

Laser Distance Sensor

Long-Range

OWTH-5020-DD-S1



- 2 mutually independent switching outputs
- Interference-free towards gloss in the background with wintec
- No mutual interference with WinTec
- Reliable in case of glossy objects with wintec
- Secure detection of black objects also in extremely inclined positions with wintec

These sensors have scratch-resistant optics and the emitted light can be switched off. They use the transit time measurement principle to measure the distance between the sensor and the object.

welotec interference-free technology has revolutionized sensor technology:

It makes it possible to mount several sensors directly next to, or opposite each other without the sensors influencing each other. The sensors reach a very high switching frequency and use laser class 1, which is safe for the human eye.



LASER

Technical Data

Optical Data	
Working Range	0...3000 mm
Adjustable Range	200...3000 mm
Switching Hysteresis	< 15 mm
Light Source	Laser (red)
Wavelength	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Beam Divergence	< 2 mrad
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1

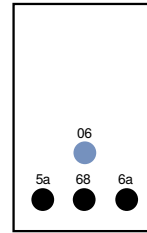
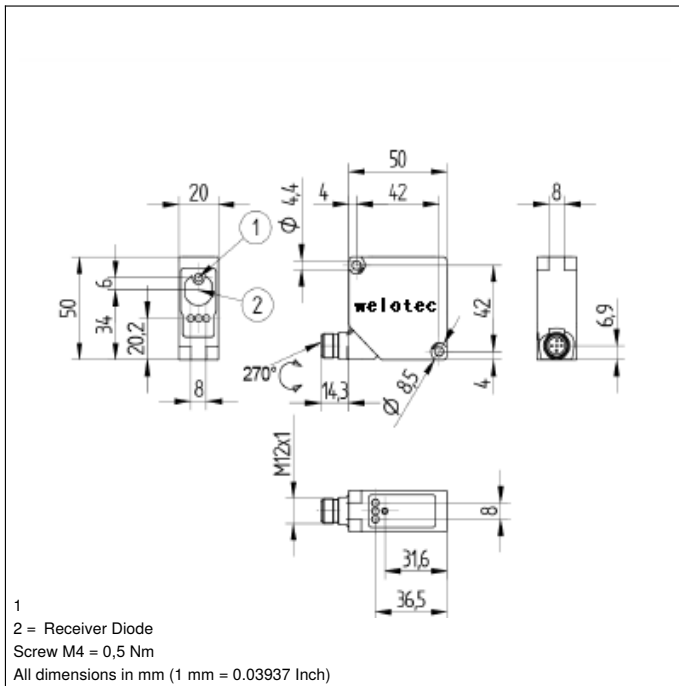
Electrical Data	
Supply Voltage	10...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (U _b = 24 V)	< 40 mA
Switching Frequency	500 Hz
Response Time	1 ms
Temperature Drift (-10 °C < T _u < 50 °C)	< 1 %
Temperature Drift (T _u < -10 °C, T _u > 50 °C)	< 2,5 %
Temperature Range	-40...60 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	200 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Interface	IO-Link V1.1
Protection Class	III
FDA Accession Number	1910001-000

Mechanical Data	
Setting Method	Teach-In
Housing Material	Plastic
Optic Cover	PMMA
Degree of Protection	IP68
Connection	M12 × 1; 4/5-pin

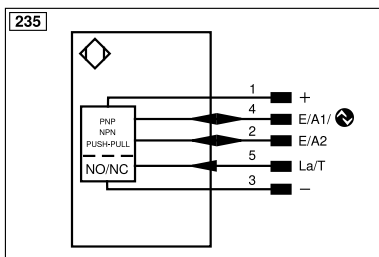
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	949,92 a
PNP NO/NC antivalent	●
IO-Link	●
Connection Diagram No.	235
Control Panel No.	P15
Suitable Connection Equipment No.	
Suitable Mounting Technology No.	38

Complementary Products

IO-Link Master	
Protective Housing	
Set Protective Housing	



06 = Teach Button
5a = Switching Status Display, O1
68 = supply voltage indicator
6a = Switching Status Display, O2



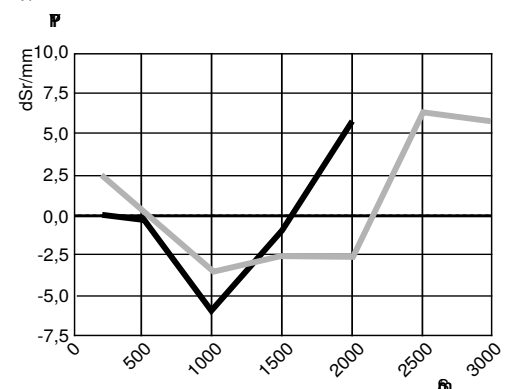
即使处于极度倾斜的位置，依然能够通过
WELOTEC实现对黑色对象的可靠识别
通过WELOTEC技术避免相互影响
通过WELOTEC技术免受背景光亮的干扰
通过WELOTEC技术可靠识别具有光泽度的物体
设有 2 个彼此独立的切换输出端

Table 1

Working Distance	0 m	3 m
Light Spot Diameter	5 mm	9 mm

Switching Distance Deviation

Typical characteristic curve based on white, 90 % remission



Sr = Switching Distance

dSr = Switching Distance Change

— black 6 % remission

- - - grey 18 % remission

