

TENDER NO. KP1/1/3A/4/1/OT/003/24-25
CORS SPECIFICATIONS – GNSS RECIEVER

| GNSS Reference Receiver | | | |
|--------------------------------|---------------------------------|--|--|
| # | Item | Specs | |
| | GNSS TECHNOLOGY | | |
| 1 | | RTX worldwide corrections | |
| | | 672 channels for simultaneous satellite tracking and anti-spoofing capabilities | |
| | | GNSS positioning engine for improved accuracy and productivity in challenging GNSS conditions. | |
| | | multipath signal rejection | |
| | | 360 receiver technology | |
| | | High-precision multiple correlator for GNSS pseudorange measurements | |
| | | Anti-spoofing security | |
| | | Unfiltered, unsmoothed pseudorange measurements data for low noise, low multipath error, low-time domain correlation and high dynamic response | |
| | | Trimble Pivot Platform(Existing CORS operating platform) | |
| 2 | 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 | |
| | 10 MHz External Frequency Input | | Normal input level 0 to +13 dBm |
| | | | 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 | |
| 3 | POSITIONING PERFORMANCE | | |

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| | | |
|---|---|--|
| | Code differential GNSS positioning ⁵ | Horizontal:0.25 m + 1 ppm RMS |
| | | Vertical:0.50 m + 1 ppm RMS |
| | SBAS differential positioning accuracy ⁶ | Horizontal: 050 m RMS |
| | | Vertical:0.85 m RMS |
| | Static GNSS Surveying ⁵ | High Accuracy Static |
| | | Horizontal: 3 mm + 0.1 ppm RMS Vertical:3.5 mm + 0.4 ppm RMS |
| | | Static & Fast Static |
| | | Horizontal:3 mm + 0.5 ppm RMS |
| | | Vertical:5 mm + 0.5 ppm RMS |
| | Real Time Kinematic Surveying ⁵ | Single Baseline < 30km |
| | | Horizontal: 8 mm + 1 ppm RMS |
| | | Vertical:15 mm + 1 ppm RMS |
| | | Networked RTK ⁷ |
| | | Horizontal:8 mm + 0.5 ppm RMS |
| | | Vertical:15 mm + 0.5 ppm RMS |
| | | Initialization time: typically <10 seconds |
| | | Initialization reliability:typically >99.9% |
| 4 | COMMUNICATION | |
| | Serial Ports: | Two 9-pin Male |
| | | Two 7-pin Lemo |
| | USB | one Mini-B USB 5-pin / RDNIS (Device and Host modes) |
| | Ethernet: | one RJ45 (Full-duplex, auto-negotiate 100Base-T) |
| | | HTTP, HTTPS, TCP/IP, UDP, FTP,NTRIP Caster, NTRIP Server, NTRIP Client |

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| | | |
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| | | Proxy server, Routing table, NTP Server, NTP Client support |
| | | Email Alerts and File Push |
| | WiFi: | 802.11 b/g, access point and client mode, WPA/WPA2/WEP64/WEP128 encryption |
| | Bluetooth8: | Integrated 2.4 GHz Bluetooth; supports 3 simultaneous connections |
| 5 | DATA LOGGING | |
| | Storage Capacity: | Onboard Memory (Journaling) up to 24 GB9 |
| | | External Memory10 greater than 1 TB |
| | | Maximum Data Logging Rate: 100 Hz |
| | | Maximum Combined Data Logging Rate:187 Hz |
| | | File Durations:1 minute to continuous |
| | | Storage Sessions:12 concurrent independent sessions with dedicated memory pooling. |
| | File Formats | T02, T04, BINEX, RINEX v2.x/3.0x,Google Earth KML/KMZ |
| | File Naming Conventions | Multiple |
| | Data Retrieval and transfer | HTTP, FTP Server, USB |
| | Events | Definable file protection on events |
| | | |
| 6 | PHYSICAL SPECIFICATIONS | |
| | Dimensions (L x W x H) | 26.5 cm x 13.0 cm x 5.5 cm |
| | Weight | 1.75 kg (3.85 lb) |
| 7 | ENVIRONMENT | |
| | Operating temperature11 | –40 °C to +65 °C (–40 °F to +149 F) |
| | Storage temperature | –40°C to +80 °C (–40 °F to +176 F) |
| | Humidity | 100% condensing |

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| | | |
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| | Shock | Operating:40g per MIL-STD-810G Table 5.16.6-VII Non-Operating:75g per MIL-STD-810G Table 5.16.6-VII |
| | Vibration | Operating: MIL-STD-810G Fig. 5.14.6C-1 Category 4 |
| | | Ingress protection: IP68 Certified per IEC-60529 - waterproof/dustproof (1m submersion for 1 hr |
| | | |
| 8 | USER INTERFACE | |
| | Front Panel Display | 4-line x 32 character reversible OLED display |
| | | 7 button input configuration |
| | | Adjustable LED backlighting |
| | language | Multiple language support for front panel and web UI |
| Web User Interface: | Allows remote configuration, data retrieval, and firmware updates over HTTPS/HTTP. | |
| 9 | ANTENNA SUPPORT | |
| | Output Voltage | 5 V DC nominal |
| | Maximum output current | 150 mA |
| | Maximum cable loss: | 12 dB |
| | Antenna | Compatible with Zephyr 3 Geodetic, |
| 10 | SECURITY | |
| | | HTTP login |
| | | HTTPS/SSL |
| | | Programmatic Interface authentication |
| | | NTRIP |
| | | IP Filtering |
| 11 | ELECTRICAL | |
| | Power over Ethernet (PoE) | 802.3af (Type 1), 802.at (Type 2) |
| | Lemo ports | 9.5 to 28 V DC input |
| | | configurable power-on voltage |
| | configurable power-down voltage | |
| Batteries | dual hot-swappable smart batteries (7.4 V, 7800 mA-hr, | |

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| | | |
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| | | Li-Ion batteries) with \geq 15 hours of continuous operation |
| | Switching | Seamless switching between external/internal power sources |
| | Battery charging | Configurable minimum input voltage for battery charging |
| | | Integrated battery charging circuitry. |
| | Power Consumption | 3.8W or higher, dependent on user settings |
| | REGULATORY COMPLIANCE | |
| 12 | | 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-Ion battery) |
| | | RoHS, China RoHS, WEEE |