

# BM850 GNSS RECEIVER

## BM850 TECHNICAL FEATURES

### RECEIVER

Satellite signals tracked	GPS: L1 C/A, L1C, L2P, L2C, L5
	GLONASS: L1, L2, L3
	BEIDOU: B1I, B2I, B3I, B1C, B2a, B2b
	GALILEO: E1, E5a, E5b, E6
	QZSS: L1, L2, L5
	IRNSS: L5
	SBAS
PPP	B2b PPP, HAS
Channels	1408
Position Rate	Up to 20Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization	< 5 s
Hot Start	Typically < 15 s
Initialization Reliability	> 99.9 %
Internal Memory	8 GB
Tilt Sensor	IMU $\pm 60^\circ$

### POSITIONING<sup>1</sup>

HIGH PRECISION STATIC SURVEYING	
Horizontal	2.5 mm + 0.5 ppm RMS
Vertical	5 mm + 0.5 ppm RMS
REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK <sup>2</sup>	
Fixed RTK Horizontal	8 mm + 1 ppm RMS
Fixed RTK Vertical	15 mm + 1 ppm RMS
PPP Accuracy	< 20 cm RMS
SBAS Accuracy <sup>3</sup>	< 60 cm RMS

### INTEGRATED GNSS ANTENNA

High accuracy multi-constellation antenna, zero phase center, with internal multipath suppressive board

### INTERNAL RADIO

Type	Tx – Rx 0.5W / 2W
Frequency Range	410 - 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range <sup>4</sup>	4 Km in urban environment Up to 12 Km with optimal conditions

### COMMUNICATION

I/O Connectors	➤ 5-pin Lemo, for external power supply and external radio
	➤ Type-C, for receiver power supply and data transfer
	➤ TNC, for antenna radio
Bluetooth	V2.1 + EDR / V5.0
Wi-Fi	802.11 a/ac/b/g/n
Web UI	To upgrade the software, manage the status and settings, data download, etc. via smartphone, tablet or other electronic device with Wi-Fi capability
Reference outputs	RTCM 3.x
Navigation outputs	NMEA 0183

### POWER SUPPLY

Battery	Built-in battery, 3.6V, 13400 mAh, 48.24Wh Support PD fast charge
Working Time	Up to 10 hours
Charge Time	4 hours

### PHYSICAL SPECIFICATION

Dimensions	140 mm x 140 mm x 71 mm
Weight	980 g
Operating Temperature	-40°C to 65°C (-40°F to 149°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Waterproof/Dustproof	IP67
Shock Resistance	Designed to endure to a 2 m pole drop on hardwood floor with no damage
Humidity	100% non-condensing

1. Accuracy and reliability are generally subject to satellite geometry (PDOP), multipath, atmospheric conditions, and obstructions. In static mode, they are also subject to occupation times: the longer the baseline, the longer the occupation time must be.

2. Network RTK precision depends on the network's performance and is referenced to the closest physical base station.

3. It depends on the SBAS system's performance.

4. Varies with the operating environment and with electromagnetic pollution.



Illustrations, descriptions and technical specifications are not binding and may change

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