

Hovermap VF1 Specification



Sensors	
	Velodyne VLP-16 Lite <ul style="list-style-type: none"> - 100 metre range - 16 Channel - Dual return - 300,000 point per second
Lidar	Class I Laser Product (21 CFR 1040.10 and 1040.11) Rotating to give 360° x 360° field of view
GPS (Optional)	External GPS data recorded when available e.g. from DJI drone
Mapping	
SLAM	Simultaneous Localisation and Mapping (SLAM) based LiDAR mapping
	±30mm
Scan Range Noise	±15mm post processed for typical underground and indoor environments
LiDAR Data Format	Post processing data output in .laz and .ply point cloud formats
Georeferencing	Above Ground: Georeferenced point clouds via GPS when available (in WGS84) Underground: via survey control points (LiDAR survey spheres) or via scan-to-scan registration
Autonomy Functions	
Collision Avoidance	Omni-directional collision avoidance using LiDAR data Adjustable minimum distance collision avoidance threshold

GPS-Denied Flight	GPS-denied position hold and velocity control
Aircraft Integration	
Mapping only	Any VTOL drone that can lift the payload Any ground vehicle or platform Carried by hand or on a backpack
Autonomy Functions	Compatible with drones equipped with DJI A3 autopilot such as M600, M210, etc.
User Interface	
Tablet Application	Pre-flight configuration; Online command and operation of the system; Obstacle situational awareness; Live camera video stream and control;
Telemetry	
	WiFi and DJI Lightbridge
Data Management	
USB3	High Speed data offload
Storage	480 Gigabytes – approximately 12 hours of sensor data
Power	
Power	Powered from a battery or auxiliary power input (12V – 54V) Max 50W
Physical	
Size	215 x 155 x 200mm (L x W x H)
Weight	1.8kg
Mounting	Quick-release mounting mechanism