

UAV-Optimized, 200 m Miniature Laser Rangefinder (LiDAR)



CU1-001
(UART)



MC1-001
(IP67, CAN Bus, RS-232)



MU1-001
(IP67, UART)

The WASP™-200 series of rangefinders are LiDAR sensors designed to measure ranges of 200 m off of non-cooperative targets with remarkable accuracy and precision in an ultra-tiny package with FDA Class 1 laser certification. The WASP™ Laser Rangefinder provides robust measurements off of low-reflectivity targets. It uses single shot time of flight (ToF) ranging which allows it to work from fast moving vehicles on fast moving targets. It is designed with a host of advanced features making the WASP™ series of rangefinders well-suited for a variety of applications. The WASP™ Laser Rangefinder can identify targets beyond 300 meters away at a rate of up to 56 ranges per second with custom options to 10 KHz, and with accuracy better than 10 cm at 200 m and performance over water.

Highlights

- High repetition rate for fast single-shot ranging for fast scanning and moving platforms
- Programmable burst mode averaging
- Class 1 Laser Product
- IP 67 option
- Optional fields of view available for proximity detection applications
- ArduPilot supported (Plane, Copter, and Rover)
- Connector options including pigtailed
- Durable molded ABS plastic housing
- Integrated back or front mounting

Applications

- Robotics and Drones
- Scanned LiDAR
- Sense and Avoid
- Height Above Ground (HAG) flight
- Industrial Automation
- Height & Distance Measurements
- Maritime Operations
- Precise Proximity Detection

Software Features

- Programmable burst mode and moving averaging for enhanced precision
- Programmable burst mode averaging
- Background solar noise detection and compensation
- Programmable sensitivity and range offsets

SYSTEM FEATURES

WASP™ 200-LRF



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Specifications

Laser Eye Safety	Class 1 Laser Product		
Range Performance	0.15 m to 175 m 18% reflectivity		
Range Performance *Full Sun Conditions	0.1 m to 300 m 80% reflectivity		
Maximum Range	315 m		
Accuracy	< 10 cm		
Spectral Band	905 nm		
Resolution	1 cm		
Update Rate	Single shot to 56 Hz Class 1 and Class 3R	Single shot to 50 Hz	
Wavelength	905 nm		
Beam Divergence	8 mrad x 1 mrad		
Optical Aperture	18 mm		
Input Voltage	3.5 V to 16 V		3 V to 16 V
Operating Current	< 75 mA @ 5 V Operating Voltage		< 75 mA @ 10 V Operating Voltage
Inrush Current	< 100 mA @ 5 V Operating Voltage		< 100 mA @ 10 V Operating Voltage
Connector	8 pin Hirose Connector or Pigtail	ODU IP67	
Communication Interface	UART		CAN Bus, RS-232
Dimensions (L x W x H)	44 x 20 x 42 mm ³	44 x 34.8 x 42 mm ³	
Weight	26 grams	46 grams	46 grams
Operating Temperature	-40 to + 60 °C		
	-40 to 140 °F		



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