

Fork Sensor

YH03NCT8

LASER

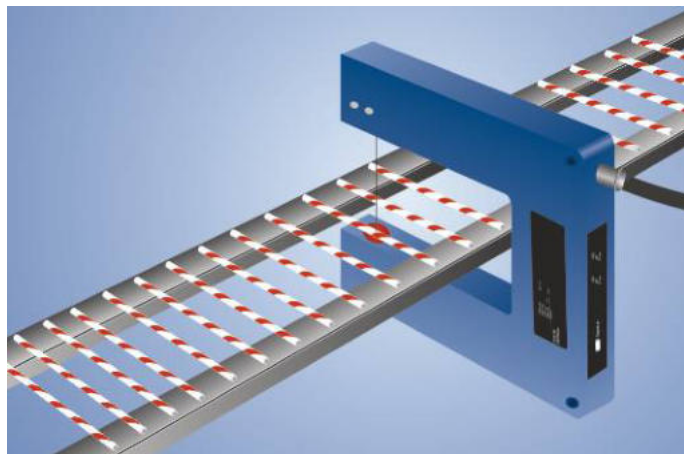
Part Number



- 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)
Wave Length	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
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
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	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
------------------------	----------

NPN NO/NC switchable

Connection Diagram No.

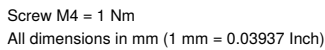
Control Panel No.

Suitable Connection Technology No.

358

H1

8



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



+	Supply Voltage +	Platinum measuring resistor
−	Supply Voltage 0 V	nc not connected
~	Supply Voltage (AC Voltage)	U Test Input
Ü	Switching Output (NO)	Ü Test Input inverted
A	Switching Output (NC)	W Trigger Input
Ä	Switching Output (NC)	O Analog Output
V	Contamination/Error Output (NO)	O− Ground for the Analog Output
Ȳ	Contamination/Error Output (NC)	BZ Block Discharge
E	Input (analog or digital)	AW Valve Output
T	Teach Input	a Valve Control Output +
Z	Time Delay (activation)	b Valve Control Output 0 V
S	Shielding	SY Synchronization
RxD	Interface Receive Path	E+ Receiver-Line
TxD	Interface Send Path	S+ Emitter-Line
RDY	Ready	≡ Grounding
GND	Ground	SnR Switching Distance Reduction
CL	Clock	Rx+/- Ethernet Receive Path
E/A	Output/Input programmable	Tx+/- Ethernet Send Path
	IO-Link	Bus Interfaces-Bus A(+)/B(-)
PoE	Power over Ethernet	La Emitted Light disengageable
IN	Safety Input	Mag Magnet activation
QSSD	Safety Output	RES Input confirmation
Signal	Signal Output	EDM Contactor Monitoring
Bl-D/-	Ethernet Gigabit bidirect. data line (A-D)	ENAR542 Encoder A/A (TTL)
EN0 RS422	Encoder 0-pulse 0-0 (TTL)	ENAR542 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
QLT	Brightness output
M	Maintenance

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