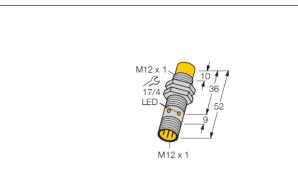


ENGLISH

Inductive sensor

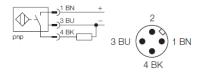
RS 208257



 threaded barrel, M12 	х·	1
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- stainless steel, 1.4301 •
- factor 1 for all metals •
- degree of protection IP68
- magnetic field immune
- extended temperature range
- high switching frequency •
- predamping protection through self-compensation
- 3-wire DC, 10...30 VDC •
- normally open, pnp output •
- connector, M12 x 1

Wiring diagram



Functional principle

Inductive sensors are designed for wearfree and non-contact detection of metal objects. Due to a ferrite-less 3-coil system, uprox factor 1 sensors have distinct advantages. They detect all metals at the same switching distance, are magnetic field immune and feature large switching distances.

Assured sensing range Repeatability $\leq (0,81 \times Sn) mm$ Repeatability $\leq 2 \%$ Temperature drift $\leq 10 \%$ $\leq \pm 20 \%, \leq -25 \degree C v \ge +70 \degree C$ Ambient temperature $30+85 \degree C$ Operating voltage Ambient temperature $1030VDC$ Residual ripple $\leq 10 \% U_{38}$ DC rated operational current No-load current I_0 $\leq 15 \text{ mA}$ Residual ripple $\leq 0.1 \text{ mA}$ Residual current No-load current I_0 $\leq 15 \text{ mA}$ Residual current No-load current I_0 $\leq 0.5 \text{ kV}$ Short-circuit protection Voltage drop at I_0 $\leq 1.8V$ Wire breakage / Reverse polarity protection Output function Insulation class \Box Switching frequency $\leq 2 \text{ kHz}$ Housing Housing material Waterial active face Tightening torque of housing nut Vibration resistance 10 Nm Connection Vibration resistance $55 \text{ Hz} (1 \text{ mm})$ Shock resistance Degree of protection $30g (11 \text{ ms})$ Degree of protection $P68$	ldent-No.	1644340	
Assured sensing range Repeatability $\leq (0,81 \times Sn) mm$ Repeatability $\leq 2 \%$ Temperature drift $\leq 10 \%$ $\leq \pm 20 \%, \leq -25 \degree C v \ge +70 \degree C$ Ambient temperature $30+85 \degree C$ Operating voltage Ambient temperature $1030VDC$ Residual ripple $\leq 10 \% U_{38}$ DC rated operational current No-load current I_0 $\leq 15 \text{ mA}$ Residual ripple $\leq 0.1 \text{ mA}$ Residual current No-load current I_0 $\leq 15 \text{ mA}$ Residual current No-load current I_0 $\leq 0.5 \text{ kV}$ Short-circuit protection Voltage drop at I_0 $\leq 1.8V$ Wire breakage / Reverse polarity protection Output function Insulation class \Box Switching frequency $\leq 2 \text{ kHz}$ Housing Housing material Waterial active face Tightening torque of housing nut Vibration resistance 10 Nm Connection Vibration resistance $55 \text{ Hz} (1 \text{ mm})$ Shock resistance Degree of protection $30g (11 \text{ ms})$ Degree of protection $P68$	Rated operating distance Sn	8 mm	
Repeatability $\leq 2\%$ Temperature drift $\leq \pm 10\%$ Temperature drift $\leq \pm 20\%$, $\leq -25 °C v \ge +70 °C$ Hysteresis $3 15\%$ Ambient temperature $-30 + 85 °C$ Operating voltage $10 30VDC$ Residual ripple $\leq 10\% U_{ss}$ DC rated operational current $\leq 200 \text{ mA}$ No-load current I_0 $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Rated insulation voltage $\leq 0.5 \text{ kV}$ Short-circuit protectionyes / cyclicVoltage drop at I_6 $\leq 1.8V$ Wire breakage / Reverse polarity protectionyes / completeOutput function 3 -wire, normally open, pnpInsulation class \blacksquare Switching frequency $\leq 2 \text{ kHz}$ Housing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut 10 Nm ConnectionConnectors, M12 x 1Vibration resistance $55 \text{ Hz} (1 \text{ mm})$ Shock resistance $30g (11 \text{ ms})$ Degree of protectionIP68	Mounting condition	non-flush, partial embedding possible	
Temperature drift $\leq \pm 10 \ \%$ $\leq \pm 20 \ \%, \leq -25 \ ^{\circ}\text{C} \ v \geq +70 \ ^{\circ}\text{C}$ Hysteresis $315 \ \%$ Ambient temperature $-30+85 \ ^{\circ}\text{C}$ Operating voltage 1030VDC Residual ripple $\leq 10 \ \% U_{89}$ DC rated operational current $\leq 200 \ \text{mA}$ No-load current I_0 $\leq 15 \ \text{mA}$ Residual current $\leq 0.1 \ \text{mA}$ Residual current $\leq 0.1 \ \text{mA}$ Residual current I_0 $\leq 15 \ \text{mA}$ Residual current I_0 $\leq 1.8 \ \text{V}$ Wire breakage / Reverse polarity protectionyes / cyclicVoltage drop at I_0 $\leq 1.8 \ \text{V}$ Wire breakage / Reverse polarity protectionyes / completeOutput function $3 \ \text{wire}$, normally open, pnpInsulation class \blacksquare Switching frequency $\leq 2 \ \text{kHz}$ Housing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut10 \ \text{Nm}ConnectionConnectors, M12 x 1Vibration resistance $55 \ \text{Hz}$ (1 \ mm)Shock resistance $30g (11 \ \text{ms})$ Degree of protection 1968	Repeatability	≤ 2 % ≤ ± 10 % ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C	
$\leq \pm 20 \ \%, \leq -25 \ ^{\circ}C \ v \geq +70 \ ^{\circ}C$ Hysteresis3 15 \ \% -30+ 85 \ ^{\circ}CAmbient temperature-30+ 85 \ ^{\circ}C Operating voltage 10 30VDCResidual ripple $\leq 10 \ \% \ U_{38}$ DC rated operational current $\leq 200 \ \text{mA}$ No-load current l_0 $\leq 15 \ \text{mA}$ Residual current $\leq 0.1 \ \text{mA}$ Residual current $\leq 0.5 \ \text{kV}$ Short-circuit protectionyes / cyclicVoltage drop at l_{θ} $\leq 1.8 \ \text{V}$ Wire breakage / Reverse polarity protectionyes / completeOutput function3-wire, normally open, pnpInsulation class \blacksquare Switching frequency $\leq 2 \ \text{kHz}$ Housing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut10 \ \text{Nm}ConnectionConnectors, M12 x 1Vibration resistance $55 \ \text{Hz} (1 \ \text{mm})$ Shock resistance $30g (11 \ \text{ms})$ Degree of protectionIP68			
Hysteresis 3 15 % Ambient temperature -30+ 85 °C Operating voltage 10 30VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 200 mA No-load current l₀ ≤ 15 mA Residual current ≤ 0.1 mA Residual current ≤ 0.1 mA Residual current ≤ 0.5 kV Short-circuit protection yes / cyclic Voltage drop at l₀ ≤ 1.8V Wire breakage / Reverse polarity protection yes / complete Output function 3-wire, normally open, pnp Insulation class Image: Switching frequency Switching frequency < 2 kHz Housing threaded barrel, M12 x 1 Dimensions 52 mm Housing material metal, AISI 304 Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68			
Ambient temperature $-30+85 \text{ °C}$ Operating voltage10 30VDCResidual ripple $\leq 10 \text{ % U}_{88}$ DC rated operational current $\leq 200 \text{ mA}$ No-load current l ₀ $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Rated insulation voltage $\leq 0.5 \text{ kV}$ Short-circuit protectionyes / cyclicVoltage drop at l _e $\leq 1.8V$ Wire breakage / Reverse polarity protectionyes / completeOutput function 3 -wire, normally open, pnpInsulation class \blacksquare Switching frequency $\leq 2 \text{ kHz}$ Housing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut10 NmConnectionConnectors, M12 x 1Vibration resistance $55 \text{ Hz} (1 \text{ mm})$ Shock resistance $30g (11 \text{ ms})$ Degree of protectionIP68	Hystoresia		
Residual ripple $\leq 10 \ \% \ U_{gs}$ DC rated operational current $\leq 200 \ mA$ No-load current l ₀ $\leq 15 \ mA$ Residual current $\leq 0.1 \ mA$ Rated insulation voltage $\leq 0.5 \ kV$ Short-circuit protectionyes / cyclicVoltage drop at l _e $\leq 1.8V$ Wire breakage / Reverse polarity protectionyes / completeOutput function3-wire, normally open, pnpInsulation class \blacksquare Switching frequency $\leq 2 \ kHz$ Housing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut10 NmConnectionConnectors, M12 x 1Vibration resistance $55 \ Hz (1 \ mm)$ Shock resistance $30g (11 \ ms)$ Degree of protectionIP68	2 · · · · · · · · · · · · · · · · · · ·		
DC rated operational current $\leq 200 \text{ mA}$ No-load current l ₀ $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Rated insulation voltage $\leq 0.5 \text{ kV}$ Short-circuit protectionyes / cyclicVoltage drop at l ₀ $\leq 1.8V$ Wire breakage / Reverse polarity protectionyes / completeOutput function3-wire, normally open, pnpInsulation class \Box Switching frequency $\leq 2 \text{ kHz}$ Housing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut10 NmConnectionConnectors, M12 x 1Vibration resistance55 Hz (1 mm)Shock resistance30g (11 ms)Degree of protectionIP68	Operating voltage	10 30VDC	
No-load current I_0 \leq 15 mAResidual current \leq 0.1 mARated insulation voltage \leq 0.5 kVShort-circuit protectionyes / cyclicVoltage drop at I_e \leq 1.8VWire breakage / Reverse polarity protectionyes / completeOutput function3-wire, normally open, pnpInsulation class \blacksquare Switching frequency ≤ 2 kHzHousingthreaded barrel, M12 x 1Dimensions52 mmHousing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut10 NmConnectionConnectors, M12 x 1Vibration resistance55 Hz (1 mm)Shock resistance30g (11 ms)Degree of protectionIP68	Residual ripple	≤ 10 % U _{ss}	
No-load current I_0 $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Rated insulation voltage $\leq 0.5 \text{ kV}$ Short-circuit protectionyes / cyclicVoltage drop at I_e $\leq 1.8V$ Wire breakage / Reverse polarity protectionyes / completeOutput function3-wire, normally open, pnpInsulation classImage: Switching frequencySwitching frequency $\leq 2 \text{ kHz}$ Housingthreaded barrel, M12 x 1Dimensions52 mmHousing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut10 NmConnectionConnectors, M12 x 1Vibration resistance55 Hz (1 mm)Shock resistance30g (11 ms)Degree of protectionIP68	DC rated operational current	≤ 200 mA	
Residual current $\leq 0.1 \text{ mA}$ Rated insulation voltage $\leq 0.5 \text{ kV}$ Short-circuit protectionyes / cyclicVoltage drop at Ie $\leq 1.8V$ Wire breakage / Reverse polarity protectionyes / completeOutput function3-wire, normally open, pnpInsulation class \Box Switching frequency $\leq 2 \text{ kHz}$ Housingthreaded barrel, M12 x 1Dimensions52 mmHousing materialmetal, AISI 304Material active faceplastic, PBTTightening torque of housing nut10 NmConnectionConnectors, M12 x 1Vibration resistance55 Hz (1 mm)Shock resistance30g (11 ms)Degree of protectionIP68		≤ 15 mA	
Short-circuit protection yes / cyclic Voltage drop at Ie ≤ 1.8V Wire breakage / Reverse polarity protection yes / complete Output function 3-wire, normally open, pnp Insulation class Image: Switching frequency Switching frequency ≤ 2 kHz Housing threaded barrel, M12 x 1 Dimensions 52 mm Housing material metal, AISI 304 Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Ŷ	< 0.1 mA	
Short-circuit protection yes / cyclic Voltage drop at Ie ≤ 1.8V Wire breakage / Reverse polarity protection yes / complete Output function 3-wire, normally open, pnp Insulation class Image: Switching frequency Switching frequency ≤ 2 kHz Housing threaded barrel, M12 x 1 Dimensions 52 mm Housing material metal, AISI 304 Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Rated insulation voltage	< 0.5 kV	
Voltage drop at Ie ≤ 1.8V Wire breakage / Reverse polarity protection yes / complete Output function 3-wire, normally open, pnp Insulation class Image: Switching frequency Switching frequency ≤ 2 kHz Housing threaded barrel, M12 x 1 Dimensions 52 mm Housing material metal, AISI 304 Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68			
Wire breakage / Reverse polarity protection yes / complete Output function 3-wire, normally open, pnp Insulation class Image: Switching frequency Switching frequency <2 kHz		1	
Output function 3-wire, normally open, pnp Insulation class ■ Switching frequency ≤ 2 kHz Housing threaded barrel, M12 x 1 Dimensions 52 mm Housing material metal, AISI 304 Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Wire breakage / Reverse polarity protection	ves / complete	
Insulation class □ Switching frequency ≤ 2 kHz Housing threaded barrel, M12 x 1 Dimensions 52 mm Housing material metal, AISI 304 Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68			
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Dimensions 52 mm Housing material metal, AISI 304 Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Switching frequency	≤2 kHz	
Housing material metal, AISI 304 Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Housing	threaded barrel, M12 x 1	
Material active face plastic, PBT Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Dimensions	52 mm	
Tightening torque of housing nut 10 Nm Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Housing material	metal, AISI 304	
Connection Connectors, M12 x 1 Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Material active face	plastic, PBT	
Vibration resistance 55 Hz (1 mm) Shock resistance 30g (11 ms) Degree of protection IP68	Tightening torque of housing nut	10 Nm	
Shock resistance 30g (11 ms) Degree of protection IP68	Connection	Connectors, M12 x 1	
Degree of protection IP68	Vibration resistance	55 Hz (1 mm)	
	Shock resistance	30g (11 ms)	
	Degree of protection	IP68	
Display switch state LED yellow	Display switch state	LED yellow	

RS, Professionally Approved Products, gives you professional quality parts across all products categories. Our range has been testified by engineers as giving comparable quality to that of the leading brands without paying a premium price.