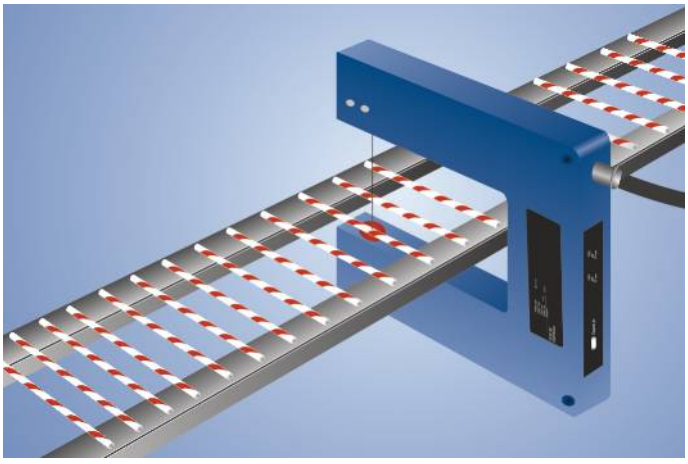
Fork Sensor

YH03PCT8 LASER

Part Number

- **Fine light beam (0,6 mm) over entire width of fork**
- **Recognition of transparent objects**
- **Repetition accuracy: 5 µm**
- **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 extremly small parts, holes, slots and notches.

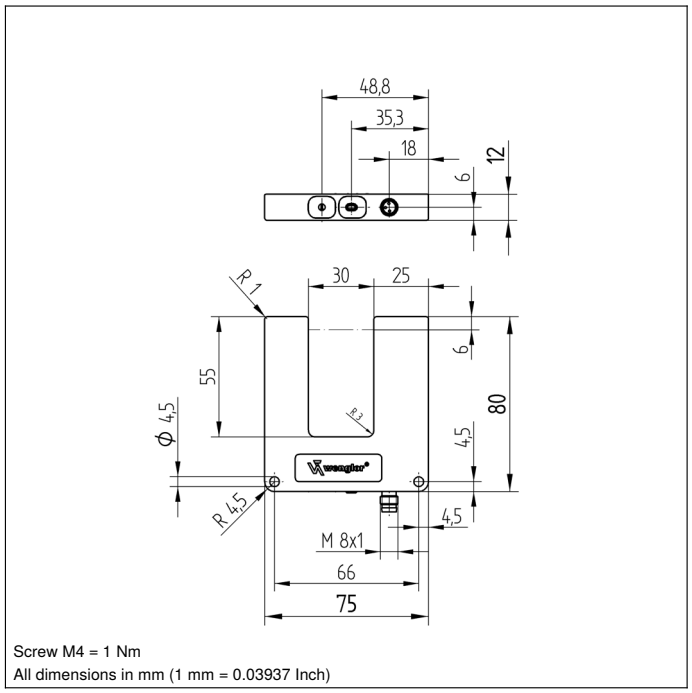


Technical Data

Optical Data	
Fork Width	30 mm
Smallest Recognizable Part	40 µm
Smallest Detectable Gap	50 µm
Switching Hysteresis	< 20 µm
Light Source	Laser (red)
Wavelength	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Light Spot Diameter	0,6 mm
Repeat Accuracy	< 5 µm
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 50 mA
Switching Frequency	10 kHz
Response Time	50 µs
Off-Delay	0...100 ms
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 1,5 V
PNP 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	0820591-000
Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic; Steel, nickel-plated
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 × 1; 3-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1436,4 a
PNP NO/NC switchable	●
Connection Diagram No.	158
Control Panel No.	H1
Suitable Connection Equipment No.	8

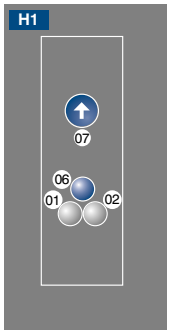
Complementary Products

PNP-NPN Converter BG8V1P-N-2M

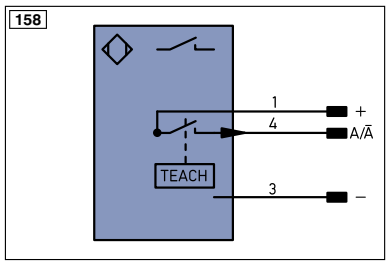


Screw M4 = 1 Nm
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



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



Legend

+	Supply Voltage +
–	Supply Voltage 0 V
~	Supply Voltage (AC Voltage)
A	Switching Output (NO)
Ā	Switching Output (NC)
V	Contamination/Error Output (NO)
V̄	Contamination/Error Output (NC)
E	Input (analog or digital)
T	Teach Input
Z	Time Delay (activation)
S	Shielding
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
	IO-Link
PoE	Power over Ethernet
IN	Safety Input
OSSD	Safety Output
Signal	Signal Output
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)
EN0 RS422	Encoder 0-pulse 0-0̄ (TTL)
PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ū	Test Input inverted
W	Trigger Input
W–	Ground for the Trigger Input
O	Analog Output
O–	Ground for the Analog Output
BZ	Block Discharge
AMV	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY–	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
⏚	Grounding
SnR	Switching Distance Reduction
Rx+/–	Ethernet Receive Path
Tx+/–	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(–)
La	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactor Monitoring
ENA RS422	Encoder A/Ā (TTL)
ENB RS422	Encoder B/B̄ (TTL)
ENA	Encoder A
ENB	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOK	Digital output OK
SY In	Synchronization In
SY OUT	Synchronization OUT
OLT	Brightness output
M	Maintenance
rsv	reserved

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

Specifications are subject to change without notice