

LRF-30A 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 and drone & UAV gimbals.

The module provides combination of excellent ranging capability and small size equipped with high measurement rates up to 500 Hz.

The LRF-30A module is delivered without enclosure enabling OEM-users to embed the module into their own system or device.



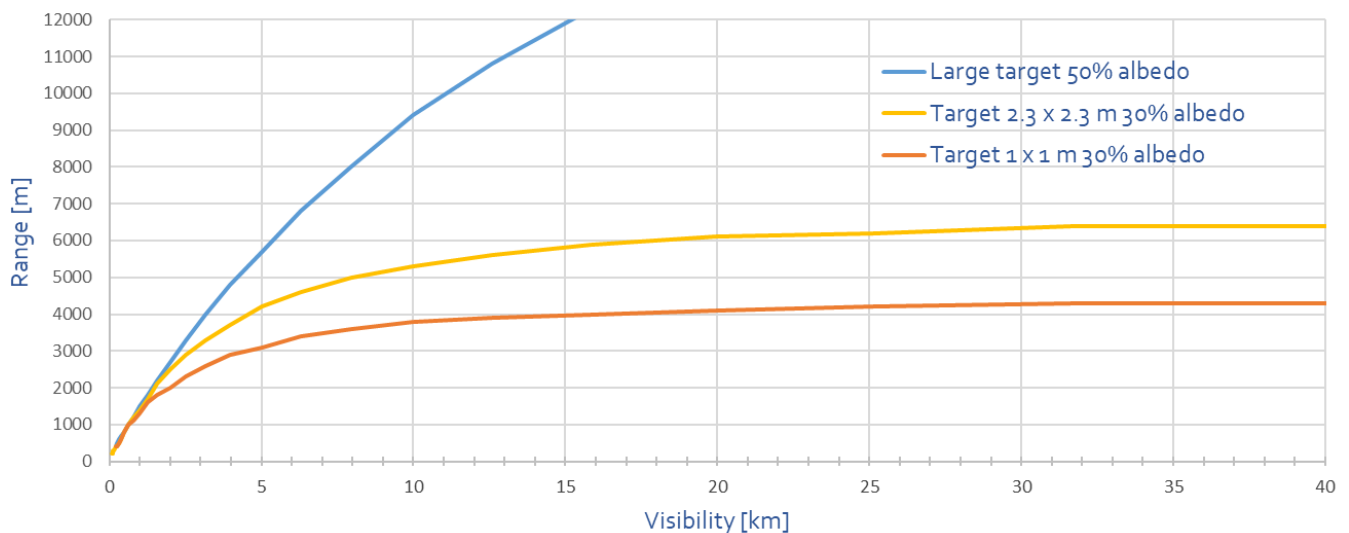
Features

- Compact and lightweight
- Pulsed time-of-flight measurement
- Low power consumption
- Ranging capability up to 12 km
- Diode laser 1.5 μm wavelength
- Eye safe Class 1

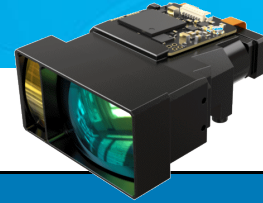
Applications

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

Performance as a function of visibility



LRF-30A Laser Rangefinder Module



Technical specifications

SMM = Single Measurement Mode
CMM = Continuous Measurement Mode

Performance Characteristics	Unit	LRF-30A	Note
Laser safety class	-	1	Eye safe
Wavelength	µm	1.5	
Ranging capability	m	0 - 12000	Range selectable by gating feature (Default 7.5 km)
Performance to standard NATO target (SMM) (CMM 10Hz)	m	6000 3500	Target size: 2.3 x 2.3 m, visibility 25 km, target reflectivity 30%, detection probability 90%
Measuring time in Single Measurement Mode (SMM)	s	< 1.8 < 2.8	At default (7.5 km) ranging capability At maximum (12 km) ranging capability
Continuous Measurement Mode (CMM) rates	Hz	1, 4, 10, 20, 100, 200, 500	Range performance depends on applied rate
Typical precision	m	0.01 - 0.5	Depending on distance and target reflectivity
Beam divergence	mrad	1.0 x 1.0	
False detection rate	%	< 1	
Target discrimination	m	< 20	Depending on the received signal level. Up to three (3) targets: First, Second and Last.
Range gating resolution	m	1	
Operating temperature	°C	-32 - +65	
Storage temperature	°C	-46 - +71	
Mechanical characteristics	Unit	LRF-30A	Note
Size (L/W/H)	mm	78 x 56 x 31 78 x 65 x 31	Without pointer With pointer
Weight	g	142 150	Without pointer With pointer
Alignment retention	mrad	± 0.2	Within operating temperature range
Optional alignment pointer	nm	635 850 640 850	Laser Class 1 (Option 1) Laser Class 1 (Option 2) Laser Class 1 / 3B (Option 3) Laser Class 1 / 3B (Option 4)
IP Protection	-	N/A	
Electrical characteristics	Unit	LRF-30A	Note
Serial interface	-	UART 3.3V	Connector type: Molex 53261-0771 Firmware update via serial interface
Start-up time	s	< 0.3	Measurement readiness from power-up
Supply voltage	V	4.5 - 15	Voltage at the supply input of the LRF
Power consumption	W	< 2.0	Average
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.: M51223A