

Inductive Sensor

Ring sensor

IR8F002

Part Number

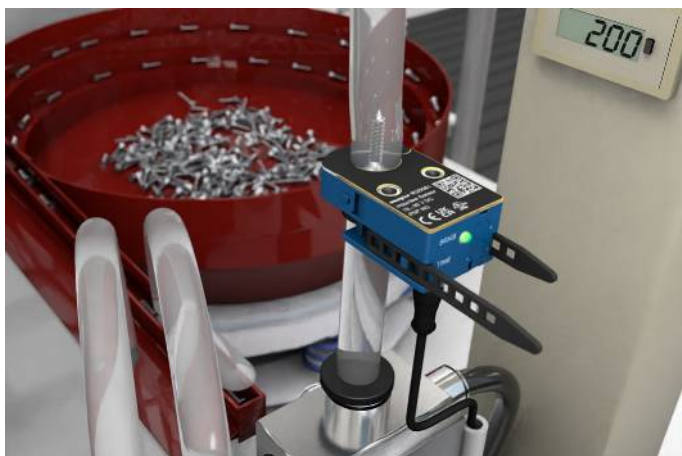


reddot winner 2025



- Correction factor 1
- Flexible soft binder on the sensor
- Intuitive operating concept with IO-Link interface
- Plug and Play
- Separable housing

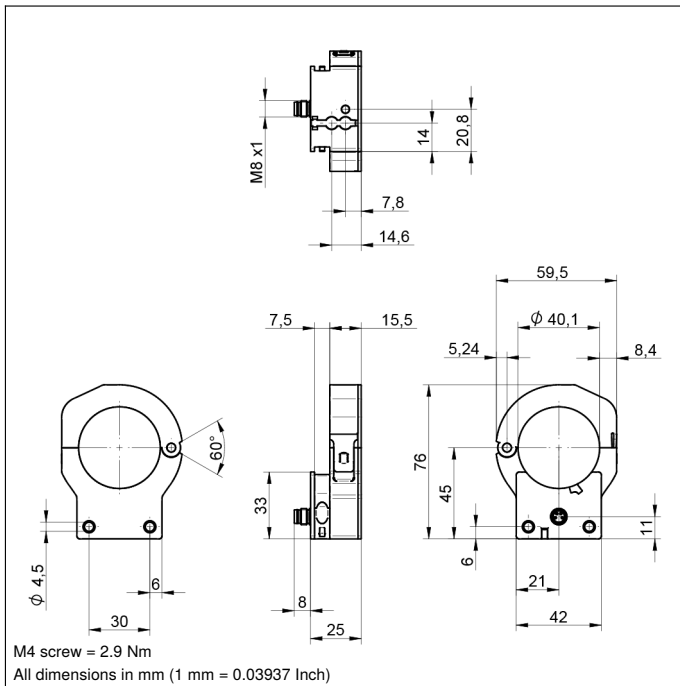
The inductive ring sensor with separable housing enables quick and flexible mounting on various objects, such as hoses. Its compact construction, with a switching status indicator visible on all sides and a cable outlet in the hose direction, is particularly well suited for confined spaces. It is intuitive to operate via the potentiometer or the IO-Link interface. The sensor switches independently of the material thanks to correction factor 1. Frequency switching enables the operation of several sensors in the immediate vicinity without mutual interference.



Technical Data

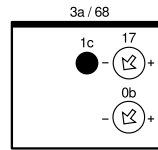
Inductive Data	
Inside diameter	40,1 mm
Max. tube diameter	40 mm
Installation A/Bx/By/C in mm	10/0/60/20
Installation A/Bx/By/C in mm with frequency switching	10/0/20/20
Functional principle	Static
Smallest recognizable object (Ø)	8 mm*
Correction Factors Stainless Steel V2A/CuZn/Al	1/1/1
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U _b = 24 V)	< 20 mA
Object speed	< 35 m/s
Response Time	< 100 µs
Ready-state delay	< 1,5 s
Switching Output Voltage Drop	1,5 V
Temperature Range	0...60 °C
Short Circuit Protection	yes
Overload Protection	yes
Reverse Polarity Protection	yes
Switching Output/Switching Current	100 mA
Pulse extension	200 ms
Interface	IO-Link V1.1
IO-Link Version	1.1
Mechanical Data	
Connection	M8 × 1; 4-pin
Setting Method	Potentiometer/IO-Link
Housing Material	Plastic, PA
Hanger opening/closing cycles	Max. 100
Degree of Protection	IP54
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1018,99 a
Scope of delivery	1 × ring sensor incl. soft binder
Packaging unit	1 Piece
NPN NO	●
Connection Diagram No.	275
Control Panel No.	T20

* Relates to a steel ball when the setting potentiometer max. is selected

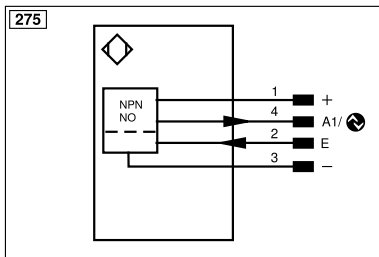


Ctrl. Panel

T20



0b = Pulse length adjuster / for IRxF: additional calibration mode
 17 = Sensitivity Adjustment
 1c = Status display/setup aid
 3a = Switching Status Indicator/Error Indicator
 68 = Power LED



Legend					
+	Supply Voltage +	nc	Not connected	EN _{RS422}	Encoder B/B̄ (TTL)
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	EN _B	Encoder B
A	Switching Output (NO)	W	Trigger Input	AMIN	Digital output MIN
Ā	Switching Output (NC)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
V	Contamination/Error Output (NO)	O	Analog Output	AOK	Digital output OK
V̄	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY In	Synchronization In
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
T	Teach Input	Amv	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	±	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
IO-Link		Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
EN _{RS422}	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contact Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	EN _{AR5422}	Encoder A/Ā (TTL)		

Mounting

