

# Fork Sensor

## YH03NCT8

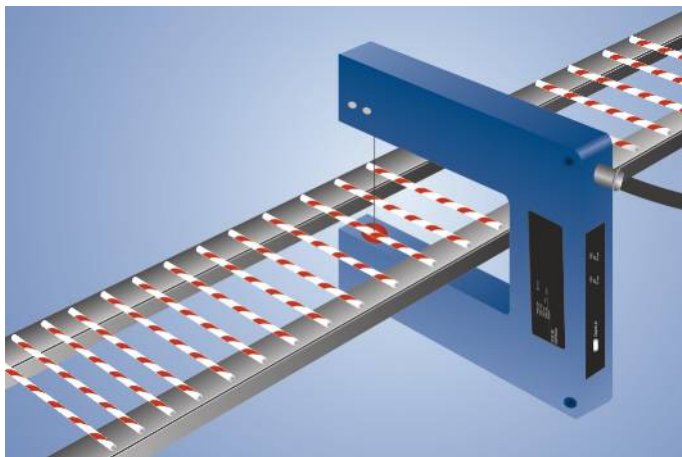
Part Number



- Fine light beam (0,6 mm) over entire width of fork
- Recognition of transparent objects
- Repetition accuracy: 5  $\mu\text{m}$
- Teach-in

The transmitter and the receiver are integrated into a single housing as a light barrier. If the active light beam between the transmitter and the receiver is interrupted, the output is switched accordingly.

Thanks to the use of visible laser light, the sensor is very easy to align to the object. The use of a fine light beam ensures a small diameter spot over the entire width of the fork. This allows for the recognition of extremely small parts, holes, slots and notches.



### Technical Data

Optical Data	
Fork Width	30 mm
Smallest Recognizable Part	40 $\mu\text{m}$
Smallest Detectable Gap	50 $\mu\text{m}$
Switching Hysteresis	< 20 $\mu\text{m}$
Light Source	Laser (red)
Wavelength	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Max. Ambient Light	10000 Lux
Light Spot Diameter	0,6 mm
Repeat Accuracy	< 5 $\mu\text{m}$

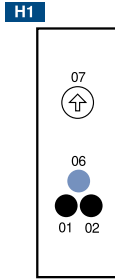
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 50 mA
Switching Frequency	10 kHz
Response Time	50 $\mu\text{s}$
Off-Delay	0...100 ms
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 1,5 V
NPN Switching Output/Switching Current	200 mA
Internal Load Switching Output	5100 Ohm
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Teach Mode	NT, MT
Protection Class	III
FDA Accession Number	2510938-000

Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic, PA
Housing Material	Steel, nickel-plated
Optic Cover	Plastic, PC
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 × 1; 3-pin

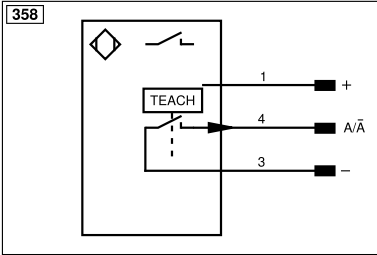
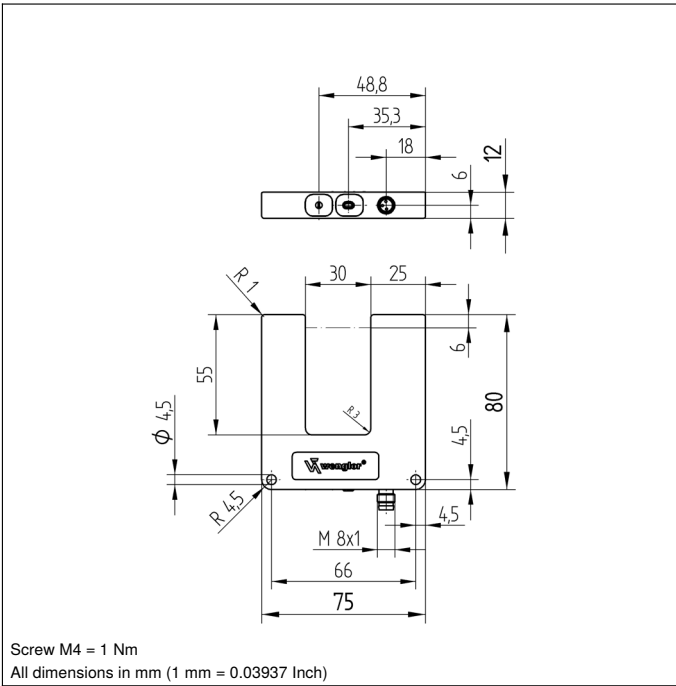
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1436,4 a

NPN NO	●
Connection Diagram No.	357
Control Panel No.	H1
Suitable Connection Equipment No.	8

### Ctrl. Panel



- 01 = Switching Status Indicator
- 02 = Contamination Warning
- 06 = Teach Button
- 07 = Selector Switch



Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ā	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
ȳ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	Amv	Valve Output
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	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	±	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring
PT	Platinum measuring resistor	ENARs422	Encoder A/Ā (TTL)
			Wire Colors according to DIN IEC 60757
			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

