

# Fork Sensor

## P1HJ001

## LASER

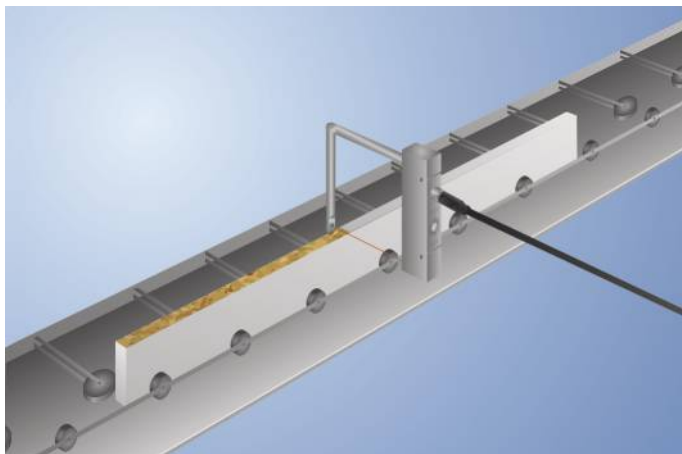
Part Number

InoxSens



- Collimated laser beam (Ø 0.35 mm diameter over the entire fork width)
- Recognition of transparent objects
- Rugged, corrosion-free V4A stainless steel housing in hygienic design
- Teach-in key and external teach-in

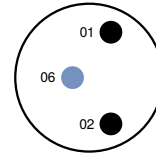
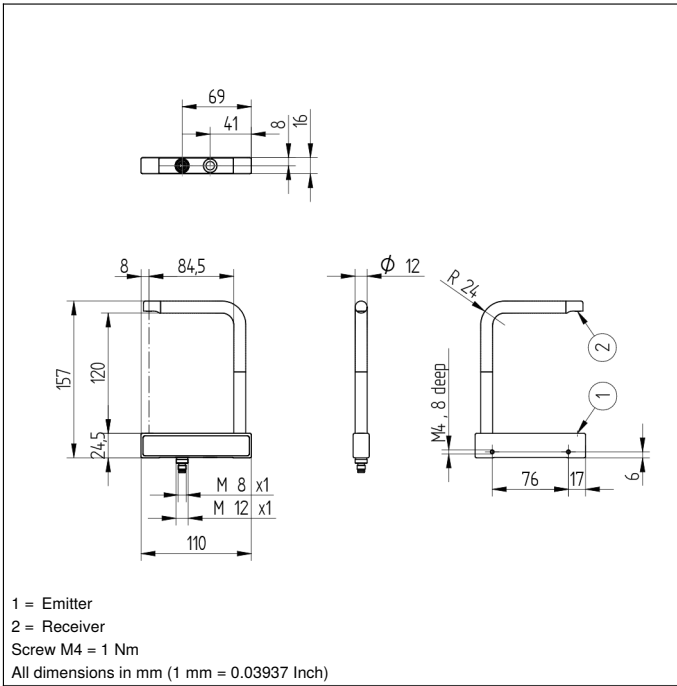
Fork sensors have a collimated laser beam with a very small diameter of 0.35 mm over the entire fork width. As a result, they're capable of detecting extremely small parts down to a size of just 40 µm and even transparent objects at high speeds of up to 10 kHz. The innovative layout of the fork sensors in hygienic design permits various fork widths within a range of 50 to 220 mm, and allows contamination and cleaning agents to flow off of the surface in an ideal manner.



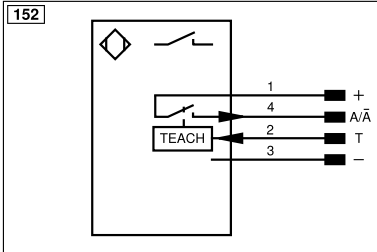
### Technical Data

Optical Data	
Fork Width	120 mm
Smallest Recognizable Part	40 µm
Smallest Detectable Gap	50 µm
Switching Hysteresis	< 10 %
Light Source	Laser (red)
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Max. Ambient Light	10000 Lux
Light Spot Diameter	0,35 mm
Repeat Accuracy	< 5 µm
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 25 mA
Switching Frequency	10 kHz
Response Time	50 µs
Off-Delay	0...100 ms
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Teach Mode	NT, MT
Protection Class	III
Mechanical Data	
Setting Method	Teach-In
Housing Material	Stainless steel 316L
Optic Cover	Glass
Degree of Protection	IP69K
Connection	M8 × 1; 4-pin
Ecolab	yes
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1615,89 a
PNP NO/NC switchable	●
Connection Diagram No.	152
Control Panel No.	115
Suitable Connection Equipment No.	7
Suitable Mounting Technology No.	570

## Ctrl. Panel

**5**


01 = Switching Status Indicator  
 02 = Contamination Warning  
 20 = Enter key  
 36 = Mode Indicator



Legend					
+	Supply Voltage +	nc	Not connected	ENBR5422	Encoder B/Ā (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	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 0/0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	ENAR5422	Encoder A/Ā (TTL)		

