

Laser Distance Sensor

Triangulation

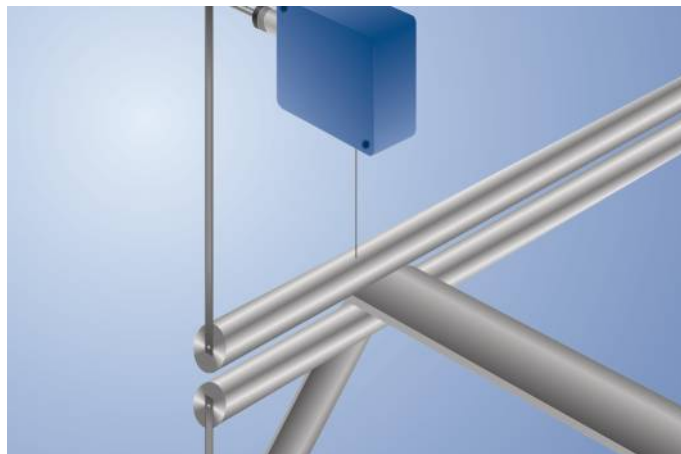
YP11MGV80 LASER

Part Number



- Cut-off frequency up to 1 kHz
- Linearity: 0,5 %
- Measuring range: 50 mm

These sensors can measure distances and display analog output. Their high resolution and wide variety of measuring ranges allow them to be used in innumerable applications. The output signal is practically independent of the object's color.



Technical Data

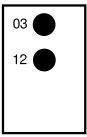
Optical Data	
Working Range	50...100 mm
Measuring Distance	75 mm
Measuring Range	50 mm
Resolution	100 μ m
Linearity	0,5 %
Linearity Deviation	250 μ m
Light Source	Laser (red)
Wavelength	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Light Spot Diameter	1 mm
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	< 30 mA
Cut-Off Frequency	1 kHz
Response Time	500 μ s
Temperature Drift (T _u < 10 °C, T _u > 40 °C)	20 μ m/K
Temperature Drift (10 °C < T _u < 40 °C)	10 μ m/K
Temperature Range	-10...60 °C
Error Output Voltage Drop	< 2,5 V
PNP Error Output/Switching Current	200 mA
Analog Output	0...10 V
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
Mechanical Data	
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 $\times$ 1; 8-pin
Error Output	●
Analog Output	●
Connection Diagram No.	503
Control Panel No.	P3
Suitable Connection Equipment No.	80
Suitable Mounting Technology No.	380

Complementary Products

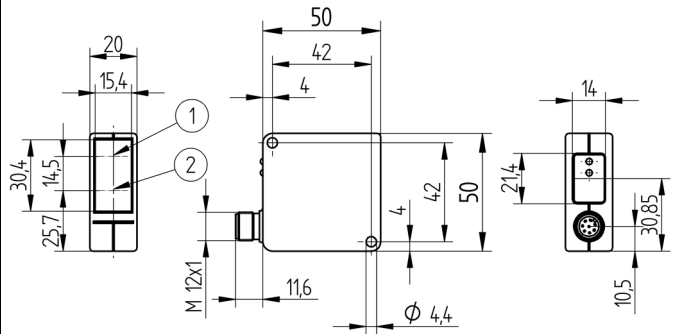
Analog Evaluation Unit AW02
Protective Housing ZSV-0x-01
Set Protective Housing ZSP-NN-02

Ctrl. Panel

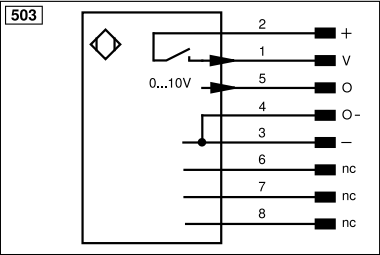
P3



03 = Error Indicator
12 = Analog Output Indicator



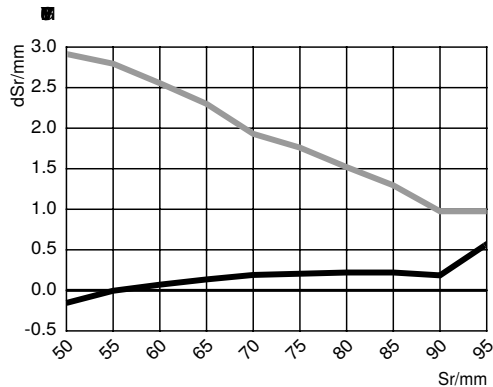
1 = Transmitter Diode
2 = Receiver Diode
Screw M4 = 1 Nm
All dimensions in mm (1 mm = 0.03937 Inch)



Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ů	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ā	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
Ȳ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	Amv	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	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	±	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
IO-Link		Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contact Monitoring
PT	Platinum measuring resistor	ENARIS422	Encoder A/A (TTL)
ENBIS422	Encoder B/B (TTL)	ENA	Encoder A
ENB	Encoder B	AMIN	Digital output MIN
AMAX	Digital output MAX	Ack	Digital output OK
SY In	Synchronization In	SY OUT	Synchronization OUT
OLt	Brightness output	M	Maintenance
rsv	Reserved		
Wire Colors according to DIN IEC 60757			
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		

Error of Measurement

Typical characteristic curve based on white, 90 % remission



Sr = Switching Distance
dSr = Switching Distance Change
black 6 % remission
Aluminum

