

DISCOVERY OPAL CONICAL



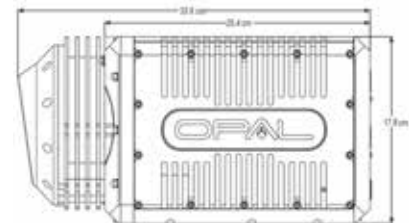
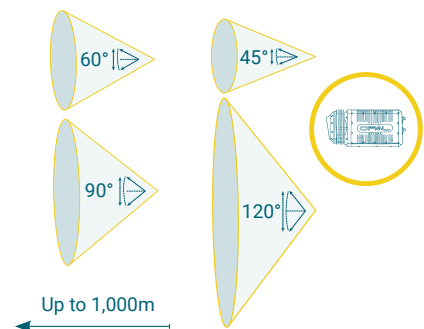
Designed for object detection on moving and static platforms. The Conical's 45° to 120° conical field of view can be ordered to suit different speeds for real-time object recognition and classification at long range—even while stationary. With its rosette-type scan pattern that enables rapid filling of the 3D environment, the OPAL Conical maximizes data density to detect what's ahead in harsh conditions that include heavy vibration, rain, snow, sleet, fog and dust.

KEY FEATURES

- Forward-looking, available with different conical fields of view
- Optimized to reliably detect small and low-reflectivity targets at short and long range
- Rugged and resistant to shock and vibration
- Obscurant penetrating
- Active sensing not affected by lighting conditions
- Minimal returns off water—clutter elimination with filtering
- High resilience to spoofing, jamming, or similar interference

KEY SPECIFICATIONS



- Rugged, all-weather IP66/IP67 enclosure
- Highest Resolution
 - User-configurable scan rate from 25kHz to 300kHz pulse repetition frequency
 - INS ready: PPS input (time synchronization), out-of-the-box support for many common INS systems
 - Non-repeating: Conical scan pattern requires no movement to increase resolution with integration time
 - Scan pattern: Rosette type, non-repeating (resolution increases with integration time)
- Field of view options: Conical 45°, 60°, 90°, 120°
- Accuracy: <2.5cm (typical) [One sigma (σ) at 10m range as measured under Lumibird factory test conditions]
- Dimensions (L x W x H): 17.8cm x 17.8cm x 33.8cm
- Weight (without cables): 11.8kg
- Sapphire glass window



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DISCOVERY OPAL CONICAL

Sensor	
Technology type	Time of Flight (ToF) 3D laser scanner with OPAL obscurant-penetrating LiDAR technology
Range (1)	Option to order with range of up to 500m or up to 1,000m
Multi-return	Up to 7 returns
Accuracy (2)	<2.5cm (typical)
Precision (2)	<2.0cm (typical)
Field of view	Conical 45°, 60°, 90°, 120°
Scan pattern	Rosette type, non-repeating
Laser	
Wavelength	1,550nm
Eye safety	Class 1 IEC/60825-1
Output	
Pulse repetition frequency	25kHz, 50kHz, 100kHz, 200kHz, 300kHz
Data stream format	IPv4 multi-cast UDP packets
Data format	Time-stamped position (x, y, z) plus intensity
Interfaces	
Ethernet (integrated GigE switch)	4 ports
PPS (time synchronization)	RS-422 signal
Physical	
Dimensions (L x W x H)	17.8cm x 17.8cm x 33.8cm
Weight (without cables)	11.8kg
Operating voltage	18V DC to 36V DC
Power consumption	110W (typical), 220W max.
Ingress protection rating	Certified to IP66/IP67
Operating temperature (3)	-40°C to 55°C
Storage temperature	-40°C to 85°C
Shock	Designed to 5Gs
Vibration	Designed to 20Hz to 2kHz, 0.04g(2)/Hz
Regulatory compliance	 

1. Achievable max. range is dependent on target size, reflectivity, angle of incidence, and pulse repetition frequency (PRF), measured at the center of the field of view in clear atmospheric conditions
2. One sigma (σ) at 10m range as measured under Lumibird factory test conditions
3. Assumes adequate convection airflow over the unit. For applications in environments exceeding 40°C, please contact OPAL_support@lumibird.com to discuss mounting options

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Contact Us



For inquiries about the Discovery product family, please email us at: OPAL_sales@lumibird.com. Scan the QR code to view the system scans on our website, or learn more about us at neptectechnologies.com.

Lumibird has locations across the globe that are available to provide support for any product, service, or inquiry.

