Inductive Sensor

Welding Field Resistant with Correction Factor 1

I1QA002

Part Number



- **Extended temperature range**
- **Greatest possible switching distances with correction factor 1**
- **Very good magnetic and electromagnetic immunity**
- **Very high switching frequency**

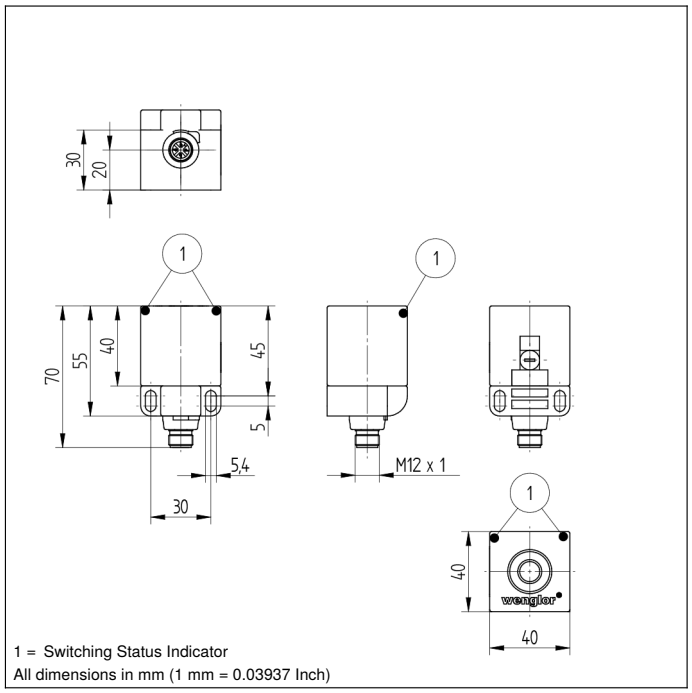
Welding field resistant inductive sensors with correction factor 1 offer a unique combination of technical performance features: increased switching distances for reliable object detection, high switching frequencies for applications with high process speeds and an extended temperature range for use under various ambient conditions. A switching status LED for diagnosis functions reduces system downtime. In order to simplify integration, all housing designs are available in flush or non-flush mounting variants.

Technical Data

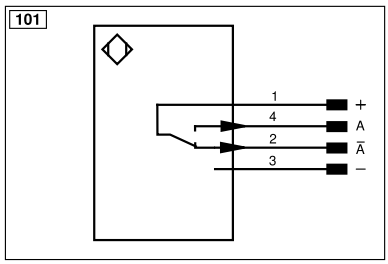
Inductive Data	
Switching Distance	50 mm
Correction Factors Stainless Steel V2A/CuZn/Al	1,01/1,01/1,01
Mounting	non-flush
Mounting A/B/C/D in mm	60/150/150/40
Switching Hysteresis	< 15 %
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 15 mA
Switching Frequency	1500 Hz
Temperature Drift (-25 °C < Tu < 60 °C)	10 %
Temperature Drift (Tu < -25 °C, Tu > 60 °C)	20 %
Temperature Range	-40...80 °C
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	200 mA
Resistant to Magnetic Fields	200 mT
Short Circuit Protection	yes
Reverse Polarity and Overload Protection	yes
Protection Class	II
Mechanical Data	
Housing Material	Plastic, ABS
Sensor Cap	Plastic, PBT, PTFE
Welding Field Resistant	yes
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	2099,41 a
Function	
Error Indicator	yes
PNP NC, PNP NO	●
Connection Diagram No.	101
Suitable Connection Equipment No.	2

Complementary Products

PNP-NPN Converter BG2V1P-N-2M

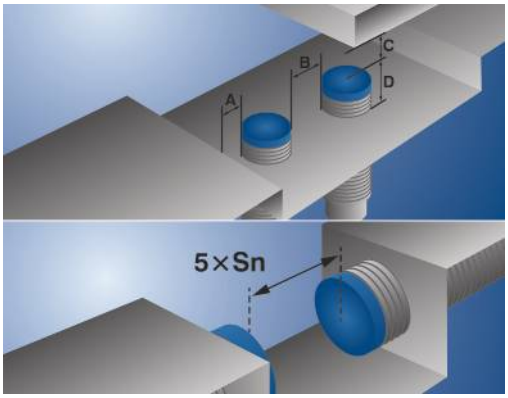


1 = Switching Status Indicator
All dimensions in mm (1 mm = 0.03937 Inch)



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
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	ower 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
EN0 RS422	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)		

Mounting



Specifications are subject to change without notice V0-31.03.2023