

Crescent OEM Board

Versatile DGPS Receiver Module



Create more advanced applications and sophisticated configurations with the Crescent® OEM Board's higher update rates, noise-reduced raw measurements, additional memory, and higher processor capability.

The 12-channel, L1 DGPS board features SBAS support, along with Hemisphere GPS' exclusive COAST™ and e-Dif® technologies, making it easy to get an accurate signal, anytime, anywhere. Accuracy and stability are excellent due to Crescent Receiver Technology's more accurate code phase measurements, multipath mitigation improvements, and fewer discrete receiver components.



Key Crescent OEM Board Advantages

- Extremely affordable DGPS solution with update rates of up to 20 Hz
- Fast start-up and reacquisition times allow you to get right to work
- High-precision, differential positioning accuracy of 60 cm, 95%
- COAST stability during temporary differential signal outage
- Exclusive e-Dif option where other differential signals are not practical
- Small form and low-power consumption design is ideal for easy integration
- Compatible with other differential sources including our L-Dif™ and RTK firmware applications

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GPS Sensor Specifications

| | |
|----------------------|---|
| Receiver Type: | L1, C/A code, with carrier phase smoothing |
| Channels: | 12-channel, parallel tracking (10-channel when tracking SBAS) |
| SBAS Tracking: | 2-channel, parallel tracking |
| Update Rate: | 20 Hz maximum |
| Horizontal Accuracy: | <0.02 m 95% confidence (RTK ^{1,2,3}) <0.28 m 95% confidence (L-Dif ^{1,2,3}) <0.6 m 95% confidence (DGPS ¹) <2.5 m 95% confidence (autonomous, no SA ¹) |
| Cold Start: | 60 s (no almanac or RTC) |
| Warm Start 1: | 45 s (valid almanac and RTC) |
| Warm Start 2: | 35 s (valid almanac and RTC) |
| Hot Start: | 20 s (valid almanac, RTC, and <2 hours since last fix) |
| Reacquisition: | <1 s |
| Maximum Speed: | 1607 kph (999 mph) |
| Maximum Altitude: | 18,288 m (60,000 ft) |

Communications

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|--------------------------|--|
| Serial Ports: | 3 full duplex 3.3V CMOS, 1 USB |
| Baud Rates: | 4800 - 57600 |
| Correction I/O Protocol: | RTCM SC-104 (SBAS/Beacon), Proprietary format (L-Dif/RTK) |
| Data I/O Protocol: | NMEA 0183, SLX binary |
| Timing Output: | 1 PPS (HCMOS, active high, rising edge sync, 10 k Ω , 10 pF load) |
| Event Marker Input: | HCMOS, active low, falling edge sync, 10k Ω |

Environmental

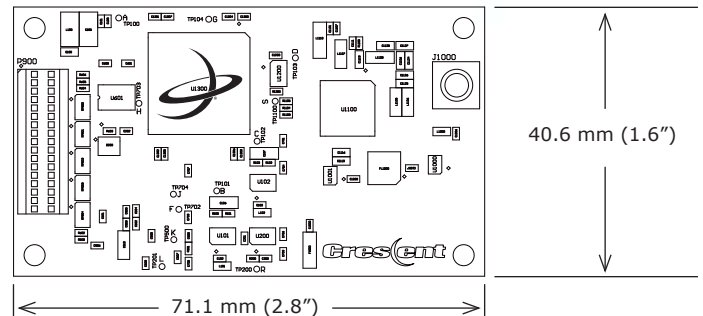
| | |
|------------------------|----------------------------------|
| Operating Temperature: | -30°C to +70°C (-25°F to +165°F) |
| Storage Temperature: | -40°C to +85°C (-40°F to +185°F) |
| Humidity: | 95% non-condensing |
| Shock and Vibration: | EP 455 |

Power

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|-----------------------------------|----------------|
| Input Voltage: | 3.3 VDC +/- 3% |
| Power Consumption: | <1 W nominal |
| Current Consumption: | 300 mA nominal |
| Antenna Voltage Input: | 15 VDC maximum |
| Antenna Short Circuit Protection: | Yes |
| Antenna Gain Input Range: | 10 to 40 dB |
| Antenna Input Impedance: | 50 Ω |

Mechanical

| | |
|--------------------------|--|
| Dimensions: | 71.1 L x 40.6 W x 12.0 H mm (2.8 L x 1.6 W x 0.5 H in) |
| Weight: | <20 g (<0.75 oz) |
| Status Indication (LED): | Power, GPS lock, differential lock, and DGPS position |
| Power/Data Connector: | 34-pin male header, 0.05" pitch |
| Antenna Connector: | MCX, female, straight |



Authorized Distributor:

¹ Depends on multipath environment, antenna selection, number of satellites in view, satellite geometry, and ionospheric activity
² Up to 5km baseline length
³ Depends also on baseline length