EPOCH® 50 GNSS System

GENERAL

- When connected to the data collector: · 220 Channels for multi-constellation GNSS support
- Integrated transmit/receive UHF radio
- Compact and lightweight design
- RTK, Postprocessed, Kinematic, and Static ٠
- Network RTK positioning
- Integrated wireless Bluetooth[®] 2.0 technology

TECHNICAL SPECIFICATIONS

Static GNSS surveying¹

High-accuracy static

Horizontal	. 3	mm +	0.1	ppm	RMS
Vertical	3.5	mm +	0.4	ppm	RMS

Static & Fast Static

Vertical 5 mm + 0.5 ppm RMS

Real-Time Kinematic GNSS surveying¹

Horizontal.....10 mm + 1 ppm RMS20 mm + 1 ppm RMS Initialization Automatic OTF (on-the-fly) while moving Start-up <60 seconds from power on to positioning <30 seconds with recent ephemeris

Code differential GPS positioning¹

SBAS (WAAS/EGNOS/GAGAN/MSAS) differential

Physical

i ilysical	
Dimensions (W×HxD) .	19.0 cm x 10.7 cm x 20.0 cm
	(7.48 in x 4.21 in x 7.87 in)
Weight (with battery) Ports	1.34 kg (2.95 lb)
I/O	Two 7-pin Lemo, RS-232
	Bluetooth

Data Link (UHF radio) antennaTNC

Measurements

- Advanced, sixth generation, custom survey GNSS technology
- · High-precision multiple correlator for GNSS pseudorange measurements
- · Unfiltered, unsmoothed pseudorange measurement data for low noise, low multipath error, low time domain correlation and high dynamic response
- · Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- · Proven Spectra Precision low-elevation tracking technology
- · Satellite signals tracked simultaneously:
- GPS: L1/L2/L2C/L5
- GLONASS: L1/L2 signals
- SBAS (WAAS/EGNOS/GAGAN/MSAS): L1C/A, L5
- Galileo⁴: GIOVE-A and GIOVE-B

ENVIRONMENTAL

Operating temperature
(-40 °F to +140 °F) ⁵
-40 °C to +55 °C (-40 °F to +131 °F) ⁵
with internal radio transmitting
Storage temperature40 °C to +75 °C
(-40 °F to +167 °F)
Dust/WaterIP66
VibrationMIL-STD-810F
Shock/Drop MIL-STD-810F Method 516.5

ELECTRICAL

- Power 10 V DC to 20 V DC external power input with over-voltage protection on Port 1 and Port 2 (7-pin)
- Rechargeable, 7.4 V 2400 mAh Li-lon internal battery
- · Average operating times on internal battery: RTK/Static: 4.0 hours⁶

COMMUNICATIONS AND DATA STORAGE

- Internal post process data storage 64 MB (9 MB) reserved)
- · Supports external GSM/GPRS/CDMA modems for point to point RTK and NTRIP operations
- Internal UHF Transceiver. 1 W or 0.5 W transmit power. Supports external UHF transmit data link for RTK base
- station operation.
- 1 Hz, 2 Hz, 5 Hz, 10 Hz, and 20 Hz positioning when configured⁷.

Correction formats8:

- sCMRx, CMR, CMR+, RTCM 2.1, RTCM 2.2, RTCM 2.3, RTCM 3.0, RTCM 3.1
- RTK or autonomous operations

RECYCLING INFORMATION

For product recycling instructions and more information, please go to: www.spectraprecision.com/ev.shtml.



- 1 Accuracy and reliability may be subject to anomalies due to multipath, obstructions, satellite geometry, and atmospheric conditions. The specifications stated recommend the use of stable mounts in an open sky view, EMI and multipath clean environment, optimal GNSS constellation configurations, along with the use of survey practices that are generally accepted for performing the highest-order surveys for the applicable application including occupation times appropriate for baseline length. Baselines longe than 30 km require precise ephemeris and occupations up to 24 hr may be required to achieve the high accuracy static specification.
- 2 May be affected by atmospheric conditions, signal multimath, obstruction, and satellite geometry. Initialization reliability is continuously monitored to ensure the highest quality.
- 3 Depends on SBAS (WAAS/EGNOS) system performance. 4 Galileo Commercial Authorization: Receiver technology having Galileo capability to operate in the Galileo frequency bands and using information from the Galileo system for future operational satellites is restricted in the publicly available Galileo open Service Signal-In-Space Interface Control document (GAL OS SIS ICD) and is not currently authorized for commercial use. Receiver technology that tracks the GIOVE-A and GIOVE-B test satellites uses information that is unrestricted in the public domain in the GIOVE A + B Navigation Signals-In-Space Interface Control document Receiver technology having developmental GIOVE-A and B
- capability is intended for signal evaluation and test purposes 5. Below -20°C, external power must be used.
- 6 Three batteries supplied standard.
- 7 When used with Survey Pro, only 1 Hz and 5 Hz modes are supported
- 8 Not all protocols will work with all radio baud rates and channel spacing.

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Please visit www.spectraprecision.com for the latest product information and to locate your nearest distributor. Specifications and descriptions are subject to change without notice

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😵 Bluetooth°

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SCAN THIS CODE FOR MORE INFORMATION

- 25 KHz and 12.5 KHz channel spacing NMEA-0183 output support on COM2 during Network