

Receiver
GNSS RTK
with Laser

X25 RL

Rover

The new GNSS RTK receiver
with an amazing IMU and
Visual Positioning Technology



IMU
120°

Laser
120m

1408
Channels

32GB
Storage

IP67

The Mettatec X25 RL is an innovative solution that integrates advanced laser technology with two cameras, 120° IMU, and 4G.

It requires no calibration, which increases operational efficiency and allows for pole-less surveys, reducing risks.

The receiver offers a new way to work with high precision in challenging scenarios, such as stakeout on riverbanks, bridge piles, elevation surveys, municipal and combined surveys in outdoor and indoor environments.

CE · FCC · RoHS

Technical Specifications

X25 RL	
GNSS SIGNAL	
Channel	1408
BDS	B1I, B2I, B3I, B1C, B2a, B2b*
GPS	L1 C/A, L1C, L2P(Y), L2C, L5
GLONASS	L1, L2, L3*
GALILEO	E1, E5a, E5b, E6*
QZSS	L1C/A, L1C, L2C, L5, L6*
SBAS	L1, L5*
NavIC(IRNSS)*	L5
L-band	B2b PPP (Only for the Asian-Pacific Region)& HAS*
Data Format	CMR, CMR+, RTCM2.X, RTCM3.X
Data Output	NMEA-0183, RINEX, DAT
Data Updating Rate	Up to 20Hz
Time to Recapture	<1s
Cold Start	<40s
Positioning Performance	
Single Point Positioning (RMS)	Horizontal: 1.5m Vertical: 3.0m
DGPS (RMS)	Horizontal: 0.4m Vertical: 0.8m
Real-Time Kinematic (RMS)	Horizontal: ±(8mm+1ppm)
Speed Accuracy (RMS)	0.03m/s
Static Accuracy (RMS)	Horizontal: ± (2.5mm+0.5ppm) Vertical: ± (5mm+0.5ppm)
Time Accuracy (RMS)	20ns
Speed Accuracy	≥0.03m/s
Tilt Compensation Accuracy	≤2cm(Tilt Angle≤60°, Upto 120°)
IMU Update Frequency	200Hz
Laser Accuracy (RMS)	Horizontal: ±(8mm+3mm/m) Vertical: ±(15mm+3mm/m) Supports 120-meter laser range with high-brightness laser technology
Communication	
Bluetooth	SPP3.0+BLE5.0 Dual Mode
WiFi	802.11 a/b/g/n/ac
Cellular	LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28 LTE TDD: B38/39/40/41 WCDMA: B1/2/4/5/6/8/19 GSM: B2/3/5/8
Storage	32GB
Internal Radio	Transmitting Power: 2W, 1W Frequency: 410~470MHz Protocol: SOUTH19200, SOUTH9600, Trimtalk9600, TRANSEOT9600, SATEL, MeridianLink Air Baud Rate: 9600, 19200
Battery	
Specifications	7.4V, 7000mAh lithium-ion Rechargeable Battery
Operating Times	Laser RTK Rover: Up to 22 hours (Typical Power Consumption) Static: Up to 35 hours (Typical Power Consumption)
Charging	Support USB PD 15V/2A (Supports Quick Charging Adapter)
Environment	
Operating Temperature	-40°C~+85°C
Storage Temperature	-55°C~+85°C
Anti-seismic	2m Pole Drop Onto Concrete
Dust & waterproof	IP67
Control Panel	
Display	0.96" OLED Display
LED Lamp	Signal, Power
Physical button	2
Physical	
AR Camera	5 MegaPixel, large viewing angle, supports live view stakeout
Laser Assisted Camera	5 MegaPixel, large viewing angle, supports live view stakeout
I/O Interface	1× USB type-C port; 1 × TNC antenna port; 1× SIM cardslot; 1 × 5 pin LEMO port
Dimensions	133mm×133mm×84.5mm
Weight	≤900g

*All specifications are subject to change without notice.

(1) Compliant, GLONASS L3, Galileo E6, Galileo E6 High Accuracy Service (HAS), BDS B2b and SBAS L5 will be provided through future firmware upgrade. (2) Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry and atmospheric condition. PPP accuracy is subject to the region, environment, and convergence time. High-precision static requires a minimum of 24 hours of long-term observation and precise ephemeris.

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