

Technical data sheet

Inductive switch

Part no.: 50130012

IS 144 PP/2NO-20E-TB.4

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Part number code
- Notes



Figure can vary



Technical data

Basic data

Series	144
Typ. operating range limit S_n	20 mm
Operating range S_a	0 ... 16 mm

Electrical data

Protective circuit	Overload protection
	Polarity reversal protection
	Short circuit protected

Performance data

Supply voltage U_B	10 ... 30 V, DC
Residual ripple	10 %, From U_B
Open-circuit current	0 ... 10 mA
Temperature drift, max. (in % of S_r)	10 %
Repeatability, max. (in % of S_r)	1 %
Switching hysteresis	15 %

Outputs

Number of digital switching outputs	1 Piece(s)
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Switching outputs

Voltage type	DC
Switching current, max.	200 mA
Residual current, max.	0.01 mA
Voltage drop	≤ 2 V

Switching output 1

Switching element	Transistor, NPN
Switching principle	NO (normally open)

Timing

Switching frequency	300 Hz
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Connection

Number of connections	1 Piece(s)
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Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Terminal
No. of pins	4 -pin

Mechanical data

Design	Cubic
Dimension (W x H x L)	115 mm x 40 mm x 140 mm
Type of installation	Embedded
Housing material	Plastic
Plastic housing	Polybutylene (PBT)
Sensing face material	Plastic, Polybutylene (PBT)
Housing color	Black
	Red, RAL 3000
Type of fastening	Through-hole mounting
Standard measuring plate	60 x 60 mm ² , Fe360

Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

Environmental data

Ambient temperature, operation	-25 ... 70 °C
Ambient temperature, storage	-25 ... 70 °C

Certifications

Degree of protection	IP 67
Standards applied	IEC 60947-5-2

Correction factors

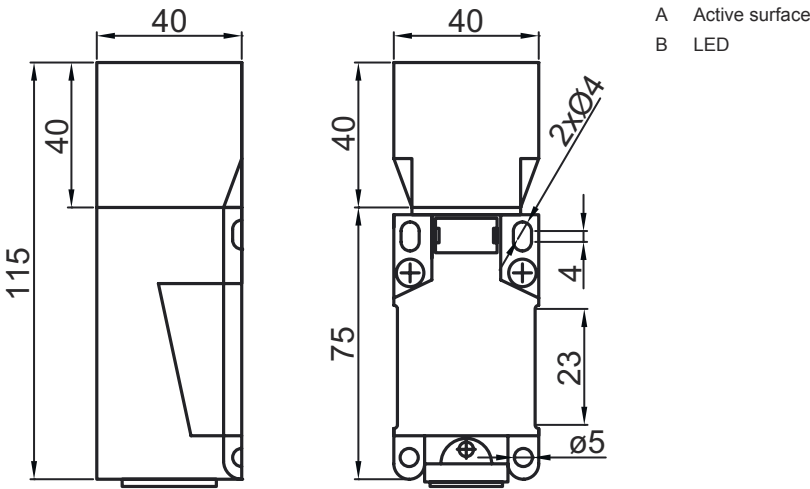
Fe360 steel	1
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Classification

Customs tariff number	85365019
eCl@ss 5.1.4	27270101
eCl@ss 8.0	27270101
eCl@ss 9.0	27270101
eCl@ss 10.0	27270101
eCl@ss 11.0	27270101
ETIM 5.0	EC002714
ETIM 6.0	EC002714
ETIM 7.0	EC002714

Dimensioned drawings

All dimensions in millimeters



Electrical connection

Connection 1

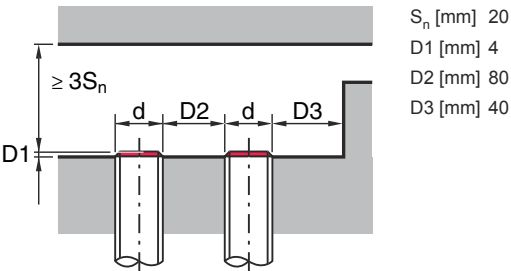
Function	Signal OUT
Type of connection	Voltage supply
No. of pins	Terminal
	4 -pin

Pin Pin assignment

1	V+
2	n.c.
3	GND
4	OUT 1

Diagrams

Embedded installation



Operation and display

LED	Display	Meaning
1	Yellow, continuous light	Switching output/switching state
2	Green, continuous light	Operational readiness

Part number code

Part designation: **ISX YYY XX/ZZZ-AAA-BBBB**

ISX	Operating principle / construction IS: inductive switch, standard design ISS: inductive switch, short construction
YYY	Series 104: series with Ø 4.0 mm 108: series with M8 x 1 external thread 112: series with M12 x 1 external thread 118: series with M18 x 1 external thread 122: series in cubic design with 18 x 18 mm 130: series with M30 x 1.5 external thread 144: series in cubic design with 40 x 40 mm 180: series in cubic design with 80 x 80 mm
XX	Housing MM: metal housing (active surface: plastic) / metric thread PP: Plastic housing MP: metal housing (active surface: plastic) / smooth (without thread)
ZZZ	Switching output 4NO: PNP transistor, NO contact 4NC: PNP transistor, NC contact 44: PNP transistor, NO contact / NC contact 2NO: NPN transistor, NO contact 2NC: NPN transistor, NC contact 22: NPN transistor, NO contact / NC contact
AAA	Measurement range / type of installation 1E2: typ. range limit 1.2 mm / embedded installation 2E0: typ. range limit 2.0 mm / embedded installation 4E0: typ. range limit 4.0 mm / embedded installation 4N0: typ. range limit 4.0 mm / non-embedded installation 5E0: typ. range limit 5.0 mm / embedded installation 6E0: typ. range limit 6.0 mm / embedded installation 8E0: typ. range limit 8.0 mm / embedded installation 8N0: typ. range limit 8.0 mm / non-embedded installation 10E: typ. range limit 10.0 mm / embedded installation 15N: typ. range limit 15.0 mm / non-embedded installation 16E: typ. range limit 16.0 mm / embedded installation 16N: typ. range limit 16.0 mm / non-embedded installation 20E: typ. range limit 20.0 mm / embedded installation 25N: typ. range limit 25.0 mm / non-embedded installation 30N: typ. range limit 30.0 mm / non-embedded installation 40N: typ. range limit 40.0 mm / non-embedded installation 50N: typ. range limit 50.0 mm / non-embedded installation
DDD	Electrical connection n/a: cable, standard length 2000 mm, 3-wire M8.3: M8 connector, 3-pin (plug) M12: M12 connector, 4-pin (plug) TB.4: terminals, 4-pin 050: cable, standard length 5000 mm, 3-wire

Note



A list with all available device types can be found on the Leuze website at www.leuze.com.

Notes

 Observe 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 its intended use.