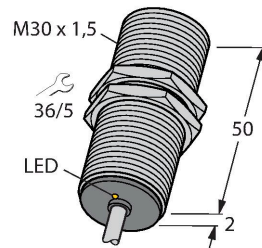


# BI20-EG30F-AP6X

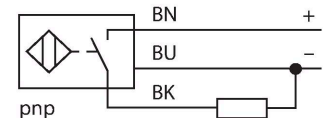
## Inductive Sensor – Stainless Steel Front



### Features

- Threaded barrel, M30 x 1.5
- Stainless steel, 1.4305
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

### Wiring diagram



### Technical data

Type	BI20-EG30F-AP6X
ID	4614724
Remark to product	acc. to EN 60947-5-2; UL-approval
<b>General data</b>	
Rated switching distance	20 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 1; Cu=0.95; stainless steel 1mm = 0.35; stainless steel 2mm = 0.7; Ms = 1.3
Repeat accuracy	$\leq 5$ % of full scale
Hysteresis	15 %
<b>Electrical data</b>	
Operating voltage $U_B$	10...30 VDC
Ripple $U_{ss}$	$\leq 20$ % $U_{Bmax}$
DC rated operating current $I_B$	$\leq 200$ mA
No-load current	$\leq 10$ mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at $I_B$	$\leq 2$ V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
Switching frequency	0.1 kHz

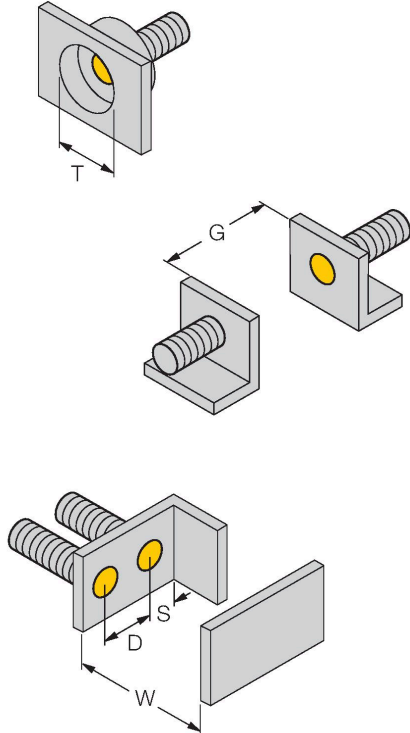
### Functional principle

The inductive all-metal switches operate on the basis of the electromagnetic pulse method. Unlike standard inductive sensors, the magnetic field is not generated through oscillation but through short, periodic current pulses flowing through the coil. The magnetic field induces voltage in the object to be detected, which, for its part creates a current flow in this object. After switching off the current pulse, the current in the object also drops, now inducing voltage back in the emitter coil. This voltage is the wanted signal and remains unaffected by energy dissipation in the magnetic field. Only non-ferromagnetic or poorly conductive metals provide a low signal.

## Technical data

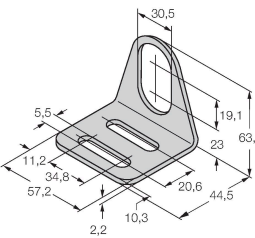
Mechanical data	
Design	Threaded barrel, M30 x 1.5
Dimensions	50 mm
Housing material	Stainless steel, 1.4305 (AISI 303)
Active area material	Stainless steel, 1.4305 (AISI 303)
Max. tightening torque of housing nut	150 Nm
Electrical connection	Cable
Cable quality	Ø 5 mm, PUR, 2 m
Core cross-section	3 x 0.34 mm <sup>2</sup>
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 IP69K
MTTF	344 years acc. to SN 29500 (Ed. 99) 20 °C
Switching state	LED, Yellow, LED flashing: 0.8 s <sub>r</sub> < s ≤ s <sub>r</sub>

Mounting instructions

Mounting instructions/Description	
	Distance D110 mm
	Distance W60 mm
	Distance T90 mm
	Distance S45 mm
	Distance G120 mm
	Diameter active area BØ 30 mm
The following reduction factors apply when flush-mounted in: Steel: 0.9 Aluminium: 0.7 Brass:0.6 Stainless steel:1.3	

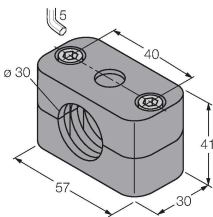
Accessories

MW306945005



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-306901319



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene