



ILEE® ONE-WAY LASER LIGHT BARRIER LS02

CHARACTERISTICS

- Short response time ($\sim 5 \mu\text{s}$)
- Choice of response to light and dark signal
- Suppression of interfering light
- Long range (up to 50 meter)
- Adjustable focal point of the transmitter ⁴⁾
- Small dimensions
- Solid construction
- Watertight (IP67)

APPLICATIONS

- Time measurement
- Data transmission
- Object detection

TECHNICAL DATA TRANSMITTER				ORDER NO. 0072-13-92-01
One-way laser light barrier LS02				Unit
Operating voltage	12	–	24 ±10%	VDC
Max. operating current ¹⁾	12		8	mA
Typical laser Enable turn-on delay	200		175	µs
Typical jitter of laser Enable turn-on delay	12		18	µs
Typical laser Enable turn-off delay	1.39		1.40	µs
Typical jitter of laser Enable turn-off delay	30		37	µs
Optical power			≤1 ²⁾	mW
Laser class			2 ²⁾	–
Wavelength			635 ... 680	nm
Typical beam size at output			5 x 2	mm
Typical modulation frequency			455 ³⁾	kHz
Weight			36	g
Operating temperature			–20...+40	°C
Storage temperature			–40...+85	°C

Unless noted, all data are valid at room temperature (21°C) and under normal operating conditions

¹⁾ Laser on (Laser Enable = V_{cc})

²⁾ Standard version; a higher range of transmission is available on request, measured average of optical power, laser window fitted

³⁾ Pulsed, modulation hub 100%

⁴⁾ Focal adjustment tool optional (Art.-No 0006-34-92-01)



TECHNICAL DATA RECEIVER				ORDER NO. 0072-13-92-02			
One-way laser light barrier LS02 PNP ¹⁾	Mode 1 ⁵⁾		Mode 2 ⁵⁾		Unit		
Operating voltage	12	–	24 ±10%	12	–	24 ±10%	VDC
Max. operating current ²⁾	13		19	16		19	mA
Load (open collector) approx.	100 ³⁾						mA
Typical edge steepness, t _{rise}	47		29	46		29	µs
Typical edge steepness, t _{fall}	2.1		3.2	2.1		3.2	µs
Typical response time of rising edge	8		8	9		9	µs
Typical fall time of decreasing edge	16		16	13		14	µs
Voltage drop at output	1.25		1.25	1.25		1.25	V
Load (open collector) approx.	200 ⁴⁾						mA
Typical edge steepness, t _{rise}	45		30	46		29	µs
Typical edge steepness, t _{fall}	1.2		1.7	1.2		1.7	µs
Typical response time of rising edge	7		8	8		10	µs
Typical fall time of decreasing edge	16		15	13		13	µs
Voltage drop at output	1.65		1.7	1.7		1.7	V
Typical jitter delayed response	0.79		0.92	0.79		0.47	µs
Typical jitter release delay	0.71		0.81	1.07		1.09	µs
Max. PNP output load ⁶⁾			200				mA
Weight			30				g
Operating temperature			–20...+40				°C
Storage temperature			–40...+85				°C

Unless otherwise noted, all data are valid at room temperature (21°C) and normal operating conditions

¹⁾ The required type configuration of the output has to be declared during order. Once set, it can not be changed later.

²⁾ without load

³⁾ 100Ω load at 12VDC supply voltage; 200Ω load at 24VDC supply voltage

⁴⁾ 50Ω load at 12VDC supply voltage; 100Ω load at 24VDC supply voltage

⁵⁾ Mode 1 = detection of laser light ≥ output high; mode 2 = detection of laser light ≥ output low

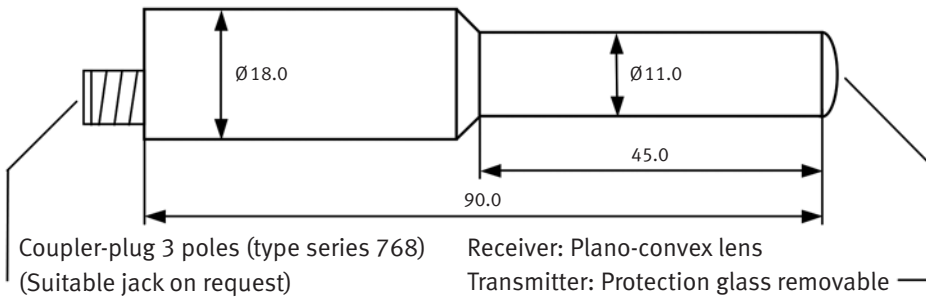
⁶⁾ Output is short-circuit protected



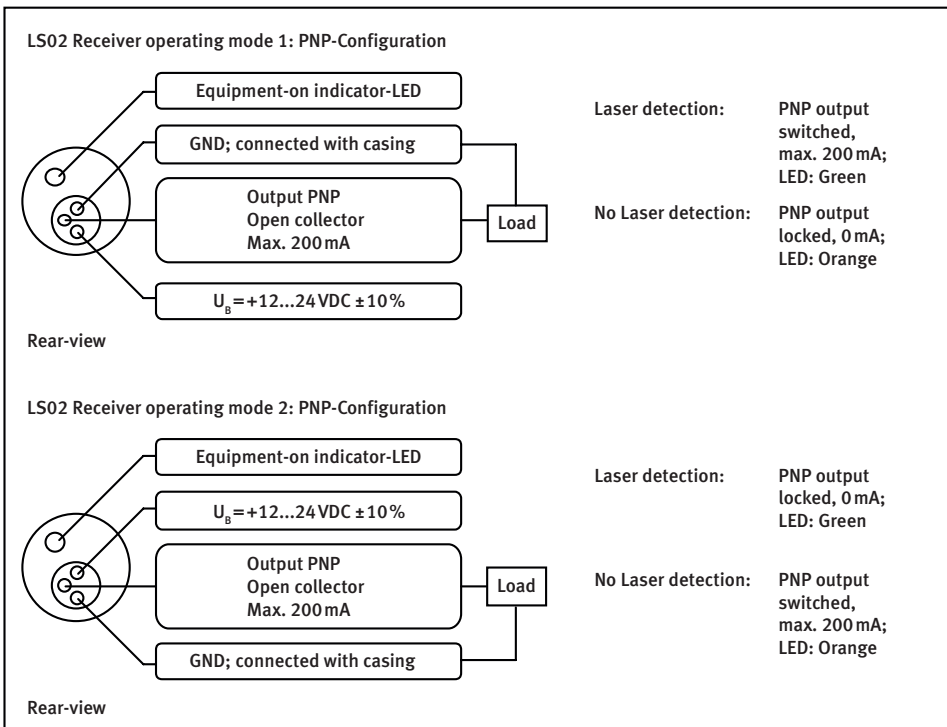
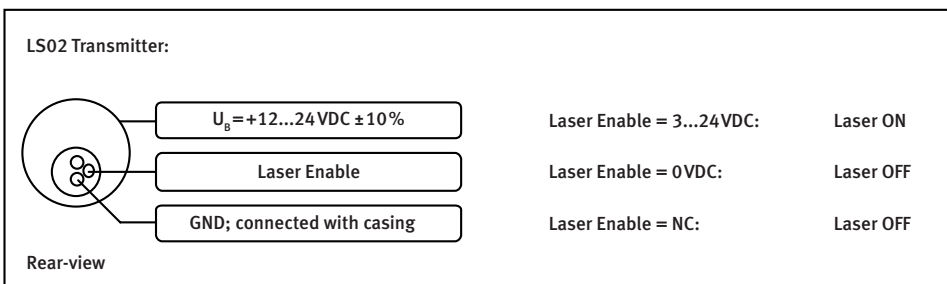
DIMENSIONS (MM)

Transmitter and receiver have the same dimensions:

Material:
Aluminium anodised



CONNECTION DIAGRAM



Laser beams can cause damage to your eyes.
The user is responsible to observe the local safety regulations.

Mistakes and technical changes reserved.

Rheinmetall Air Defence AG

Birchstrasse 155 · 8050 Zurich · Switzerland · Phone +41 44 316 22 11
ilee.rad@rheinmetall.com · www.ilee.ch

