

ADAPTIVE-FREQUENCY E SERIES

LR1000E2

LASER CLASS

CLASS 1

IEC 60825-1

High-accuracy 4–1,000 m distance sensor with 3–10 Hz adaptive frequency and graded precision, in the ≤ 10 g rectangular E-series body.

MAX RANGE	ACCURACY	WEIGHT	INTERFACE
4–1,000 m	±1 m (≤400 m)	≤ 10 g	UART-TTL

TECHNICAL SPECIFICATIONS

FULL SHEET

Laser wavelength	905 nm ± 5 nm
Laser beam divergence	< 9 mrad
Optical material	Resin aspherical lens
Receiving aperture	9.2 × 14.5 mm
Measurement range	4–1,000 m
Ranging accuracy	±1 m (≤400 m) · ±1 m + d·0.1% (>400 m)
Measurement frequency	3–10 Hz adaptive
Measurement accuracy rate	≥ 98%
False alarm rate	≤ 1%
Interface	UART-TTL (customizable)
Baud rate	115200 bps
Supply voltage	3.3–5 V
Startup time	≤ 200 ms
Inrush current	< 350 mA
Average laser power	On request
Response time	On request
Sleep power	< 1 mW
Standby power	< 0.3 W
Operating power	Short-range < 0.6 W · max ≤ 1 W
Operating temperature	-20 to +55 °C (-40 °C custom)
Storage temperature	-40 to +60 °C
Protection rating	IP67 (inside lens cavity)
Laser safety class	IEC Class 1
Dimensions	25.65 × 13.2 × 24.6 mm
Weight	≤ 10 g
Shock / vibration	1000 g/ms (10×/s along optical axis) · 5–50–5 Hz, 2.5 g
Reliability	MTBF ≥ 1500 h



INTERFACE

UART-TTL

PIN	SIGNAL	DESCRIPTION
1	GND	Power –
2	VCC	Power +
3	I/O	Reserved for expansion
4	TXD	Module → host
5	RXD	Host → module
6	SW-SHOT	Function enable (active high)

APPLICATION FIT

- ROBOTICS
- INDUSTRIAL MEASUREMENT
- OUTDOOR POSITIONING

Standard 8-byte UART frame (0x55 0xAA header, function code, 4 data bytes, checksum); distance returned ×10 for a one-decimal reading. Full integration manual ships with samples.