LRF221 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.

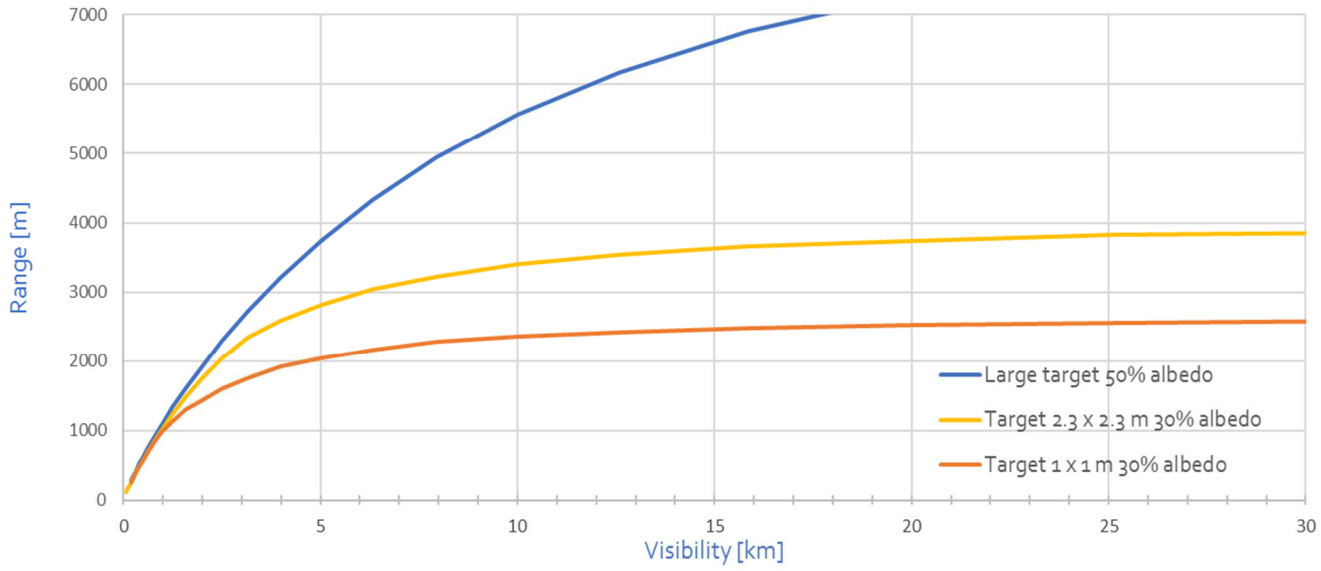
Features

- Compact and lightweight
- Pulsed time-of-flight measurement
- Low power consumption
- Ranging capability up to 6000 m
- Diode laser 1.5 µm wavelength
- Eye safe Class 1

Applications

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

Performance as a function of visibility



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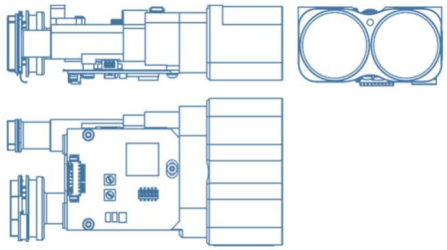
Technical Specifications



Performance Characteristics	Unit	LRF221	Note
Laser safety class	-	1	Eye safe
Wavelength	µm	1.5	
Ranging capability	m	0 - 6000	Range selectable by gating feature
Performance to standard NATO target (SMM)	m	3800	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	Full performance
Continuous Measurement Mode (CMM) rates	Hz	1, 4, 10, 20, 100, 200	Range performance depends on applied rate
Precision	m	0.01 - 0.5	Depending on distance and target reflectivity
Beam divergence (HxV)	mrad	1.25 x 1.0	(HxV) = Horizontal x Vertical
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	LRF221	Note
Size (L/W/H)	mm	95 / 50 / 26	
Weight	g	100	
Alignment retention	mrad	± 0.3	Within operating temperature range
Alignment pointer	nm	635	Laser Class 1
IP Protection	-	N/A	

Electrical characteristics	Unit	LRF221	Note
Serial interface	-	UART 3.3 V	Connector type: Molex 53261-0871 Firmware update via serial interface
Start-up time	s	< 0.3	Measurement readiness from power-up
Supply voltage	V	3.3 - 4.4 4.6 - 5.4	85% performance Full performance
Power consumption	W	< 2.0 < 3.0	Applied supply voltage 3.3 - 4.4 V Applied supply voltage 4.6 - 5.4 V
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.: M42932GE

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