

Fork Sensor

YH03PCT8

LASER

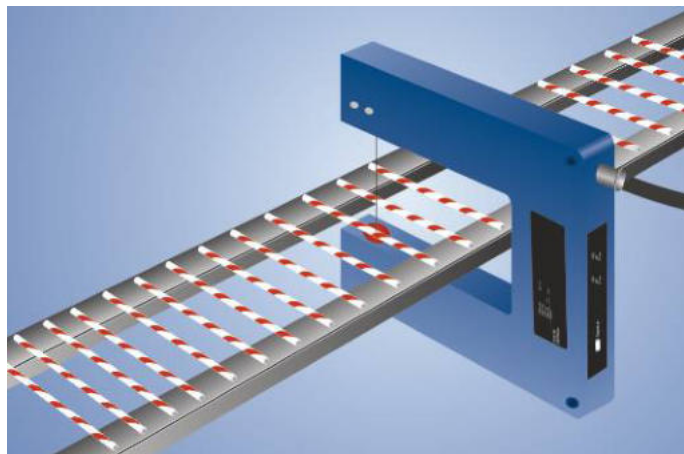
Part Number



- 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 extremely 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 (U _b = 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.

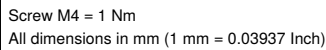
H1

Suitable Connection Equipment No.

8

Complementary Products

PNP-NPN Converter BG8V1P-N-2M



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



+	Supply Voltage +	P1	Mainframe measuring resistor
−	Supply Voltage 0 V	nc	not connected
~	Supply Voltage (AC Voltage)	U	Test Input
A	Switching Output (NO)	Ū	Test Input inverted
Ā	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W−	Ground for the Trigger Input
Ṽ	Contamination/Error Output (NC)	O	Analog Output
E	Input (analog or digital)	O−	Ground for the Analog Output
T	Teach Input	BZ	Block Discharge
Z	Time Delay (activation)	AW	Valve Output
S	Shielding	a	Valve Control Output +
RxD	Interface Receive Path	b	Valve Control Output 0 V
TxD	Interface Send Path	SY	Synchronization
RDY	Ready	SY−	Ground for the Synchronization
GND	Ground	E+	Receiver-Line
CL	Clock	S+	Emitter-Line
E/A	Output/Input programmable	±	Grounding
⚡	IO-Link	SnR	Switching Distance Reduction
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path
IN	Safety Input	Tx+/-	Ethernet Send Path
OSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)
Signal	Signal Output	La	Emitted Light disengageable
Bi-D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation
EN0 RS422	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation
		EDM	Contactor Monitoring

EN ₉₅₄₂₂	Encoder A/A (TTL)
EN ₉₅₄₂₂	Encoder B/B (TTL)
EN _A	Encoder A
EN _B	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