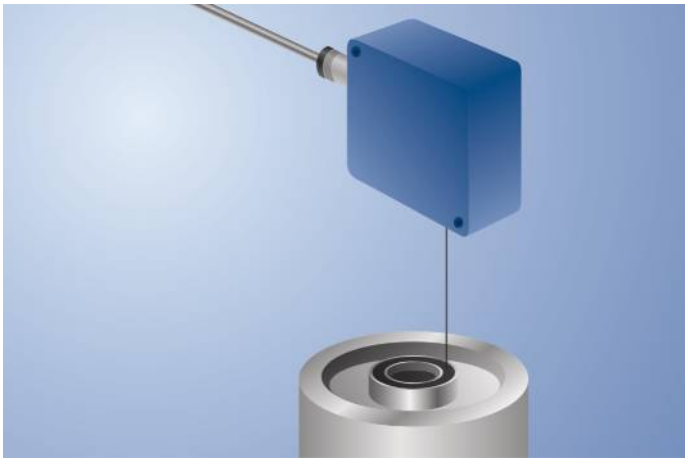
High-Performance Distance Sensor

CP25QXVT80 LASER

Part Number

- **CMOS line array**
- **Highly accurate switching distance**
- **Minimal switching hysteresis**
- **Switching point 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 switching point differences are virtually eliminated. Two independent switching outputs are available, at which two switching thresholds and one on or off-delay time (in 10 ms steps) can be configured. Sensor functions can be activated, and scanning results can be acquired via the RS-232 interface.

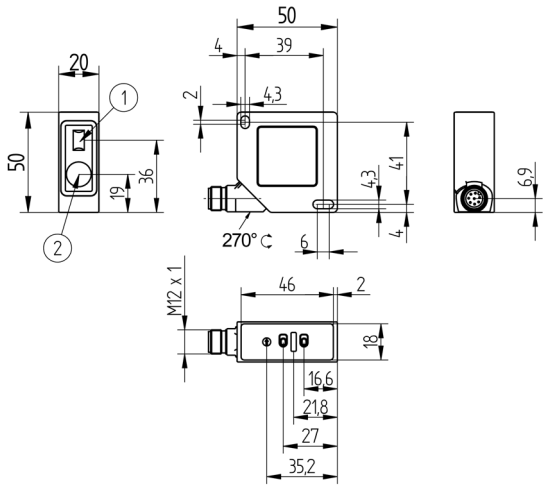


Technical Data

Optical Data	
Range	240 mm
Adjustable Range	40...240 mm
Switching Hysteresis	< 0,5 %
Light Source	Laser (red)
Wave Length	655 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	10...30 V DC
Current Consumption (Ub = 24 V)	< 50 mA
Switching Frequency	500 Hz
Response Time	< 1 ms
On-/Off-Delay (RS-232)	0...1 s
Temperature Drift	< 15 µm/K
Temperature Range	-25...60 °C
Switching Outputs	2
Switching Output Voltage Drop	< 1,5 V
Switching Output/Switching Current	200 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Teach Mode	HT, VT, TP
Baud Rate	38400 Bd
Protection Class	III
FDA Accession Number	0820586-000
Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic
Degree of Protection	IP67
Connection	M12 × 1; 8-pin
Error Output	●
Configurable as PNP/NPN/Push-Pull	●
Switchable to NC/NO	●
RS-232 Interface	●
Connection Diagram No.	737
Control Panel No.	P8
Suitable Connection Technology No.	80
Suitable Mounting Technology No.	380

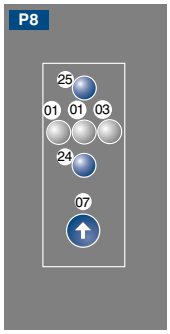
Complementary Products

Interface Cable S232W3
Protective Housing ZSV-0x-01
Set Protective Housing ZSP-NN-02
Software

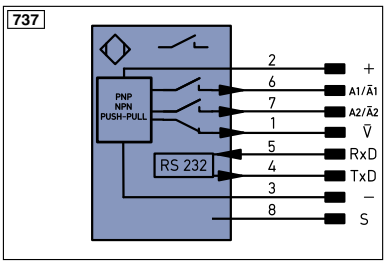


1 = Transmitter Diode
2 = Receiver Diode
Screw M4 = 0,5 Nm
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



01 = Switching Status Indicator
03 = Error Indicator
07 = Selector Switch
24 = Plus Button
25 = Minus Button



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
O	Analog Output
O–	Ground for the Analog Output
BZ	Block Discharge
AMV	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	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

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

Detection Range	40 mm	240 mm
Spot Size	0,6 × 2,5 mm	1 × 4 mm