

High-Performance Distance Sensor

OD08RH8C

LASER

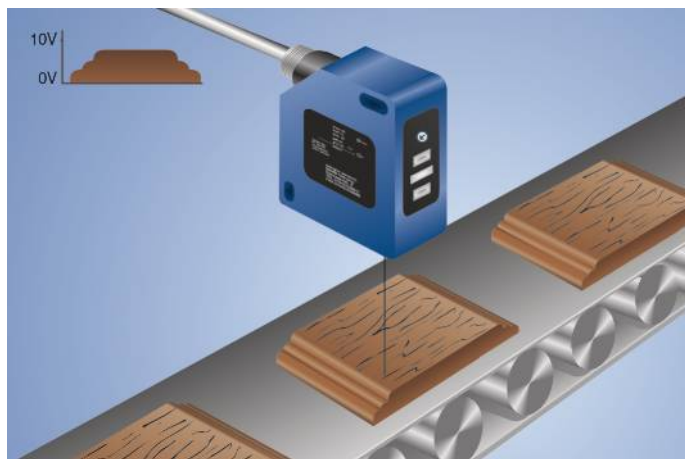
Part Number



- **High resolution: 8 μm (resolution-mode)**
- **Linearity: 0,1 % (resolution-mode)**
- **Measured value independent of material, color and brightness**
- **Response time: < 660 μs (speed-mode)**
- **Zoom function**

These sensors work with a high-resolution CMOS line and DSP technology and determine distance using angular measurement. As a result, material, color and brightness related measurement differences are virtually eliminated.

Integrated analogue output can be configured for voltage 0...10 V (10...0 V) or current 4...20 mA (20...4 mA).



Technical Data

Optical Data

Working Range	30...80 mm
Measuring Range	50 mm
Resolution	8 μm
Resolution (Speed-Mode)	12 μm
Linearity	0,1 %
Linearity (Speed-Mode)	0,2 %
Light Source	Laser (red)
Wave Length	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Spot Diameter	see Table 1

Electrical Data

Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	< 80 mA
Measuring Rate	1500 /s
Measuring Rate (Resolution-Mode)	600 /s
Response Time	< 660 μs
Response Time (Resolution Mode)	< 1660 μs
Temperature Drift	< 5 $\mu\text{m/K}$
Temperature Range	-25...50 °C
Analog Output	0...10 V/4...20 mA
Current Load Voltage Output	< 1 mA
Current Output Load Resistance	< 500 Ohm
Interface	RS-232
Baud Rate	38400 Bd
Protection Class	III
FDA Accession Number	0820588-000

Mechanical Data

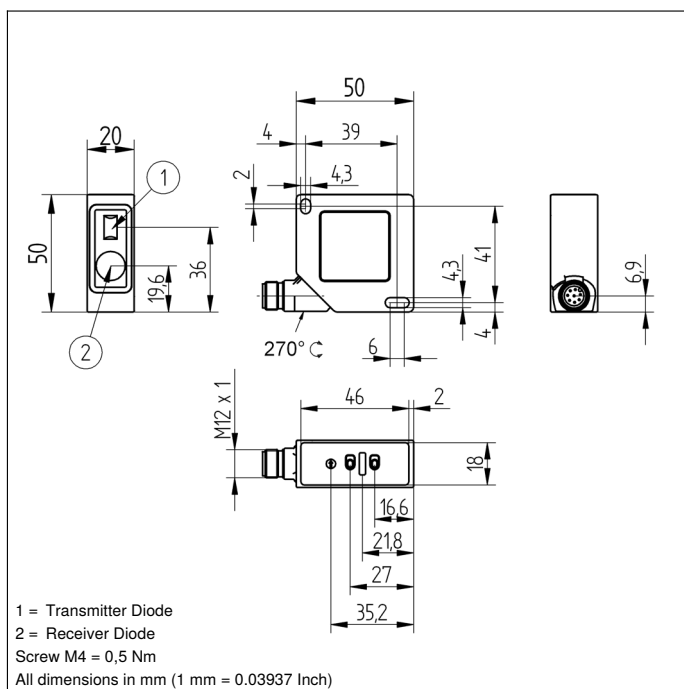
Setting Method	Teach-In
Housing Material	Plastic
Degree of Protection	IP67
Connection	M12 $\times$ 1; 8-pin

Error Output	●
Analog Output	●
RS-232 Interface	●

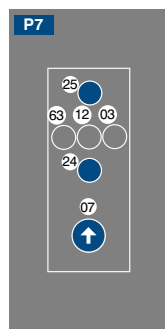
Connection Diagram No.	529
Control Panel No.	P7
Suitable Connection Technology No.	80
Suitable Mounting Technology No.	380

Complementary Products

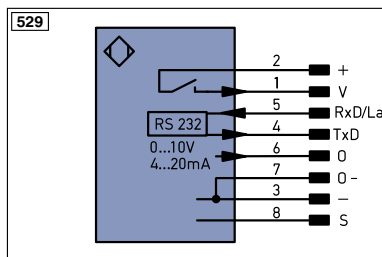
Analog Evaluation Unit AW02
Feldbus Gateways ZAGxxxN01, EPGG001
Interface Cable S232W3
Protection Housing Set ZSP-NN-02
Protection Housing ZSV-0x-01
wTeach2 software DNNF005



Ctrl. Panel



- 03 = Error Indicator
07 = Selector Switch
12 = Analog Output Indicator
24 = Plus Button
25 = Minus Button
63 = Analog Output Current Indicator



Legend

+	Supply Voltage +	PT	Platinum measuring resistor
-	Supply Voltage 0 V	nc	not connected
~	Supply Voltage (AC Voltage)	U	Test Input
A	Switching Output (NO)	U	Test Input inverted
Ä	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
Ṽ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	AWV	Valve Output
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		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
BI-D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contacting Monitoring
EN0 RS422	Encoder 0-pulse 0-0 (TTL)	ENAR5422	Encoder A/A (TTL)
		ENBR5422	Encoder B/B (TTL)

ENa	Encoder A
ENb	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

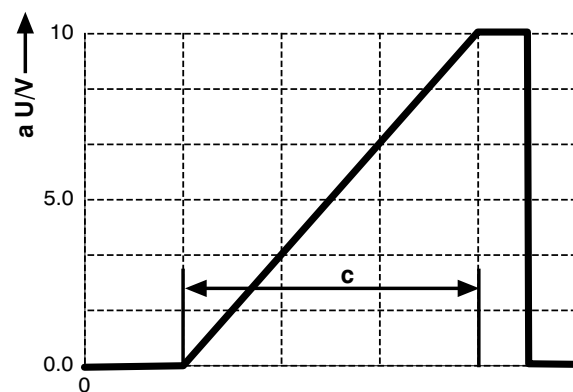
Wire Colors according to DIN IEC 757

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	30 mm	80 mm
Spot Size	0,5 × 1 mm	1 × 2 mm

Output Graph



c = Measuring Range

a = Analog Voltage Output

