Fork Sensor

OPT347
Part Number

- **Fast and easy installation thanks to emitter + receiver in one housing**
- **No reflector required**
- **Suitable for easy precision rack positioning**
- **Up to four states are detected and output via the switching outputs**

Double fork sensors are used for rapid rough and precision positioning. A recess in the object to be referenced, which encompasses both light beams exactly, serves as a position mark. When approaching, one beam is released first to determine the approximate position. As soon as the second beam is released, an exact positioning, the precise position, is found. The sequence in which the beams are released provides additional direction information. The sensor outputs the information in a universal format via two digital switching outputs. The integration of the emitter and receiver into a single housing allows for fast installation without additional alignment or a reflector, even in confined spaces. One example of a typical application is precision positioning in intralogistics.

Technical Data

| Optical Data	
Fork Width	32 mm
Light Source	Infrared Light
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 30 mA
Switching Frequency	5 kHz
Response Time	100 μs
Temperature Range	-30...50 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	50 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
Mechanical Data	
Housing Material	Plastic
Degree of Protection	IP67
Connection	M8 × 1; 4-pin
Cable Length	150 mm
Packaging unit	1 Piece
PNP NO	●
Connection Diagram No.	247

1 = Optical axis A1
2 = Optical axis A2
All dimensions in mm (1 mm = 0.03937 Inch)
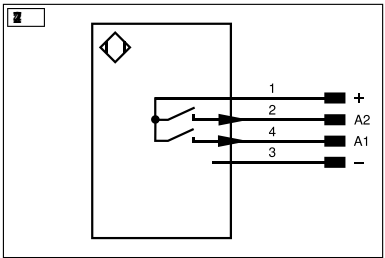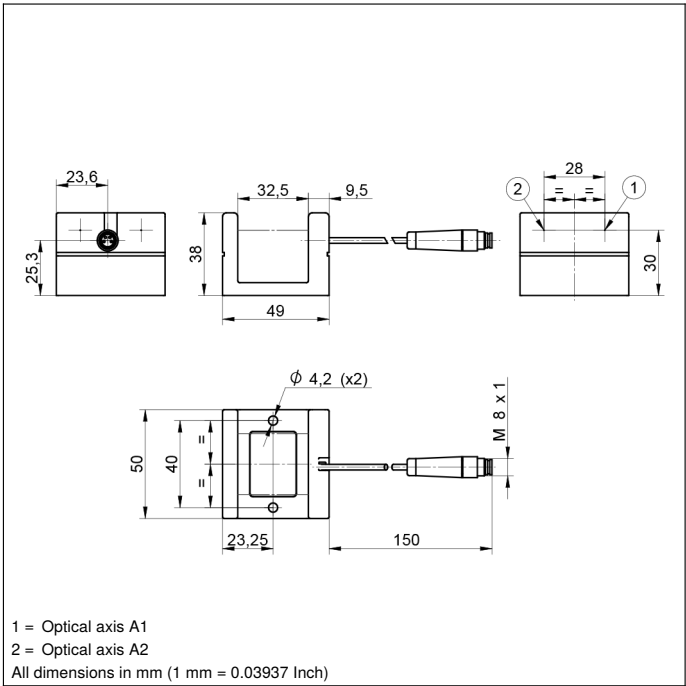
Legend					
+	Supply Voltage +	nc	Not connected	ENBRS422	Encoder B/B̄ (TTL)
−	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENB	Encoder B
A	Switching Output (NO)	W	Trigger Input	AMIN	Digital output MIN
Ā	Switching Output (NC)	W−	Ground for the Trigger Input	AMAX	Digital output MAX
V	Contamination/Error Output (NO)	O	Analog Output	AOK	Digital output OK
V̄	Contamination/Error Output (NC)	O−	Ground for the Analog Output	SY In	Synchronization In
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
T	Teach Input	AMV	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY−	Ground for the Synchronization	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	⏚	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
⬨	IO-Link	Rx+/−	Ethernet Receive Path	GN	Green
PoE	ower over Ethernet	Tx+/−	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(−)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BI_D+/−	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
EN0 RS422	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)		