

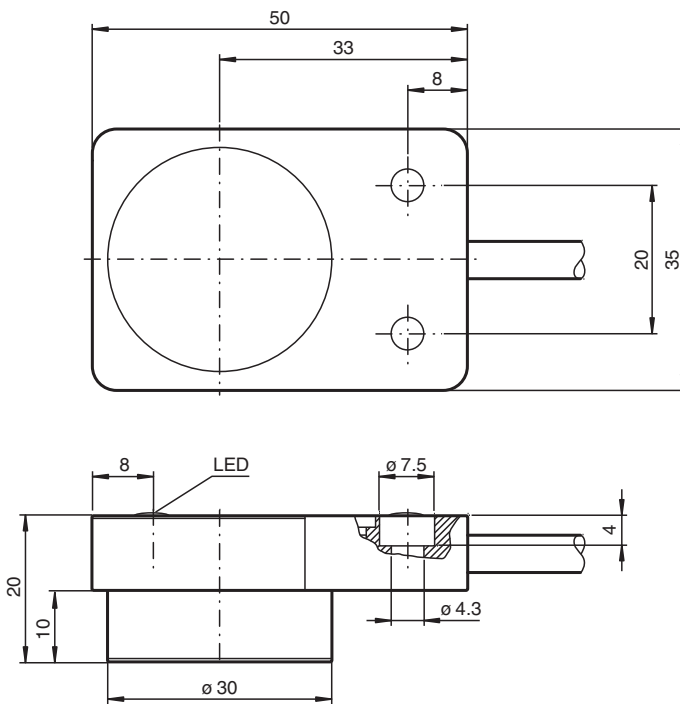
## Inductive sensor

NBB15-F148P10-E2-0,46M-V1

- 15 mm flush
- 3-wire DC
- Extended temperature range
- Highly shock and vibration resistant
- Fixed cable with plug
- RADOX cable EM 104 from Huber+Suhner



### Dimensions



### Technical Data

#### General specifications

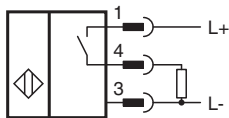
Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	$s_n$	15 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 12.15 mm
Reduction factor $r_{Al}$		0.5
Reduction factor $r_{Cu}$		0.45
Reduction factor $r_{304}$		0.8

Release date: 2024-05-28 Date of issue: 2024-06-01 Filename: 321184-0014\_eng.pdf

## Technical Data

Reduction factor $r_{\text{Brass}}$		0.55
Output type		3-wire
<b>Nominal ratings</b>		
Operating voltage	$U_B$	10 ... 60 V DC
Switching frequency	$f$	0 ... 600 Hz
Hysteresis	$H$	2 ... 20 % ( typ. 3 % )
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 1.5$ V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	$\leq 10$ $\mu$ A
No-load supply current	$I_o$	$\leq 10$ mA
Time delay before availability	$t_v$	$\leq 300$ ms
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1156 a
Mission Time ( $T_M$ )		20 a
Diagnostic Coverage (DC)		0 %
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN IEC 60947-5-2
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
Connection type		Cable connector M12 x 1 , 460 mm from Huber+Suhner RADOX EM 104
Core cross section		0.5 mm <sup>2</sup>
Housing material		anodized aluminum
Sensing face		PBT
Degree of protection		IP67 / IP69K
Tightening torque, housing screws		$\leq 1.8$ Nm
Dimensions		
Height		20 mm
Width		35 mm
Length		50 mm

## Connection



## Connection Assignment



Release date: 2024-05-28 Date of issue: 2024-06-01 Filename: 321184-0014\_eng.pdf