

# Fork Sensor

## YH05PCT8 LASER

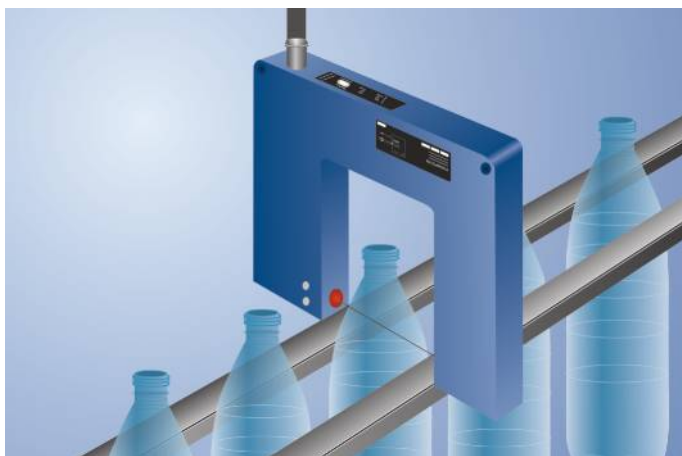
Part Number



- 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	50 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)	2
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
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

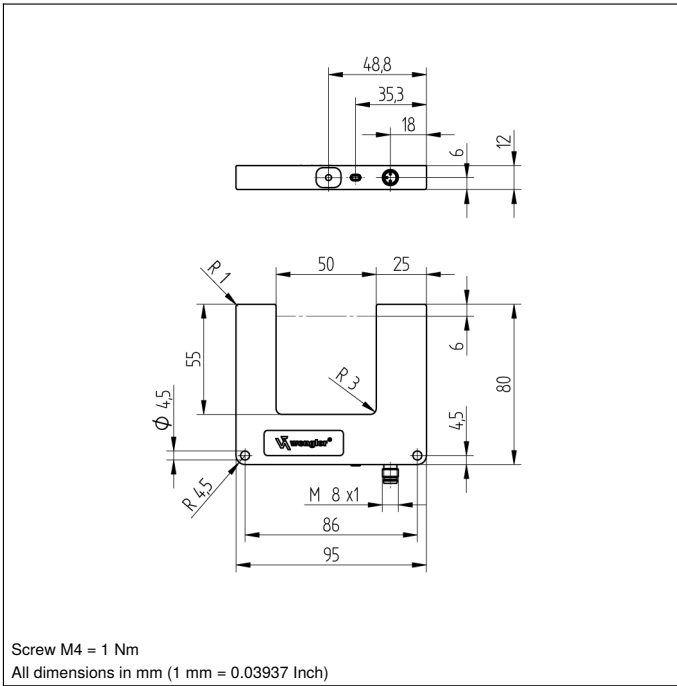
Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic; Steel, nickel-plated
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M8 × 1; 3-pin

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

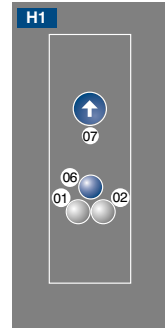
PNP NO/NC switchable	●
Connection Diagram No.	<b>158</b>
Control Panel No.	<b>H1</b>
Suitable Connection Equipment No.	<b>8</b>

### Complementary Products

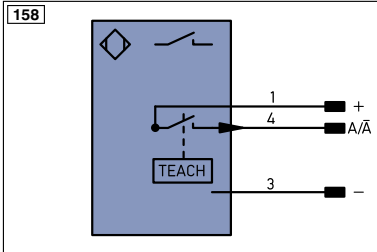
PNP-NPN Converter BG8V1P-N-2M



### Ctrl. Panel



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



### Legend

+	Supply Voltage +	PT	Platinum measuring resistor	EN <sup>A/RS422</sup>	Encoder A/ $\bar{A}$ (TTL)
-	Supply Voltage 0 V	nc	not connected	EN <sup>B/RS422</sup>	Encoder B/ $\bar{B}$ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	EN <sup>A</sup>	Encoder A
A	Switching Output (NO)	$\bar{U}$	Test Input inverted	EN <sup>B</sup>	Encoder B
$\bar{A}$	Switching Output (NC)	W	Trigger Input	A <sup>MIN</sup>	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	A <sup>MAX</sup>	Digital output MAX
$\bar{V}$	Contamination/Error Output (NC)	O	Analog Output	A <sup>OK</sup>	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY <sup>In</sup>	Synchronization In
T	Teach Input	BZ	Block Discharge	SY <sup>OUT</sup>	Synchronization OUT
Z	Time Delay (activation)	A <sup>MV</sup>	Valve Output	OL <sup>T</sup>	Brightness output
S	Shielding	a	Valve Control Output +	M	Maintenance
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved
TxD	Interface Send Path	SY	Synchronization	Wire Colors according to DIN IEC 757	
RDY	Ready	SY-	Ground for the Synchronization	BK	Black
GND	Ground	E+	Receiver-Line	BN	Brown
CL	Clock	S+	Emitter-Line	RD	Red
E/A	Output/Input programmable	$\pm$	Grounding	OG	Orange
	IO-Link	S <sup>nR</sup>	Switching Distance Reduction	YE	Yellow
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path	GN	Green
IN	Safety Input	Tx+/-	Ethernet Send Path	BU	Blue
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
Signal	Signal Output	L <sup>a</sup>	Emitted Light disengageable	GY	Grey
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White
EN <sup>0/RS422</sup>	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contacting Monitoring	GNYE	Green/Yellow

