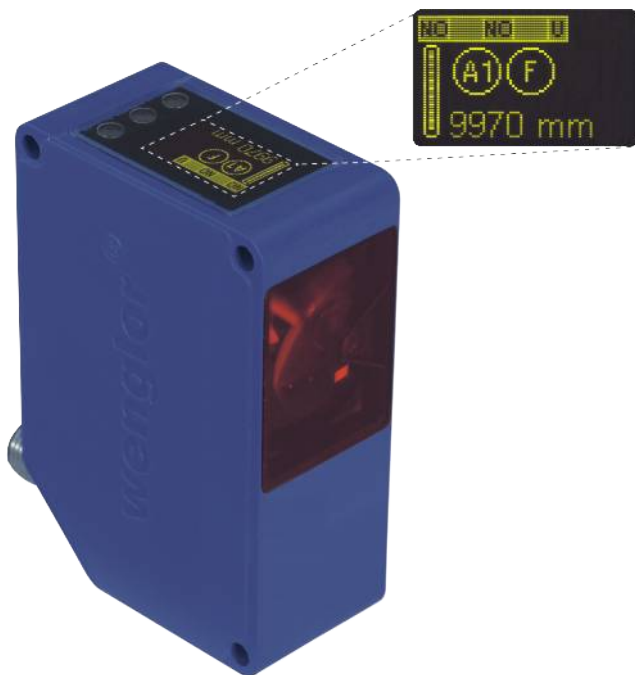


Sensor

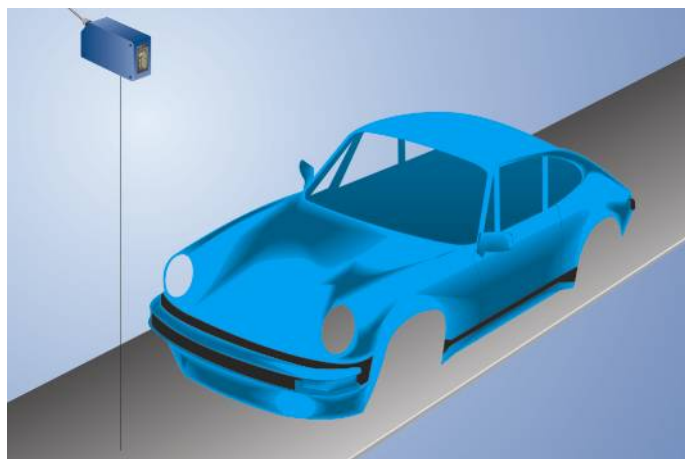
OPT291 LASER

Part Number



- Emitted light disengageable
- Graphical display for easy operation
- Temperature drift eliminable

These sensors have scratch-resistant optics and the emitted light can be switched off. They use the transit time measurement principle to measure the distance between the sensor and the object. For this reason, the object's color, shape and surface characteristics have practically no influence on measurement results. Even dark objects can be reliably recognized.

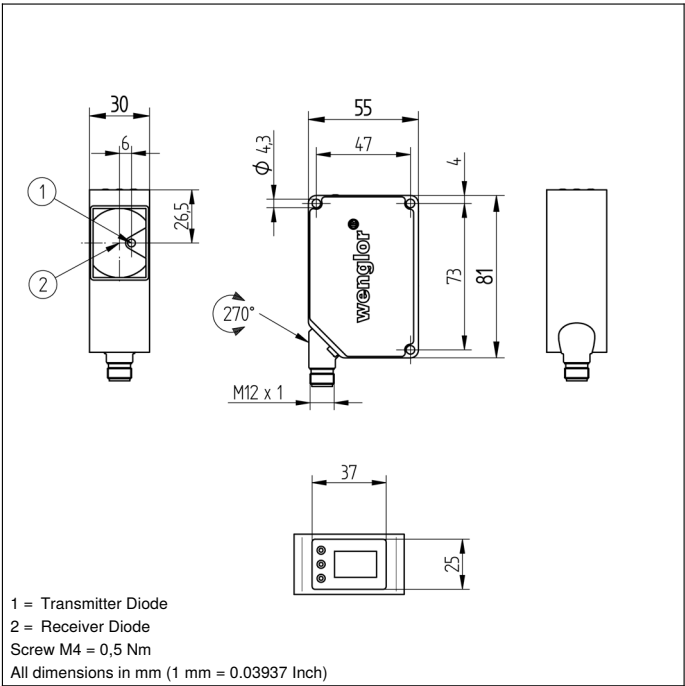


Technical Data

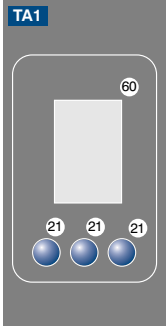
Optical Data	
Working Range	0,1...10,1 m
Measuring Range	10 m
Resolution	1...12 mm
Linearity (Working Range 0,1...5 m)	0,05 %
Linearity (Working Range 5...10,1 m)	0,2 %
Switching Hysteresis	3...20 mm
Light Source	Laser (red)
Wave Length	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Beam Divergence	< 2 mrad
Spot Diameter	see Table 1
Electrical Data	
Supply Voltage	12...24 V DC
Current Consumption (U _b = 24 V)	< 100 mA
Switching Frequency	50 Hz
Measuring Rate	1...100 /s
On-/Off-Delay	0...10000 ms
Temperature Drift (-10 °C < T _u < 50 °C)	< 0,2 mm/K
Temperature Drift (T _u < -10 °C, T _u > 50 °C)	< 0,4 mm/K
Temperature Range	-25...60 °C
Switching Outputs	1
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	200 mA
Analog Output	0...5 V
Short Circuit Protection	yes
Reverse Polarity and Overload Protection	yes
Interface	RS-232
Protection Class	III
Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic
Degree of Protection	IP68
Connection	M12 × 1; 8-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	346,62 a
Error Output	●
Configurable as PNP/NPN/Push-Pull	●
Analog Output	●
RS-232 Interface	●
Connection Diagram No.	526
Control Panel No.	TA1
Suitable Connection Technology No.	88
Suitable Mounting Technology No.	340

Complementary Products

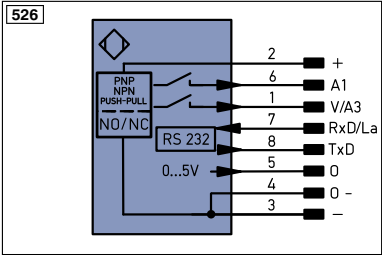
Analog Evaluation Unit AW02
Feldbus Gateways ZAGxxxN01, EPGG001
Interface Cable S232W3
Protection Housing Set ZST-NN-02



Ctrl. Panel



21 = Mode Button
60 = Display



Legend

+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMIN	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMAX	Digital output MAX
Ä	Switching Output (NC)	W	Trigger Input	AOK	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
Ŵ	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	0Lt	Brightness output
T	Teach Input	AwV	Valve Output	M	Maintenance
Z	Time Delay (activation)	a	Valve Control Output +		
S	Shielding	b	Valve Control Output 0 V		
RxD	Interface Receive Path	SY	Synchronization		
TxD	Interface Send Path	E+	Receiver-Line		
RDY	Ready	S+	Emitter-Line		
GND	Ground	±	Grounding		
CL	Clock	SnR	Switching Distance Reduction		
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path		
IO-Link	IO-Link	Tx+/-	Ethernet Send Path		
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)/B(-)		
IN	Safety Input	La	Emitted Light disengageable		
OSSD	Safety Output	Mag	Magnet activation		
Signal	Signal Output	RES	Input confirmation		
BL_D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactors Monitoring		
EN0RS422	Encoder 0-pulse 0-0 (TTL)	ENAR5422	Encoder A/Ä (TTL)		
		ENBR5422	Encoder B/B (TTL)		

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

Table 1

Working Distance	0 m	10 m
Spot Diameter	5 mm	< 20 mm

