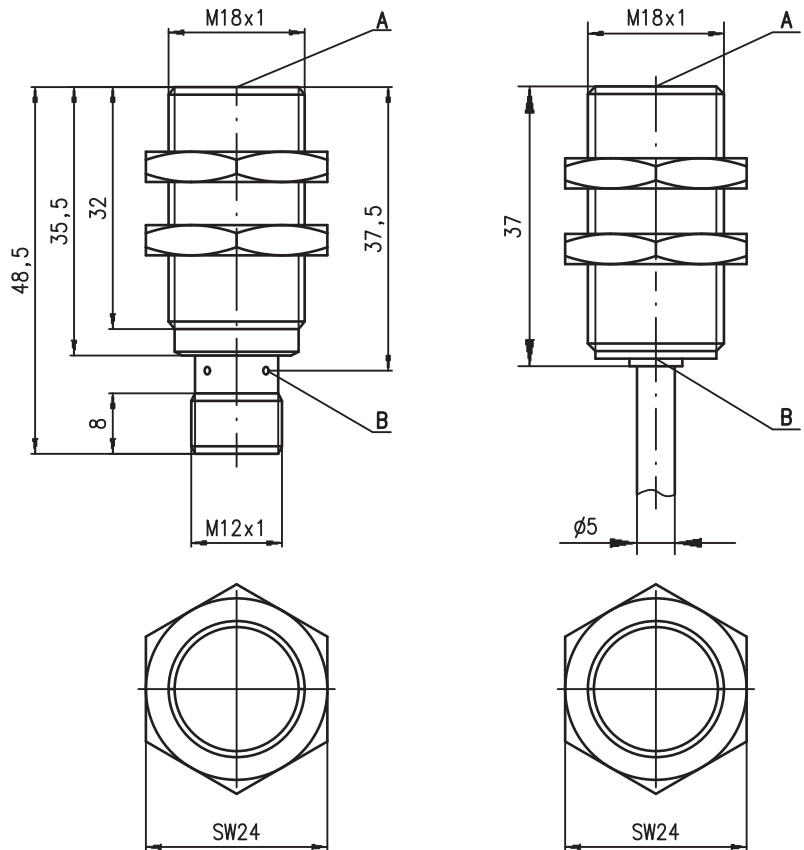


en 02-2015/05 50110215



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

Cable	
10-30V DC +	br/BN
GND	bl/BU
OUT	sw/BK

M12 connector

...NO... (normally open)

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

...NC... (normally closed)

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



...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.

We reserve the right to make changes • DS_ISS218E_en_50110215.fm

Accessories:

(available separately)

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

Specifications

General specifications

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

ISS 218...-5E0...	ISS 218...-8E0...	ISS 218...-12E...
embedded installation		
5.0mm	8.0mm	12.0mm
0 ... 4.0mm	0 ... 6.5mm	0 ... 9.7mm

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 .../4NO...
 .../4NC...
 .../2NO...
 .../2NC...

10 ... 30VDC
 $\leq 20\%$ of U_B
 $\leq 200\text{mA}$
 $\leq 10\text{mA}$
 $\leq 100\mu\text{A}$
 PNP transistor, make-contact (NO)
 PNP transistor, break-contact (NC)
 NPN transistor, make-contact (NO)
 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⁾
 $\leq 5\%$ ³⁾

Timing

Switching frequency f
 Delay before start-up

2kHz
 $\leq 40\text{ms}$
 1.5kHz
 $\leq 70\text{ms}$
 500Hz
 $\leq 50\text{ms}$

Indicators

Yellow LED (visible from 360°) switching state

Mechanical data

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

chromium-plated brass
 18 x 18mm², Fe360 24 x 24mm², Fe360 36 x 36mm², Fe360
 PBTP
 approx. 50g/
 approx. 165g
 M12 connector 4-pin or
 cable: 2m, PVC, 3 x 0.34mm², \varnothing 5.0mm

Environmental data

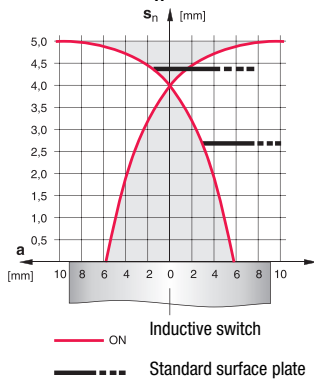
Ambient temperature
 Protection class
 Protective circuit ⁴⁾
 Standards applied
 Electromagnetic compatibility

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

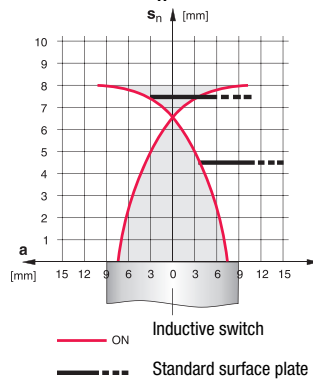
- 1) Observe the safety regulations and installation instructions regarding power supply and wiring; for UL applications: only for use in "Class 2" circuits acc. to NEC
- 2) Over the entire operating temperature range
- 3) For $U_B = 20 \dots 30\text{VDC}$, ambient temperature $T_a = 23^\circ\text{C}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

Diagrams

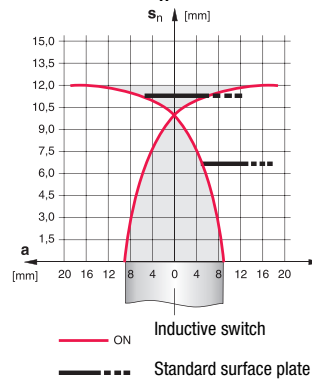
Models with $S_n = 5.0\text{mm}$



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



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



Tables

Reduction factors:

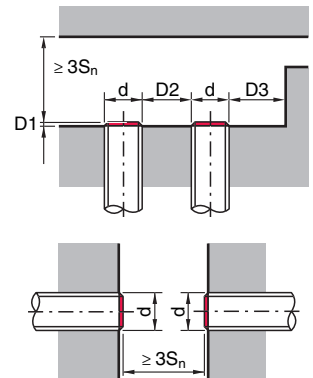
for $S_n = 5.0\text{mm}$		for $S_n = 8.0\text{mm}$	
Steel Fe360	1	Steel Fe360	1
Copper	0.40	Copper	0.30
Aluminum	0.40	Aluminum	0.35
Brass	0.50	Brass	0.40
Stainless steel	0.80	Stainless steel	0.70

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

