



Integrated Receiver & Antenna

Acutime™ 720 Dual Band GNSS Smart Timing Antenna

Ruggedized Timing Receiver for Outdoor Applications

The Acutime™ 720 is a ruggedized weatherproof dual band (L1 & L5) multi-constellation receiver for timing that integrates the antenna and receiver into an enclosure that is ideal for outdoor installations.

The Acutime™ 720 includes a built-in dual-band GNSS receiver with 1PPS/PP2S output through an RS422 interface that can carry the data signal over 1000 ft in distance. The Acutime™ 720 smart antenna is designed to be externally mounted and eliminates the need for GNSS timing receivers to be integrated into the host system. The Acutime™ 720 was specifically designed for long duration installation in congested cell-site environments. Many applications such as mobile and industrial networks are ideal for the remote deployment of the Acutime™ 720. The benefits of the Acutime™ 720 are:

- Plug & play installation
- Optimum location for antenna view
- Long cable runs
- No design change for embedded systems

Nanosecond-level Accuracy

The Acutime™ 720 offers precision time synchronization within 5 nanoseconds stability in its normal mode of operation. The Acutime™ 720 is designed to meet the stringent timing requirements of critical

Infrastructure networks and help operators maximize the performance of their networks while optimizing the return on their infrastructure investments.

Anti-Jamming and Anti-Spoofing

The dual-stage filtering and amplification implemented in the antenna and the sophisticated algorithm in the receiver provide improved detection, mitigation, and immunity to jamming and spoofing in harsh and hostile RF environments.

Advance Security Features

With the ideals of zero trust security, The Acutime™ 720 provides secure boot and anti-tampering features by default. Additionally, it offers T-RAIM to provide the highest level timing data integrity and monitoring.

Protocols & Configuration

Protempis' timing devices support the industry standard NMEA (National Marine Electronics Association) and the TSIP (Trimble Standard Interface Protocol) for configuration and control.



Key Features

- RS-422 signal interface for 1PPS/PP2S output
- Dual Band (L1 and L5) GNSS Timing Receiver & Antenna
- Multi-constellation: GPS (L1/L5), GLONASS (G1), Galileo(E1/E5a), Beidou (B1/B2a), QZSS (L1/L5) & NavIC (L5)
- Advanced Security features that include secure boot, secure interface, and T-RAIM
- Supports industry standard protocols such as NMEA and TSIP for configuration and Control
- Ruggedized design is IP67 compliant and allows operation across the entire I-temp range
- Starter Kit options

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Constellations & Bands

| Constellations | Bands | Frequency (MHz) | | |
|----------------|-------|-----------------|-----------|----------|
| | | Center | Lower | Upper |
| GPS | L1 | 1575.42 | 1573.42 | 1590 |
| | L5 | 1176.45 | 1166.22 | 1186.68 |
| QZSS | L1 | 1575.42 | 1573.42 | 1577.42 |
| | L5 | 1176.45 | 1166.22 | 1186.68 |
| GALILEO | E1 | 1575.42 | 1563.144 | 1587.696 |
| | E5a | 1176.45 | 1166.22 | 1186.68 |
| GLONASS | G1 | N/A | 1598.0625 | 1605.37 |
| BEIDOU | B1 | 1575.42 | 1559.052 | 1591.788 |
| | B2a | 1176.45 | 1166.22 | 1186.68 |
| IRNS/NavIC | L5 | 1176.45 | 1164.45 | 1188.45 |

Sensitivity

- Tracking & Nav: -160 dBm
- Acquisition: -145 dBm

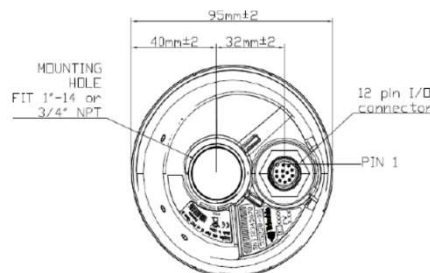
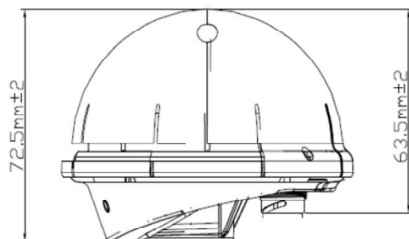
Smart GNSS Assurance™ & Security

- Anti-Jamming: Active CW detection and removal
- Anti-Spoofing: Advanced anti-spoofing algorithms
- Advanced Multi-path Mitigation
- Secure Boot
- Secure Firmware Update

Timing Output/Interface

- Programmable computed 1 PPS(5ns)/PP2S
- Stability 5 ns (1-sigma, clear sky, absolute mode)
- Dual RS 422 interface for configuration/monitoring functions
- Time-tag input through port B with <8ns resolution

Mechanical Drawing



Package

- 95mm x 72.5 mm
- Connector: 12 pin
- Mounting: 1"–14 straight thread or ¾" pipe thread

Weight

- 154 grams

Environmental Data, Quality & Reliability

- Operating temp. -40 °C to +85 °C
- Storage temp. -55 °C to +105 °C
- Humidity 5%-95% (non-condensing)
- RoHS compliant (lead-free)
- Green (halogen-free)
- UL94-V0 Flammability Rated
- ETSI-RED Compliant
- Weatherproof with IP67 compliance
- Surge Protection: IEC-61000-4-5 compliant

Visit www.protempis.com for part numbers and information about where to buy.

- Parts of the product are patent protected.
- Protempis has relied on representations Made by its suppliers in certifying this product as RoHS-II compliant.
- Specifications subject to change without notice.
- Protempis is not responsible for the operation or failure of operation of GPS/GNSS satellites or the availability of GPS/GNSS satellite signal.

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