




Caveatron Bill of Materials – 12m RP LIDAR Module



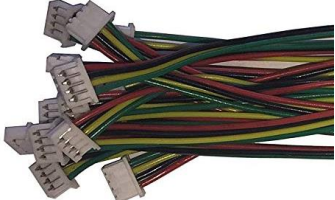
Date: 2019-11-05

The LIDAR module mounts onto the top front of the main enclosure and is easily detachable. The module is designed to use a custom 3D printed enclosure consisting of a base part, a lid bottom part, and lid top part. An STL file of these parts is provided. PETG is the recommended printing material.

[illegible]

Item	Qty	Manufacturer	Mfr. P/N	Description	Suggested Vendor Link	Photo
Window Material	1	Small Parts	5302441212	Acrylic Sheet, Transparent Clear, Standard Tolerance, ASTM D788, 0.118" Thickness	Amazon	
Notes: <i>Transparent acrylic sheet for LIDAR windows on 3D Printed LIDAR Module.</i> Requires cutting to size. Acrylic seems to be the most transparent with the least distortion and defects of the various clear plastics tested, which is important for not interfering with the LIDAR and rangefinder readings. This is a thicker window than is used on the Main body since it is used in the 3D printed enclosure as a structural piece as well. If a different enclosure design is used, the thinner material could be used instead.						
Threaded Inserts for LIDAR Standoffs	1	Initeq	INM2504	M2.5-0.4 M2.5 Threaded Heat Set Inserts for 3D Printing (Long)	Amazon	
Notes: <i>Heat set threaded inserts used in 3D printed LIDAR enclosure for LIDAR standoffs.</i> The standoffs that screw into these are included with the RPLIDAR.						
Threaded Inserts for Enclosure Lid	1	Small Parts	STPVC-0093-F	Qty 20 M4-0.7 Threaded Heat Set Inserts for 3D Printing (Long)	Amazon	
Notes: <i>Heat set threaded inserts used in 3D printed LIDAR enclosure for lid screws.</i>						

Item	Qty	Manufacturer	Mfr. P/N	Description	Suggested	Photo
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					Vendor Link	
O-Ring Gasket Material	1	Small Parts	\$70.093	.093" (3/32" Actual) Silicone O-Ring Cord Stock, 70A Durometer, 0.093" Thickness	Amazon	
Notes: Seal gasket for LIDAR lid.						
JST Connector for LIDAR Motor	1	Various	N/A	JST 1.25mm pitch, 3 pin, male connector	Amazon	
Notes: Connector for LIDAR Motor.						
JST Connector for LIDAR Sensor	1	Various	INM2504	JST 1.25mm pitch, 4 pin, male connector	Amazon	
Notes: Connector for LIDAR Sensor						
Other Required Items: M4 x 12 Screws for Lid 4 conductor cable to connect LIDAR module to main enclosure through Cable Gland to LIDAR Interface Plug Slightly flexible sealing epoxy to attach LIDAR windows (marine grade epoxy, silicone epoxy or similar). Rigid epoxies may warp the windows. Tape and/or cable ties to manage wiring and voltage regulator.						
Notes: For assembly and electrical interconnections						