

Laser Distance Sensor

Triangulation

CP35MHT80S957

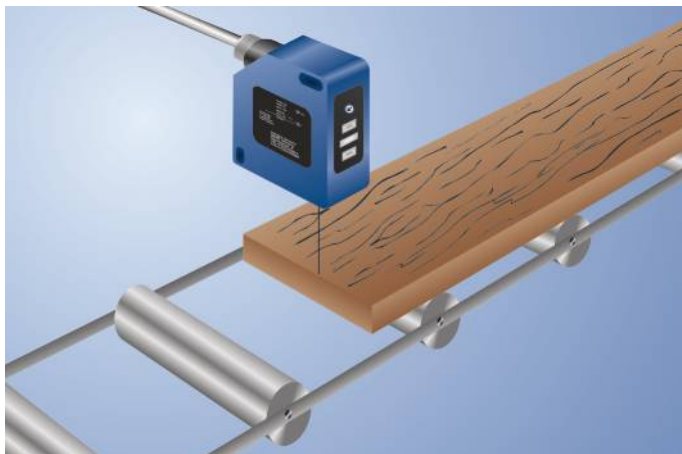
Part Number



- CMOS line array
- Laser light
- Measured value independent of material, color and brightness

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	50...350 mm
Measuring Range	300 mm
Reproducibility maximum	1200 μ m
Reproducibility: 1 Sigma	400 μ m
Linearity Deviation	1000 μ m
Light Source	Laser (red)
Wavelength	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1

Electrical Data

Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	< 80 mA
Measuring Rate	800 /s
Response Time	< 1250 μ s
Temperature Drift	< 75 μ m/K
Temperature Range	-25...50 °C
Analog Output	0...10 V
Load Current Voltage Output	< 1 mA
Current Output Load Resistance	< 500 Ohm
Protection Class	III
FDA Accession Number	0820590-000

Mechanical Data

Housing Material	Plastic, ABS
Housing Material	Plastic, PC
Optic Cover	Plastic, PMMA
Degree of Protection	IP67
Connection	M12 x 1; 8-pin

Safety-relevant Data

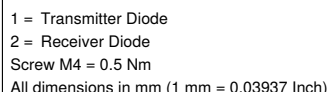
MTTFd (EN ISO 13849-1)	713,97 a
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Analog Output	●
Connection Diagram No.	226
Suitable Connection Equipment No.	80
Suitable Mounting Technology No.	380

Actual product not similar

Complementary Products

Analog Evaluation Unit AW02
Protective Housing ZSV-0x-01
Set Protective Housing ZSP-NN-02



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2 +
1 nc
5 nc
4 nc
6 O
7 O-
3 -
8 S

0...10V

Legend					
+	Supply Voltage +	nc	Not connected	EN _{BRG-022}	Encoder B/B̄ (TTL)
~	Supply Voltage 0 V	U	Test Input	EN _A	Encoder A
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted	EN _B	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
Û	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	ÄMV	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		
RDY	Ready	E+	Receiver-Line	BK	Black
GND	Ground	S+	Emitter-Line	BN	Brown
CL	Clock	≠	Grounding	RD	Red
E/A	Output/Input programmable	SnR	Switching Distance Reduction	OG	Orange
	IO-Link	Rx+/-	Ethernet Receive Path	YE	Yellow
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	GN	Green
IN	Safety Input	BUS	Interfaces-Bus A(+)/B(-)	BU	Blue
OSSD	Safety Output	La	Emitted Light disengageable	VT	Violet
Signal	Signal Output	Mag	Magnet activation	GY	Grey
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	WH	White
EN _{0 RS422}	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contact Monitoring	PK	Pink
PT	Platinum measuring resistor	FN _{AS422}	Encoder A/Ä (TTL)	GNYE	Green/Yellow

Working Distance	50 mm	350 mm
Spot Size	0,6 × 1,5 mm	1,5 × 4 mm

The graph illustrates the relationship between the measuring range c and the analog voltage output a in V/V. The y-axis ranges from 0.0 to 10.0 with major grid lines every 5.0 units. The x-axis is divided into three segments. The first segment shows a constant output of 0.0. The second segment shows a linear increase from 0.0 to 10.0. The third segment shows a constant output of 10.0.

c = Measuring Range
 a = Analog Voltage Output