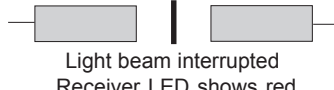
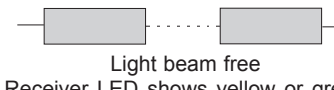
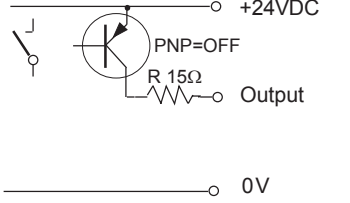
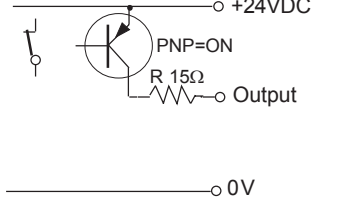


Light Barriers series IRL-108-SIR/EVP

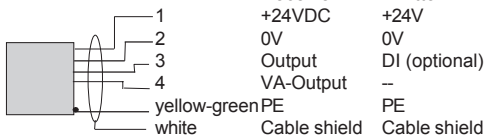
Housing M30

- Good alignment by 3-color LED at the rear side
- Short response time
- Robust light barrier for industrial applications
- PNP output

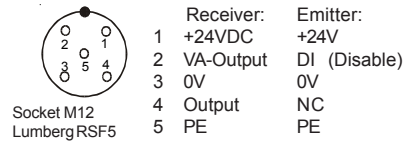


Technical Data	Type	IRL-108-SIR/EVP(-S***)
Designation		IRL-108-SIR: Emitter / IRL-108-EVP: Receiver
Range		80m
Minimum detectable object size		22mm (avoid mirror effects)
Light source		Infrared 870nm
Directional angle (measured at a distance of 10m)		Emitter: appr.8° / Receiver: appr.12°
Response time		5ms
Supply voltage		24 VDC +-15%
Current consumption, emitter		45mA
Current consumption, receiver		40mA
Maximum power dissipation		Emitter: 1.26W / Receiver: 0.7W
Output		PNP, 100mA, short circuit protected
Output pollution indication VA, optional		PNP, 100mA, short circuit protected
Housing		M30, brass, nickel plated
Enclosure rating according to EN 60529		IP 65
Maximum ambient working temperature T _{amb}		-20°C < T _{amb} < +50°C
Storage temperature range		-20°C ... +70°C
Relative humidity		15% ... 80%
Vibration and shock resistance		Vibration: 30g over 20Hz to 2kHz. Shock: 100g for 3ms
Connection cable		2/3/4+PE x 0.5mm ² , shielded, TPU, leads numbering marked, length: 10m
Socket, type IRL-108-SIR/EVP-S99/S346		Lumberg M12, type RSF 5, 5 terminals
Accessories, included, all types		- 4 nuts M30 (or 2 clamps M30 optional)
Accessories, not included, for IRL-108-SIR/EVP-S99/S346		- Cordset Lumberg, RKTS 5-298/xx or RKWTH 5-298/xx
Options		- IRL-108-SIR-DI: Emitter with disable input DI, for polling emitters - IRL-108-EVP-VA: With integrated pollution indication output "VA", PNP type - IRL-108-SIR/EVP-S94: Lenses special luted - IRL-108-SIR/EVP-S99: Socket M12, 5 terminals - IRL-108-SIR/EVP-S346: S94 + S99 combined - Cable length: Up to 100m, on request
LED indication Output function	 <p>Light beam interrupted Receiver LED shows red</p>	 <p>Light beam free Receiver LED shows yellow or green</p>
Wiring diagram for cable devices: Receiver: 1: +24VDC 2: 0V 3: Output 4: VA-Output yell.-green: FE white: Cable shield	Emitter: 1: +24VDC 2: 0V 3: DI (optional) yell.-green: FE white: Cable shield	 <p>PNP=OFF R 15Ω Output</p>
Alignment and controlling by LED indication (LED at the rearside of the receiver)		 <p>PNP=ON R 15Ω Output</p>
		LED red: Light beam interrupted - not aligned LED yellow: polluted lenses - badly aligned LED green: Light beam free - well aligned

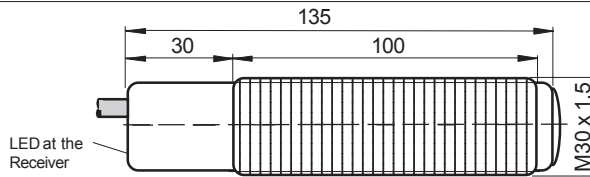
Connection layout, devices with cable:



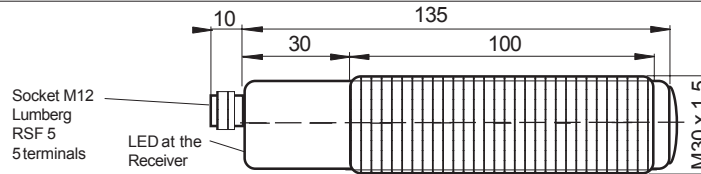
Connection layout, IRL-108-SIR/EVP-S99/S346:



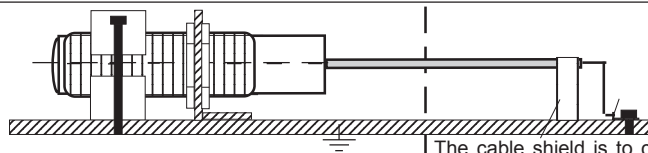
Dimensions IRL-108-SIR/EVP:



Dimensions IRL-108-SIR/EVP-S99/S346:



Equipotential Bonding prescription:



Check the reliable, noncorrosive holding of the protection earth connection.

Operating Manual, EU - Declaration of Conformity:

General mounting prescriptions

Do not exceed the maximum ratings. The electrical connections must be exactly as shown in the connection diagram. The cable shield must be connected short. The cable shield should be connected to the protection earth, large-surfaced. Connection cables must not be installed parallel to high voltage cables.

Function at standard connection of the supply voltage

If the light beam is not interrupted the output switches to ON (+24V). If the light beam is interrupted the output switches OFF. The load must be connected between the output and 0V.

Function at inverse connection of the supply voltage

If the light beam is not interrupted the output switches to OFF. If the light beam is interrupted the output switches to ON (+24VDC). The load must be connected between the output and 0V.

Optional pollution indication output VA

Only when the receiver LED's shows yellow, the pollution indication output VA switches to +24VDC. (Light barrier bad aligned, or lenses polluted or other impairments). If the receiver LED's shows green or red, the output VA is switched to 0V. This function gives the possibility to a fast reaction at polluted lenses.

Arrangement of light barriers, only types IRL-108-SIR-DI (optional)

If several light barriers are installed close to another, it is necessary to use light barriers with emitters with disable input. By using the disable input DI, each emitter can be controlled in a short reaction time. If only one emitter is activated in the same time, a mutual influence is precluded.

DI= 0V or not connected = emitter enabled
DI= High (24VDC) = emitter disabled

The Disable Input DI must be activated for >= 10ms. The DI input is PNP compatible. The Emitter-Disable-Input DI can also be used for testing the associated receiver. By a short-time shut-off of the emitter, the switching off of the receiver output and with it the correct function of the receiver will be checked.

Mechanical Mounting Prescriptions

Mount the light barriers free from vibrations and shocks. If it is practicable, protect the lenses from contamination.

Alignment of the Light Barrier

The three color indication at the receiver allows an optimal alignment.

1. The emitter beam must hit the receiver lens in an angle near to 90°.
2. The receiver should be moved, until the LED (from the receiver) shows "green". Search the middle of the green range. If the receiver LED shows yellow, the light barrier is bad aligned, or the lenses are polluted.

Maintenance

No special maintenance is required. If the lenses becomes dirty, they should be cleaned with a non-aggressive solvents. Equipment must only be repaired by the manufacturer.

General safety instructions

The sensors must not be used for Accident-Prevention! In worst case the output can change to any state! When installing and operating with the sensor, it is necessary to take into consideration the relevant international and other national regulations:

The sensor and the fibre optic are conform to the following standards: EN 60529:2014; EN 61000-4-2 to EN 61000-4-6, EN 61000-6-1/-2, EN 61000-6-4.

Machine directive: 2006/42/EC, EMC directive: 2014/30/EU, RoHS directive: 2011/65/EU.

General Notes, disposal

We reserve the right to modify our equipment. Our equipment is designed such way, that it has the least possible adverse effect on the environment. It neither emit or contain any damaging or siliconized substances and use a minimum of energy and resources. No longer usable or irreparable units must be disposed of in accordance with local waste disposal regulations.

EU-Declaration of conformity

The conformity of the devices with the EC standards and directives and the EC-type examination certificate and the observation of the Quality Safety System ISO 9001:2015 with the ATEX module "Production", declares:

Pablo Ledergerber, Matrix Elektronik AG

IRL-108-SIR_EVP_e1/2024-05-06/MP

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