

Through-Beam Sensor

P1NS101

Part Number

PNG//smart



- Condition monitoring
- High light intensity with large switching reserve
- IO-Link 1.1
- Test input for high operational reliability

Technical Data

Optical Data

Range 20000 mm

Light Source Red Light

Service Life ($T = +25^\circ\text{C}$) 100000 h

Opening Angle 4 °

Light Spot Diameter see Table 1

Electrical Data

Sensor Type Emitter

Supply Voltage 10...30 V DC

Current Consumption ($U_b = 24\text{ V}$) < 30 mA

Temperature Drift < 10 %

Temperature Range -40...60 °C

Reverse Polarity Protection yes

Test input yes

Protection Class III

Mechanical Data

Housing Material Plastic

Degree of Protection IP67/IP68

Connection M12 x 1; 4-pin

Optic Cover PMMA

Safety-relevant Data

MTTFd (EN ISO 13849-1) 4534,36 a

Connection Diagram No. 1018

Control Panel No. A29

Suitable Connection Equipment No. 2

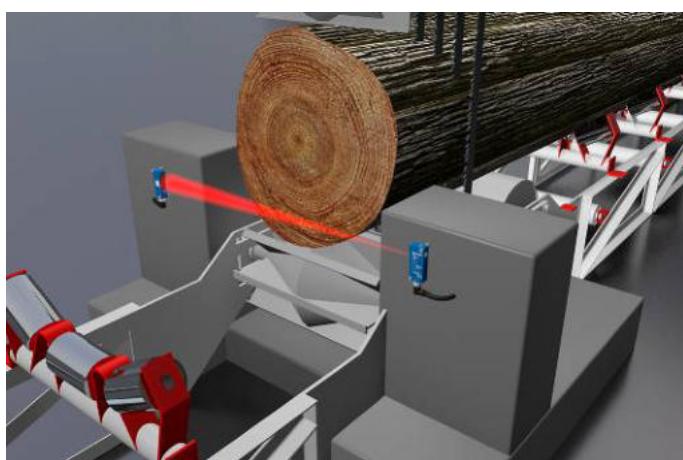
Suitable Mounting Technology No. 350

Suitable Receiver

P1NE101

P1NE102

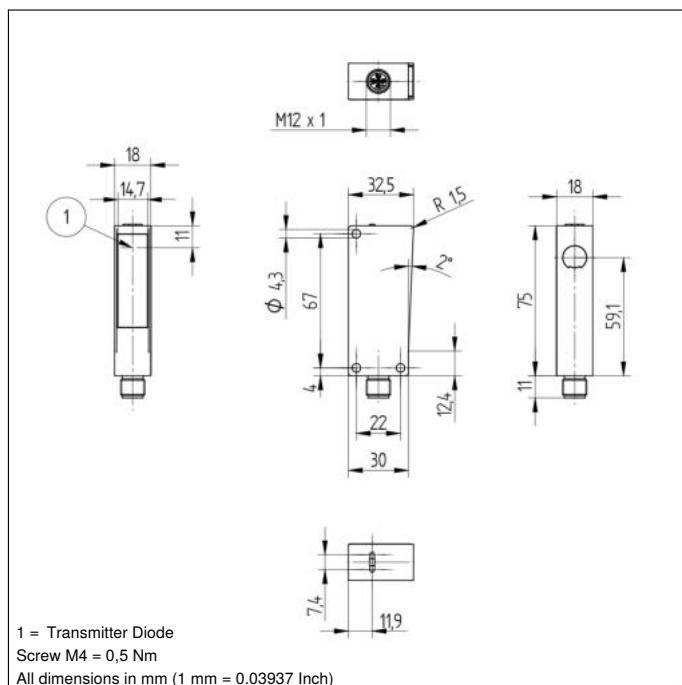
The through-beam sensor works with red light as well as a transmitter and a receiver. Thanks to their high light intensity, the sensor provides a high degree of operational reliability even with interferences like steam, fog or dust. The transmitter can be deactivated using test input in order to test the functionality of the through-beam sensor. The IO-Link interface can be used to configure the sensor (PNP/NPN, NC/NO, switching distance), as well as for reading out switching statuses and signal values.



Complementary Products

Dust Extraction Tube STAUBTUBUS-03

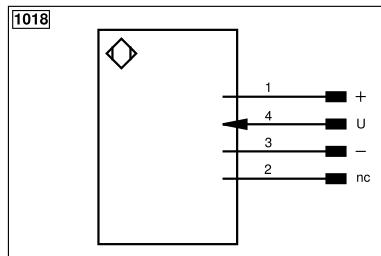
Set Protective Housing Z1NS001



1 = Transmitter Diode

Screw M4 = 0,5 Nm

All dimensions in mm (1 mm = 0.03937 Inch)



Legend					
+	Supply Voltage +	nc	Not connected	EN _{RS422}	Encoder B/̄B (TTL)
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted	ENb	Encoder B
A	Switching Output (NO)	W	Trigger Input	AMIN	Digital output MIN
Ä	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
̄V	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	Power over Ethernet	Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengagable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BI_D+/-	Ethernet Gigabit bidirec. data line (A-D)	RES	Input confirmation	PK	Pink
EN _{RS422}	Encoder 0-pulse 0/̄0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	FNAs _{RS422}	Encoder A/̄A (TTL)		

Table 1

Distance transmitter/receiver	1 m	5 m	20 m
Light Spot Diameter	80 mm	200 mm	800 mm

