SURVEYING Experts | M60 + E80 GNSS RECEIVERS

SURVEYING EXPERTS THE EXCLUSIVE AGENT FOR: SURVEY MASTER

M60 + E80 GNSS RECEIVER

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PRODUCTS SPECIFICATION:

GNSS BASE RECEIVER

With its 5-watt internal radio, is specifically designed to function as a GNSS base station in a variety of survey situations. Additionally, it integrates a 4G modem to facilitate the transmission GNSS corrections, thereby opening up more possibilities. With its reliable performance, The GNSS base receiver is ideal for applications such as surveying, mapping, drone, USV, agriculture, etc.

Long Working Distance via 5-Watt Internal Radio

No need to carry an external radio with a multitude of cables and accessories. Theinbuilt 5-watt radio can reach a working distance of over 15 km in typical survey operations.

Visible Working Status

The colorful display shows the primary status. Four indicators provide real-time updates on the status of the satellite, datalink, Bluetooth, and battery.

Smart Voice Alarm and Broadcast

It sends out a voice alarm in real time when it is moved. In addition, its smart broadcast will tell the current working mode and status when you short press the button.

Expanded Communication Options

Corrections can be transmitted using the UHF or 4G network modem, and there are various datalinks available to meet different requirements.
Experience seamless data transfer using the handheld controller through Bluetooth or Wi-Fi, unlocking a wide range of communication options.

All-Constellation Multi-Frequency GNSS Tracking

It provides high performance as a GNSS base station with advanced 1408-channel GNSS technology. All GNSS constellations are available including GPS, BDS, GLONASS, Galileo, and QZSS.

M60

E80

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M60 PRODUCT SPECIFICATION:

GNSS BASE RECEIVER

GNSS features	
Board card	UM980
channel	1408
Tracking Features	GPS: L1C/A/L2P (Y)/L2C/L5 GLONASS: L1/L2 BeiDou: B1I/B2I/B3I/B1C/B2a/B2b* Galileo: E1/E5a/E5b/E6* QZSS: L1/L2/L5/L6*
Refresh rate	20 Hz
Static accuracy	■ horizontal：± (2.5+1×10-6D) mm ■ vertical：± (5+1×10-6D) mm
RTK accuracy	■ borizontal：± (8+1×10-6D) mm ■ vertical：± (15+1×10-6D) mm

Battery	
Feature	Internal battery, 3.6V, 13.6AH, 48.96Wh, support PD charging
Charging	Type-c PD 12V

System configuration	
OS	Linux
Internal memory	8 GB
Bluetooth	BT 5.0
Wi-Fi	802.11 a/ac/b/g/n
Network connection	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/ B18/B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 UMTS: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8
Internal radio	1W, 410-470MHz, send and receive signal
Communication Protocol	TrimTalk 450S, PCC-GMSK, PCC-4FSK, Satel, Satel_ADL, HITARGET(9600), HITARGET (19200),TrimTalk(4800),HZSZ, South 9600, TrimMark III, South 19200,GEOTALK,GEOMARK, PCCFST,PCCFST_ADL.
MEMS	Supports tilt measurement, tilt measurement accuracy: 30° rod tip positioning accuracy within 2cm, 60° rod tip positioning accuracy within 5cm.

Camera	
camera	Visual stakeout

Data ports	
TNC	For connecting the internal radio antenna
Type-C port	For charging and data transfer
SIM slot	Insert SIM card

Human-machine interface	
buttons	The power button is used to turn the host on and off. Press it once to announce the current working mode and status.

Human-machine interface - Indicator Lights	
Satellite indicator light (red and green)	Off: No satellite received Red light flashing: Satellite received but not positioned Green light flashing: Positioned but not fixed Green light on: Fixed solution Red and green lights flashing alternately: GNSS mainboard abnormality
Data link indicator light (green and blue)	Green means no Bluetooth connection, blue means connected to Bluetooth Green/blue always on: no differential received/no static recorded Green/blue flashing: differential received/ static recorded (high priority)
Battery indicator light (green single color)	When charging, the light flashes according to the remaining power When the power is 75%-100%, the power light for 25%/50%/75% is always green, and only the 4th power light flashes When the power is 50%-75%, the power light for 25% and 50% is always green, and only the 3rd power light flashes When the power is 25%-50%, the power light for 25% is always green, and only the 2nd power light flashes When the power is less than 25%, only the 1st power light flashes every second
	When not charging, short press the button once to display: Battery level 75%-100%, all 4 lights are on, green is always on Battery level 50%-75%, 3 lights are on, green is always on Battery level 25%-50%, 2 lights are on, green is always on When battery level is less than 25%, only one light is on, green is always on
Voice output	support

Physics statsz	
Size	132*57mm
Weight	约668克

Environmental adaptabilityz	
Working temperature	-30℃ ~ +65℃
Storage temperature	-40℃ ~ +80℃
waterproof	IP67
Fall proof	It can withstand a 2-meter fall along the pole at normal temperature (on hardwood floor) and a 1.2-meter free fall.
humidity	100% condensation resistant

E80 PRODUCT SPECIFICATION:

GNSS BASE RECEIVER

GNSS Performance		
Satellites tracking	GPS	L1 C/A, L2P (W), L5
	BDS	B1I, B2I, B3I, B1C, B2a
	GLONASS	L1, L2
	GALILEO	E1, E5a, E5b
	QZSS	L1, L2, L5
Channels		1408
Cold start		< 30 seconds
Update rate		20 Hz
High precision static		■ H: 2.5 mm + 0.5 ppm RMS ■ V: 5 mm + 0.5 ppm RMS
Standard point positioning		■ H: 1.5 m RMS ■ V: 2.5 m RMS
Correction data		RTCM V3.X, RTCM2, CMR
Data output		GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL, Binary

Power Supply	
Battery	Rechargeable Built-in Lithium-ion battery x 1 3.65V - 24000 mAh
Voltage	■ Type-C port: 12V DC, 1.5 A ■ 5-pin port: 15V DC, 2 A
Working time	Up to 13 hours as UHF base
Charging time	Typically 8.5 hours

System	
Operation system	Linux
Internal memory	8 GB
Bluetooth	BT 5.0 BR + EDR, BLE
Wi-Fi	802.11 b/g/n
Network modem	Support LTE Cat4 LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/ B18/B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: 850/900/1800/1900 MHz
TNC	Connect internal radio with antenna
5-pin port	Connect to external radio and external power
Type-C port	Charge and data transmission
SIM card slot	√
Web UI	View status, update firmware, set up working mode, download data, etc.
Intelligent voice	Broadcast working mode and status
Tilt sensor	e-Bubble

Physical	
Dimension	Φ151 mm x H92 mm
Weight	1500 g
Operating temperature	-30°C～+65°C
Storage temperature	-40°C - +80°C
Water / dust proof	IP67
Shock	■ Withstand topple over from a 2 m survey pole onto hard surfaces ■ Survive a 1.2 m free drop
Vibration	Vibration resistant
Humidity	Up to 100%
Indicators	Satellites, datalink, battery, Bluetooth
Button	Power button, short press to voice broadcast working mode and status
Screen	√
Certificate	FCC, CE, KC, ANATEL

Internal Radio	
Type	TX
Emitting power	Up to 5W
Operation range	8 - 10 km typically 15 km with optimal conditions[1]
Frequency range	410 - 470 MHz
Channel spacing	12.5 kHz / 25 kHz
Protocol	Satel, Satel_ADL, HiTarget, TrimTalk, South, TrimMark III, TRANSEOT, GEOTALK, GEOMK3, PCCFST, PCCFST_ADL, PCCEOT, PCCEOT_SATEL, HZSZ

1: It varies with the obstacle and terrain.