

EN

Proper Use

This wenglor product has to be used according to the following functional principle:

High-Performance Distance Sensors

High-performance distance sensors which use the principle of transit time measurement determine the distance between the sensor and the object according to the principle of transit time measurement. These sensors have a large working range and are therefore able to detect objects over large distances. Selected sensors are distinguished by WinTec (wenglor interference free technology). This technology allows black or shiny surfaces to be reliably detected even in extremely inclined positions. It is possible to mount several sensors next to or across from each other without them influencing each other.

Safety Precautions

- This operating instruction is part of the product and must be kept during its entire service life.
- Read this operating instruction carefully before using the product.
- Installation, start-up and maintenance of this product has only to be carried out by trained personnel.
- Tampering with or modifying the product is not permissible.
- Protect the product against contamination during start-up.
- Not a safety component in accordance with the EU Machinery Directive.

Laser/LED Warning



Laser Class 1 (EN 60825-1)
Observe all applicable standards and safety precautions.

Technical Data

Optical Data	
Working Range	0...3000 mm
Adjustable Range	200...3000 mm
Switching Hysteresis	< 15 mm
Light Source	Laser (red)
Wave Length	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Beam Divergence	< 2 mrad
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	1000 Hz
Response Time	0,5 ms
Temperature Drift (−10 °C < Tu < 50 °C)	< 1 %
Temperature Drift (Tu < −10 °C, Tu > 50 °C)	< 2,5 %
Temperature Range	−40...60 °C
Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V

CN

正确使用

必须按照下列工作原理使用该 wenglor 产品：

高精度测距传感器

高精度测距传感器使用时间传递测量法，用于按照时间传递测量原理测定传感器与物体之间的距离。这些传感器工作范围大，因此可以远距离检测物体。选择的传感器区别在于 WinTec (wenglor 无干扰技术)。应用该技术甚至能在极其倾斜的位置可靠地检测黑色或光亮的表面。可以紧挨着或彼此交叉安装多个传感器，彼此没有影响。

安全预防措施

- 该操作说明是产品的组成部分，在其整个使用寿命内必须保存好。
- 使用前仔细阅读产品操作说明书。
- 仅由受过培训的人员安装、启动和维护本产品。
- 严禁篡改或更改产品。
- 在启动过程中防止产品污染。
- 按照欧盟机器指令不是安全元件。

激光器/发光二极管警告



第一等级激光 (EN 60825-1)
遵守所有相关标准和安全预防措施。 and safety precautions.

技术参数

光学数据	
工作范围	0...3000 mm
可调范围	200...3000 mm
开关量滞后	< 15 mm
光源	激光 (红色)
波长	660 nm
使用寿命 (T = +25 °C)	100000 h
激光等级 (EN 60825-1)	1
光束发散度	<2 mrad
最大环境光	10000 照度
光斑直径	见表 1
电气参数	
电源电压	10...30 V DC
耗用电流 (Ub = 24 V)	< 50 mA
开关量频率	1000 Hz
响应时间	0,5 ms
温度偏移 (−10 °C < Tu < 50 °C)	< 1 %
温度偏移 (Tu < −10 °C, Tu > 50 °C)	< 2,5 %
温度范围	−40...60 °C
2 个开关量输出端	2
开关量输出端电压降	< 2,5 V
PNP 开关量输出端/开关量电流	200 mA
短路保护	是
反极性保护	是
过载保护	是
防护等级	III
加入 FDA 编号	0710891-003
机械参数	
设定方法	示教

PNP Switching Output/Switching Current	200 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
FDA Accession Number	0710891-003
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)	771,39 a
Output	
PNP NO/NC antivalent	yes

Spot Diameter

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

Table 1

Mounting instructions

During operation of the Sensors, the corresponding electrical and mechanical regulations, as well as safety regulations must be observed. The Sensor must be protected from mechanical impact. The Sensor has optimal ambient light characteristics if the background changes within the Working Range.

Initial Operation



ATTENTION!
The sensing distance can be set by pressing the Teach-In key. However, if a sharp object is used to this end, for example a needle or tweezers, damage to the rubber membrane which covers the key may result.

Adjusting instructions

Object Teach-In

By pressing the Teach-In key at the Sensor the switching distance to the object is taught-in.

- Mount the Sensor according to the mounting instructions.

- Adjust the light spot to the object.

-

→ Switching Distance to object is set.

- Check the switching function.

外壳材料	塑料
透镜盖	PMMA
防护等级	IP68
接口	M12×1；4/5 针
安全数据	
MTTFd (EN ISO 13849-1)	771,39 a
输出端	
PNP 常开/常闭 反效	是

光斑直径

工作距离	0 m	3 m
光斑直径	5 mm	9 mm

表 1

安装说明

在传感器工作过程中，必须遵守相应的电气机械规程以及安全规定。必须保护好开关免受机械影响。如果背景在工作范围内变化，表明开关的环境光特性最佳。

初次操作



注意!
按下示教键可以设定感测距离。但是，如果为此使用尖锐物体，例如针或镊子，可能损坏盖住按键的橡胶膜片。

调节说明

物体示教

按下传感器上的示教键，示教与物体的开关量距离。

- 根据安装说明安装开关。

- 调节射到物体上的光斑。

- 按下示教键，直至发光二极管“开关量状态指示器”闪烁（大约 3 秒钟），然后释放。

→ 设定与物体的开关量距离。

- 检查传感器功能。

If you teach without an object or the object is located too far away from the Sensor, the Switching Distance is set to the end of the Working Range. (“Switching Status Indicator” blinks fast).

If the object is located too close to the Sensor, the Switching Distance is set to the beginning of the Working Range.

Emitted light can be switched off

The Sensor has an Input to switch off the emitted light (PIN 5). If 24 V is applied to this Input, the emitted light is switched off.

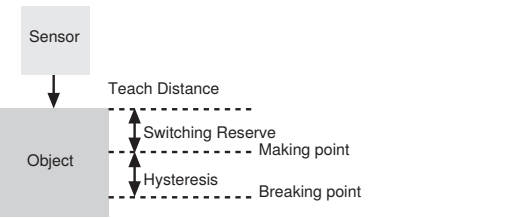


Diagram Contamination warning

Transmit Time Sensor		no contamination		
				
Object		not detected	detected	not detected
Switching Status		off ○	on ●	off ○
Contamination Warning		off ○	off ○	off ○
		beginning contamination		
				
Object		not detected	detected	not detected
Switching Status		off ○	on ●	off ○
Contamination Warning		off ○	on ●	off ○
		advanced contamination		
				
Object		not detected	not detected	not detected
Switching Status		off ○	off ○	off ○
Contamination Warning		off ○	off ○	off ○



Maintenance Instructions

- This wenglor Sensor is maintenance-free.
- It is advisable to clean the lens and the display, and to check the plug connections at regular intervals.
- Do not clean with solvents or cleansers which could damage the device.

Proper Disposal

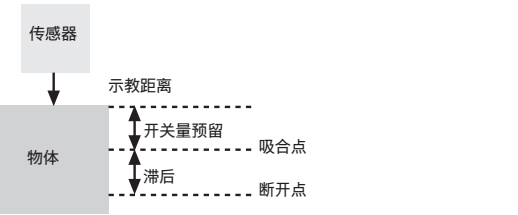
wenglor sensoric GmbH does not accept the return of unusable or irreparable products. Respectively valid national waste disposal regulations apply to product disposal.



如果没有物体示教或物体离传感器太远，将开关量距离设定为最终工作范围。（“开关量状态指示器”快速闪烁）。如果物体与传感器太近，将开关量距离设定为初始工作范围。

可以关闭发射光

传感器设有关闭发射光的输入端（引脚 5）。如果给该输入端施加 24 V，就会关闭发射光。



污染警告示意图

Transmit Time Sensor		no contamination		
				
Object		not detected	detected	not detected
Switching Status		off ○	on ●	off ○
Contamination Warning		off ○	off ○	off ○
		beginning contamination		
				
Object		not detected	detected	not detected
Switching Status		off ○	on ●	off ○
Contamination Warning		off ○	on ●	off ○
		advanced contamination		
				
Object		not detected	not detected	not detected
Switching Status		off ○	off ○	off ○
Contamination Warning		off ○	off ○	off ○