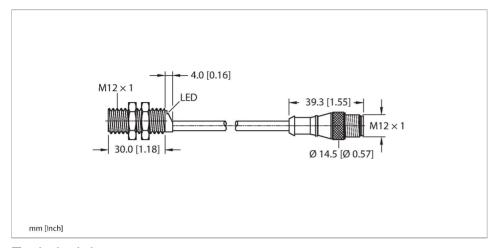


# BI2-G12K-AP6X-0.2-RS4T Inductive Sensor



#### Technical data

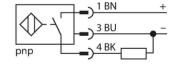
ID         4670291           General data         Rated switching distance         2 mm           Mounting conditions         Flush           Secured operating distance         ≤ (0.81 × Sn) mm           Correction factors         \$137 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4           Repeat accuracy         ≤ 2 % of full scale           Hysteresis         315 %           Electrical data         Operating voltage           Operating voltage         1030 VDC           Residual ripple         ≤ 10 % U <sub>ss</sub> DC rated operational current         ≤ 200 mA           No-load current         15 mA           Residual current         ≤ 0.1 mA           Isolation test voltage         ≤ 0.5 kV           Short-circuit protection         yes / Cyclic           Voltage drop at I <sub>s</sub> ≤ 1.8 V           Wire breakage/Reverse polarity protection         yes / Complete           Output function         3-wire, NO contact, PNP           Switching frequency         2 kHz           Mechanical data           Design         Threaded barrel, M12 x 1	Туре	BI2-G12K-AP6X-0.2-RS4T
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Correction factors $\begin{array}{ll} St37 = 1; \ Al = 0.3; \ stainless \ steel = 0.7; \ Ms \\ = 0.4 \\ \hline \\ Repeat \ accuracy & \leq 2 \% \ of \ full \ scale \\ \hline \\ Hysteresis & 315 \% \\ \hline \\ Electrical \ data \\ \hline \\ Operating \ voltage & 1030 \ VDC \\ \hline \\ Residual \ ripple & \leq 10 \% \ U_{ss} \\ \hline \\ DC \ rated \ operational \ current & \leq 200 \ mA \\ \hline \\ No-load \ current & 15 \ mA \\ \hline \\ Residual \ current & \leq 0.1 \ mA \\ \hline \\ Isolation \ test \ voltage & \leq 0.5 \ kV \\ \hline \\ Short-circuit \ protection & yes / \ Cyclic \\ \hline \\ Voltage \ drop \ at \ I_e & \leq 1.8 \ V \\ \hline \\ Wire \ breakage/Reverse \ polarity \ protection & yes / \ Complete \\ \hline \\ Output \ function & 3-wire, \ NO \ contact, \ PNP \\ \hline \\ Switching \ frequency & 2 \ kHz \\ \hline \\ Mechanical \ data \\ \hline \end{array}$	Mounting conditions	Flush
Electrical data	Secured operating distance	≤ (0.81 × Sn) mm
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Isolation test voltage       ≤ 0.5 kV         Short-circuit protection       yes / Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire breakage/Reverse polarity protection       yes / Complete         Output function       3-wire, NO contact, PNP         Switching frequency       2 kHz         Mechanical data	No-load current	15 mA
Short-circuit protection  Voltage drop at I <sub>e</sub> ≤ 1.8 V  Wire breakage/Reverse polarity protection  Output function  3-wire, NO contact, PNP  Switching frequency  2 kHz  Mechanical data	Residual current	≤ 0.1 mA
Voltage drop at I <sub>e</sub> ≤ 1.8 V  Wire breakage/Reverse polarity protection yes / Complete  Output function 3-wire, NO contact, PNP  Switching frequency 2 kHz  Mechanical data	Isolation test voltage	≤ 0.5 kV
Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Switching frequency 2 kHz Mechanical data	Short-circuit protection	yes / Cyclic
Output function 3-wire, NO contact, PNP Switching frequency 2 kHz Mechanical data	Voltage drop at I <sub>e</sub>	≤ 1.8 V
Switching frequency 2 kHz  Mechanical data	Wire breakage/Reverse polarity protection	yes / Complete
Mechanical data	Output function	3-wire, NO contact, PNP
	Switching frequency	2 kHz
Design Threaded barrel, M12 x 1	Mechanical data	
	Design	Threaded barrel, M12 x 1



#### **Features**

- ■Threaded barrel, M12 x 1
- ■Chrome-plated brass
- DC 3-wire, 10...30 VDC
- ■NO contact, PNP output
- Pigtail with male end M12 x 1

## Wiring diagram





## Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

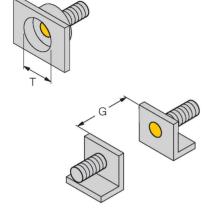


# Technical data

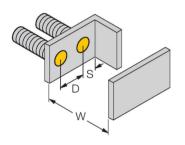
Dimensions	34 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Material coupling nut	metal, CuZn, nickel-plated
Max. tightening torque of housing nut	10 Nm
Electrical connection	Cable with connector, M12 × 1
Cable quality	Ø 5.2 mm, LifYY, PVC, 0.2 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	IP67
MTTF	2283 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow

# Mounting instructions

#### Mounting instructions/Description

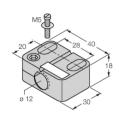


Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 12 mm



#### Accessories

BST-12B 6947212



Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



QM-12

BSS-12

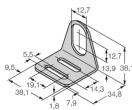
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

6945101

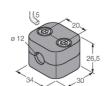
6901321

MW-12 6945003

Mounting bracket for threaded by



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



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