

SPD MINI – NIGHT VISION & THERMAL

SPD1200N0

LASER CLASS

CLASS 1

IEC 60825-1

Miniature 905 nm rangefinder module developed for civil electro-optical products — a $\varnothing 15.7 \times 21.3$ mm, ≈ 5 g sealed cylindrical engine for thermal imagers, night vision and compact optics.

MAX RANGE 0.2–1,200 m (1,500 m night)	ACCURACY ± 0.3 m (≤ 100 m)	WEIGHT ≈ 5 g	INTERFACE UART-TTL
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TECHNICAL SPECIFICATIONS

FULL SHEET

Laser wavelength	905 nm $\pm$ 5 nm
Laser beam divergence	< 4.5 mrad
Optical material	PMMA
Receiving aperture	$\varnothing$ 6.5 mm
Measurement range	0.2–1,200 m (max 1,500 m at night)
Ranging accuracy	± 0.3 m (≤ 100 m) · ± 0.3 m + d·0.7% (100–1,200 m)
Measurement frequency	2–15 Hz / 4–15 Hz adaptive
Accuracy rate	$\geq 98\%$
False alarm rate	$\leq 1\%$
Interface	UART-TTL (customizable)
Baud rate	115200 bps (default)
Supply voltage	3.3–5 V
Startup time	≤ 200 ms
Average laser power	On request
Response time	On request
Operating power	Average ≈ 0.45 W · max ≤ 0.75 W
Operating temperature	-20 to +60 °C
Storage temperature	-30 to +70 °C
Protection rating	IP67 (inside lens cavity)
Laser safety class	IEC Class 1
Dimensions	$\varnothing 15.7$ mm $\times$ 21.3 mm (cylindrical, sealing groove)
Weight	≈ 5 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

NIGHT VISION

THERMAL IMAGING

CIVIL OPTICS

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.