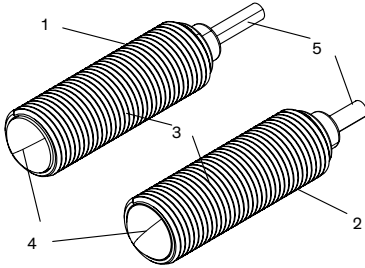


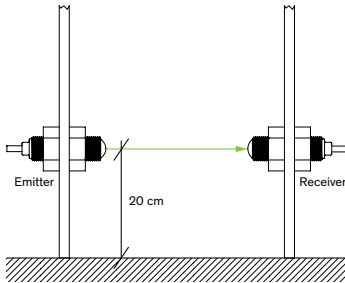
## ► Overview



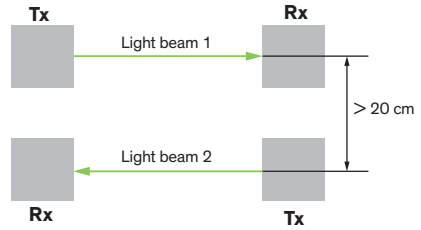
- 1 Emitter
- 2 Receiver
- 3 M12 sensor housing
- 4 Optical element
- 5 Cable

## ► Installation

1. Position of the sensor: Emitter and receiver needs to mount opposite each other.

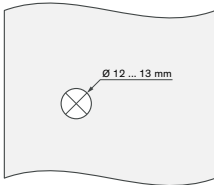


2. Cross mounting (overhead view)

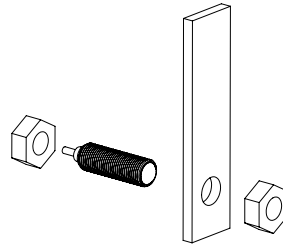


When using two through-beam light barriers, pay attention to crossed mounting.

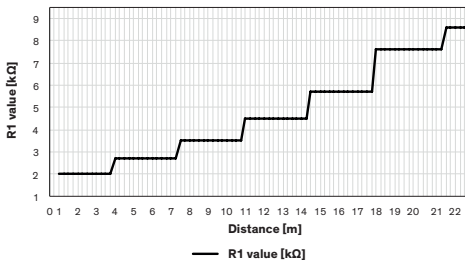
3. Drill one hole per sensor.



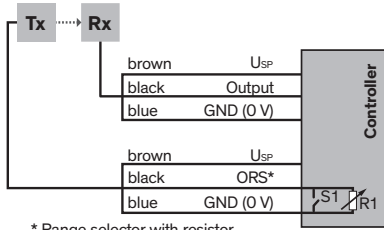
4. Fix the sensors with two screws nut M12.



## ► Operating range adjustment



► **Electrical connection**



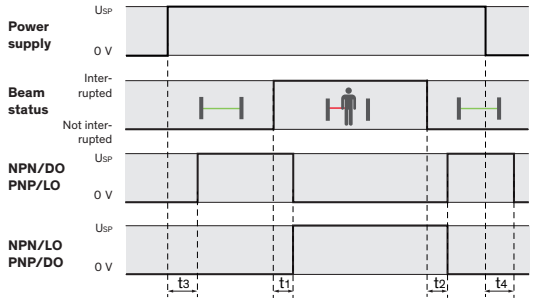
\* Range selector with resistor

S1: Connection between blue and black to mute the emitter and test the system.

R1: Operating Range adjustment by resistor.

S1 and R1 needs to implement in the control unit

► **Timing diagram**



► **Technical data**

**OPTICAL**

Operating range	1 ... 20 m
Aperture angle	
- Emitter	±5° at 12 m
- Receiver	±5° at 12 m

**MECHANICAL**

Dimensions	M12 × 42 mm
Housing material	
- Body	M12, stainless steel
- Front	Polycarbonate, black
Enclosure rating	IP67
Temperature range	-25 °C ... +60 °C

**ELECTRICAL**

Supply voltage $U_{sp}$	10 ... 30 VDC
Typ. current consumption	
- Emitter	< 20 mA at 24 VDC
- Receiver (w/o load)	< 20 mA at 24 VDC
Output	PNP or NPN
Max. output current	100 mA
Response time $t_1$	< 10 ms
Release time $t_2$	< 10 ms
Start-up time $t_3$	< 300 ms
Switch-off time $t_4$	< 100 ms

**CONNECTION CABLE AND ELECTRICAL CONNECTION**

**Emitter**

Diameter	Ø 2.9 mm
Length connection cable	20 m, fix cable
Material	PVC, gray
Wires	AWG26
• brown	$U_{sp}$
• blue	GND
• black	Range selector with resistor

**Receiver**

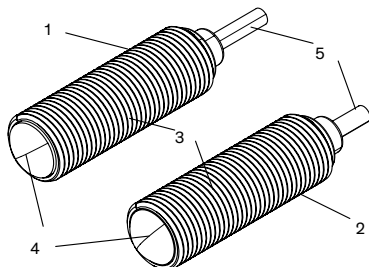
Diameter	Ø 2.9 mm
Length connection cable	20 m, fix cable
Material	PVC, black
Wires	AWG26
• brown	$U_{sp}$
• blue	GND
• black	Output



CEDES AG is certified according to ISO 9001: 2015.

CEDES AG reserves the right to modify or change technical data without prior notice.

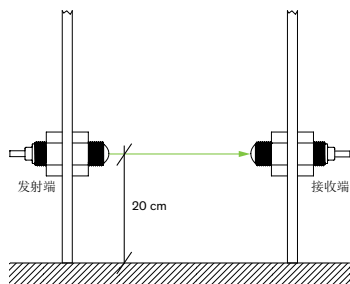
## ► 概述



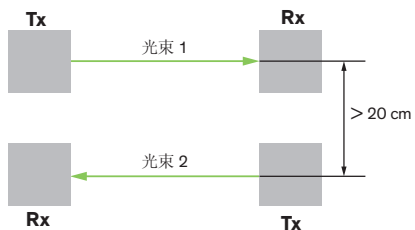
- 1 发射端
- 2 接收端
- 3 M12 传感器外壳
- 4 光眼
- 5 电缆

## ► 安装

1. 传感器位置：发射端和接收端需相对安装。

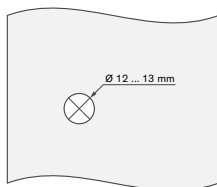


2. 交叉安装（俯视图）

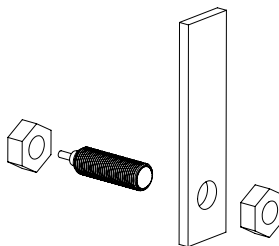


当使用双透射光束光栅时，注意要交换发射接收端位置。

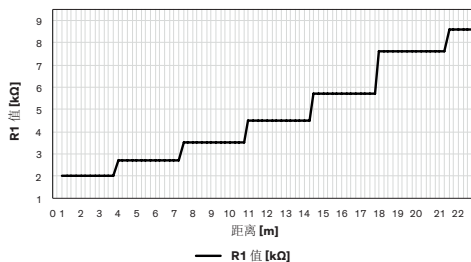
3. 为每个传感器开一个安装孔



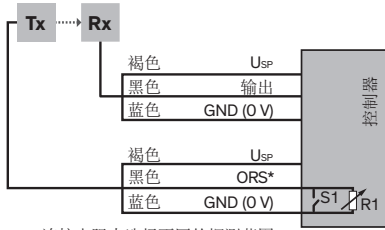
4. 用两个M12螺母固定传感器



## ► 工作范围调节



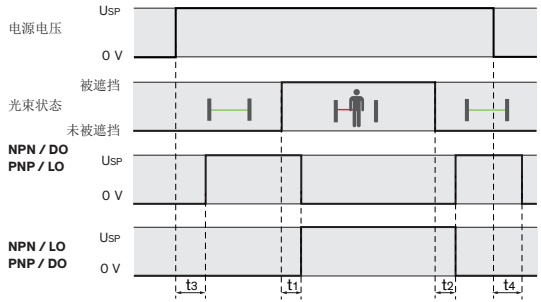
► 电气连接



\* 连接电阻来选择不同的探测范围

- S1: 连接蓝色和黑色以屏蔽发射端和进行系统测试
- R1: 工作范围通过电阻调节
- S1和R1需要在控制器中执行

► 时序图



► 技术参数

**光学参数**

工作距离	1 ... 20 m
光阑角	
- 发射端	±5° 在 12 m
- 接收端	±5° 在 12 m

**机械参数**

尺寸规格	M12 × 42 mm
外壳材质	
- 主体	M12, 不锈钢
- 正面	聚碳酸酯(PC), 黑色
防护等级	IP67
温度范围	-25 °C ... +60 °C

**电子参数**

供电电压 U <sub>SP</sub>	10 ... 30 VDC
电流消耗	
- 发射端	< 20 mA 在 24 VDC
- 接收端 (无负载)	< 20 mA 在 24 VDC
输出	PNP 或 NPN
最大输出电流	100 mA
响应时间	< 10 ms
释放时间 t <sub>2</sub>	< 10 ms
启动时间 t <sub>3</sub>	< 300 ms
通断时间 t <sub>4</sub>	< 100 ms

**电缆和电气连接**

**发射端**

直径	Ø 2.9 mm
连接电缆长度	20 m, 固定电缆
材质	PVC, 灰色
线缆	AWG26
• 褐色	U <sub>SP</sub>
• 蓝色	GND
• 黑色	连接电阻来选择不同的探测范围

**接收端**

直径	Ø 2.9 mm
连接电缆长度	20 m, 固定电缆
材质	PVC, 黑色
线缆	AWG26
• 褐色	U <sub>SP</sub>
• 蓝色	GND
• 黑色	输出



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