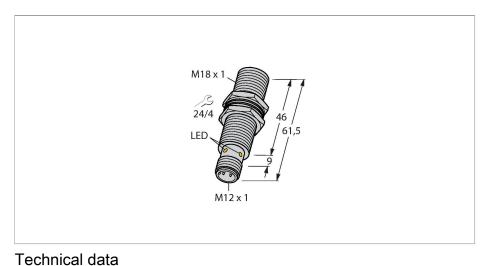


# BI8U-MT18M-AP6X2-H1141/S1589 Inductive Sensor – With WeldGuard™ coating



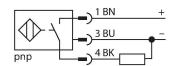
### **Features**

- ■Threaded barrel, M18 x 1
- ■Brass, PTFE-coated
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Large switching distance
- Recessed mountable
- ■DC 3-wire, 10...30 VDC
- ■NO contact, PNP output
- ■M12 x 1 male connector

## Wiring diagram

## recrimical data

ID 16447411  Special version S1589 Corresponds to:With Weld-Guard Coating  General data  Rated switching distance 8 mm  Mounting conditions Flush  Secured operating distance ≤ (0.81 × Sn) mm  Repeat accuracy ≤ 2 % of full scale  Hysteresis 315 %  Electrical data  Operating voltage U <sub>B</sub> 1030 VDC  Ripple U <sub>s</sub> ≤ 10 % U <sub>Broax</sub> DC rated operating current I <sub>B</sub> ≤ 200 mA  No-load current ≤ 25 mA  Residual current ≤ 0.1 mA  Isolation test voltage 0.5 kV  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>B</sub> ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  DC field stability 300 mT  AC field stability 300 mT  AC field stability 300 mT  AC field stability 1.5 kHz  Mechanical data  Design Threaded barrel, M18 x 1	Туре	BI8U-MT18M-AP6X2-H1141/S1589
General data  Rated switching distance 8 mm  Mounting conditions Flush  Secured operating distance ≤ (0.81 × Sn) mm  Repeat accuracy ≤ 2 % of full scale  Hysteresis 315 %  Electrical data  Operating voltage U <sub>0</sub> 1030 VDC  Ripple U <sub>0</sub> ≤ 10 % U <sub>0max</sub> DC rated operating current I <sub>0</sub> ≤ 200 mA  No-load current ≤ 25 mA  Residual current ≤ 0.1 mA  Isolation test voltage 0.5 kV  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>0</sub> ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  DC field stability 300 mT  AC field stability 300 mT  AC field stability 300 mT  Switching frequency 1.5 kHz  Mechanical data	ID	16447411
Rated switching distance       8 mm         Mounting conditions       Flush         Secured operating distance       ≤ (0.81 × Sn) mm         Repeat accuracy       ≤ 2 % of full scale         Hysteresis       315 %         Electrical data       Operating voltage U <sub>8</sub> Operating voltage U <sub>8</sub> 1030 VDC         Ripple U <sub>ss</sub> ≤ 10 % U <sub>bmax</sub> DC rated operating current I <sub>8</sub> ≤ 200 mA         No-load current       ≤ 25 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       yes/Complete         Output function       3-wire, NO contact, PNP         DC field stability       300 mT         AC field stability       300 mT <sub>ss</sub> Insulation class       □         Switching frequency       1.5 kHz         Mechanical data	Special version	
Mounting conditions       Flush         Secured operating distance       ≤ (0.81 × Sn) mm         Repeat accuracy       ≤ 2 % of full scale         Hysteresis       315 %         Electrical data       Operating voltage U <sub>s</sub> Operating voltage U <sub>s</sub> 1030 VDC         Ripple U <sub>ss</sub> ≤ 10 % U <sub>smax</sub> DC rated operating current I <sub>s</sub> ≤ 200 mA         No-load current       ≤ 25 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 break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         DC field stability       300 mT         AC field stability       300 mTss         Insulation class       □         Switching frequency       1.5 kHz         Mechanical data	General data	
Secured operating distance       ≤ (0.81 × Sn) mm         Repeat accuracy       ≤ 2 % of full scale         Hysteresis       315 %         Electrical data       Operating voltage Un       1030 VDC         Ripple Un       ≤ 10 % Unmax         DC rated operating current In       ≤ 200 mA         No-load current       ≤ 25 mA         Residual current       ≤ 0.1 mA         Isolation test voltage       0.5 kV         Short-circuit protection       yes/Cyclic         Voltage drop at In       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         DC field stability       300 mT         AC field stability       300 mTss         Insulation class       Insulation class         Switching frequency       1.5 kHz         Mechanical data	Rated switching distance	8 mm
Repeat accuracy $\leq 2$ % of full scale  Hysteresis 315 %  Electrical data  Operating voltage U <sub>8</sub> 1030 VDC  Ripple U <sub>8</sub> $\leq 10$ % U <sub>Bmax</sub> DC rated operating current I <sub>6</sub> $\leq 200$ mA  No-load current $\leq 25$ mA  Residual current $\leq 0.1$ mA  Isolation test voltage 0.5 kV  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>6</sub> $\leq 1.8$ V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  DC field stability 300 mT  AC field stability 300 mT  Switching frequency 1.5 kHz  Mechanical data	Mounting conditions	Flush
Hysteresis 315 %  Electrical data  Operating voltage U <sub>B</sub> 1030 VDC  Ripple U <sub>ss</sub> ≤ 10 % U <sub>Brinax</sub> DC rated operating current I <sub>B</sub> ≤ 200 mA  No-load current ≤ 25 mA  Residual current ≤ 0.1 mA  Isolation test voltage 0.5 kV  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>B</sub> ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  DC field stability 300 mT  AC field stability 300 mT  AC field stability 300 mT  Switching frequency 1.5 kHz  Mechanical data	Secured operating distance	≤ (0.81 × Sn) mm
Electrical data  Operating voltage U <sub>B</sub> Ripple U <sub>SS</sub> Solution test voltage  Voltage drop at I <sub>B</sub> Wire break/reverse polarity protection  Output function  DC field stability  AC field stability  Mechanical data  1030 VDC  1030 VDC	Repeat accuracy	≤ 2 % of full scale
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Hysteresis	315 %
Ripple U <sub>ss</sub> ≤ 10 % U <sub>Bmax</sub> DC rated operating current I <sub>e</sub> ≤ 200 mA   No-load current ≤ 25 mA   Residual current ≤ 0.1 mA   Isolation test voltage 0.5 kV   Short-circuit protection yes/Cyclic   Voltage drop at I <sub>e</sub> ≤ 1.8 V   Wire break/reverse polarity protection yes/Complete   Output function 3-wire, NO contact, PNP   DC field stability 300 mT   AC field stability 300 mT <sub>ss</sub> Insulation class □   Switching frequency 1.5 kHz   Mechanical data	Electrical data	
DC rated operating current I₀ ≤ 200 mA   No-load current ≤ 25 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   DC field stability 300 mT   AC field stability 300 mTss   Insulation class □   Switching frequency 1.5 kHz   Mechanical data	Operating voltage U <sub>B</sub>	1030 VDC
No-load current ≤ 25 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   DC field stability 300 mT   AC field stability 300 mTss   Insulation class □   Switching frequency 1.5 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   DC field stability 300 mT   AC field stability 300 mTss   Insulation class □   Switching frequency 1.5 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         DC field stability       300 mT         AC field stability       300 mTss         Insulation class       □         Switching frequency       1.5 kHz         Mechanical data	No-load current	≤ 25 mA
Short-circuit protection  Voltage drop at I₀  Voltage drop at I₀  Wire break/reverse polarity protection  Output function  DC field stability  AC field stability  Insulation class  Switching frequency  Mechanical data	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         DC field stability       300 mT         AC field stability       300 mTss         Insulation class       □         Switching frequency       1.5 kHz         Mechanical data	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection  Output function  3-wire, NO contact, PNP  DC field stability  300 mT  AC field stability  Insulation class  Switching frequency  1.5 kHz  Mechanical data	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, PNP  DC field stability 300 mT  AC field stability 300 mTss  Insulation class   Switching frequency 1.5 kHz  Mechanical data	Voltage drop at I <sub>e</sub>	≤ 1.8 V
DC field stability 300 mT  AC field stability 300 mTss  Insulation class □  Switching frequency 1.5 kHz  Mechanical data	Wire break/reverse polarity protection	yes/Complete
AC field stability  Insulation class  Switching frequency  Mechanical data	Output function	3-wire, NO contact, PNP
Insulation class  Switching frequency  1.5 kHz  Mechanical data	DC field stability	300 mT
Switching frequency 1.5 kHz  Mechanical data	AC field stability	300 mT <sub>ss</sub>
Mechanical data	Insulation class	
	Switching frequency	1.5 kHz
Design Threaded barrel, M18 x 1	Mechanical data	
	Design	Threaded barrel, M18 x 1





## Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

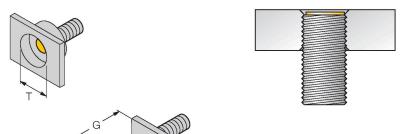


## Technical data

Dimensions	61.5 mm
Housing material	Metal, CuZn, PTFE-coated
Active area material	Plastic, LCP + WeldGuard™, grey
Max. tightening torque of housing nut	15 Nm
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-30+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Yellow

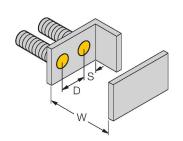
## Mounting instructions

## Mounting instructions/Description



Distance D	36 mm
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

All flush mountable uprox+ threaded barrel types are also recessed mountable. Safe operation is ensured if the sensor is screwed in by half a turn.





## Accessories

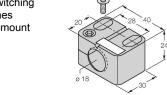
#### QMT-18 6945104

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

## BST-18B

6947214

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

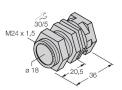


BSS-18 6901320

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

#### 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.

PN-M18 6905310

barrels; material: Stainless steel A2

