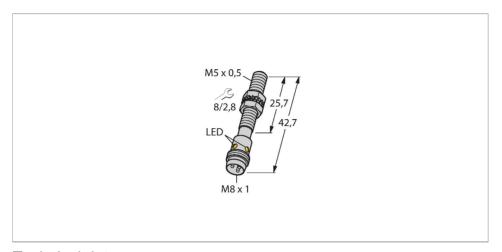


BI1U-EG05-AP6X-V1331 Inductive Sensor





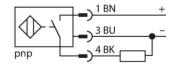
| ID | Туре | BI1U-EG05-AP6X-V1331 |
|---|---|--------------------------|
| Rated switching distance 1 mm Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % ≤ ± 20 %, ≤ 0 °C Hysteresis 315 % Electrical data Operating voltage U _s 1030 VDC Ripple U _{ss} ≤ 10 % U _{smax} DC rated operating current I _s ≤ 100 mA No-load current ≤ 20 mA Residual current ≤ 0.1 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I _s ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 200 mT AC field stability 200 mT | ID | 4602117 |
| Mounting conditions Flush Secured operating distance \$\leq (0.81 \times \text{Sn}) \text{ mm}\$ Repeat accuracy \$\leq 2 \times \text{of full scale}\$ Temperature drift \$\leq \frac{\pmath{\pmath{\left}} 20 \times \text{o} \times \text{C}}{\text{C}}\$ Hysteresis \$\leq 2.10 \times \text{O} \times \text{C}\$ Hysteresis \$\leq 1.15 \times \text{O} \text{C}\$ Electrical data Operating voltage U _B \$\leq 10 \times \text{U}_{Bmax}\$ DC rated operating current I _B \$\leq 100 \text{mA}\$ No-load current \$\leq 20 \text{mA}\$ Residual current \$\leq 0.1 \text{ mA}\$ Isolation test voltage \$\leq 0.5 \text{ kV}\$ Short-circuit protection \$\text{yes/Cyclic}\$ Voltage drop at I _B \$\leq 1.8 \text{V}\$ Wire break/reverse polarity protection \$\text{yes/Complete}\$ Output function \$\leq 1.8 \text{v} \text{NO contact, PNP}\$ DC field stability \$\leq 200 \text{mT}\$ \$\leq 0.00 \text{mT}\$ | General data | |
| Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ $\leq \pm 20 \%, \leq 0 \text{ °C}$ Hysteresis 315% Electrical data Operating voltage U_B 1030 VDC Ripple U_{SS} $\leq 10 \% U_{Bmax}$ DC rated operating current I_B $\leq 100 \text{ mA}$ No-load current $\leq 20 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage 0.5 kV Short-circuit protection $yes/Cyclic$ Voltage drop at I_B $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function 3 -wire, NO contact, PNP DC field stability 200 mT_{SS} | Rated switching distance | 1 mm |
| Repeat accuracy≤ 2 % of full scaleTemperature drift≤ ± 10 %≤ ± 20 %, ≤ 0 °CHysteresis315 %Electrical dataOperating voltage U_e 1030 VDCRipple U_{se} ≤ 10 % U_{Bmax} DC rated operating current I_e ≤ 100 mANo-load current≤ 20 mAResidual current≤ 0.1 mAIsolation test voltage0.5 kVShort-circuit protectionyes/CyclicVoltage drop at I_e ≤ 1.8 VWire break/reverse polarity protectionyes/CompleteOutput function3-wire, NO contact, PNPDC field stability200 mTAC field stability200 mT | Mounting conditions | Flush |
| Temperature drift $\leq \pm 10 \%$ $\leq \pm 20 \%, \leq 0 ^{\circ}C$ Hysteresis 315% Electrical data Operating voltage U_B 1030 VDC Ripple U_{es} $\leq 10 \% U_{Bmax}$ DC rated operating current I_e $\leq 100 \text{ mA}$ No-load current $\leq 20 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage 0.5 kV Short-circuit protection 0.5 kV Wire break/reverse polarity protection 0.5 kV Wire break/reverse polarity protection 0.5 kV Wire break/reverse polarity protection 0.5 kV Output function 0.5 kV Wire break/reverse polarity protection 0.5 kV Output function 0.5 kV | Secured operating distance | ≤ (0.81 × Sn) mm |
| $ \leq \pm 20 \%, \leq 0 ^{\circ}\text{C} $ Hysteresis 315 % Electrical data $ \text{Operating voltage } U_{\text{B}} \qquad 1030 ^{\circ}\text{VDC} $ Ripple $U_{\text{ss}} \qquad \leq 10 ^{\circ}\text{W} ^{\circ}\text{U}_{\text{Bmax}} $ DC rated operating current $I_{\text{e}} \qquad \leq 100 ^{\circ}\text{MA} $ No-load current $ \leq 20 ^{\circ}\text{mA} $ Residual current $ \leq 0.1 ^{\circ}\text{mA} $ Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic $ \text{Voltage drop at } I_{\text{e}} \qquad \leq 1.8 ^{\circ}\text{V} $ Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 200 mT AC field stability 200 mT | Repeat accuracy | ≤ 2 % of full scale |
| Hysteresis 315% Electrical data1030 VDCOperating voltage U_B 1030 VDC Ripple U_{ss} ≤ $10\%U_{Bmax}$ DC rated operating current I_e ≤ 100 mA No-load current≤ 20 mA Residual current≤ 0.1 mA Isolation test voltage 0.5 kV Short-circuit protectionyes/CyclicVoltage drop at I_e ≤ 1.8 V Wire break/reverse polarity protectionyes/CompleteOutput function 3 -wire, NO contact, PNPDC field stability 200 mT AC field stability 200 mT | Temperature drift | ≤ ±10 % |
| Electrical dataOperating voltage U_B 1030 VDC Ripple U_{ss} $\leq 10 \% U_{Bmax}$ DC rated operating current I_e $\leq 100 \text{ mA}$ No-load current $\leq 20 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage 0.5 kV Short-circuit protection $yes/Cyclic$ Voltage drop at I_e $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3-wire$, NO contact, PNPDC field stability 200 mT AC field stability 200 mT_{ss} | | ≤ ± 20 %, ≤ 0 °C |
| Operating voltage U_B 1030 VDC Ripple U_{ss} ≤ 10 % U_{Bmax} DC rated operating current I_e ≤ 100 mA No-load current ≤ 20 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 DC field stability 200 mT AC field stability 200 mT | Hysteresis | 315 % |
| Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _e ≤ 100 mA No-load current ≤ 20 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 DC field stability 200 mT AC field stability 200 mT | Electrical data | |
| DC rated operating current I₀ ≤ 100 mA No-load current ≤ 20 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 200 mT AC field stability 200 mTss | Operating voltage U _B | 1030 VDC |
| No-load current ≤ 20 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 200 mT AC field stability 200 mTss | Ripple U _{ss} | ≤ 10 % U _{Bmax} |
| 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 200 mT AC field stability 200 mTss | DC rated operating current I _e | ≤ 100 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 200 mT AC field stability 200 mTss | No-load current | ≤ 20 mA |
| Short-circuit protection Voltage drop at I _e ≤ 1.8 V Wire break/reverse polarity protection Output function DC field stability AC field stability yes/Cyclic ≤ 1.8 V yes/Complete yes/Complete yes/Complete 200 mT 200 mT | Residual current | ≤ 0.1 mA |
| Voltage drop at I _e ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 200 mT AC field stability 200 mT _{ss} | Isolation test voltage | 0.5 kV |
| Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 200 mT AC field stability 200 mT _{ss} | Short-circuit protection | yes/Cyclic |
| Output function 3-wire, NO contact, PNP DC field stability 200 mT AC field stability 200 mT _{ss} | Voltage drop at I _e | ≤ 1.8 V |
| DC field stability 200 mT AC field stability 200 mT _{ss} | Wire break/reverse polarity protection | yes/Complete |
| AC field stability 200 mT _{ss} | Output function | 3-wire, NO contact, PNP |
| • | DC field stability | 200 mT |
| Switching frequency 2 kHz | AC field stability | 200 mT _{ss} |
| | Switching frequency | 2 kHz |



Features

- ■M5 × 0.5 threaded barrel
- Stainless steel, 1.4427 SO
- Factor 1 for all metals
- Resistant to magnetic fields
- Large switching distance
- ■DC 3-wire, 10...30 VDC
- ■NO contact, PNP output
- ■M8 x 1 male connector

Wiring diagram





Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox3 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.

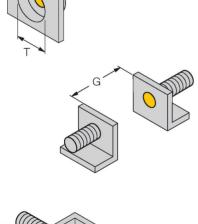


Technical data

| Mechanical data | |
|---------------------------------------|---|
| Design | Threaded barrel, M5 x 0.5 |
| Dimensions | 42.7 mm |
| Housing material | Stainless steel, 1.4427 SO |
| Active area material | PA12 |
| Max. tightening torque of housing nut | 5 Nm |
| Electrical connection | Connector, M8 × 1 |
| Environmental conditions | |
| Ambient temperature | -25+70 °C |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30 g (11 ms) |
| Protection class | IP67 |
| MTTF | 874 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 5 mm |

2|2