

# Trimble MX90

MOBILE MAPPING SYSTEM

Elevate your large-scale scanning and mobile mapping.



## Achieve new levels of productivity

### Premium

Powerful leading-edge mobile mapping solution with state-of-the-art Trimble® GNSS and inertial technology.

Delivers high-resolution immersive imagery for feature detection and inspection tasks and high-density colored point clouds with rich and accurate color projections.

Produces precise feature-rich data from trusted field-proven laser technology and immersive 360-degree panoramic and targeted cameras.

### Productivity

Collect data right the first time and discover a new level of productivity by leveraging the complete Trimble field-to-finish workflow.

Efficiently capture, process and extract a wide range of meaningful deliverables to maximize the value of mobile mapping data to your organization.

Achieve high-quality data in challenging GNSS environments with an AP+60 IMU combined with the InFusion+ trajectory processing engine.

### Simplicity

Easy installation with single cable connection.

Reduces costs related to road closures and enhances safety by minimizing the need to work in traffic on hazardous highways.

Manages mobile data capture with intuitive field software that ensures efficient and organized field operations.

Leverage Trimble office software to export and easily integrate into a wide range of applications or cloud-based solutions for easy data sharing.



Find out more at:  
[geospatial.trimble.com/mx90](https://geospatial.trimble.com/mx90)

# Trimble MX90

## Mobile mapping system

MX90 SYSTEM	
Scan speed	500 scans/sec
Number of laser scanners	2
Laser positions	Adjustable in 3 horizontal and 3 vertical positions

MX90 LASER SCANNER						
Laser class	1, eye-safe					
EFFECTIVE MEASUREMENT RATE <sup>1</sup>	300 kHz	500 kHz	1000 kHz	1250 kHz	1500 kHz	1800 kHz
Maximum range target reflectivity > 80% <sup>2</sup>	475 m	370 m	235 m			
Maximum range target reflectivity > 10% <sup>2</sup>	170 m	130 m	85 m			
Maximum number of targets per pulse	up to 15	up to 15	up to 9	up to 7	up to 5	up to 4
Minimum range	1 m @ PRR ≥ 1 MHz, 1.2 m @ PRR < 1 MHz					
Accuracy <sup>3</sup> /precision <sup>4</sup>	5 mm/3 mm					
Field of view	360° "full circle"					

EMBEDDED TRIMBLE GNSS-INERTIAL SYSTEM	
IMU-Options	AP+60
ACCURACY—NO GNSS OUTAGES (POST PROCESSED) <sup>5</sup>	
X, Y position (m) <sup>6</sup>	< 0.01
Z position (m) <sup>6</sup>	0.01
Roll and pitch (deg)	0.0025
Heading (deg) <sup>7</sup>	0.015
ACCURACY—60 SECOND GNSS OUTAGE (POST PROCESSED) <sup>5</sup>	
X, Y position (m)	0.1
Z position (m)	0.07
Roll and pitch (deg)	0.0025
Heading (deg) <sup>7</sup>	0.015
ACCESSORIES	
GAMS	Yes, optional
DMI <sup>5,8</sup>	Yes, optional

CAMERAS				
SPHERICAL CAMERA				
Camera type	No	Mounting	FoV	Focal length
Spherical camera, 72 MP (6 × 12 MP)	1	Fixed	90 % of full sphere	6.94 mm
Capture modes	By distance or by time at 10 fps max			
PLANAR CAMERAS				
Camera type	No	Mounting	FoV	Focal length
12 MP side facing camera	2	Adjustable (in horizontal and vertical positions)	H: 47.6° V: 35.9°	16.0 mm
12 MP backward/downward facing camera	1	Fixed	H: 82.9° V: 65.9°	8.0 mm
Capture modes	By distance or by time at 9 fps max			

ELECTRICAL DATA	
Power supply input voltage	12 V-DC (12 V–16 V)
POWER CONSUMPTION	
Max	350 W
Typical	300 W

SYSTEM COMPONENTS	
Sensor unit	Included
Control unit	Included
Power unit	Included
Roof rack	Included, standard cross bars not included
Transport box	Included
Field software	TMI, browser-based, no installation necessary
Cable, battery to power unit	5 m
Cable, power unit to control unit	3 m
Cable, control unit to sensor unit	5 m
Data storage	1 set (2 × 4 TBytes SSD, removable) <sup>9</sup>
Control interface	Tablet or Notebook, Wi-Fi <sup>®</sup> or LAN cable, byod

3RD PARTY HARDWARE INTEGRATION OPTIONS	
Synchronization output at sensor unit	1 (NMEA + PPS)

ENVIRONMENTAL CHARACTERISTICS	
Maximum vehicle speed for data acquisition	110 km/h (68 mph)
IP rating	IP64 (sensor unit)
Operating temperature	0 °C to +40 °C (32 °F to 104 °F)
Storage temperature	-20 °C to +50 °C (-4 °F to +122 °F)
Relative humidity (operating)	20 % to 80 %
Relative humidity (storage)	20 % to 95 %

PHYSICAL CHARACTERISTICS	
Dimensions sensor unit (L x W x H)	0.62 m × 0.55 m × 0.65 m
Weight sensor unit	37 kg
Dimensions CU (L x W x H)	0.46 m × 0.26 m × 0.41 m
Weight CU	12.4 kg
Dimensions roof rack (L x W x H)	1.13 m × 0.60 m × 0.31 m
Weight roof rack	18 kg

- 1 Rounded values, selectable by measurement program.
- 2 Typical values for average conditions.
- 3 Accuracy is the degree of conformity of a measured quantity to its actual (true) value.
- 4 Precision is the degree to which further measurements show the same results.
- 5 With DMI option.
- 6 Measured in a controlled test area under Trimble conditions and procedures.
- 7 With GAMS option, 2 m baseline.
- 8 One sigma values, with DMI option, post-processed using base station data. Typical performance. Actual results are dependent upon satellite configuration, atmospheric conditions and other environmental effects.
- 9 4 TBytes SSD is available as an accessory.

Specifications subject to change without notice.





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