B125

The Topcon B125 GNSS receiver board is a compact positioning engine with future-proof signal tracking and capable of providing scalable positioning from sub-meter DGPS positioning to sub-centimeter RTK positioning.

Low power consumption and comprehensive communication interfaces, including a high- speed Ethernet port, make the B125 extremely flexible and easy to integrate into any precise positioning application.

- Ultra-compact GNSS receiver board
- Low power consumption
- Future-proof tracking of GPS, GLONASS, Galileo, BeiDou and QZSS
- 226 Universal Tracking Channels™
- Precise RTK positioning with data rates up to 100 Hz
- Serial, USB and high-speed Ethernet communications
- SD card interface support

Tracking	
Channels	226 Channels with Universal Tracking Channel Technology
Signals Tracked	GPS: L1, L2, L1C, L2C, L5; GLONASS: L1, L2, L3 Galileo: E1, E5a, E5b, AltBOC Beidou: B1, B2; SBAS: L1, L2C - L-Band
Accuracy	
Standalone[1]	H: 1.2 m; V: 1.8 m
DGPS	H: 0.3 m; V: 0.5 m
SBAS	H: 0.8 m; V: 1.2 m
RTK	H: 5 mm + 0.5 ppm x baseline; V: 10 mm + 0.8 ppm x baseline
RTK Initialization Time	< 10 seconds
RTK Initialization Reliability	> 99%
Velocity	0.02 m/second
Time	30 nsec
Acquisition Time	
Hot / Warm / Cold Start	< 10 sec / < 35 sec / < 60 sec
Reacquisition	< 1 sec
Communication Interfaces	
RS232	2x ports up to 460.8 kbps
LVTTL UART	2x ports up to 460.8 kbps
USB 2.0 (client)	1x port up to 480 mbps (High Speed)
CAN	1x port (w/o transceivers), LVTTL, NMEA2000
Ethernet	1x port supporting TCP/IP, FTP, NTRIP
PPS	1x port with 5 ns resolution, <30 ns precision, LVTTL, configurable polarity and period
EVENT	1x port with 5 ns resolution, LVTTL, programmable active edge
Data and Memory	
SD card support	Physical interface, 20 Hz writing rate, up to 8GB capacity
Data Update/Output Rate	1 Hz – 100 Hz Selectable
Real Time Data Output	TPS, RTCM SC104 2.x and 3.x, CMR, CMR+
ASCII Output[2]	NMEA 0183 version 2.x and 3.0
Environmental	
Temperature	Operating: -40°C to 75°C; Storage: -40°C to 85°C
Vibration	4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F)
Humidity	95%, non-condensing
Shock	40 g (IEC 68-2-27)
Acceleration	20 g
Power	
Voltage / Power Consumption	3.4 to 5.5 VDC / 2.0 W typical
LNA Power	3.3 V (internal), + 5.0 V (external) at 0 – 100 mA
Physical	
Dimensions / Weight	40 x 55 x 10 mm / 20 g
Main Connector	80-pin Hirose
Antenna Inputs	2 (connecting internal or external antennas) ESD protected
Antenna Connectors	Hirose H.FL

1 These specifications will vary depending on the number of satellites used, obstructions, satellite geometry (PDOP), occupation time, multipath effects, and atmospheric conditions. Performance may be degraded in conditions with high ionospheric activity, extreme multipath, or under dense foliage. For maximum system accuracy, always follow best practices for GNSS data collection.

2 CMR/CMR+ is a third-party proprietary format. Use of this format is not recommended and performance cannot be guaranteed. Use of industry standard RTCM 3.x is always recommended for optimal performance.

For more information:
topconpositioning.com

7010-2184 A 4/17