For surface mobility, Rockwell Collins' GPS-based equipment is unsurpassed. With the Explosion Resistant GPS Receiver (ERGR), you can have the confidence of a system strategically designed for the volatile, rugged war environment experienced by vehicles and ships.

Employing Rockwell Collins next-generation GPS technology, the ERGR is based on the Rockwell Collins Selective Availability Anti-Spoofing Module (SAASM). SAASM encapsulates all classified data and signal processing into one tamper-proof module. In addition, the Rockwell Collins SAASM includes:

- Proven capabilities of a 12-channel GPS signal processor
- True All-In-View navigation of up to 12 GPS satellites
- The advanced correlator engine (ACE) to turbo-charge the engine for accelerated Direct-Y code acquisitions
- Next-generation security architecture provided by the key data processor
- Unclassified-when-keyed operation
- Black key capable for Over-The-Air Rekeying (OTAR), when available from GPS satellites

The ERGR provides “fit for purpose” solutions for vehicle and ship applications based on a proven design that meets environmental, serial port and software testing and has the ruggedness to stay in place in the event of mine or IED explosions.

You have the option to augment the ERGR beyond the conventional serial data links found on the PLGR and the DAGR handheld equipment. Provisions are made to include CAN, Ethernet and USB. As such, it complements the range of GPS solutions from Rockwell Collins.

The Explosion Resistant GPS may be further augmented with additional sensors, such as IMU or magnetic sensors, based upon MEMS technology, to enhance performance in GPS denied environments.

Designed with common interfaces for modern military vehicles, the ERGR is an ideal solution for legacy vehicle upgrade programs. In addition, it provides a solution for future integrated vehicle systems that is fully compatible and complementary with handheld GPS receivers such as the Rockwell Collins DAGR. To facilitate rapid prototyping a compatible C/A code Polaris™ERGR explosion resistant GPS receiver is also available.
KEY FEATURES / USER BENEFITS

- Mine explosion secure (STANAG 4569 Level 3b)
- IED explosion secure (50 kg TNT 5 m distance from vehicle side and 1 m above ground)
- Ingress protection rating IP65
- MTBF (calculated) > 15000 hours
- Improved EMI/EMC, fully compliant with military vehicle environmental standards
- Supports PLGR and DAGR standard interfaces via two Mil-C-26482 connectors
- Third connector supports enhanced features and input/output interfaces
- 12-channel continuous satellite tracking for All-In-View operation
- Selective Availability Anti-Spoofing Module (SAASM) security
- Simultaneous L1 and L2 dual frequency GPS signal reception
- Improved performance due to aggressive acquisition/re-acquisition strategies, typical cold start without time, position or almanac in less than 100 seconds from complete OFF
- Extended performance in a jamming environment i.e. 41 dB while tracking and 24 dB during initial acquisition
- Area navigation with waypoint storage (999 waypoints, 15 routes)
- User setup of units, datums and coordinate systems
- Receiver Autonomous Integrity Monitoring (RAIM)

PHYSICAL CHARACTERISTICS

Size/volume 185 mm x 94.6 mm x 67 mm (7.28 in x 3.72 in x 2.64 in)
Weight < 1.42 kg
Power vehicle Operating 9 VDC to 36 VDC < 3 W
Temperature Storage: -40°C to +71°C
Operating: -32°C to +49°C
Altitude -400 m to +3500 m

SYSTEM PERFORMANCE

L1/L2 active RF antenna
- Acquisition time probability > 95% TTFF < 90 sec (warm)
- TTFF < 100 sec (cold)
- Datums 233 predefined, 6 user defined
- Coordinate system 28 predefined
- Storage capacity 999 waypoints, 15 reversible routes

HARDWARE/CONNECTOR INTERFACES

- Power Connector (1x) Mil-C-26482 series 1, Shell size 8
- Data Connectors (3x) Mil-C-26482 series 1, Shell size 14
- Antenna Connector Huber & Suhner 24TNC-50-2-27
- Integrated mounting plate

SIGNAL INTERFACES

- All input/output signals galvanic isolated
- 3 independent galvanic isolated RS232
- 2 independent galvanic isolated RS422
- KYK-13/KOI-18/DS-101/DS-102 key loading
- 1PPS input
- 1PPS and 10PPS output
- Havequick (SS-110990 and ICD-GPS-060)
- RTCM 194-93/SC 104 differential GPS correction data input

DATA COMPATIBILITY

ICD-GPS-153 and NMEA-0183 data input/output

UNIT STATUS

Status (Vehicle Power Good, Crypto Back Up Battery Good, Zeroin Active and Crypto Fill Complete) available via push buttons and LEDs on unit

ANTENNA

List of tested antenna installations available upon request

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Building trust every day.

Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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