

LRX-42A-W Wide Beam Laser Rangefinder Module

Noptel

The compact and eye safe wide beam laser rangefinder module is dedicated especially to observation and surveillance of small objects at vast background such as birds and drones on the sky or human beings and boats on stormy sea.

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



Features

- Compact and lightweight
- Beam divergence 2 mrad
- Low power consumption
- Measurement rates up to 500 Hz
- Laser 1.5 μm wavelength
- Eye safe Class 1M

Applications

- Counter drone & UAV activities
- Observation & surveillance
- Aerial collision prevention
- Border and port control
- Off-shore rescue
- Naval systems
- Drone & UAV gimbals
- Vehicle mounted systems



Noptel LRX-42A-W Wide Beam Laser Rangefinder Module



Technical specifications

Performance Characteristics	Unit	LRX-42A-W	Note
Laser safety class	-	1M	Eye safe. Do not use telescopic optics closer than ENOHD distance.
Wavelength	μm	1.5	
Typical performance (1Hz) Target size: 2.3 x 2.3 m 1.0 x 1.0 m 0.25 x 0.25 m	m	6800 4600 2400	Visibility 25 km, target reflectivity 30 %, detection probability > 90 % 4 Hz: 80 % of full performance 10 Hz: 70 % of full performance 20 Hz: 60 % of full performance
Extinction ratio 1 Hz	dB	42	Beam filling target @ 500 m, visibility 23 km, target reflectivity 85 %
Continuous measurement mode rates	Hz	1, 4, 10, 20, 100, 200, 500	Range performance depends on applied rate
ENOHD	m	8.0	8 x 50 mm binocular
Typical precision	m	0.01 – 0.5	Depending on distance and target reflectivity
Beam divergence	mrاد	2.0	
False detection rate	%	< 1	
Target discrimination	m	< 30	Depending on the received signal level. Up to three targets: First, Second and Last.
Range gating resolution	m	1	Selectable from 10 to 39 000 m
Operating temperature	°C	-32 – +60	
Storage temperature	°C	-40 – +71	
Mechanical Characteristics	Unit	LRX-42A-W	Note
Size (L x W x H)	mm	102 x 70 x 51	
Weight	g	250	
Alignment retention	mrاد	0.2	Within operating temperature range
Alignment pointer	nm	635	Laser Class 1
IP Protection	-	N/A	
Electrical Characteristics	Unit	LRX-42A-W	Note
Serial interface	-	RS-422	UART 3.3 V and RS-232 available on request Connector type: Molex 53261-1071 Firmware update via serial interface
Start-up time	s	< 0.3	Measurement readiness upon 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

Note: Mechanical and electrical interfaces are same as in LRX-42A.

Copyright ©Noptel 2025. Specifications are subject to change without notice. Doc.: M50957AE