

AQUARIUS 5002 RTK SYSTEM

GENERAL DESCRIPTION

The AQUARIUS 5002 is built around a GNSS L1 + L2 12 channel core of the DSNP latest generation.

The 5002 Base Station transmits Long Range Kinematic (LRK®) corrections via it's integrated UHF transmitter module.

The 5002 Mobile receives these corrections via it's integrated UHF receiver module. In this configuration, OTF (on the fly) initialisation is a snap and centimetre accuracy in real time is achievable at ranges of 30 km or more.

The UHF transmitter and receiver modules can be tuned to satisfy the radio licensing requirements of most countries, according to customer's requirements.



FEATURES

GNSS Receiver

- 16 channel L1 receiver WAAS/EGNOS compatible
 - 12 channel L2 receiver fully operational with P-code encryption
 - Multi-path mitigation techniques and low noise observables
- Built in UHF receiver

- Frequency band: 410-470 MHz
 - Channelling: 12.5 kHz
 - Modulation decoded: DQPSK 1200 bits/s or GMSK 4800 bits/s
- Corrections data processed

- Proprietary LRK® format (4800 bits/s)
- Multi-station Receiver processing capability in LRK® or high-rate KART mode (up to 4 stations)
- Proprietary standard KART format (1200 bits/s NDS100 MkII type)
- RTCM 104 Msg 1,2,3,,5,9,16,18,19

GNSS Raw data

- 10 Hz rate ASCII or binary formats
- Equipment specifications cannot form any

Functionality:

- Navigation algorithms (250 ways-points)
- Fully configurable numerical outputs (NMEA0183 or user formats)
- Extensive set of remote commands
- User defined datum and projections

PERFORMANCE CHARACTERISTICS

Long Range Kinematic mode (with AQUARIUS 5002 SK station)

- Automatic OFT initialisation from 4SVs
- Range: 30 km typical
- UHF coverage up to 50 km (quality and height of installations related)

TECHNICAL SPECIFICATIONS

- LRK® fix up to 10 Hz rate and latency <0.1s
- LRK® accuracy : 1 cm X-Y-Z (95%) at 1s rate, 5 SVs or more, HDOP<4
- KART mode compatible (with AQUARIUS 5002 SK or 5001 SD stations)
- High rate KART mode compatible (with AQUARIUS 5002 SK or 5001 SD stations)
- DGNSS compatible (with AQUARIUS 5002 SK or 5001 SD stations)
- UHF reception up to 50 km from AQUARIUS 5002 SK (quality and height of installations related)

ELECTRICAL

- Power: 17W
- Voltage: 10-36 V DC Floating

ENVIRONMENTAL

- Receiver temperature-Operational: -10°C, + 55°C Storage: -40°C, + 70°C
- GPS and UHF antenna temperature Operating: -40°C, +70°C
- Humidity 100% fully sealed

INTERFACING CAPABILITY

- LCD display with 2 lines of 16 alphanumeric characters
 - Serial numerical ports 2 RS232
 - Optional extended I/O board c/w,
1 extra RS422
- external event time tagging
PPS output
10 MHz external oscillator input (BNC connectors).

WEIGHTS DIMENSIONS

Receiver: 3.7Kg 130 (H) x 260 (W) x 220 (D)mm