

LRX-42A Laser Rangefinder Module

Noptel

The compact, eye safe and highly integrated LRX 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.



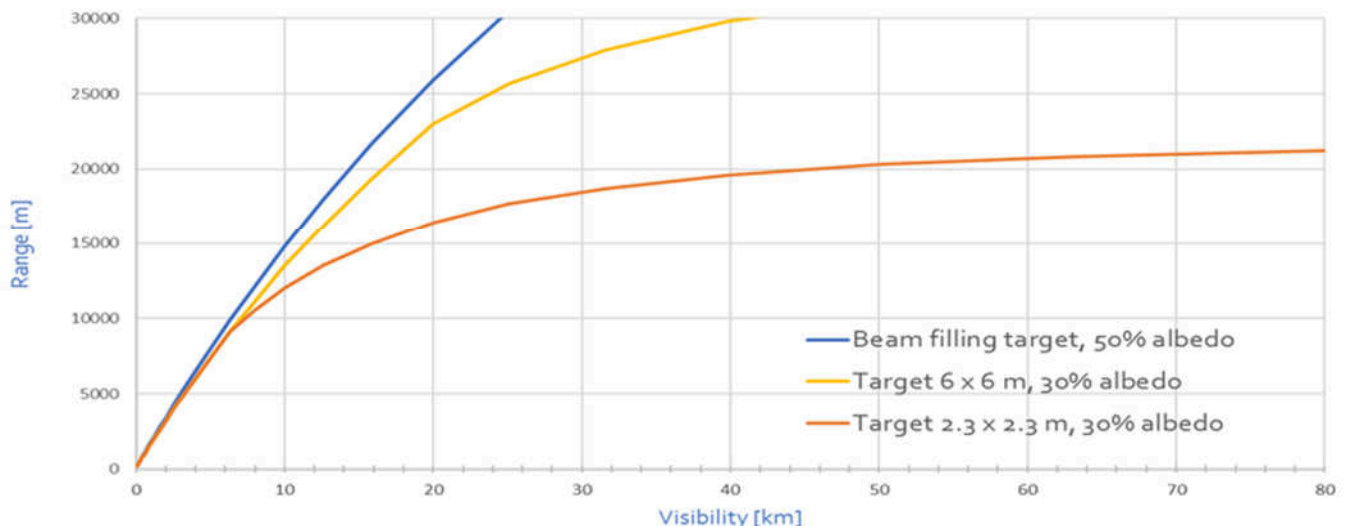
Features

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

Performance as a function of visibility



Noptel LRX-42A Laser Rangefinder Module



SMM = Single Measurement Mode
CMM = Continuous Measurement Mode

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. Class 1M: Available full SMM measurement rate and CMM performance.
Wavelength	µm	1.5	
Ranging capability	m	39 000	Range selectable by gating feature (default max. 32 000 m)
Performance to standard NATO target (SMM) (CMM 10 Hz)	m	16 000 8000 / 11 000	Target size 2.3 x 2.3 m, visibility 20 km, target reflectivity 30 %, detection probability > 90% Class 1 / 1M
Extinction ratio (SMM) (CMM 10 Hz)	dB	45.8 32 / 38.8	Beam filling target @ 500 m, visibility 23 km, target reflectivity 85 %. (Class 1 / 1M = 32 / 38.8)
Measuring time in Single Measurement Mode (SMM)	s	0.4 / 0.7 / 1.7	Quick SMM 1 / Quick SMM 2 / SMM
Continuous Measurement Mode (CMM) rates	Hz	1, 4, 10, 20, 100, 200	Range performance depends on applied rate
Precision	m	0.5 - 1.5	Depending on the 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	Selectable from 0 to 39 000 m
Operating temperature	°C	-32 - +60	
Storage temperature	°C	-40 - +71	
Mechanical characteristics	Unit	LRX-42A	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-42A	Note
Serial interface	-	RS422	Connector type: Molex 53261-1071 UART 3.3 V and RS232 available on request
Start-up time	s	< 0.3	Measurement readiness from power-up
Supply voltage	V	7 - 30	
Power consumption	W	< 4	
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.:M43860DE