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Aloy GNSS Reference Receiver

The Future of GNSS is here

The Trimble® Alloy GNSS receiver offers powerful performance with the latest GNSS technology in a sleek new design that is easy and intuitive to use. Whether you need GNSS for campaign work or in permanent installations, the flexible configuration delivers reliable, robust data when and where you need it.

Modernized GNSS Tracking

Using powerful Trimble 360 receiver technology in combination with dual Trimble Maxwell[™] 7 chipsets, the Alloy GNSS receiver supports all known and planned GNSS constellations, ensuring your GNSS data is robust and reliable including GPS Block IIIA and BeiDou Generation III.

Intelligent Design

Review Key Info at a Glance

With a four-line angled display you can read all important information such as satellite tracking, position solution type, data logging, IP address, Wi-Fi, firmware information and battery status right on the home screen. Setup and verifying status information is now quick and easy.

Plug in and get to work

Multiple ports are easily accessible without the need for adapters in a configuration that makes it simple to plug in a variety of external sensors and antennas.

Power when you need it

The Alloy receiver provides the most robust power options for any GNSS system. Featuring multiple power inputs with dual hot-swappable batteries, power over Ethernet, and advanced power management features, the Trimble Alloy GNSS receiver is ideal for any GNSS base station deployment.

Stackable Design

With a versatile, stackable design the Alloy GNSS receiver is built with a lightweight rugged aluminum alloy chassis which features IP68 certification. When you need to organize multiple units for deployment, simply stack and prep.

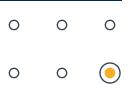
Benefits

- Dual Trimble Maxwell 7 chipsets combined with a powerful processor provides the ultimate in tracking and processing power
- Ethernet and Wi-Fi support provide ease of access, configuration, and transfer of data. Using the built-in web interface gives instant access to a simple-to-use configuration suite
- Dual hot-swappable internal batteries with integrated charging makes the Alloy receiver suitable for use in the office or remote locations, and anywhere in between
- The intelligent design features multiple connectors and stackable housing, making the Alloy receiver easy to configure for deployment
- Seamless integration to Trimble Pivot[™] platform software for easy Real-Time Network operations
- Designed to an IP68 certification the Alloy receiver is ready for any environment
- Includes firmware for life so it's easy to keep your Alloy reference receiver up-to-date with the latest features, enhancements and security updates, free to install from <u>alloy.trimble.com</u>











Security 24/7

Using Trimble Sentry[™] technology, you can easily configure alerts that will automatically inform you of any changes to the position, data logging, configuration, tracking, power, communications, and system access events. Combined with advanced security measures such as anti-spoofing, Trimble Sentry technology ensures continued operation of your Trimble Alloy GNSS receiver.

Trimble RTX on Board

The Alloy GNSS receiver is available with Trimble RTX[™] advanced positioning technology allowing for rapid real-time network coordination. Whether this is for base station deployment or monitoring, Trimble RTX technology remains locked onto your real world absolute position.

Communication

The Trimble Alloy GNSS receiver supports a wide range of communication protocols including Ethernet (IPv4 / IPv6), Bluetooth®, and Wi-Fi for flexible easy access via the built-in multi-language web interface and mini-web interface for mobile devices.

Data

Storage

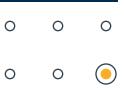
The Alloy GNSS receiver can store more data in less space by using specialized compression formats. Up to twelve independent high-rate data logging sessions can be stored internally. USB compatibility ensures data portability with external data transfer and temporary external storage.

Access

Leveraging advanced communication protocols, data can be accessed via the web interface, built-in FTP server, or configured to be pushed to remote FTP sites or email accounts in multiple industry formats.



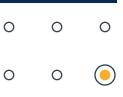
Alloy GNSS Reference Receiver



SPECIFICATIONS ¹			
GNSS TECHNOLOGY			
	Trimble RTX worldwide corrections		
	Advanced Trimble dual Maxwell 7 GNSS chipset provide 672 channels for simultaneous satellite tracking and anti-spoofing capabilities Trimble ProPoint* GNSS positioning engine. Engineered for improved accuracy and productivity in challenging		
	GNSS conditions.		
	Trimble EVEREST [™] Plus multipath signal rejection		
	Trimble 360 receiver technology		
	High-precision multiple correlator for GNSS pseudorange measurements		
	Spectrum Analyzer to troubleshoot GNSS jamming		
	Trimble Sentry delivers anti-spoofing security Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low-time domain correlation and high dynamic response		
SATELLITE TRACKING			
	GPS: L1C, L1 C/A, L2E (L2P), L2C, L5		
	GLONASS: L1 C/A ² and unencrypted P co	de, L2 C/A and unencrypted P code, L3 CDMA	
	Galileo: E1, E5A, E5B and E5AltBOC, E6		
	BeiDou: B1, B2, B3, B1C, B2A, B2B		
	QZSS: L1 C/A, L1C, L1S, L2C, L5, LEX/L6 ³		
	IRNSS: L5, S-Band		
	SBAS: L1 C/A (EGNOS/MSAS GAGAN/SDCM), L1 C/A and L5 (WAAS)		
	L-Band: Trimble RTX		
INPUT/OUTPUT FORMATS			
Correction formats:	CMR, CMR+, CMRx, GAGAN, RTX, RTCM 2.x, RTCM 3.x		
Observables:	RT17, RT27, BINEX, RTCM 3.x		
Position/Status I/O:	NMEA-0183 v2.30, GSOF		
Up to 100 Hz output			
	Normal input level 0 to +13 dBm		
10 MHz external frequency input	Maximum input level +17 dBm, ±35 V DC		
	Input impedance 50 Ohms @ 10 MHz; DC blocked		
1 PPS output			
Event input			
Met/Tilt sensor support			
POSITIONING PERFORMANCE			
Differential positioning			
Code differential GNSS positioning ⁴	Horizontal	0.25 m + 1 ppm RMS	
oue unerential divos positioning.	Vertical	0.50 m + 1 ppm RMS	
SBAS differential positioning accuracy	Horizontal	0.50 m RMS	
SBAS differential positioning accuracy ⁵	Vertical	0.85 m RMS	
Static GNSS surveying ⁴			
High-accuracy static	Horizontal	3 mm + 0.1 ppm RMS	
	Vertical	3.5 mm + 0.4 ppm RMS	
Static and Fast static	Horizontal	3 mm + 0.5 ppm RMS	
	Vertical	5 mm + 0.5 ppm RMS	
Real-Time kinematic surveying ⁴		0 1 010	
Single baseline < 30km	Horizontal	8 mm + 1 ppm RMS	
	Vertical	15 mm + 1 ppm RMS	
Networked RTK ⁶	Horizontal	8 mm + 0.5 ppm RMS	
Initialization time	Vertical	15 mm + 0.5 ppm RMS	
Initialization time	typically < 10 seconds		
Initialization reliability	typically > 99.9%		



Alloy GNSS Reference Receiver



COMMUNICATION				
	Two 9-pin Male			
Serial Ports:	Two 7-pin Lemo			
ISP: and Mini PLISP 5 nin / PDNIS (Davia				
JSB: one Mini-B USB 5-pin / RDNIS (Devic	,			
Ethernet: one RJ45 (Full-duplex, auto-negotiate 100Base-T)	HTTP, HTTPS, TCP/IP, IPv4 / IPv6, UDP, FTP, NTRIP Caster, NTRIP Server, NTRIP Client, Proxy server			
	Routing table, NTP Server, NTP Client support			
	Email Alerts and File Push			
	DNS client support			
	SNMP Agent			
Vi-Fi: 802.11 b/g, access point and client m	ode, WPA/WPA2/WEP64/WEP128 encryptio	n		
Bluetooth ⁷ : Integrated 2.4 GHz Bluetooth; s	supports three simultaneous connections			
DATA LOGGING				
Storage capacity:	Onboard Memory (Journaling)	up to 24 GB ⁸		
Maximum data logging rate	100 Hz			
Aaximum combined data logging rate	188 Hz			
ile durations	1 minute to continuous			
torage sessions	12 concurrent independent sessions with	12 concurrent independent sessions with dedicated memory pooling		
ile formats	T02, T04, BINEX, RINEX v2.x/3.0x, Goog			
ile naming conventions	Multiple			
Data retrieval and transfer	HTTP, FTP Server, USB			
vents	Definable file protection on events			
PHYSICAL SPECIFICATIONS				
lloy receiver dimensions (L x W x H)	20.98 cm x 21.36 cm x 7.62 cm (8.41 in x	20.98 cm x 21.36 cm x 7.62 cm (8.41 in x 8.26 in x 3 in)		
Alloy receiver dimensions with brackets				
ittached (L x W x H)	26.77 cm x 21.36 cm x 8.3 cm (8.41 in x 10.54 in x 3.27 in)			
Veight	2.34 kg (5.17 lbs)			
INVIRONMENT				
)perating temperature ^{9, 10}	-40 °C to +65 °C (-40 °F to +149 °F)			
Storage temperature	· · · · · · · · · · · · · · · · · · ·	-40 °C to +80 °C (-40 °F to +176 °F)		
lumidity	100% condensing			
	Operating	40 g per MIL-STD-810G Table 5.16.6-VII		
Shock	Non operating	75 g per MIL-STD-810G Table 5.16.6-VII Designed to survive 1 m bench drop		
libration	Operating	MIL-STD-810G Fig. 5.14.6C-1 Category 4		
Vibration	Ingress protection	IP68 Certified per IEC-60529 - waterproof/dustproof (1 m submersion for 1 hr)		
JSER INTERFACE				
	4-line x 32 character reversible OLED display			
Front panel display	7 button input configuration			
	Adjustable LED backlighting			
Aultiple language support for front panel an Portuguese, Russian, Spanish, Swedish	nd web UI – Chinese, Dutch, English, Finnish, I	French, German, Italian, Japanese, Norwegian, Polish,		
Veb user interface: Allows remote configur	ation, data retrieval, and firmware updates ov	er HTTPS/HTTP		
NTENNA SUPPORT				
	5 V DC nominal			

 ANTENNA SUPPORT

 Output voltage
 5 V DC nominal

 Maximum output current
 150 mA

 Maximum cable loss
 12 dB

 Recommended antennas
 Trimble Zephyr[™] 3 Geodetic, Trimble GNSS-Ti v2 Choke Ring



DATASHEET	
Alloy	
GNSS Reference Receiver	



SPECIFICATIONS ¹		
SECURITY		
HTTP login		
HTTPS/SSL		
Programmatic interface authentication		
NTRIP		
IP filtering		
ELECTRICAL		
Power over Ethernet (PoE) 802.3af (Type 1), 802.at (Type 2)		
10.9 to 29.0 V/DC input on 21 amo parts	User-configurable power-on voltage	
10.8 to 28.0 V DC input on 2 Lemo ports	User-configurable power-down voltage	
User-configurable 12 V DC power output on serial port #2		
Integrated dual hot-swappable smart batteries (7.4 V, 7800 mA-	hr, Li-Ion batteries) with up to 15 hours of continuous operation	
Seamless switching between external/internal power sources		
Configurable minimum input voltage for battery charging		
Integrated battery charging circuitry		
Power consumption – 3.8 W or higher, dependent on user setting	gs	
REGULATORY COMPLIANCE		
FCC Part 15 (Class B device), CISPR 32, 24		
RED CE Mark		
RCM		
UN 38.3 – ST/SG/AC.10/27/Add.2 Rev.5 (Li-Ion battery)		
IEC 62133(Ed.2) and EN 62133: 2013 (Li-lon battery)		
RoHS, China RoHS, WEEE		

- Specifications subject to change without notice.
 L2 C/A on GLONASS-M satellites.
 LEX/L6 supported on QZSS Block I satellites.
 Accuracy may be subject to degradation by multipath interference, obstructions, satellite geometry and atmospheric conditions. Always follow recommended survey practices.
 Depends on WAAS/EGNOS system performance.
 Networked RTK PPM values are reference to the closest physical base station.
 Bluetooth type approvals are country specific.
 Timble's highly efficient T02 data logging format makes this equivalent to 32 GB to 55 GB for competitive receivers.
 Operating temperature when connected to external DC supply. To protect the removable Li-ION batteries from extreme temperatures, the battery charger only operates from 5 °C to 35 °C (41 °F to 95 °F).
 If operated only with batteries and no external DC supply, operating temperature is -20 °C to +55 °C (-4 °F to +131 °F).

Contact your local Trimble Authorized Distribution Partner for more information

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