

MOBILE HD MAPPING SYSTEM

PolyMapper HS



Figure 1. PolyMapper HS 360

PolyMapper HS is a state-of-the-art mobile mapping system for HD maps. It boasts a high performance 360° LiDAR, a front view industrial camera and a tightly-coupled GNSS/INS with an optional panoramic camera for different market needs. With the foldable antenna arms, it is designed for easy installation on automotive vehicles by a single person.

Integrated with a GPU, the PolyMapper HS features georeferenced 3D point cloud generation in real time. With the built-in RTK engine, it can achieve centimeter level accuracy in real time. A cloud-based HD map platform and an AI-based feature extraction software are postprocessing add-ons. They enable users to create and edit map data in streamlined workflow and export map data in various formats.

FEATURES

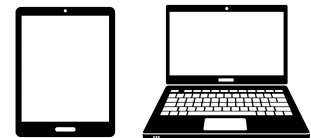
- Front view industrial camera with global shutter
- Dual GNSS antennas with foldable antenna arms
- 3D point cloud at large scale
- Georeferenced 3D point cloud at centimeter-level accuracy in real time
- Customizable internal data storage, 2 TB by default
- Support accessories: USB, Ethernet, PPS, CAN, UART, DMI
- System options
 - PolyMapper HS (Figure 2)
 - PolyMapper HS 360 (Figure 1, panoramic camera integrated)



Figure 2. PolyMapper HS, antenna arms folded

SOFTWARE

- Easy to use control software PolyScanner, compatible with tablet and PC
- Post-processing software
 - 3D cloud point generation
 - Noise suppression unit, automatic colorization
 - Georeferenced LAS file, imagery, trajectory and status
- Optional post-processing software
 - AI-based feature extraction software
 - Cloud-based HD map platform



APPLICATIONS

- Autonomous mining
- Road Asset Management
- Precision agriculture
- High precision map collection
- Smart transportation
- Robotics



Visit www.polyexplore.com for more information.

High-Performance, Cost-Effective Navigation & Mapping Solutions.

PolyExplore Inc.

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REV. 1.07

SYSTEM SPECIFICATIONS

MOBILE HD MAPPING SYSTEM PolyMapper HS

LiDAR

Range	0.05 to 120 m
Range Capability	80 m @10% reflectivity (Channels 5 -12) 50 m @10% (Channels 1 to 4, 13, 16)
Range Accuracy	±1 cm (typical) ±2 cm (standard)
Range Precision	0.5 cm (typical, 1σ) 2 cm (standard)
FOV (Horizontal)	360°
Resolution (Horizontal)	0.09° (5 Hz), 0.18° (10 Hz), 0.36° (20 Hz)
FOV (Vertical)	30° (-15° to +15°)
Resolution (Vertical)	2°
Frame Rate	5 Hz, 10 Hz, 20 Hz
Returns	Single Return (Last, Strongest, First) Dual Return

GNSS/INS

Constellations	GPS/GLONASS/Beidou/Galileo
Satellite Signals	L1, L2, L5
Measurement Rate	100 Hz
Accuracy	
Position	1.5 m CEP SPS, 0.02 m RTK
Velocity	0.03 m/s
Pitch/Roll	0.005°
Heading	0.03°

PANORAMIC CAMERA

Resolution	7680 x 3840 (8K)
Frame Rate	Up to 30 fps
Photo File Format	JPEG/DNG

FRONT VIEW CAMERA

Shutter Type	Global Shutter
Resolution	2448 x 2048
Dynamic Range	72 dB

PHYSICAL, ENVIRONMENTAL & ELECTRICAL

Ingress	IP67
Weight	5.10 kg (panoramic camera not included) 7.15 kg (panoramic camera included)
Dimensions	310 mm x 230 mm x 175 mm (panoramic camera not included) 310 mm x 230 mm x 425 mm (panoramic camera included)
Temperature	-20°C to +40°C Operation -20°C to +50°C Storage
Power	12 VDC



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