CLASS-1 D SERIES

LR1500D23

LASER CLASS
CLASS 1
IEC 60825-1

Longer-reach Class-1 tube module — 4–1,500 m at ±1 m over UART-TTL, for outdoor and long-range distance sensing.

MAX RANGE	ACCURACY	WEIGHT	INTERFACE
4–1,500 m	**±1 m**	**≈ 20 g**	**UART-TTL**

TECHNICAL SPECIFICATIONS — FULL SHEET

Laser wavelength	905 nm ± 5 nm
Laser beam divergence	< 6 mrad
Optical material	Resin aspheric lens
Receiver aperture	20 mm ± 0.05 mm
Ranging range	4–1,500 m
Ranging accuracy	δ ⩽ ±1 m, 4 ⩽ d < 1,000 m (standard version ±1 m)
Ranging frequency	2–10 Hz
Ranging resolution	10 cm typical
Valid measurement rate	⩾ 98%
False alarm rate	⩽ 1%
Interface	UART-TTL (customizable)
Baud rate	115200 bps
Supply voltage	3.3–5 V (recommended ⩾ 3.5 V)
Operating power	Max < 0.8 W continuous · average ≈ 0.6 W
Average laser power	On request
Response time	On request
Peak / inrush current	≈ 300 mA @ 3.3 V typical
Operating temperature	-20 to +55 ℃ (-40 ℃ custom)
Storage temperature	-40 to +60 ℃
Protection rating	Lens cavity IP67
Laser safety class	IEC Class 1
Dimensions	Ø23 mm × 45.6 mm
Weight	≈ 20 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

OUTDOOR INSTRUMENTS · SECURITY · SURVEYING

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.

ERDI TECH LTD — 905 nm eye-safe laser rangefinder modules (IEC 60825-1 Class 1)
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