

# 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

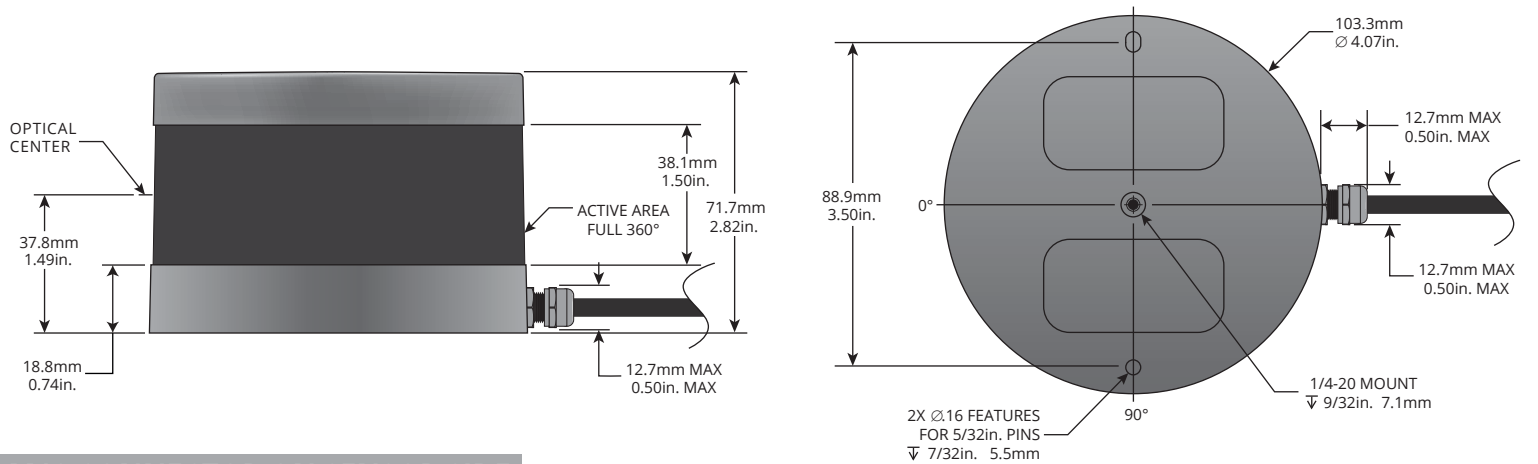
The Puck LITE has a range of 100 m with dual return mode to capture greater detail in the 3D image while the power consumption is approximately 8 W. A compact footprint (Ø103mm x 72mm) and an industry leading weight of 590 g for a LiDAR sensor with high resolution makes it ideal for UAV/drone and mobile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

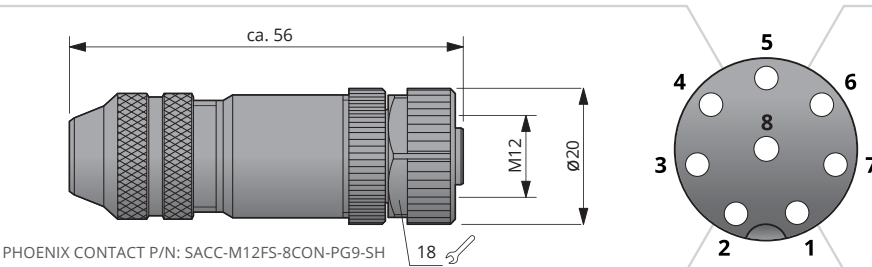


Puck LITE™

## DIMENSIONS

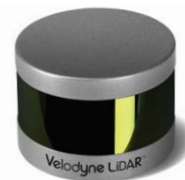


## M12 CONNECTOR ON SENSOR SIDE



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-

PHOENIX CONTACT P/N: SACC-M12FS-8CON-PG9-SH



## Light Weight Real-Time 3D LiDAR Sensor

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

### Specifications:

#### Sensor:

- Time of Flight Distance Measurement with Calibrated Reflectivities
- 16 Channels
- Measurement Range: Up to 100 m
- Accuracy:  $\pm 3$  cm (Typical)
- Single and Dual Returns (Strongest, Last)
- Field of View (Vertical):  $+15.0^\circ$  to  $-15.0^\circ$  ( $30^\circ$ )
- Angular Resolution (Vertical):  $2.0^\circ$
- Field of View (Horizontal):  $360^\circ$
- 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:

- 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:  $0.18^\circ$  (3.0 mrad)

#### Mechanical/ Electrical/ Operational

- 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/s<sup>2</sup> Amplitude, 11 ms Duration
- Vibration: 5 Hz to 2,000 Hz, 3 G<sub>rms</sub>
- Environmental Protection: IP67
- Operating Temperature:  $-10^\circ\text{C}$  to  $+60^\circ\text{C}$
- Storage Temperature:  $-40^\circ\text{C}$  to  $+105^\circ\text{C}$

#### Output:

- 3D LiDAR Data Points Generated:
  - Single Return Mode: ~300,000 points per second
  - Dual Return Mode: ~600,000 points per second
- 100 Mbps Ethernet Connection
- UDP Packets Contain:
  - Time of Flight Distance Measurement
  - Calibrated Reflectivity Measurement
  - Rotation Angles
  - Synchronized Time Stamps ( $\mu\text{s}$  resolution)
- GPS: \$GPRMC NMEA Sentence from GPS Receiver (GPS not included)

63-9286 Rev-E

### 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

Copyright ©2017 Velodyne LiDAR, Inc. Specifications are subject to change without notice. Other trademarks or registered trademarks are property of their respective owners.