



GNSS RECEIVER

TRIUMPH-1M



The new TRIUMPH-1M receiver inherits the best features of our famous TRIUMPH-1. Based on our new 864 channel chip, equipped with the internal 4G/LTE/3G card, easy accessible microSD and microSIM cards, includes “Lift & Tilt” technology.

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GNSS RECEIVER

Total 864 channels: all-in-view	
Signals Tracked	GPS C/A, L1C(P+D), P1, P2, L2C(L+M), L5(I+Q) GLONASS C/A, P1, P2, L2C, L3(I+Q) Galileo E1(B+C), E5A(I+Q), E5B(I+Q), AltBoc QZSS C/A, L1C(P+D), L1S, L2C(L+M), L5(I+Q) BeiDou B1, B1C(P+D), B5A(I+Q), B2, B5B(I+Q) SBAS L1, L5 IRNSS L5
Autonomous	<2 m
Static, Fast Static Accuracy	Horizontal: 0.3 cm + 0.1 ppm * base_line_length** Vertical: 0.35 cm + 0.4 ppm * base_line_length
Kinematic Accuracy	Horizontal: 1 cm + 1 ppm * base_line_length Vertical: 1.5 cm + 1 ppm * base_line_length
RTK (OTF) Accuracy	Horizontal: 0.8 cm + 1 ppm * base_line_length Vertical: 1.5 cm + 1 ppm * base_line_length
RTK V6+ Accuracy (rms)	Horizontal: 0.4 cm + 1 ppm * base_line_length Vertical: 0.7 cm + 1.5 ppm * base_line_length
DGPS Accuracy	< 0.25 m post processing; < 0.5 m real-time
Cold start	<35 seconds
Warm start	<5 seconds
Reacquisition	<1 second

INTERNAL GNSS ANTENNA

GNSS Antenna Type	Integrated Microstrip (Zero Centered)
Ground Plane	Antenna on a flat ground plane

ENVIRONMENTAL

Enclosure	Molded magnesium alloy and plastic, waterproof IP67
Color	JAVAD GNSS Green
Operating /Storage Temperature***	-40° C to +65° / -45° C to +85° C ***
Humidity	100% condensing
Dimensions	7 x 3.78 x 7 in (178 x 96 x 178 mm)
Weight	3.75 lbs (1.7 kg)/4.02 lbs (1.82 kg) with modem antenna
Accidental fall	Survives a 2 m drop onto a hard surface
Shock	Complies with MIL-STD- 810H (Method 514.8)
Vibration	Complies with MIL-STD- 810H (Method 516.8)

* For the full list of standard and optional features see www.javad.com

** For good observation conditions and proper length of observation session

***Li-Ion batteries are the temperature limiting factor

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RADIO

4G LTE Mini Card	LTE, HSPA+, HSDPA, HSUPA, WCDMA, GSM, GPRS, EDGE (up to 100 Mbps) LTE, EV-DO, 1xRTT CDMA (up to 100 Mbps)
MicroSIM card slot	Up to 2(optionally) user accessible, fully sealed
Radio Modem	Internal 406-470MHz UHF radio Internal 902-928/ 868-870 MHz ISM radio (optional)
Base Power Output	1 Watt

I/O

Data storage	16 GB
Input/Output	JPS, RTCM SC104 v. 2.x and 3.x, CMR
Output	NMEA 0183 v. 2.x and 3.0, BINEX
Status Indicator	Six LEDs, two function keys (MinPad)
Other I/O	USB, Ethernet, RS 232 ports (A,B), external power/charging

USER INTERFACE

Card Slots	High Capacity microSD Card (microSDHC) up to 128GB Class 10; Up to 2 microSIM; user accessible, fully sealed
LED Indication	On/OFF, Battery status, External power, Cellular, Bluetooth, Wi-Fi, Radio, Ethernet, Satellites, Position, Recording statuses
Buttons	On/Off button; Bluetooth On/Off; Wi-Fi On/Off; Recording On/Off

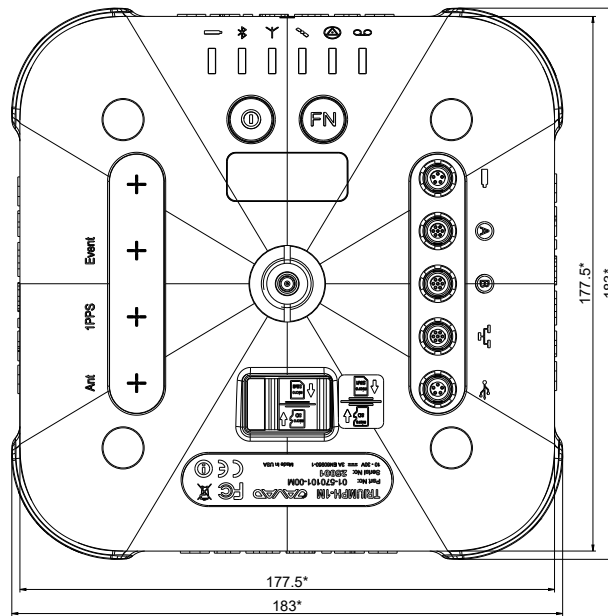
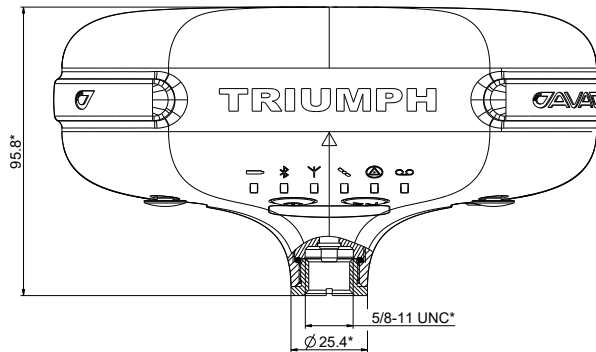
POWER MANAGEMENT

Battery	Two internal Li-Ion batteries (7.2 V, 5.9 Ah each) with internal charger
Operation Time	Up to 18 hours
Input Voltage	+10 to +30 volts

TECHNOLOGIES

In-Band Interference Rejection
Spoofing Detection
GLONASS .2mm Dynamic Calibration
Heading Determination
Javad Mobile Tools authorization
Spectrum Data Output
J-Shield
J-Shield+

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All dimensions are in mm



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