**KEY FEATURES**

- Multi-Constellation
- Improved Sensitivity
- Reduced TTFF (Time-To-First-Fix)
- Stratum 1 time source
- Timing pulse synchronized to within 15 nanoseconds (one sigma) of GNSS/UTC
- Weatherproof and corrosion resistant housing

**ADVANCED MULTI-GNSS SMART ANTENNA FOR PRECISE TIMING AND SYNCHRONIZATION**

The Trimble® Acutime™ Multi-GNSS (GPS, GLONASS, QZSS, SBAS) smart antenna is the 3rd generation Acutime product of integrated GNSS technology in a rugged and weatherproof self contained unit. The Acutime GG is an integrated pipe thread-mounted multi-GNSS receiver, antenna and power supply solution in a single environmentally sealed easy to install enclosure.

**Demonstrated Performance**

The Acutime Multi-GNSS smart antenna design continues the Trimble line of GPS smart antennas, which have been in production since 1991. This multi-GNSS smart antenna is optimized for precise timing and network synchronization needs, including broadband wireless applications. It provides a cost-effective and independent timing source (within the firewall) for any application, such as fault detection systems and synchronization of wireless networks.

**Power Efficiency**

The ACutime GG Multi-GNSS smart antenna requires less than 1 Watt to operate. Once power is applied, the Acutime GG smart antenna automatically tracks satellites and surveys its position to within meters. It then switches to overdetermined time mode and generates a pulse-per-second (PPS) output synchronized to UTC within 15 nanoseconds (one sigma), outputting a time tag for each pulse. The Acutime GG smart antenna’s T-RAIM (Time-Receiver Autonomous Integrity Monitor) algorithm ensures PPS integrity.

Designed for long-term reliability, the Acutime GG smart antenna is corrosion-resistant and weatherproof, and has a rounded top that facilitates run-off from the elements.

**Physical Interface**

The RS-422 interface is ideal for long cable runs required by buildings or towers. Standard cables are available in lengths up to 400 feet. Custom lengths up to 1800 feet may be ordered.

**Getting Started**

The Acutime GG Starter Kit makes it easy to evaluate the exceptional performance of this multi-GNSS smart antenna and integrate state-of-the-art technology into your system. The Starter Kit includes the Acutime GG smart antenna (RS-422), a 100’ interface cable, user guide, RS-422 to USB converter, and a Microsoft® Windows® software tool for monitoring and communication.
**Physical Characteristics**

- **Dimensions**: 3.74" D, 2.85" H (95 mm × 72.5 mm)
- **Weight**: 5.4 oz (154 g)
- **Connector**: 12-pin round, waterproof
- **Mounting**: 1”-14* straight thread or 3/4” pipe thread

**Environmental Specifications**

- **Operating temp**: –40 °C to +85 °C
- **Storage temp**: –55 °C to +105 °C
- **Vibration**: 0.008 g/Hz (5 Hz to 20 Hz), 0.05 g/Hz (20 Hz to 100 Hz), –3dB/octave (100 Hz to 900 Hz)
- **Operating humidity**: 95% RH, non-condensing @ 60 °C
- **EMC**: CE, FCC Class B
- **Ingress Protection**: IP 67

**Performance Specifications**

- **General**: Commercial GNSS Signal continuous tracking receiver, static overdetermined clock mode (default)
- **Update Rate**: 1 Hz
- **Accuracy Horizontal Position**: <6 meters (50%) <9 meters (90%)
- **Accuracy Altitude Position**: <11 meters (50%) <18 meters (90%)
- **Velocity**: 0.06 m/sec
- **Time to First Fix (no stored position)**: <46 sec. (50%) <50 sec. (90%)
- **Time to First PPS (stationary with stored position)**: <14 sec. (50%) <18 sec. (90%)
- **Re-acquisition after 60-second signal loss**: <2 sec. (90%)

**PPS Output**

- **Physical Interface**: RS-422
- **Width**: 10 microseconds (default); user-programmable from 10 microseconds to 500 milliseconds
- **On-Time Edge**: Rising edge on-time (default); user-programmable rising or falling
- **Resolution**: <32 nanoseconds (quantization error reported through TSIP)
- **Accuracy (one sigma)**: UTC 15 nanoseconds (static)
  UTC 90 nanoseconds (dynamic, TDOP ≤3)
- **Minimum pulse width**: 10 microseconds, rising edge on-time
- **Reporting mechanism**: TSIP packet

**Electrical Specifications**

- **Prime power**: +5 V DC* to +36 V DC, reverse polarity protection
- **Power consumption**: 50 mA @ 12 volts, 0.6 watts (typical), <1 watt max

**Serial Protocols**

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All ports support baud rates of 4,800 – 115,200; 8 data bits; even, odd, no parity.

NMEA messages: GGA, GLL, VTG, GSV, GSA, ZDA, RMC

**Ordering Information & Accessories**

Please go to www.trimble.com/timing for the latest documentation & tools, part numbers and ordering information

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**RoHS**

Trimble has relied on representation made by its suppliers in certifying this product as RoHS compliant.

Specifications subject to change without notice.

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