

LRX-42A Laser Rangefinder Module

Noptel

The compact, eye safe and highly integrated LRF rangefinder module is utilized in various applications from versatile systems to handheld devices.

The module is delivered without enclosure enabling OEM-users to embed the module into their own system or device.



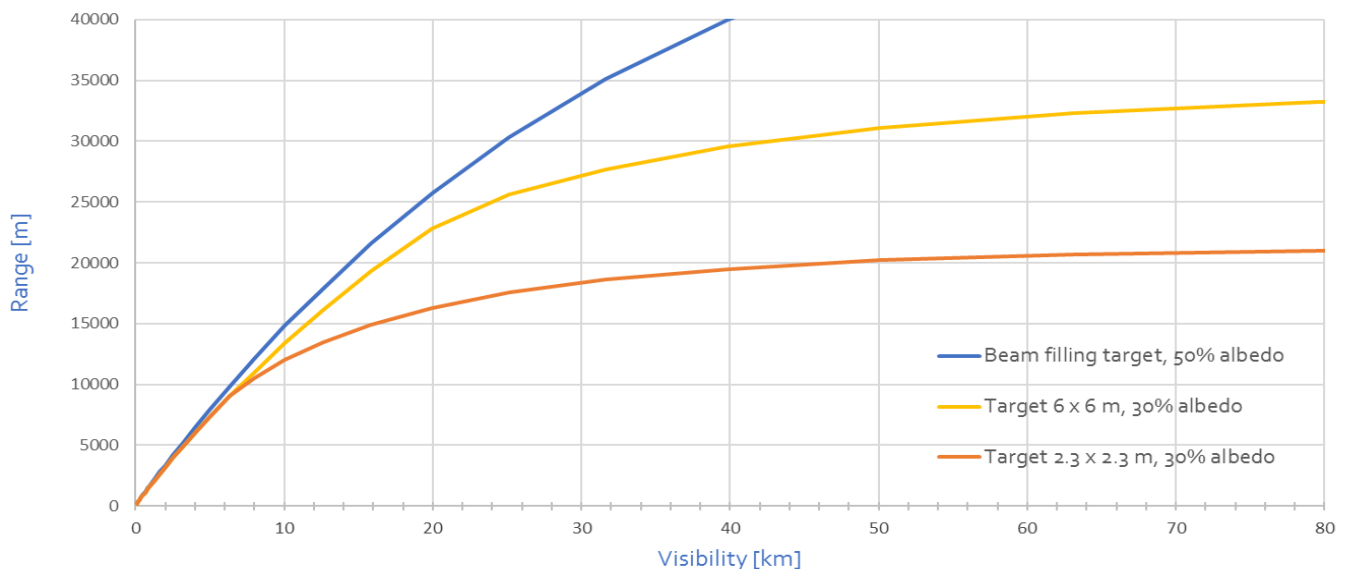
Features

- Compact and lightweight
- Low power consumption
- Pulsed time-of-flight measurement
- Ranging capability beyond 30 km
- Laser 1.5 μm wavelength
- Eye safe Class 1M (Optional Class 1)

Applications

- Reconnaissance
- Observation & surveillance
- Border and port control
- Off-shore rescue
- Naval systems
- Drone & UAV gimbals
- Handheld devices
- Vehicle mounted systems

Performance as a function of visibility



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Technical specifications

Performance Characteristics	Unit	LRX-42A	Note
Laser safety class	-	1/1M	Eye safe. Specify Class upon purchase order. Class 1: SMM measurement two (2) times in ten (10) seconds due to eye-safety requirements. Class 1M: No restrictions in measurement rate.
Wavelength	µm	1.5	
Ranging capability	m	39 000	Range selectable by gating feature (Default 32 km)
Performance to standard NATO target (SMM) (CMM 10Hz)	m	17300 / 17600 7300 / 13300	Target size 2.3 x 2.3 m, visibility 25 km, target reflectivity 30%, detection probability 90% Class 1 / 1M
Extinction ratio (SMM) (CMM 10 Hz)	dB	45.0 / 45.5 29.4 / 39.8	Beam filling target @500m, visibility 23 m, target reflectivity 85 %. Class 1 / 1M
Measuring time in Single Measurement Mode (SMM)	s	1.5 / 1.7	Full performance. Class 1 / 1M
Continuous Measurement Mode (CMM) rates	Hz	1, 4, 10, 20, 100, 200, 500	Range performance depends on applied rate. 500 Hz in Class 1M module only.
Precision	m	0.01 - 0.5	Depending on distance and target reflectivity
Beam divergence	mrad	0.25	
False detection rate	%	< 1	
Target discrimination	m	< 30	Depending on the received signal level. Up to three (3) targets: First, Second and Last.
Range gating resolution	m	1	
Operating temperature	°C	-32 - +60	
Storage temperature	°C	-40 - +71	
Mechanical characteristics	Unit	LRX-25A	Note
Size (L/W/H)	mm	102 x 70 x 51	
Weight	g	250	
Alignment retention	mrad	0.2	Within operating temperature range
Alignment pointer	nm	635	Laser Class 1
IP Protection	-	N/A	
Electrical characteristics	Unit	LRX-25A	Note
Serial interface	-	RS-422	UART 3.3V and RS232 available on request Connector type: Molex 53261-1071 Firmware update via serial interface
Start-up time	s	< 0.3	Measurement readiness from power-up
Supply voltage	V	8 - 30	Voltage at the supply input of the LRF
Power consumption	W	< 3.6	
Power consumption in stand-by mode	W	< 0.2	Unit can be completely shut down by external signal to further minimize power consumption

Specifications are subject to change without notice. Doc.: M43860FE