

LaserRanger™ LR2 Series – Precision Optical Range Sensors

The LR2 series of noncontact optical range sensors are fast, accurate and affordable.



FEATURES

- 0.001" resolution at 1250 Hz sampling rate
- Automatic laser power control for varying surfaces
- Electronic ambient light rejection
- Programmable “on-the-fly” data averaging
- External trigger input – ideal for scanning
- LED indicators for range limits and data status
- Serial and analog outputs
- Compact, rugged packaging

TECHNICAL SPECIFICATIONS

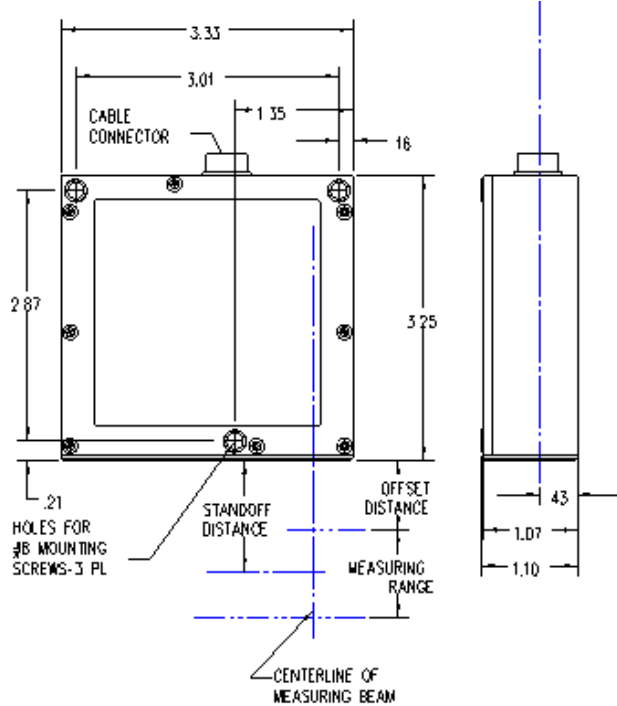
Model	LR2-22	LR2-43	LR2-74
Measurement range (MR)	2" (50mm)	3" (75mm)	4" (100mm)
Offset distance (OD)	2" (50mm)	4" (100mm)	7" (175mm)
Standoff distance (SO)	3" (75mm)	5.5" (140mm)	9" (230mm)
Resolution	0.0010"	0.0015"	0.0020"
Accuracy (1 sigma) ¹	≤ 0.10% of distance to target		
Laser spot size at SO	< 0.003"	< 0.004"	< 0.005"

LR2 Series Specifications

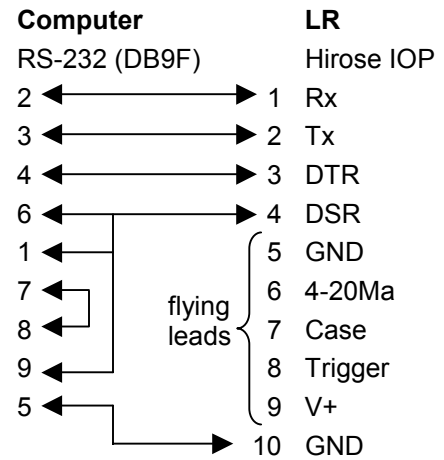
Sample rate, max	1250 samples/sec – serial and analog output
Data averaging	1 to 4095, user selectable
Serial output	RS-232 up to 115 Kbaud
Analog range output	4 - 20 mA current loop
Laser	visible red, class IIIa (FDA)
Power requirements	8-16 VDC at 125 mA
Indicators	dual color LEDs for power, data status and near/mid/far range
Enclosure size	3.3" x 3.3" x 1.1" (83 x 83 x 28 mm)
Enclosure	Anodized aluminum
Weight	6 oz (168 g)
Operating temperature	32 -122°F (0 – 50°C)
Mounting	3 - #8 screws through clearance holes in case or optional tooling post
Cable configuration	10 conductor cable: power, analog, trigger and serial data

¹ Accuracy is dependent on target material and sampling parameters. Specification is based on clear anodized aluminum target and averaging set to 20.

DIMENSIONS



CABLE CONNECTION WIRING



More information on cables is available on the Aculux website.

NOTES

The sampling, data averaging, and communication rates are configured through any terminal program, i.e. HyperTerminal or ProCom Plus.

The measurement is most accurate at the standoff distance where the laser spot size is the smallest.

ACCESSORIES

The following accessories are not included with the LaserRanger™. See website for more information.

- LR Cable with Flying Leads – 10 conductor cable with 10 pin connector to LR on one end and flying leads on the other. 15 feet long. LR2-CA-F15.
- LR General Purpose Cable – 10 pin connector for LR on one end and a DB9 female connector for a computer on the other end. It also has flying leads broken out for power and analog current loop. 15 feet long. LR2-CA-G15.
- Tooling Post – 1/2" diameter shaft, laser beam is concentric to post (+/- 0.010") when mounted to the LR case. LR2-TP-A18 (see picture at right).
- Carrying case – black, 13"x12"x5", water/air tight with foam insert. CA-P1400.

