

THE

RESEPI

REMOTE SENSING PAYLOAD INSTRUMENT
FOR YOUR REMOTE SENSING BUSINESS

Datasheet
Rev 2.3





IEEE



RESEPI Datasheet Rev. 2.3

The Remote Sensing Payload Instrument - **RESEPI**[®] was designed as a cost-effective solution for extremely accurate Remote Sensing applications. **RESEPI**[®] utilizes a high-performance Inertial Labs GPS-Aided Inertial Navigation System (INS) with Novatel RTK/PPK single or dual antenna GNSS receiver, integrated with a Linux-based processing platform. The processing platform contains a WiFi interface, external cellular modem to support RTCM corrections, datalogging software and automated post-processing. **RESEPI**[®] can be used with commercially available LiDARs like Hesai, Velodyne, Quanergy, Ouster, RIEGL, and LIVOX. The device was built with the purpose of white-labeling.

Your Logo can be placed on all software: LIDAR calibration software, Bore-sighting software, Point Cloud Software powered by Waypoint[®] Inertial Explorer from Hexagon | NovAtel[®], web-interfaces, and hardware. All components are mounted into one compact and light-weight enclosure and the bore-sighting and point cloud software powered by Waypoint[®] Inertial Explorer from Hexagon | NovAtel[®] is fully automated to provide optimized PPK results.



“Your LiDAR”



Velodyne LiDAR



Quanergy LiDAR



Ouster LiDAR



Livox LiDAR



Hesai LiDAR

RESEPI[®] is completely modular. You can supply the GNSS receiver. You can supply the LiDAR. We provide everything for assembling, calibrating, and bore-sighting **RESEPI**[®]. This allows you to maintain existing relationships and meet local production requirements. You have full control for customization.



0.37 kg
Weight w/o
LiDAR



PPK / RTK
Dual / Single
GPS-Aided INS



Up to 1 TB USB
Memory Drive



3 - 5 cm
Point Cloud
Accuracy



WiFi & GSM
Embedded WiFi,
Cellular Modem

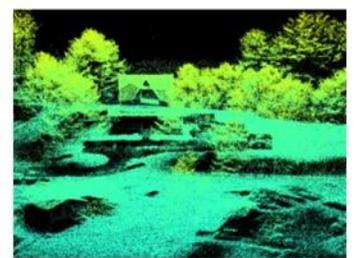
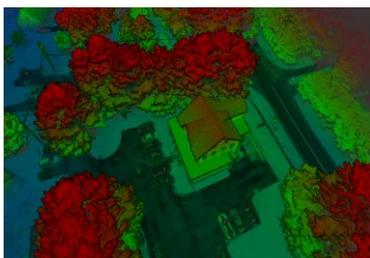


Up to 200 m
AGL - Above
Ground Level



USB
Camera
Interface

RESEPI[®] is ALSO a complete remote sensing solution – LiDAR, all required cables, mounting brackets, vibration isolator, LiDAR Calibration, Bore-sighting, Post-Processing (PPK) and Point Cloud software utilizing the Waypoint[®] post-processing engine from Hexagon | NovAtel[®] are available upon purchase of the RESEPI. Value Added Resellers can focus on growing their business rather than developing the payload product. We will support and grow the product together to meet the market requirements with a commitment to supplying the best price/performance solution to our Business Partner.



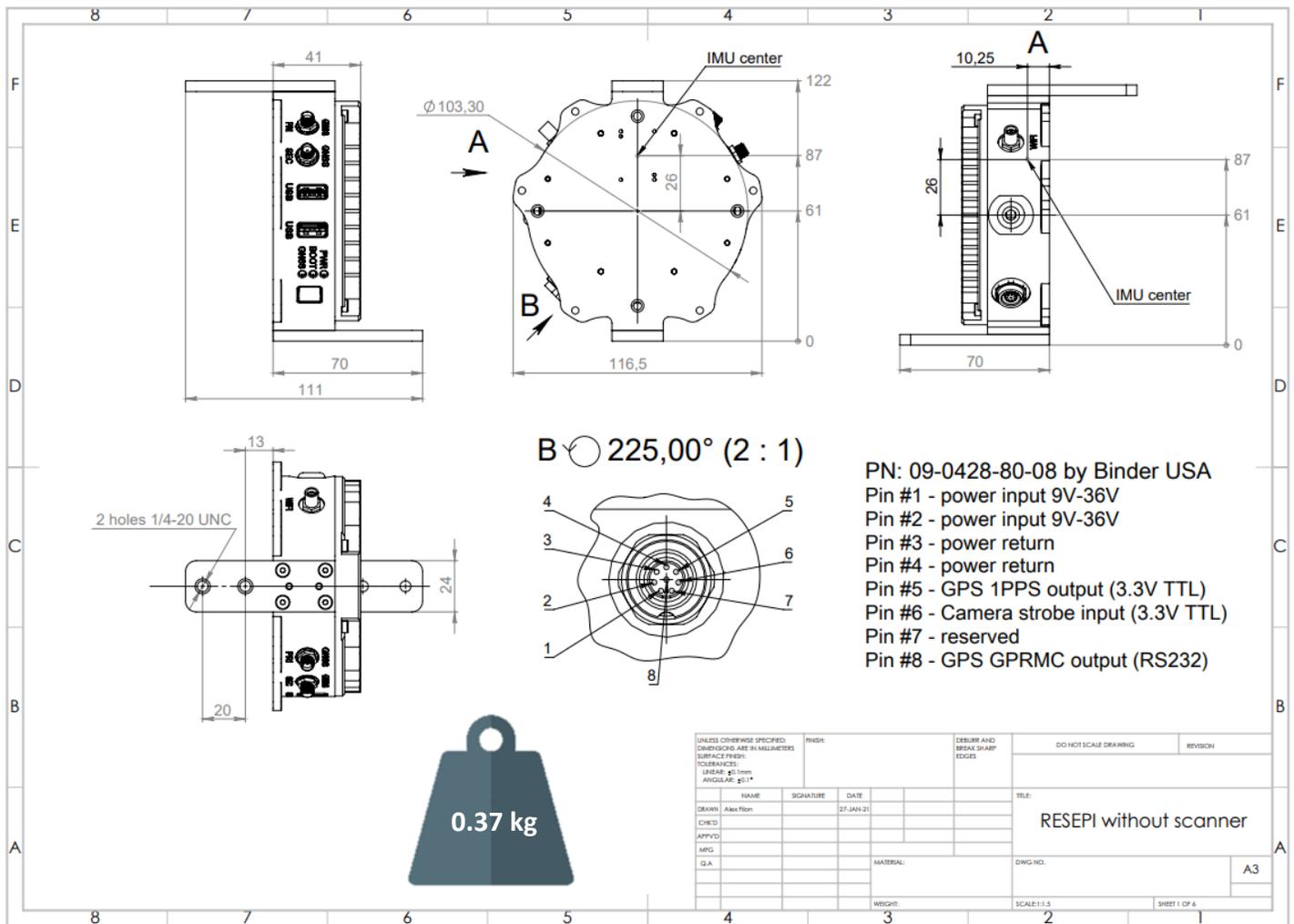


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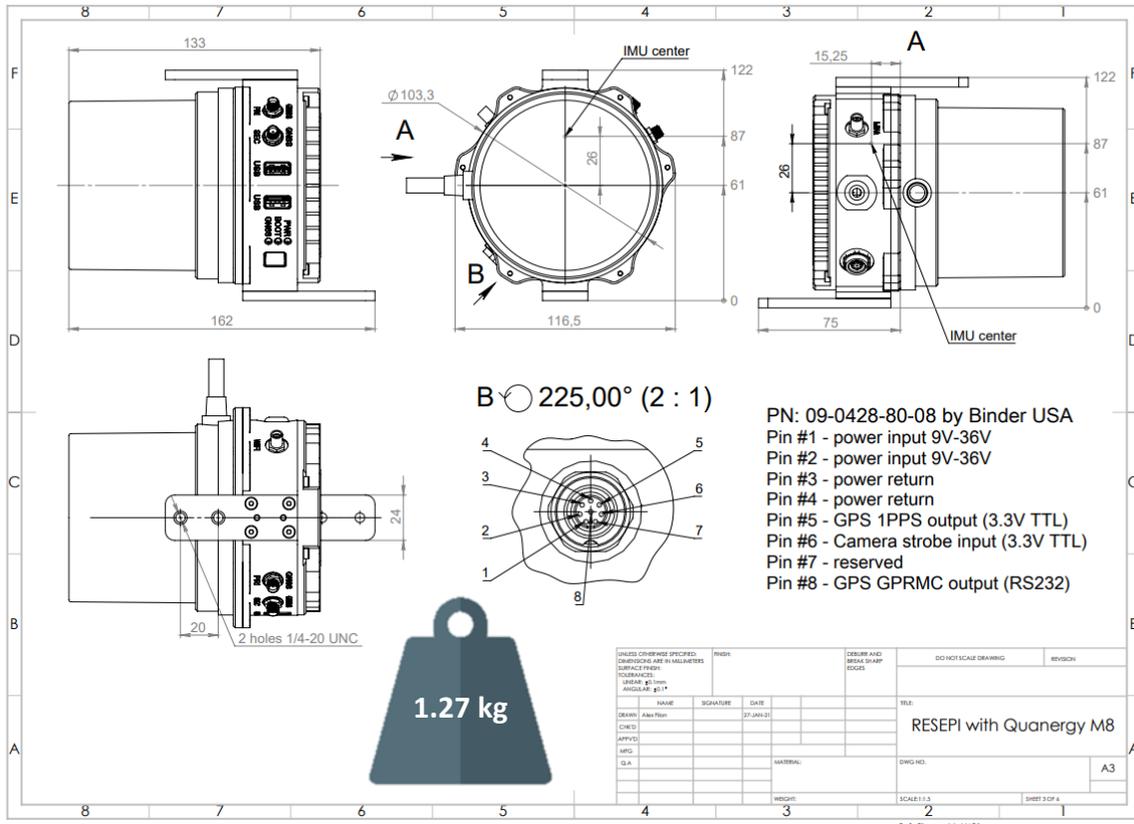


RESEPI® Specifications

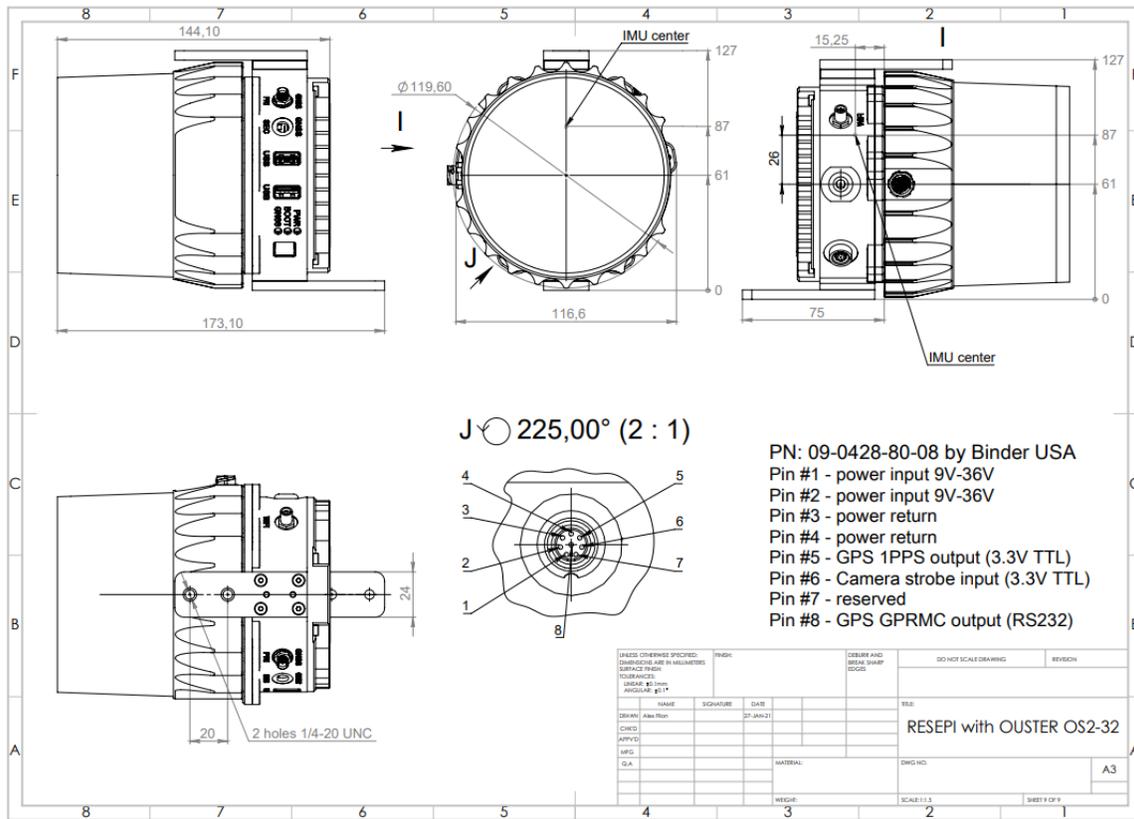
Weight	0.37 kg (circular enclosure w/o LiDAR); 0.42 kg (rectangular enclosure w/o LiDAR)
Power Consumption	12 W (with VLP-16 LIDAR)
Position Accuracy (GPS-Aided INS)	0.5 cm (PPK estimated) / 1 cm + 1 ppm (RTK)
Attitude Accuracy (GPS-Aided INS)	<0.01 deg Pitch & Roll; <0.05 deg Heading
Precision (Point Cloud)	3 - 5 cm (dependent on LiDAR, taken on the same target @ 50 m AGL)
Scanner field of View (FOV)	360 deg (depend on LiDAR selection)
Scanner (LiDAR)	VELOCYNE VLP / QUANERGY / RIEGL / OUSTER / Livox / Hesai
Inertial Navigation System	Inertial Labs INS-B-OEM; INS-D-OEM
Type of recorded data	GNSS data for PPK; GNSS time-stamped INS & IMU data; GNSS time-stamped LiDAR scans; GNSS time-stamps for camera strobe pulses



Note: All dimensions are in millimeters.



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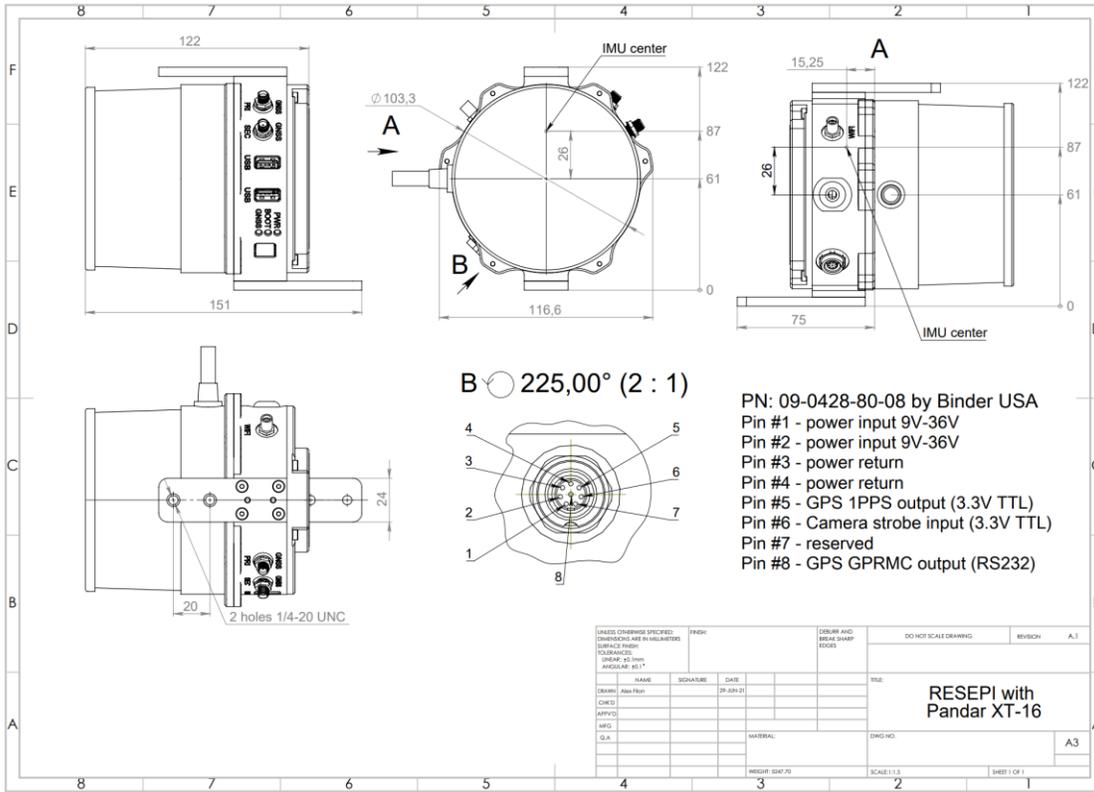
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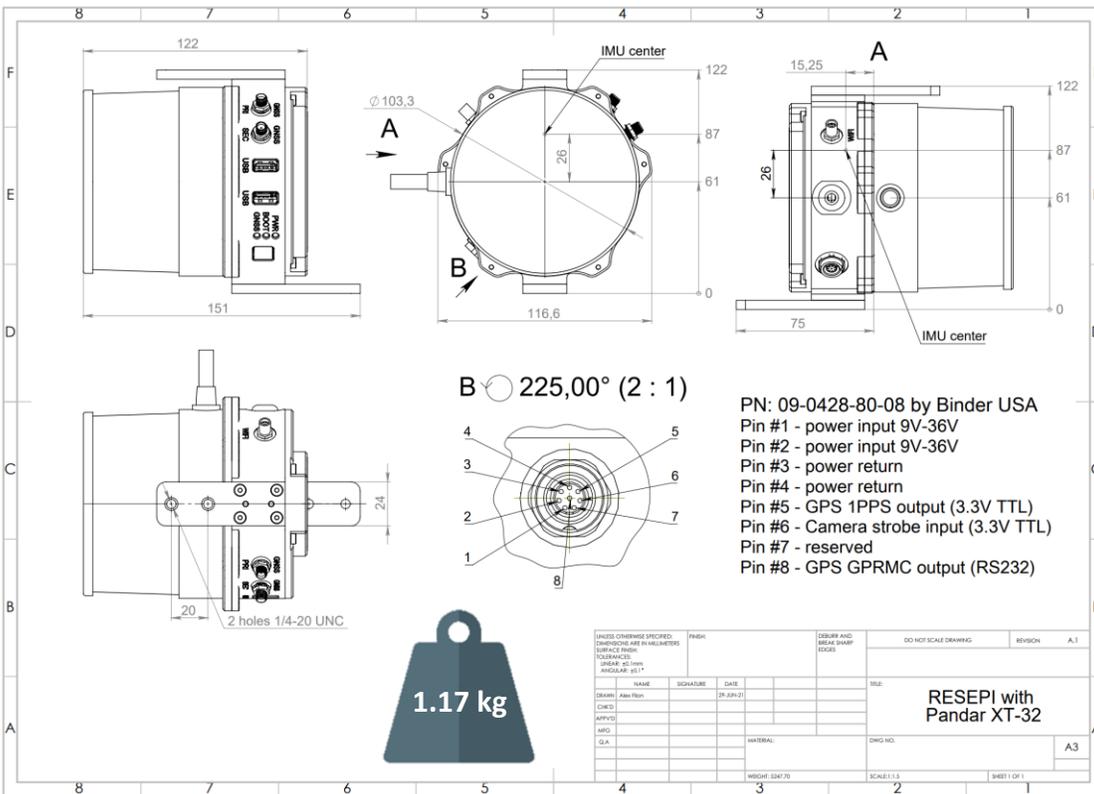
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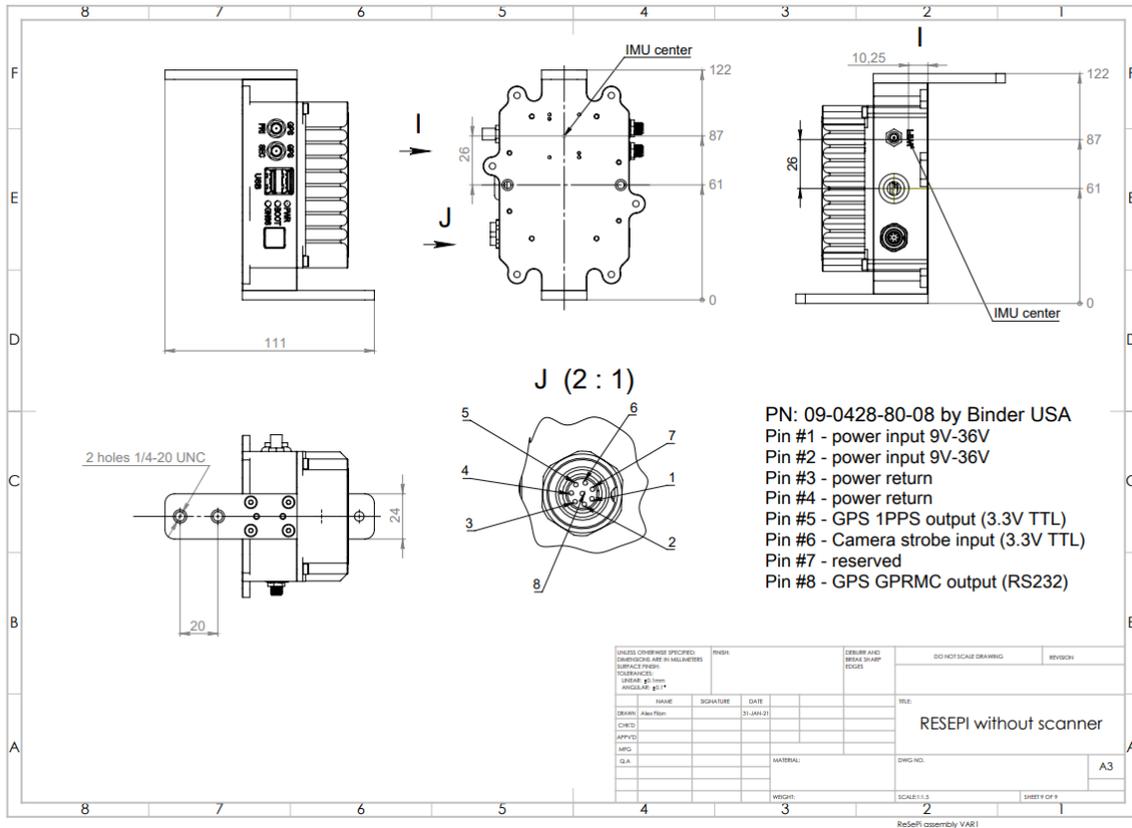
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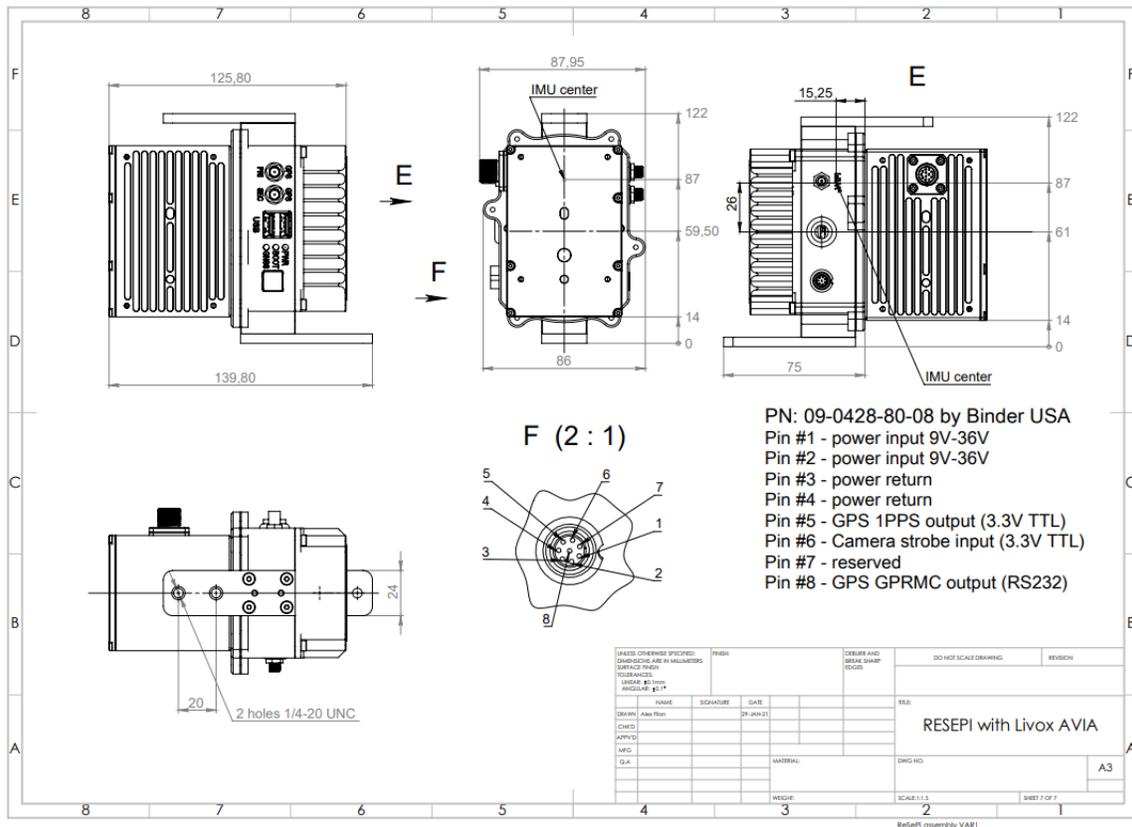
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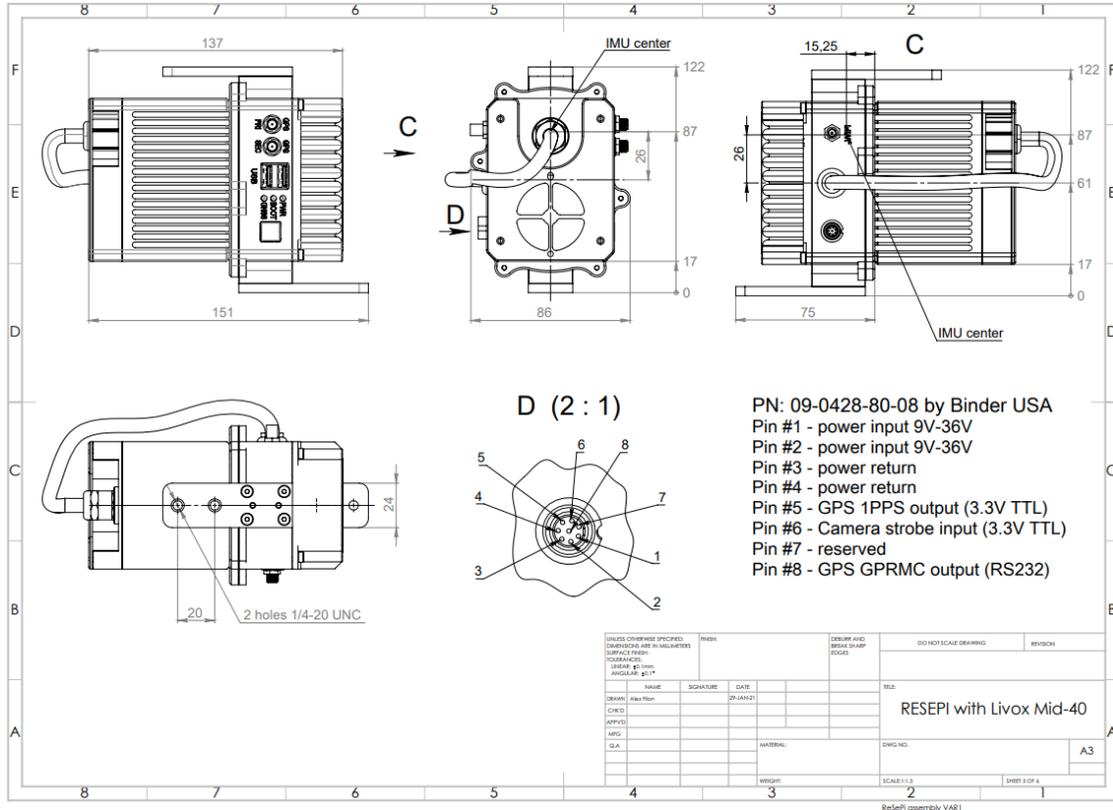
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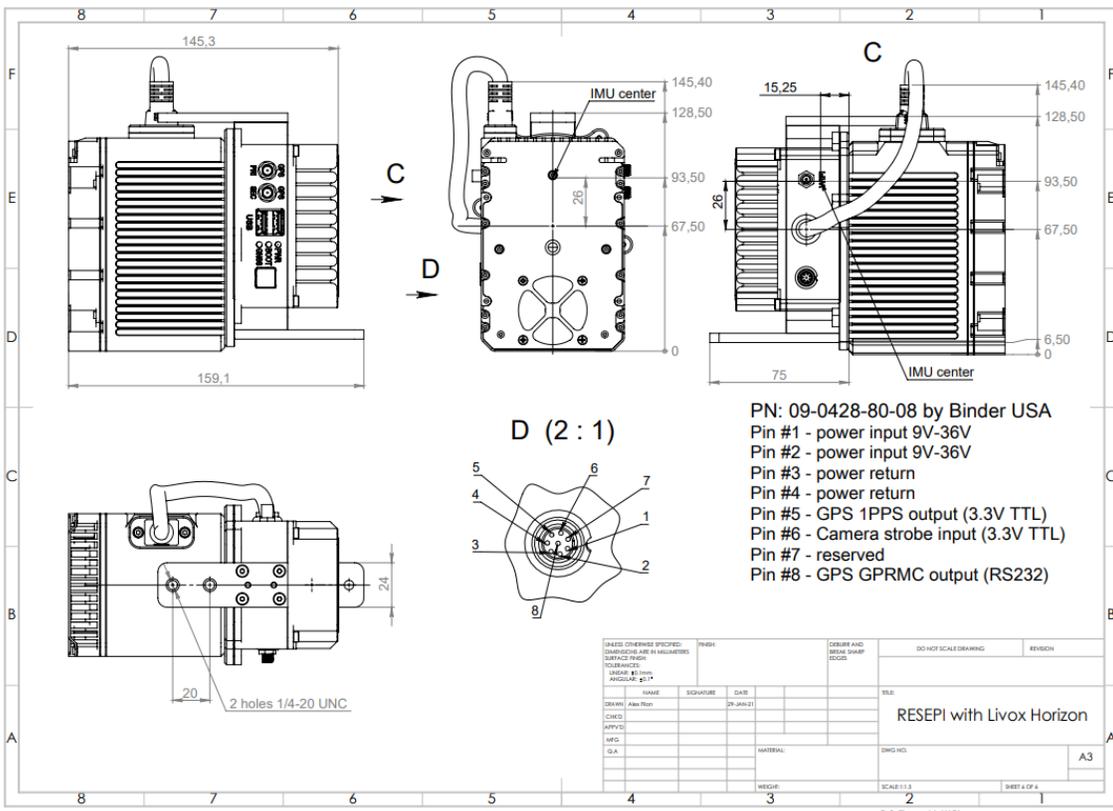
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Disclaimer: All weights and measurements are subject to change without notice. Please obtain a final drawing before making a purchase.