

# Inductive Sensor

Welding Field Resistant with Correction Factor 1

## I30A001

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	15 mm
Correction Factors Stainless Steel V2A/CuZn/Al	1,06/1,06/1,07
Mounting	flush
Mounting A/B/C/D in mm	0/15/45/0
Switching Hysteresis	< 15 %

#### Electrical Data

Supply Voltage	10...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 15 mA
Switching Frequency	2000 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
Protective Insulation, Rated Voltage	150 V

#### Mechanical Data

Housing Material	CuZn; Teflon
Welding Field Resistant	yes
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4-pin

#### Safety-relevant Data

MTTFd (EN ISO 13849-1)	2157,87 a
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#### Function

Error Indicator	yes
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PNP NO/NC antivalent 

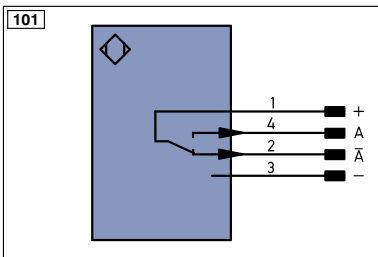
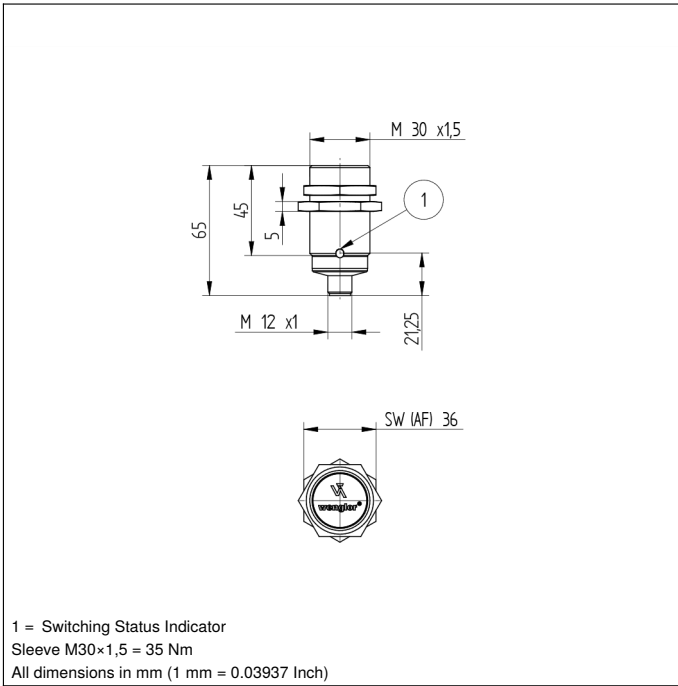
Connection Diagram No. **101**

Suitable Connection Technology No. **2**

Suitable Mounting Technology No. **130**

### Complementary Products

PNP-NPN Converter BG2V1P-N-2M



Legend		Legend		Legend	
+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMIN	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMAX	Digital output MAX
Ā	Switching Output (NC)	W	Trigger Input	AOK	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
ṽ	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	Out	Brightness output
T	Teach Input	AW	Valve Output	M	Maintenance
Z	Time Delay (activation)	a	Valve Control Output +		
S	Shielding	b	Valve Control Output 0 V		
RxD	Interface Receive Path	SY	Synchronization		
TxD	Interface Send Path	E+	Receiver-Line		
RDY	Ready	S+	Emitter-Line		
GND	Ground	±	Grounding		
CL	Clock	SnR	Switching Distance Reduction		
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path		
	IO-Link	Tx+/-	Ethernet Send Path		
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)/B(-)		
IN	Safety Input	La	Emitted Light disengageable		
OSSD	Safety Output	Mag	Magnet activation		
Signal	Signal Output	RES	Input confirmation		
Bl..D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactur Monitoring		
EN0..5A22	Encoder 0-pulse 0-0 (TTL)	ENa..5A22	Encoder A/Ā (TTL)		
		ENb..5A22	Encoder B/B̄ (TTL)		

Wire Colors according to DIN IEC 757

BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

## Mounting

