Caveatron Bill of Materials – 12m RP LIDAR Unit Date: 2019-03-19

Item	Qty	Manufacturer	Mfr. P/N	Description	Suggested Vendor Link	Photo
LIDAR	1	Slamtec	RPLIDAR A1M8	LIDAR 360 Degree Laser Range Scanner	RobotShop	
Voltage Regulator – Adjustable	ing LIDA	AR sensor. Other n	nodels that m	ay also work but have not bee Pololu Adjustable Step- Up/Step-Down Voltage Regulator S7V8A	n tested include I	RPLIDAR A2M6, A2M8, and A3M1.
Notes: Power	supply	for Laser Rangefii	<i>nder.</i> Output i	s set so that the LIDAR is rotat	ing at about 5 Hz	RPM (300 RPM). The voltage is typically set to about 3.68 V.

Item	Qty	Manufacture r	Mfr. P/N	Description	Suggested Vendor Link	Photo
LIDAR Rail Mounts	1	Weaver	49819	0.22 Caliber 1-inch Tip-Off Rings	Amazon	

Notes: Parts for making the rail mounts. The top ring portion is cut off making a flat top and two threaded holes are machined into each ring base for attachment to bottom of LIDAR module enclosure.

LIDAR Interface Jack	
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Notes: Jack for LIDAR interface cable. Available from multiple vendors.

Cable Gland	1	Many	PG7	Waterproof Cable Gland	Amazon or	
		sources		Wire Feedthrough	many other	
					sources	



Notes: Feeds LIDAR interface cable out of LIDAR enclosure. Numerous small variations of style and color are available, so long as it is PG7 size.

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	

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)	<u>Amazon</u>	
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Notes: Heat set threaded inserts used in 3D printed LIDAR enclosure for LIDAR standoffs. The standoffs that screw into these are included with the RPLIDAR.

Threaded 1 Inserts for Enclosure Lid	1 Small Parts	STPVC-0093-F	Qty 20 M4-0.7 Threaded Heat Set Inserts for 3D Printing (Long)	<u>Amazon</u>	
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Notes: Heat set threaded inserts used in 3D printed LIDAR enclosure for lid screws.

Item	Qty	Manufacturer	Mfr. P/N	Description	Suggested Vendor Link	Photo
O-Ring Gasket Material	1	Small Parts	S70.093	.093" (3/32" Actual) Silicone O- Ring Cord Stock, 70A Durometer, 0.093" Thickness	<u>Amazon</u>	
Notes: Seal gas	ket for	LIDAR lid.				
JST Connector for LIDAR Motor	1	Various	N/A	JST 1.25mm pitch, 3 pin, male connector	<u>Amazon</u>	(rình)
Notes: Connect	or for L	LIDAR Motor.				
JST Connector for LIDAR Sensor	1	Various	INM2504	JST 1.25mm pitch, 4 pin, male connector	Amazon	

Notes: Connector for LIDAR Sensor

M4 x 12 Screws for Lid, Hook up wire, 4 conductor cable to connect LIDAR to main enclosure

Notes: For assembly and electrical interconnections