

LR1000B23 · 905 NM

COMPACT TUBE SERIES (B / C)

LR1000B23

LASER CLASS

CLASS 1

IEC 60825-1

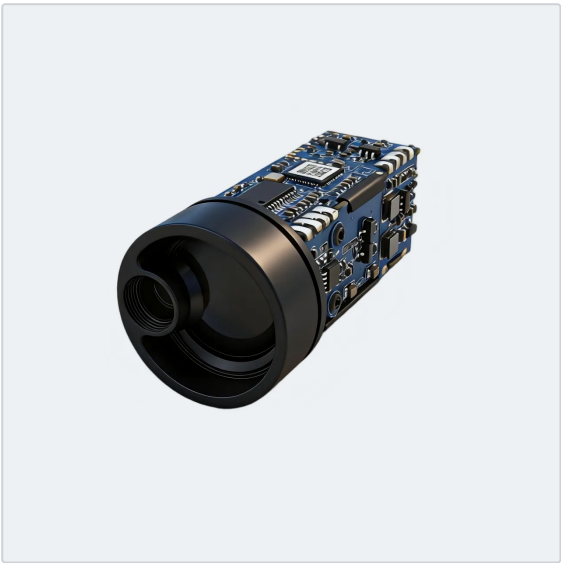
A light, low-power 905 nm ranging core in a Ø23 × 45.6 mm cylindrical body. 4–1,000 m (max 1,200 m) at ±1 m over UART-TTL, with an optional angle-sensing version — sized for monoculars, thermal imagers and telescopes.

MAX RANGE	ACCURACY	WEIGHT	INTERFACE
4–1,000 m (max 1,200 m)	±1 m	≈ 20 g	UART-TTL

TECHNICAL SPECIFICATIONS

FULL SHEET

Laser wavelength	905 nm ± 5 nm
Laser divergence	< 6 mrad
Optical material	PMMA
Receiving aperture	20 mm ± 0.05 mm
Ranging range	4–1,000 m (max 1,200 m)
Ranging accuracy	$\delta \leq \pm 1\text{ m}$, $6\text{ m} \leq d < 1,000\text{ m}$
Ranging frequency	2–10 Hz (up to 30 Hz custom)
Ranging resolution	10 cm typical
Accuracy 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	< 0.8 W continuous · ≈ 0.6 W average
Angle option	-70° to +70°, ±0.3° (custom)
Operating temperature	-20 to +55 °C (-40 °C custom)
Storage temperature	-40 to +60 °C
Protection rating	Lens cavity IP67
Laser safety class	IEC Class 1
Dimensions	Ø23 mm × 45.6 mm
Weight	≈ 20 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

- NIGHT VISION
- THERMAL IMAGERS
- TELESCOPES
- LASER ILLUMINATORS

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.