High-Performance Distance Sensor

YP11MGVL80 LASER

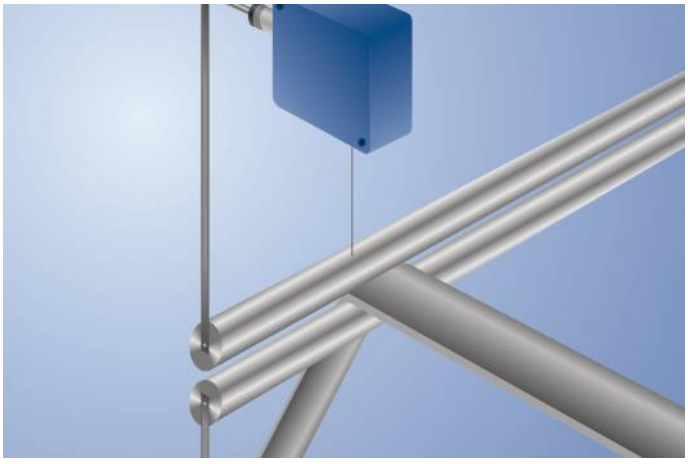
Part Number

- **Linearity: 0,5 %**
- **Measuring range: 50 mm**
- **Resolution up to 20 µm**

Technical Data

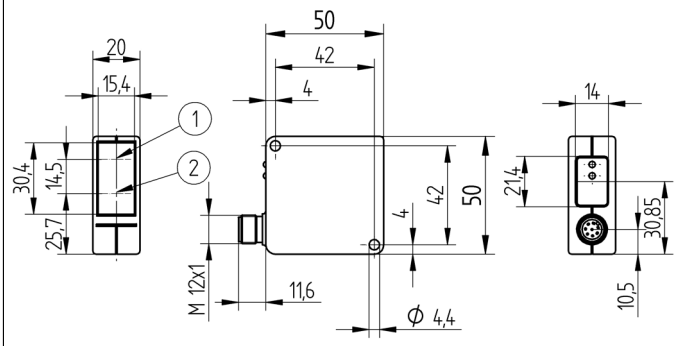
Optical Data	
Working Range	50...100 mm
Measuring Distance	75 mm
Measuring Range	50 mm
Resolution	25 µm
Linearity	0,5 %
Light Source	Laser (red)
Wavelength	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Light Spot Diameter	1 mm
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (Ub = 24 V)	< 30 mA
Cut-Off Frequency	100 Hz
Response Time	5 ms
Temperature Drift (Tu < 10 °C, Tu > 40 °C)	20 µm/K
Temperature Drift (10 °C < Tu < 40 °C)	10 µm/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 × 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

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.



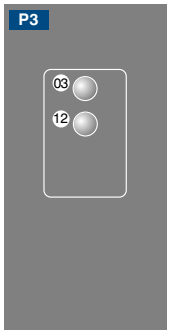
Complementary Products

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

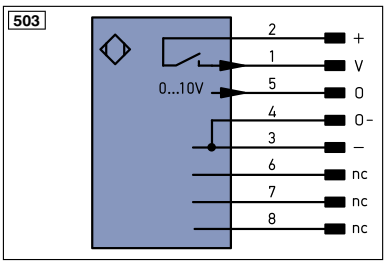


1 = Transmitter Diode
2 = Receiver Diode
Screw M4 = 1 Nm
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



03 = Error Indicator
12 = Analog Output Indicator



Legend

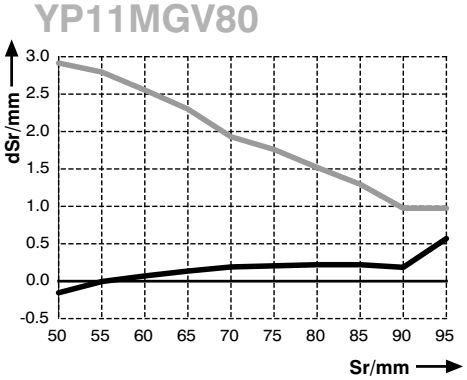
+	Supply Voltage +
–	Supply Voltage 0 V
~	Supply Voltage (AC Voltage)
A	Switching Output (NO)
Ā	Switching Output (NC)
V	Contamination/Error Output (NO)
V̄	Contamination/Error Output (NC)
E	Input (analog or digital)
T	Teach Input
Z	Time Delay (activation)
S	Shielding
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
	IO-Link
PoE	Power over Ethernet
IN	Safety Input
OSSD	Safety Output
Signal	Signal Output
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)
EN0 RS422	Encoder 0-pulse 0-0̄ (TTL)
PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ū	Test Input inverted
W	Trigger Input
W–	Ground for the Trigger Input
O	Analog Output
O–	Ground for the Analog Output
BZ	Block Discharge
AW	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY–	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
⏚	Grounding
SnR	Switching Distance Reduction
Rx+/–	Ethernet Receive Path
Tx+/–	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(–)
La	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactor Monitoring
ENA RS422	Encoder A/Ā (TTL)
ENB RS422	Encoder B/B̄ (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
rsv	reserved

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

Error of Measurement

Typical characteristic curve based on white, 90 % remission



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

LASER CLASS 2
EN60825-1