

Velodyne LiDAR™ Puck LITE™

LIGHT WEIGHT REAL-TIME 3D LiDAR SENSOR



Puck LITE



Our Lightest Sensor Ever

Velodyne LiDAR's Puck LITE is a lighter weight version of the VLP-16 Puck for applications that demand a lower weight to meet their requirements. The Puck LITE has identical performance to the VLP-16, the only difference is the weight of 590 g vs. 830 g for the latter. No other changes have been made to the Puck LITE as it retains its patented 360° surround view to capture real-time 3D LiDAR data that includes distance and calibrated reflectivity measurements.

Unprecedented Field of View and Point Density

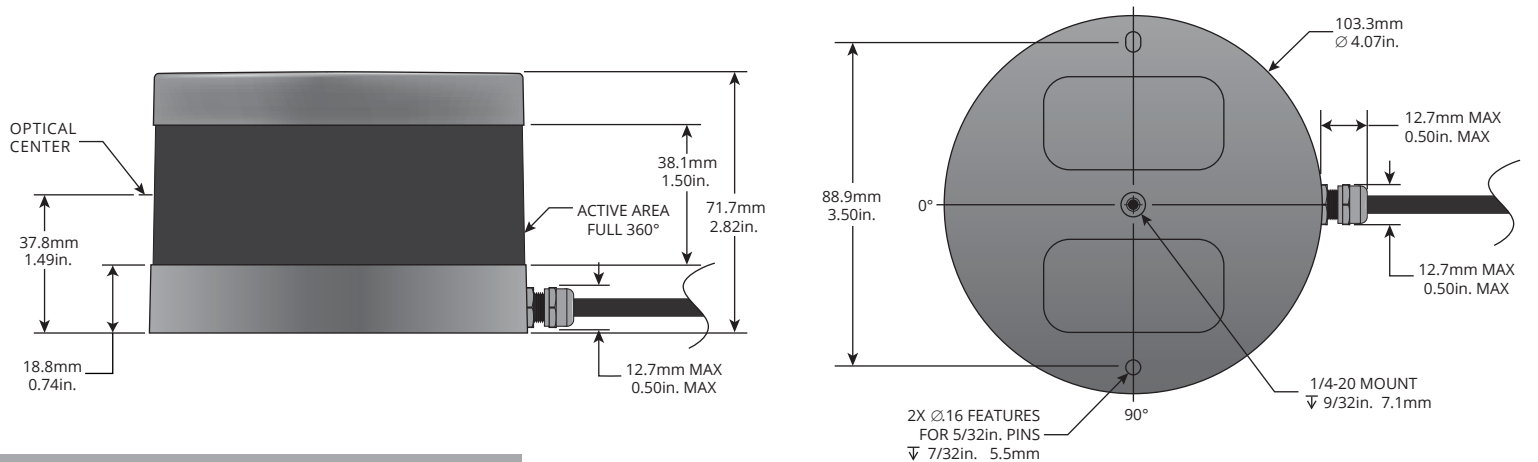
The Puck LITE has a range of 100 m with dual return mode to capture greater detail in the 3D image while the power consumption is approximately 8 W. A compact footprint (Ø103mm x 72mm) and an industry leading weight of 590 g for a LiDAR sensor with high resolution makes it ideal for UAV/drone and mobile applications in the areas of 3D mapping/imaging, inspection and navigation.

The Puck LITE supports 16 channels and generates approximately 300,000 points/second from a 360° horizontal field of view and a 30° vertical field of view (±15° from the horizon). The Puck LITE has no visible rotating parts and is encapsulated in package that allows it to operate over a wide temperature range (-10°C to +60°C) and environmental conditions (IP67).

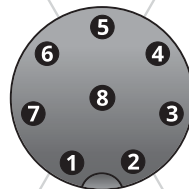
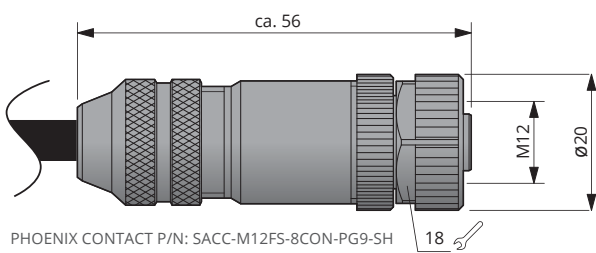


Puck LITE™

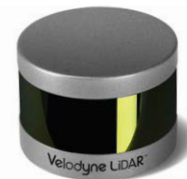
DIMENSIONS



M12 CONNECTOR ON SENSOR SIDE



Pin	Wire Color	Function
8	Black	Ground
7	Red	+12 V
6	Yellow	GPS Pulse Per Second (PPS)
5	White	GPS Serial Data
4	Light Orange	Ethernet TX+
3	Orange	Ethernet TX-
2	Light Blue	Ethernet RX+
1	Blue	Ethernet RX-



Light Weight Real-Time 3D LiDAR Sensor

The Puck LITE provides high definition 3-dimensional information about the surrounding environment.

Specifications:

Sensor:	<ul style="list-style-type: none"> • Time of Flight Distance Measurement with Calibrated Reflectivities • 16 Channels • Measurement Range: Up to 100 m • Accuracy: ± 3 cm (Typical) • Single and Dual Returns (Strongest, Last) • Field of View (Vertical): $+15.0^\circ$ to -15.0° (30°) • Angular Resolution (Vertical): 2.0° • Field of View (Horizontal): 360° • Angular Resolution (Horizontal/Azimuth): $0.1^\circ - 0.4^\circ$ • Rotation Rate: 5 Hz – 20 Hz • Integrated Web Server for Easy Monitoring and Configuration
Laser:	<ul style="list-style-type: none"> • Laser Product Classification: Class 1 Eye-safe per IEC 60825-1:2007 & 2014 • Wavelength: 903 nm • Beam Size @ Screen: 9.5 mm x 12.7 mm • Beam Divergence: 3.0 mrad
Mechanical/ Electrical/ Operational	<ul style="list-style-type: none"> • Power Consumption: 8 W (Typical) • Operating Voltage: 9 V – 18 V (with Interface Box and Regulated Power Supply) • Weight: 590 g (without Cabling and Interface Box) • Dimensions: 103 mm Diameter x 72 mm Height • Shock: 500 m/s² Amplitude, 11 ms Duration • Vibration: 5 Hz to 2,000 Hz, 3 G_{rms} • Environmental Protection: IP67 • Operating Temperature: -10°C to $+60^\circ\text{C}$ • Storage Temperature: -40°C to $+105^\circ\text{C}$
Output:	<ul style="list-style-type: none"> • 3D LiDAR Data Points Generated: <ul style="list-style-type: none"> - Single Return Mode: ~300,000 points per second - Dual Return Mode: ~600,000 points per second • 100 Mbps Ethernet Connection • UDP Packets Contain: <ul style="list-style-type: none"> - Time of Flight Distance Measurement - Calibrated Reflectivity Measurement - Rotation Angles - Synchronized Time Stamps (μs resolution) • GPS: \$GPRMC NMEA Sentence from GPS Receiver (GPS not included)

63-9286 Rev-D

Product Ordering Information:

Product Name	SKU Ordering Number	Sensor		Interface Box			
		Connector	Cable Length	Included	Connector to Sensor	Cable Length	I/O Connectors
Puck LITE	80-VLP-16-COB20P30SR4SL	None	3.0 m	Yes	None	-	RJ45, GPS and Power
Puck LITE	80-VLP-16-COB20P30SM1SL	M12 Female	0.3 m	Yes	M12 Male	1.6 m	RJ45, GPS and Power



CLASS 1 LASER PRODUCT