

# Inductive Sensor

## Ring sensor

# IR2F002

Part Number

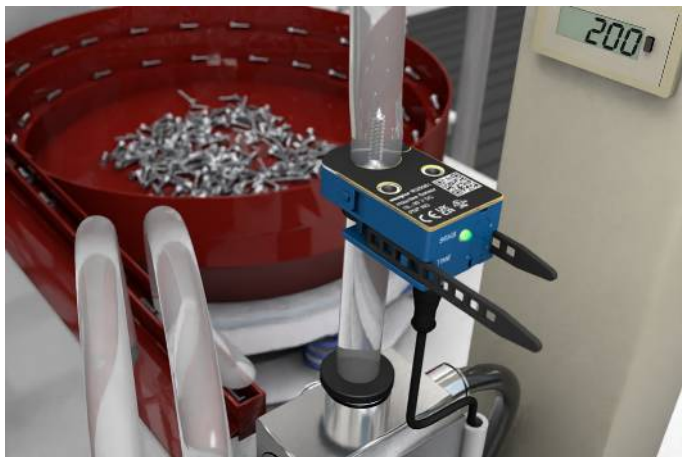


reddot winner 2025



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

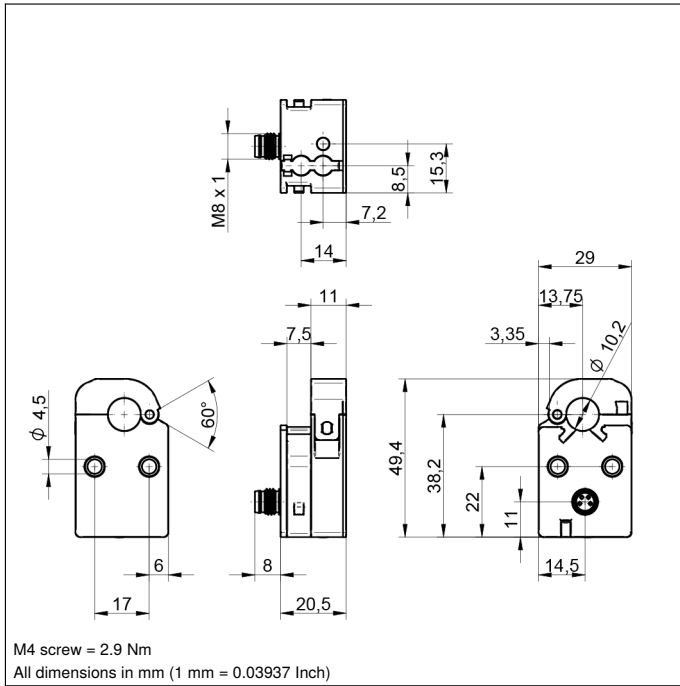
The inductive ring sensor with separable housing enables quick and flexible mounting on various objects, such as hoses. Its compact construction, with a switching status indicator visible on all sides and a cable outlet in the hose direction, is particularly well suited for confined spaces. It is intuitive 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

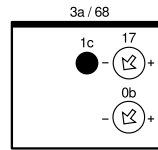
Inductive Data	
Inside diameter	10,2 mm
Max. tube diameter	10 mm
Installation A/Bx/By/C in mm	0/15/35/5
Installation A/Bx/By/C in mm with frequency switching	0/0/0/5
Functional principle	Static
Smallest recognizable object (Ø)	2,5 mm*
Correction Factors Stainless Steel V2A/CuZn/Al	1/1/1
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 20 mA
Object speed	< 50 m/s
Response Time	< 300 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

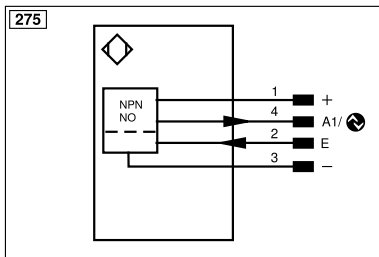


## Ctrl. Panel

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	ENBRS422	Encoder B/B̄ (TTL)
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENb	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
ȳ	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
ENo RS422	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	ENARs422	Encoder A/Ā (TTL)		

## Mounting

