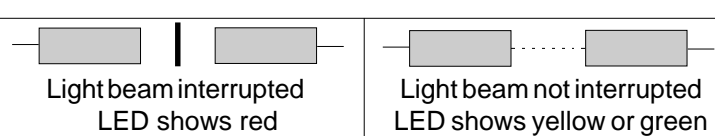
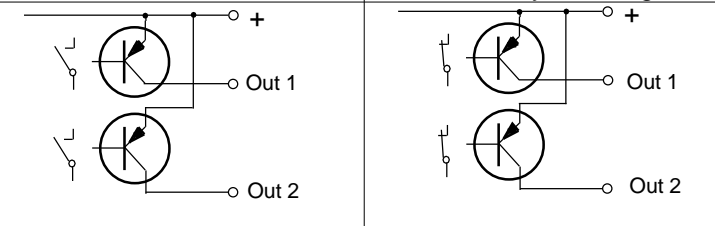
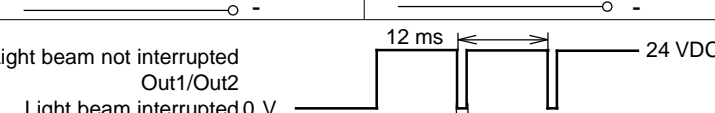
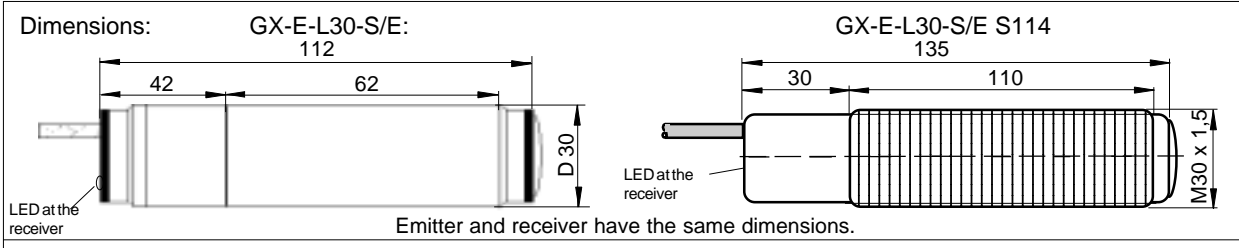


GARDIX Accident Protection Laser Light Barrier GX-E-L30-S/E

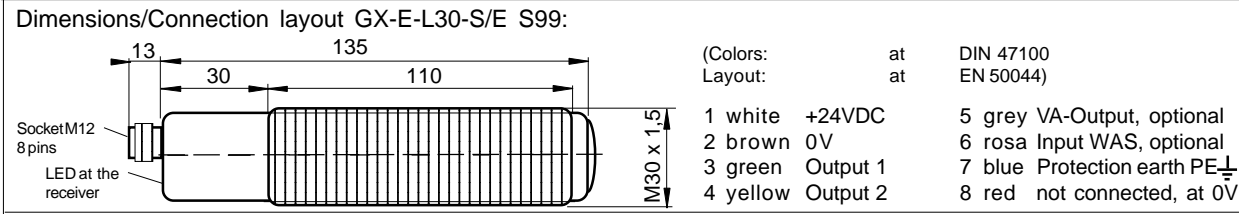
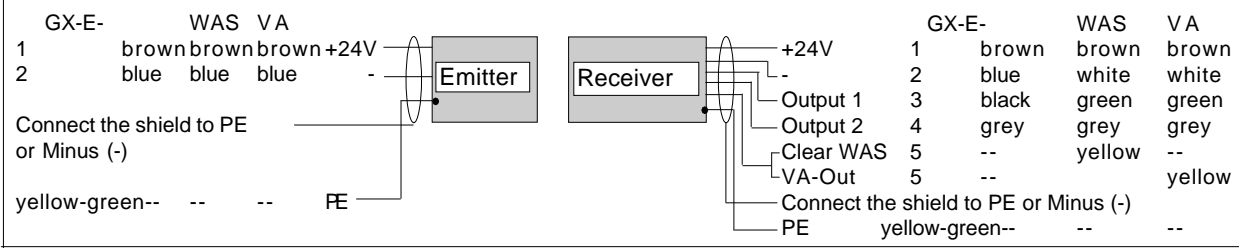


- Application for safety category 4, at EN 954-1
- Optimal alignment help by state indication in the receiver optic
- Optional with pollution indication output VA. Type GX-E-L30-S/E-VA
- Optional with integrated restart blocking system WAS. Type GX-E-L30-S/E-WAS
- Very high operational dependability (EMC)
- Electronic outputs

Technical data	Type	GX-E-L30-S/E																																
Denomination		S: Emitter / E: Receiver																																
Operating Distance		min.0,1m-max.30m																																
Minimum detectable object size		13mm																																
Laser class		Class II, 650nm visible red, Po <= 1mW																																
Beam pattern		maximum 4°																																
Output response time		12ms (Switch off the outputs)																																
Supply voltage		24 VDC (20 to 28VDC)																																
Current consumption		Receiver: 30 mA / Emitter: 50mA																																
Maximum power dissipation		Receiver: 0.84W / Emitter: 1.4W																																
Safety outputs		2 x PNP / max. 100mA / short circuit protected																																
Pollution indication output, optional		1 x PNP / max. 100mA / short circuit protected																																
Housing		Aluminum, yellow anodized																																
Housing, type GXE-E-L30-S/E S99/S114		M30, brass, nickel plated																																
Enclosure protection rating		IP 65 according EN 60529																																
Operating Temperature TA		-20°C < TA < +60°C																																
Cable GX-E, standard		2/4(5) x AWG24 (0.2mm ²) + Shield / L=5m																																
Cable GX-E-30-S/E S114		2/4+PE x 0,5mm ² + Shield / L=5m																																
Cable GX-E-30-S/E-VA S114		2/5+PE x 0,5mm ² + Shield / L=5m																																
Socket, type GX-E-L30-S/E S99		Socket M12, Lumberg type RSF 8, 8 terminals																																
Accessories included, all types		- 2 clamps M30 (Type S90/152: 4 nuts M30)																																
Accessories optional only type GX-E-.. S99		- Single ended cordset, straight type: RKTS 8-299/xx or right angle type: RKWTH 8-299/xx , Lumberg M12/8P																																
Options		- Also with cable length up to 100m, on request - GX-E-L30-S/E-VA: With integrated Pollution Indication Output (VA) - GX-E-L30-S/E-WAS: Or with integrated restart blocking system WAS - GX-E-L30-S/E S99: Socket M12: Lumberg RSF 8, 8 terminals - GX-E-L30-S/E-VA S114: Housing: Brass, with outside thread M30x1.5																																
LED display Output function																																		
Output and connection layout:																																		
<table border="1"> <thead> <tr> <th></th> <th>GX-E-</th> <th>WAS</th> <th>VA</th> </tr> </thead> <tbody> <tr> <td>+24VDC</td> <td>1 brown</td> <td>brown</td> <td>brown</td> </tr> <tr> <td>-</td> <td>2 blue</td> <td>white</td> <td>white</td> </tr> <tr> <td>Output 1</td> <td>3 black</td> <td>green</td> <td>green</td> </tr> <tr> <td>Output 2</td> <td>4 grey</td> <td>grey</td> <td>grey</td> </tr> <tr> <td>Release WAS5</td> <td>--</td> <td>yellow</td> <td>--</td> </tr> <tr> <td>Out VA</td> <td>5 --</td> <td>yellow</td> <td>yellow</td> </tr> <tr> <td>Shield, connect to PE or Minus (-)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		GX-E-	WAS	VA	+24VDC	1 brown	brown	brown	-	2 blue	white	white	Output 1	3 black	green	green	Output 2	4 grey	grey	grey	Release WAS5	--	yellow	--	Out VA	5 --	yellow	yellow	Shield, connect to PE or Minus (-)					
	GX-E-	WAS	VA																															
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Release WAS5	--	yellow	--																															
Out VA	5 --	yellow	yellow																															
Shield, connect to PE or Minus (-)																																		
Characteristic of output signal																																		
Alignment and controlling by LED Display		LED red: Light beam interrupted / not aligned LED yellow: Dirt on lenses / badly aligned LED green: Light beam free / well aligned LED red flashing: Disturbance																																
For mounting and operation is the operating manual necessary.																																		



Emitter and receiver have the same dimensions.



Operating Manual / EC - Declaration of Conformity:

Mounting prescription

Accident protection

The detailed mounting prescription concerning safety margin, mounting height, downstream devices and general regulations about accident protection are to observe. All post-switched devices must be approved at safety level 4 (EN954-1). All connections and installations must be executed at safety fundamental rules.

General mounting prescriptions:

Because Lasers have a very small aperture angle, mount the light barriers free from vibrations and shocks. 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 PE. Connection cables must not be installed parallel to high voltage cables.

Function

If the light beam between emitter and receiver is not interrupted, both security outputs are ON (+24VDC). If the light beam is interrupted, both redundant outputs are switching OFF (secure state). The proofed sensors of the series GX-E built in a 2-channel different redundancy. Failures and disturbances (at EN954-1), result in outputs switching OFF and the LED is blinking red. The faulty state is the same as the light barrier is interrupted. (Output is switching OFF - Safety State). The emergency OFF state is only resetable by separating the supply voltage.

Restart-blocking-system WAS (optional)

By receivers with Restart Blocking System (WAS) the light barrier can only be restarted by activating the "WAS" input. The input clear WAS must be connected by a contact (NC) to +24VDC. The light barrier will be restarted by opening and the following closing this contact. The Function WAS can not be combined with the pollution indication output VA.

Pollution indication output (optional)

The pollution indication output (VA) is activated by dirty optics. This function gives the possibility to a fast reaction at polluted lenses. The combination from VA-Output and the Restart Blocking System (WAS) is not possible.

Maintenance

No special maintenance is required. If the lenses becomes dirty, they should be cleaned with a non-

aggressive cleaning liquid. Equipment must only be repaired by the manufacturer.

Alignment of the Light Barrier

The three color indication in the receiver optic allows an optimal alignment.

1. The emitter must be aligned this way, that the emitter lens is fully illuminated (By watching from the receiver at the emitter).
2. The receiver should be moved, until the LED (from the receiver) shows "green". Search the middle of the green range.

Safety regulations for Laser devices

By the installation, the going into operation and the application, it is necessary to take into consideration the valid rule EN 60825-1/-2 (Parts 12.5.1/12.6.2). Laser Class 2. Do not stare into the beam!

General Safety information

When installing and operating with the light barrier, it is necessary to take into consideration the relevant international and other national regulations.

Standards met:

- EN 61496-1, EN 61496-2, EN 954-1; EN 50081-1/-2, EN 50082-1/-2; EN 60529; EN 60825-1
- Machine directive: 98/37/EG
- Low voltage directive: 73/23/EEG, 93/68/EEG
- EMC: 89/336/EEG, 91/263/EEG, 92/31/EEG, 93/68/EEG
- RoHS: 2002/95/EG

General Notes

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.

CE Declaration of Conformity BG-PRÜFZERT No. 98206/98207

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 9001:2000 declares:

Hans Bracher, Matrix Elektronik AG