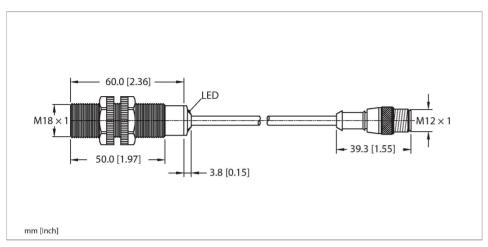


# BI5-S18-AP6X-0.2-RS4T Inductive Sensor



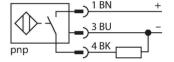
#### Technical data

ID	Туре	BI5-S18-AP6X-0.2-RS4T
Rated switching distance 5 mm  Mounting conditions Flush  Secured operating distance ≤ (0.81 × Sn) mm  Correction factors St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4  Repeat accuracy ≤ 2 % of full scale  Hysteresis 315 %  Electrical data  Operating voltage U <sub>8</sub> 1030 VDC  Ripple U <sub>ss</sub> ≤ 10 % U <sub>bmas</sub> DC rated operating current I <sub>8</sub> ≤ 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>8</sub> ≤ 1.8 V  Wire break/reverse polarity protection  Output function 3-wire, NO contact, PNP  Switching frequency 1 kHz  Mechanical data	ID	4656093
Mounting conditions       Flush         Secured operating distance       ≤ (0.81 × Sn) mm         Correction factors       St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4         Repeat accuracy       ≤ 2 % of full scale         Hysteresis       315 %         Electrical data       Operating voltage Us         Operating voltage Us       1030 VDC         Ripple Uss       ≤ 10 % Usmax         DC rated operating current Is       ≤ 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 Is       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         Switching frequency       1 kHz         Mechanical data	General data	
Secured operating distance       ≤ (0.81 × Sn) mm         Correction factors       St37 = 1; AI = 0.3; stainless steel = 0.7; Ms = 0.4         Repeat accuracy       ≤ 2 % of full scale         Hysteresis       315 %         Electrical data       Operating voltage Us         Operating voltage Us       1030 VDC         Ripple Uss       ≤ 10 % Usmax         DC rated operating current Is       ≤ 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 Issue V       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         Switching frequency       1 kHz         Mechanical data	Rated switching distance	5 mm
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 \\ \hline \\ Sum 15  \% \\ \hline \\ Electrical  data \\ \hline \\ Operating  voltage  U_s \\ \hline \\ Ripple  U_{ss} \\ \hline \\ DC  rated  operating  current  I_e \\ \hline \\ DC  rated  operating  current  I_e \\ \hline \\ No-load  current \\ \hline \\ Residual  current \\ \hline \\ Short-circuit  protection \\ \hline \\ Voltage  drop  at  I_e \\ \hline \\ Wire  break/reverse  polarity  protection \\ \hline \\ Output  function \\ \hline \\ Switching  frequency \\ \hline \\ Mechanical  data \\ \hline \end{array} $	Mounting conditions	Flush
Electrical data	Secured operating distance	≤ (0.81 × Sn) mm
Hysteresis  315 %  Electrical data  Operating voltage U <sub>B</sub> 1030 VDC  Ripple U <sub>ss</sub> ≤ 10 % U <sub>Bmax</sub> DC rated operating current I <sub>e</sub> ≤ 200 mA  No-load current  ≤ 15 mA  Residual current  ≤ 0.1 mA  Isolation test voltage  0.5 kV  Short-circuit protection  Voltage drop at I <sub>e</sub> Vire break/reverse polarity protection  Output function  3-wire, NO contact, PNP  Switching frequency  1 kHz  Mechanical data	Correction factors	
Electrical data  Operating voltage $U_{\text{B}}$ The state of the state	Repeat accuracy	≤ 2 % of full scale
Operating voltage $U_B$ 1030 VDC         Ripple $U_{ss}$ ≤ 10 % $U_{Brmax}$ DC rated operating current $I_e$ ≤ 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 $I_e$ ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         Switching frequency       1 kHz         Mechanical data	Hysteresis	315 %
Ripple $U_{ss}$ ≤ 10 % $U_{Bmax}$ DC rated operating current $I_{e}$ ≤ 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 $I_{e}$ ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         Switching frequency       1 kHz         Mechanical data	Electrical data	
DC rated operating current I₀       ≤ 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 I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         Switching frequency       1 kHz         Mechanical data	Operating voltage U <sub>B</sub>	1030 VDC
No-load current       ≤ 15 mA         Residual current       ≤ 0.1 mA         Isolation test voltage       0.5 kV         Short-circuit protection       yes/Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         Switching frequency       1 kHz         Mechanical data	Ripple U <sub>ss</sub>	≤ 10 % U <sub>Bmax</sub>
Residual current       ≤ 0.1 mA         Isolation test voltage       0.5 kV         Short-circuit protection       yes/Cyclic         Voltage drop at I₀       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         Switching frequency       1 kHz         Mechanical data	DC rated operating current I <sub>e</sub>	≤ 200 mA
Isolation test voltage     0.5 kV       Short-circuit protection     yes/Cyclic       Voltage drop at I₀     ≤ 1.8 V       Wire break/reverse polarity protection     yes/Complete       Output function     3-wire, NO contact, PNP       Switching frequency     1 kHz       Mechanical data	No-load current	≤ 15 mA
Short-circuit protection  Voltage drop at I₀  Wire break/reverse polarity protection  Output function  Switching frequency  Mechanical data  yes/Cyclic  yes/Cyclic  ≤ 1.8 V  yes/Complete  1 kHz	Residual current	≤ 0.1 mA
Voltage drop at I₀ ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  Switching frequency 1 kHz  Mechanical data	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  Switching frequency 1 kHz  Mechanical data	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, PNP Switching frequency 1 kHz Mechanical data	Voltage drop at I <sub>e</sub>	≤ 1.8 V
Switching frequency 1 kHz  Mechanical data	Wire break/reverse polarity protection	yes/Complete
Mechanical data	Output function	3-wire, NO contact, PNP
	Switching frequency	1 kHz
Design Threaded barrel, M18 x 1	Mechanical data	
	Design	Threaded barrel, M18 x 1

#### **Features**

- ■Threaded barrel, M18 x 1
- Plastic, PA12-GF30
- ■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.

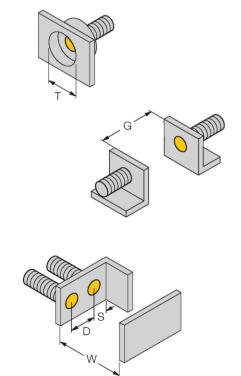


# Technical data

Dimensions	64 mm
Housing material	Plastic, PA12-GF30
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	2 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 mm²
Environmental conditions	
Environmental conditions  Ambient temperature	-25+70 °C
	-25+70 °C 55 Hz (1 mm)
Ambient temperature	
Ambient temperature  Vibration resistance	55 Hz (1 mm)
Ambient temperature  Vibration resistance  Shock resistance	55 Hz (1 mm) 30 g (11 ms)
Ambient temperature  Vibration resistance  Shock resistance  Protection class	55 Hz (1 mm) 30 g (11 ms) IP67 2283 years acc. to SN 29500 (Ed. 99) 40

# Mounting instructions

#### Mounting instructions/Description



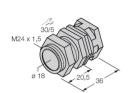
Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 18 mm



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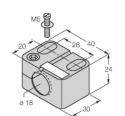
### Accessories

QM-18 6945102



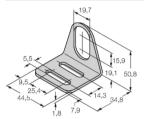
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

BST-18B



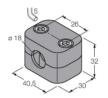
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

MW18 6945004



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304) BSS-18





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

BI5-S18-AP6X-0.2-RS4T| 02/21/2025 14-20 | technical changes reserved