



The Topcon B111 GNSS receiver board is a compact positioning engine capable of providing scalable positioning from submeter DGPS positioning to subcentimeter RTK positioning.

Low power consumption and comprehensive communication interfaces and peripheral support make the B111 extremely flexible and easy to integrate into any precise positioning application.

- Compact, lightweight dualfrequency receiver
- Low power consumption
- 226 Universal Tracking
 Channels™ for reliable,
 "all in view", dual-frequency
 tracking of GPS, GLONASS,
 BeiDou, Galileo as well as
 SBAS and QZSS
- High-performance RTK engine with position an update rate of 100 Hz
- Diverse set of interfaces available through a single connector for effective data exchange
- SD card interface support

Channels Signals Tracked GPS: L1, L2, L2C; GLONASS: L1, L2, L2C; BelDou: B1, B2; Gailleo: E1; SBAS; QZSS: L1, L2C WAAS/EGNOS/MSAS Yes Accuracy Standalone¹ H: 1.2 m; W: 1.8 m DGPS H: 0.3 m; W: 0.5 m SBAS H: 0.8 m; W: 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 LVTL UART 2x ports up to 460.8 kbps LVTL UART 2x ports up to 460.8 kbps LVTL UART 1x port with 5 ns resolution, < 30 ns precision, LVTTL, configurable polarity and period EVENT 1x port with 5 ns resolution, LVTL, 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 Output² NMEA 0183 version 2.x and 3.0 Environmental Temperature Operating: -40°C to 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (EC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 Antenna Inputs 2 (to connect internal or external antenna) ESD protected Antenna Inputs 4 (to connect internal or external antenna) ESD protected	Tracking	
Gallieo: E1; SBAS; QZSS: L1, L2C WAAS/EGNOS/MSAS Yes Accuracy Standalone¹ 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 STK 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 Interfaces RS232 2x ports up to 460.8 kbps LVTTL UART 2x ports up to 460.8 kbps LVTL UART 2x ports up to 460.8 kbps LVTL UART 1x port with 5 ns resolution, 230 ns precision, LVTTL, configurable polarity and period EVENT 1x port with 5 ns resolution, 230 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, RTOM SC104 2x and 3.x, CMR, CMR+ ASCII Output² NMEA 0183 version 2.x and 3.0 Environmental Temperature Operating: -40°C to 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (EC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 W typical LINA 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 60-pin Hirose Antenna Inputs	Channels	226 Universal Tracking Channels™
Accuracy Standalone" H: 1.2 m; V: 1.8 m DGPS H: 0.8 m; V: 1.2 m SBAS H: 5 mm + 0.5 ppm x baseline; V: 10 mm + 0.8 ppm x baseline RTK H: 5 mm + 0.5 ppm x baseline; V: 10 mm + 0.8 ppm x baseline RTK Initialization Time < 10 seconds	Signals Tracked	
Standalone H: 1.2 m; V: 1.8 m	WAAS/EGNOS/MSAS	Yes
DGPS H: 0.8 m; V: 1.2 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 480.8 kbps USTIL UART 2x ports up to 480.8 kbps USB 2.0 (client) 1x port up to 480 mbps (High Speed) CAN 1x port with 5 ns resolution, <30 ns precision, LVTTL, NMEA2000 compliant 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 2D 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 3.0 Environmental Temperature Operating: -40°C to 85°C; St	Accuracy	
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 Time Hot / Warm / Cold Start 2 nsec / < 35 sec / < 60 sec Reacquisition	Standalone*1	H: 1.2 m; V: 1.8 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 LYTIL UART 2x ports up to 460.8 kbps LYTIL UART 2x ports up to 460.8 kbps LYTIL UART 2x port up to 480 mbps (High Speed) CAN 1x port (without transceivers), LYTTL, NMEA2000 compliant PPS 1x port with 5 ns resolution, <30 ns precision, LYTTL, configurable polarity and period EVENT 1x port with 5 ns resolution, LYTTL, 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 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (EC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	DGPS	H: 0.3 m; V: 0.5 m
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 LVTIL UART 2x ports up to 460.8 kbps LVTIL UART 2x ports up to 460.8 kbps LVTIL UART 1x port (without transceivers), LVTIL, NMEA2000 compliant PPS 1x port with 5 ns resolution, <30 ns precision, LVTIL, 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 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	SBAS	H: 0.8 m; V: 1.2 m
RTK Initialization Reliability x y9%	RTK	H: 5 mm + 0.5 ppm x baseline; V: 10 mm + 0.8 ppm x baseline
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	RTK Initialization Time	< 10 seconds
Time 30 nsec Acquisition Time Hot / Warm / Cold Start < 10 sec / < 35 sec / < 60 sec Reacquisition < 1 sec Communication Interfaces RS232	RTK Initialization Reliability	> 99%
Acquisition Time Hot / Warm / Cold Start < 10 sec / < 35 sec / < 60 sec Reacquisition < 1 sec Communication Interfaces RS232	Velocity	0.02 m/second
Hot / Warm / Cold Start < 10 sec / < 35 sec / < 60 sec Reacquisition < 1 sec Communication Interfaces RS232	Time	30 nsec
Reacquisition < 1 sec Communication Interfaces RS232	Acquisition Time	
Communication Interfaces RS232	Hot / Warm / Cold Start	< 10 sec / < 35 sec / < 60 sec
RS232	Reacquisition	< 1 sec
LVTTL UART 2x ports up to 460.8 kbps 1x port up to 480 mbps (High Speed) CAN 1x port (without transceivers), LVTTL, NMEA2000 compliant 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 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Communication Interfaces	
USB 2.0 (client) 1x port up to 480 mbps (High Speed) CAN 1x port (without transceivers), LVTTL, NMEA2000 compliant 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 Output² NMEA 0183 version 2.x and 3.0 Environmental Temperature Operating: -40°C to 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	RS232	2x ports up to 460.8 kbps
CAN 1x port (without transceivers), LVTTL, NMEA2000 compliant 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 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	LVTTL UART	2x ports up to 460.8 kbps
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 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	USB 2.0 (client)	1x port up to 480 mbps (High Speed)
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 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	CAN	1x port (without transceivers), LVTTL, NMEA2000 compliant
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 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	PPS	•
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 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	EVENT	1x port with 5 ns resolution, LVTTL, programmable active edge
Data Update/Output Rate Real Time Data Output TPS, RTCM SC104 2.x and 3.x, CMR, CMR+ ASCII Output² NMEA 0183 version 2.x and 3.0 Environmental Temperature Operating: -40°C to 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Data and Memory	
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 Operating: -40°C to 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	SD card support	Physical interface, 20 Hz writing rate, up to 8GB capacity
ASCII Output** NMEA 0183 version 2.x and 3.0 Environmental Temperature Operating: -40°C to 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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	Data Update/Output Rate	1 Hz – 100 Hz Selectable
Environmental Temperature Operating: -40°C to 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Real Time Data Output	TPS, RTCM SC104 2.x and 3.x, CMR, CMR+
Temperature Operating: -40°C to 85°C; Storage: -40°C to 85°C Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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	ASCII Output" ²	NMEA 0183 version 2.x and 3.0
Vibration 4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F) Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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	Environmental	
Humidity 95%, non-condensing Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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	Temperature	Operating: -40°C to 85°C; Storage: -40°C to 85°C
Shock 30g (IEC 68-2-27) Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Vibration	4g Sine Vibe (SAEJ1211); 7.7g Random Vibe (MIL-STD 810F)
Acceleration 40g Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Humidity	95%, non-condensing
Power Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Shock	30g (IEC 68-2-27)
Voltage / Power Consumption 3.4 VDC to 4.5 VDC / 1.3 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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Acceleration	40g
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 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Power	
Physical Dimensions / Weight 40 x 55 x 10 mm / < 20 g	Voltage / Power Consumption	3.4 VDC to 4.5 VDC / 1.3 W typical
Dimensions / Weight 40 x 55 x 10 mm / < 20 g Main Connector 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	LNA Power	3.3 V (internal), 5.0 V (external) at 0 – 100 mA
Main Connector 60-pin Hirose Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Physical	
Antenna Inputs 2 (to connect internal or external antenna) ESD protected	Dimensions / Weight	40 x 55 x 10 mm / < 20 g
, , ,	Main Connector	60-pin Hirose
Antenna Connectors Hirose H.FL	Antenna Inputs	2 (to connect internal or external antenna) 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 lonospheric activity, extreme multipath, or under dense follage. 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

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