

Fork Sensor for Label Detection

U1HJ001

Part Number



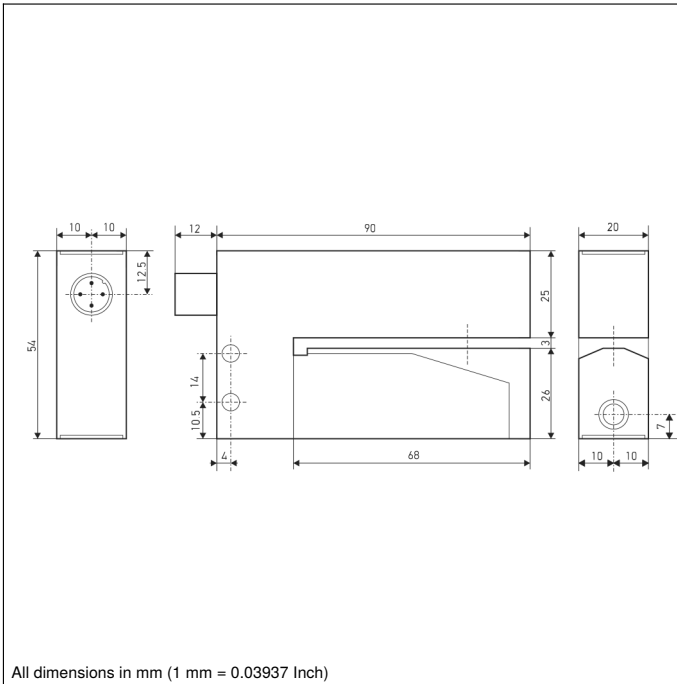
- Detection of dark, transparent or printed labels
- Easy setup via teach-in
- Flexible output settings (PNP/NPN, NC/NO)
- High switching frequency

Thanks to their functional principle, ultrasonic fork sensors are ideally suited for reliable, contactless label detection. The emitter and the receiver are arranged as a light barrier in a single housing and detect even the smallest change in ultrasound attenuation. Attenuation results from the different material thicknesses of the base material with label and the bare base material. Transparent labels or labels made of paper and plastic can thus be reliably detected on any base material. The emitter and the receiver are slightly recessed into the housing in order to protect them from contact with the objects to be scanned.



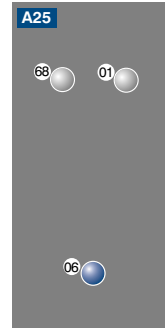
Technical Data

Ultrasonic Data	
Fork Width	3 mm
Smallest Detectable Gap	2 mm
Ultrasonic Frequency	300 kHz
Electrical Data	
Supply Voltage	12...30 V DC
Current Consumption (U _b = 24 V)	< 45 mA
Switching Frequency	400 Hz
Response Time	1,25 ms
Temperature Range	0...50 °C
Switching Output Voltage Drop	< 1,5 V
Switching Output/Switching Current	250 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Mechanical Data	
Setting Method	Teach-In
Housing Material	Aluminum
Degree of Protection	IP54
Connection	M12 × 1; 4-pin
PNP NO/NC switchable	●
NPN NO/NC switchable	●
Connection Diagram No.	1024
Control Panel No.	A25
Suitable Connection Technology No.	2



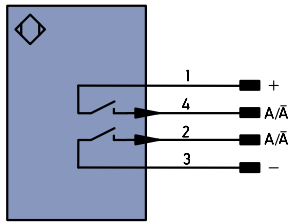
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel




01 = Switching Status Indicator
 06 = Teach Button
 68 = Supply Voltage Indicator

1024



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
A̅	Switching Output (NC)	W	Trigger Input	AOK	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
V̅	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	Contactorm Monitoring		
EN0_0542	Encoder 0-pulse 0-0 (TTL)	ENa0542	Encoder A/A̅ (TTL)		
		ENb0542	Encoder B/B̅ (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

