

CLASS-1 D SERIES

LR600D23

LASER CLASS

CLASS1

IEC 60825-1

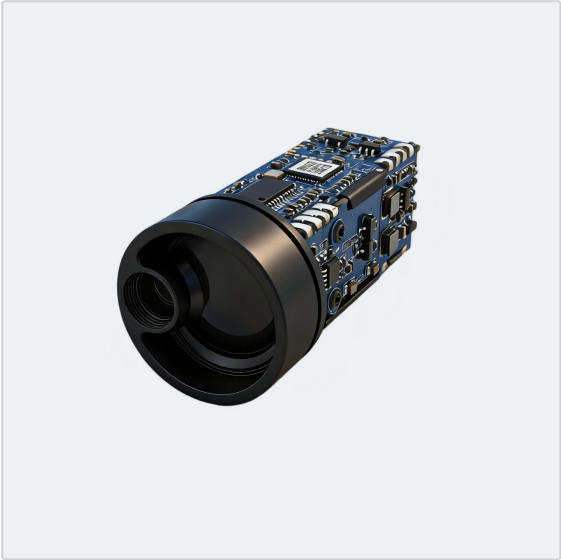
Short-reach Class-1 tube module with 2–10 Hz adjustable ranging frequency and IP67 lens protection — economical 600 m core for embedded optics.

MAX RANGE	ACCURACY	WEIGHT	INTERFACE
5–600 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	5–600 m
Ranging accuracy	$\delta \leq 100\text{ cm}$, $5 \leq d < 600\text{ m}$ (standard version ±1 m)
Ranging frequency	2–10 Hz (customizable)
Ranging resolution	20 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	< 0.65 W max
Average laser power	On request
Response time	On request
Peak / inrush current	≈ 300 mA @ 3.3 V typical
Operating temperature	–20 to +60 °C
Storage temperature	–40 to +60 °C
Protection rating	Lens cavity IP67
Laser safety class	IEC Class 1
Dimensions	Ø23 mm × 47 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

- EMBEDDED OPTICS
- SECURITY
- INDUSTRIAL

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.