



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
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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			650	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

³⁾ Pulsed, modulation hub 100%

⁴⁾ Focal adjustment tool optional (Art.-No 0006-37-92-01)



TECHNICAL DATA RECEIVER	ORDER NO. 0072-13-92-02				
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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

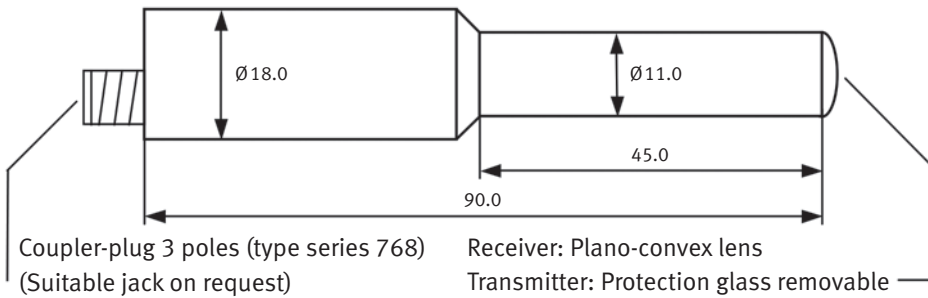
⁶⁾ Output is short-circuit protected



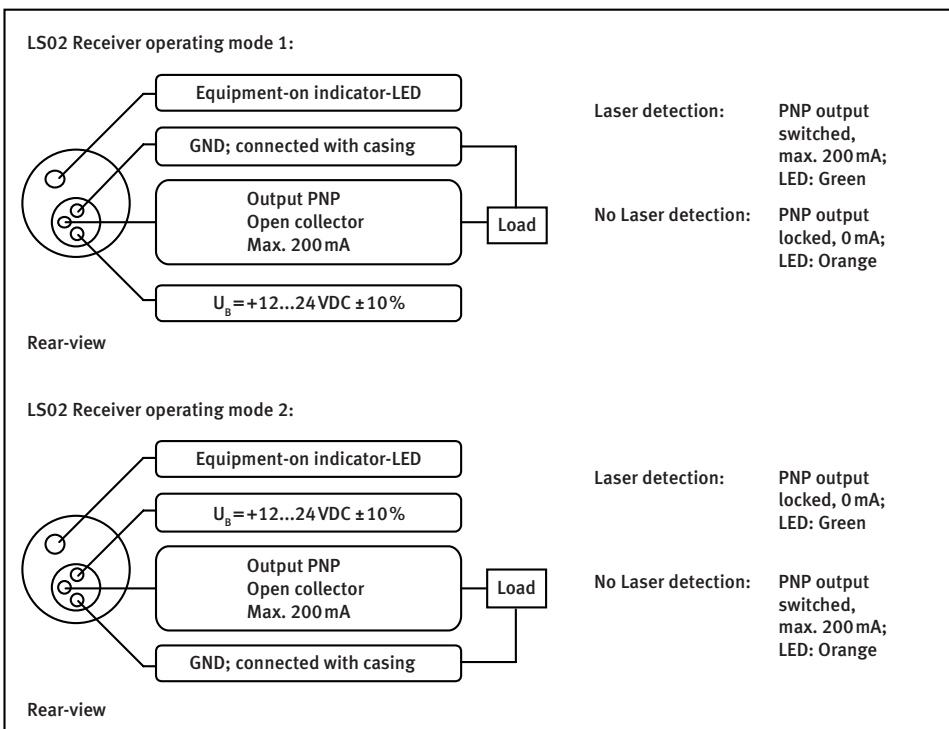
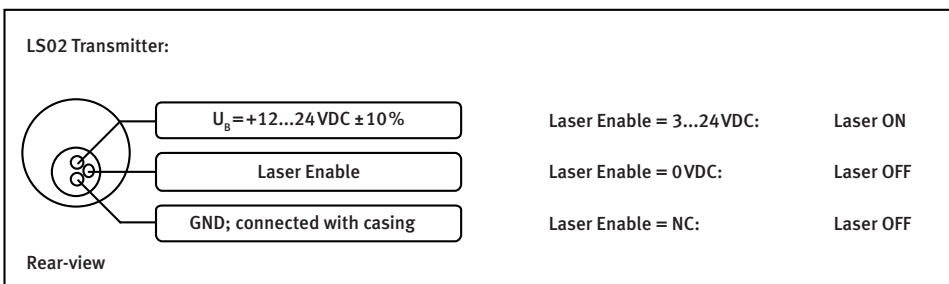
DIMENSIONS (MM)

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.

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