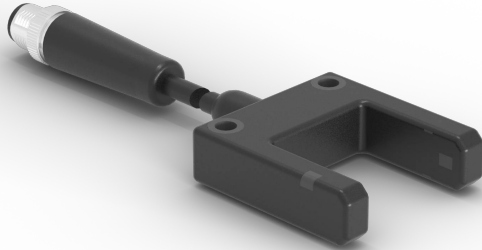


Fork Sensor

P1HJ101-020-020

Part Number



- 2 switching outputs and switching status indicator
- Detect extremely small parts starting at 0.7 mm
- Flexible cable outlet with 4-pin plug, M8 × 1
- Miniature design (30 × 40 mm)
- Sensitivity set via IO-Link 1.1

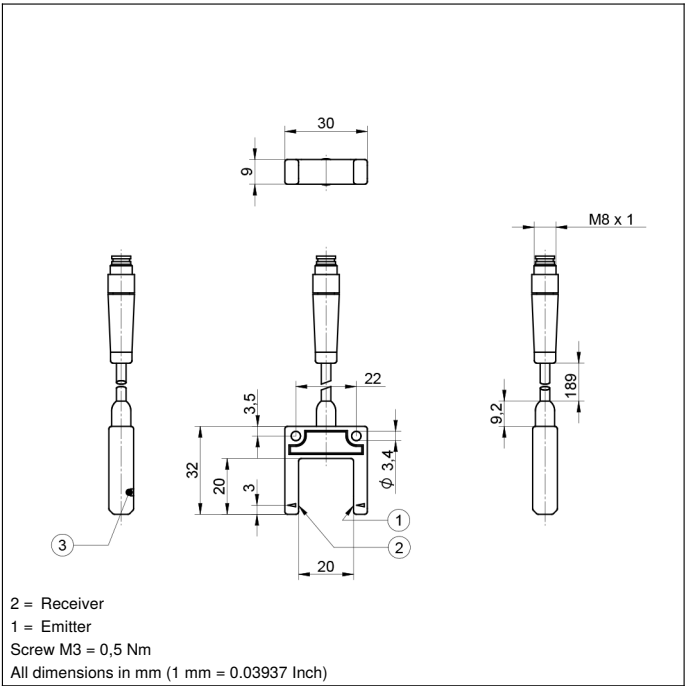
Fork sensors in a miniature design are photoelectric sensors. The emitter and the receiver are positioned opposite each other in a housing as a barrier. As soon as the light beam is interrupted, the sensor's output switches. The use of visible red light and the beam marking on the fork legs make it easier to align the fork sensor. This fork sensor can be used to detect small holes, grooves and notches as well as to detect small parts. The minimal construction volume, the flexible connection cable and the integrated mounting holes enable use in confined installation situations, such as shuttles, AGVs or robot grippers.

Technical Data

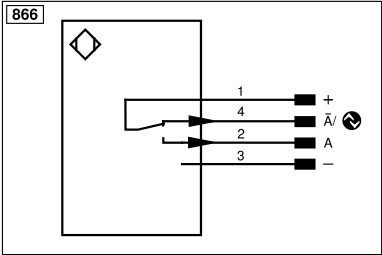
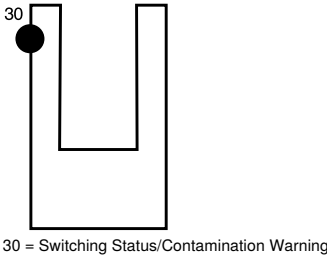
Optical Data	
Fork Width	20 mm
Smallest Recognizable Part	0,7 mm
Light Source	Red Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Repeat Accuracy	0,05 mm
Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (Ub = 24 V)	< 20 mA
Switching Frequency	1900 Hz
Switching frequency (speed mode)	3000 Hz*
Response Time	0,26 ms
Response time (speed mode)	0,16 ms *
Temperature Range	-30...60 °C**
Temperature Drift	< 10 %
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2 V
Switching Output/Switching Current	100 mA
Residual Current Switching Output	< 50 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
Mechanical Data	
Setting Method	IO-Link
Housing Material	Plastic
Optic Cover	Plastic, PA
Full Encapsulation	yes
Degree of Protection	IP67
Degree of Protection	IP68
Connection	M8 × 1; 4-pin
Cable length (L)	186 mm
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	4174,89 a
Scope of delivery	1 × initial start-up instructions 1 × sensor
Packaging unit	1 Piece
PNP NC, PNP NO	☒
IO-Link	☒
Connection Diagram No.	866
Suitable Connection Equipment No.	7

* Default

** Temperature range with permanently installed cable; bending radius: > 20 mm



Ctrl. Panel
OP5



Legend					
+	Supply Voltage +	PT	Platinum measuring resistor	ENAR5422	Encoder A/Ä (TTL)
-	Supply Voltage 0 V	nc	Not connected	ENBR5422	Encoder B/ß (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	ENA	Encoder A
A	Switching Output (NO)	Ü	Test Input inverted	ENb	Encoder B
Ä	Switching Output (NC)	W	Trigger Input	AMIN	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
Û	Contamination/Error Output (NC)	O	Analog Output	AOK	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY In	Synchronization In
T	Teach Input	BZ	Block Discharge	SY OUT	Synchronization OUT
R	Reset 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		
RDY	Ready	E+	Receiver-Line	BK	Black
GND	Ground	S+	Emitter-Line	BN	Brown
CL	Clock	±	Grounding	RD	Red
E/A	Output/Input programmable	SnR	Switching Distance Reduction	OG	Orange
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path	YE	Yellow
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	GN	Green
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	BU	Blue
QSSD	Safety Output	La	Emitted Light disengageable	VT	Violet
Signal	Signal Output	Mag	Magnet activation	GY	Grey
BL_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	WH	White
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring	PK	Pink
				GNYE	Green/Yellow