

KA-7002

DUAL BAND GNSS Active Antenna

GNSS Active Antenna

The Dual Band (L1/L5) GPS active antenna KA-7002 filters and amplifies RF signals received from global navigation satellite systems (GNSS) and feed them to a GNSS receiver in the BTS. The GNSS receiver recovers timing and positioning data which is used to provide timing reference for phase synchronization. The antenna is designed with an in-built LNA to be able to be installed long distance from the BTS and with high selectivity to work in (very) close proximation to BTSs, protecting the GNSS receiver from possible co-location interference.

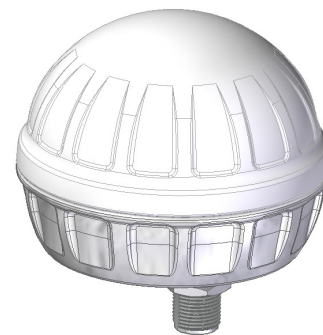
The dual band(L1/L5) antenna and receiver improves the system security. A dual band system gives remarkably better jamming and spoofing protection compared to a single band system. The good axial ratio improves the position accuracy in urban canyons where a lot of reflected and distorted GNSS signals are present.

The high gain, low noise figure and high out-of-band rejection provided by the antenna allows for using longer and cost effective cables, making it very easy and flexible to install.

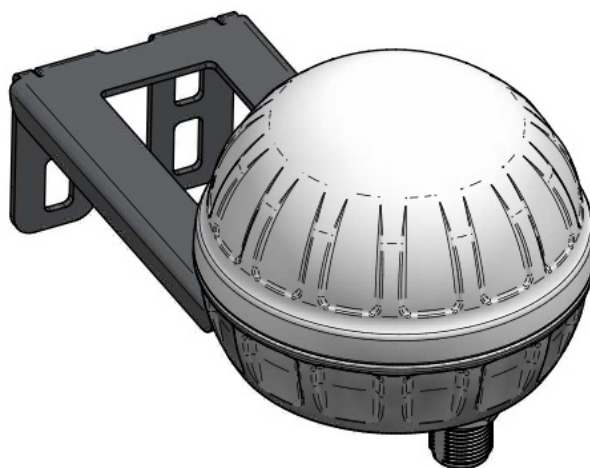
The dual band (L1/L5) active antenna is a fully ruggedized weather-sealed outdoor unit compliant to IP67 standards and it is compatible with several existing mounting brackets. The antenna is DC fed though the RF cable and has built in lightning strike protection.

Features

- Dual band
- Support multiple GNSS systems
- High gain
- Low noise figure
- Compatible with several existing mounting brackets
- Built in surge protection



KA-7002-1010



KA-7002-1110

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Specifications and Layouts

| Antenna | | | | | | |
|----------------------------------|-----------------------------|------------------|------------------|-----------------|---------------|-------------|
| Systems supported | GPS L1/L5 | Galileo E1/E5 | GLONASS G1/G3 | Beidou B1/B2 | QZSS L1/L5 | IRNSS L5 |
| Frequency range | 1559 - 1606 1166-1218 MHz | | | | | |
| Antenna gain at zenith (L1 L5) | 4 dBi 3 dBi | | | | | |
| Horizontal beamwidth | 360 degree | | | | | |
| Polarization | RHCP | | | | | |
| Axial ratio | 1 dB at Zenith (typ) | | | | | |

| LNA | |
|------------------------------|--|
| Frequency range | 1559 - 1606/1166-1218 MHz |
| Gain | 40±3 dB |
| Noise figure (typical) | 2.0 dB |
| Output impedance | 50 Ohm |
| Output VSWR | <1.8 |
| Input P1dB | > -30 dBm |
| Group delay variation | <10 ns @GNSS system bandwidth |
| Out-of-band-rejection (L1) | < 1450 MHz > 70 dB < 1520 MHz > 40 dB > 1650 MHz > 70 dB |
| Out-of-band-rejection (L5) | < 1000 MHz > 80 dB < 1100 MHz > 60 dB > 1270 MHz > 60 dB |
| Input voltage | 3.5 - 12 VDC |
| Input voltage without damage | -35 VDC +35 VDC |
| Current consumption | 30 mA (typ) |

| ENVIRONMENTAL SPECIFICATION | |
|-----------------------------|-----------------|
| Temperature range | -40 to +85 °C |
| Ingress protection | IP 67 |
| Lightning protection | 5kA (10/350 us) |
| MTBF | > 1 M hours |
| Compliance | ETSI EN301489-1 |

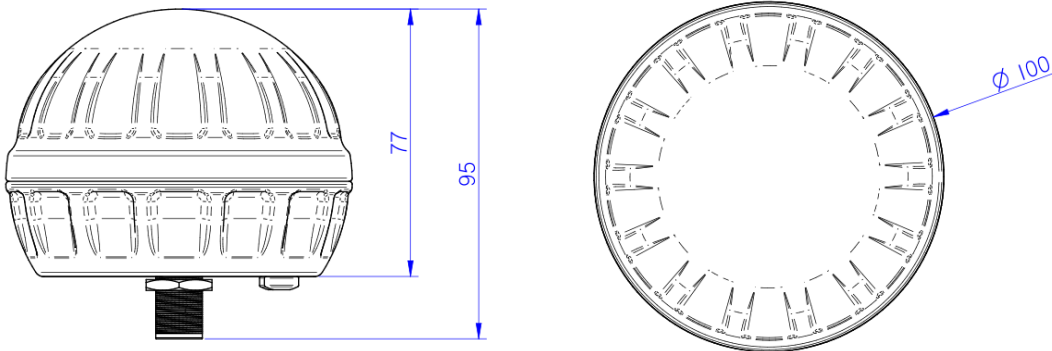
| MECHANICAL SPECIFICATION | |
|-------------------------------|--|
| Connector | N-Female |
| Grounding terminal | M8 |
| Bracket | Compatible with several existing mounting brackets. Ordering version KA-7002-1110 includes a mounting bracket. |
| Color | White |
| Dimension (diameter x height) | 100 mm x 75 mm (excluding bracket) |
| Weight | 0.4 Kg 0.9 lbs |

| ORDERING INFORMATION | |
|----------------------|-----------------------------------|
| KA-7002-1010 | GNSS antenna only |
| KA-7002-1110 | GNSS antenna and mounting bracket |

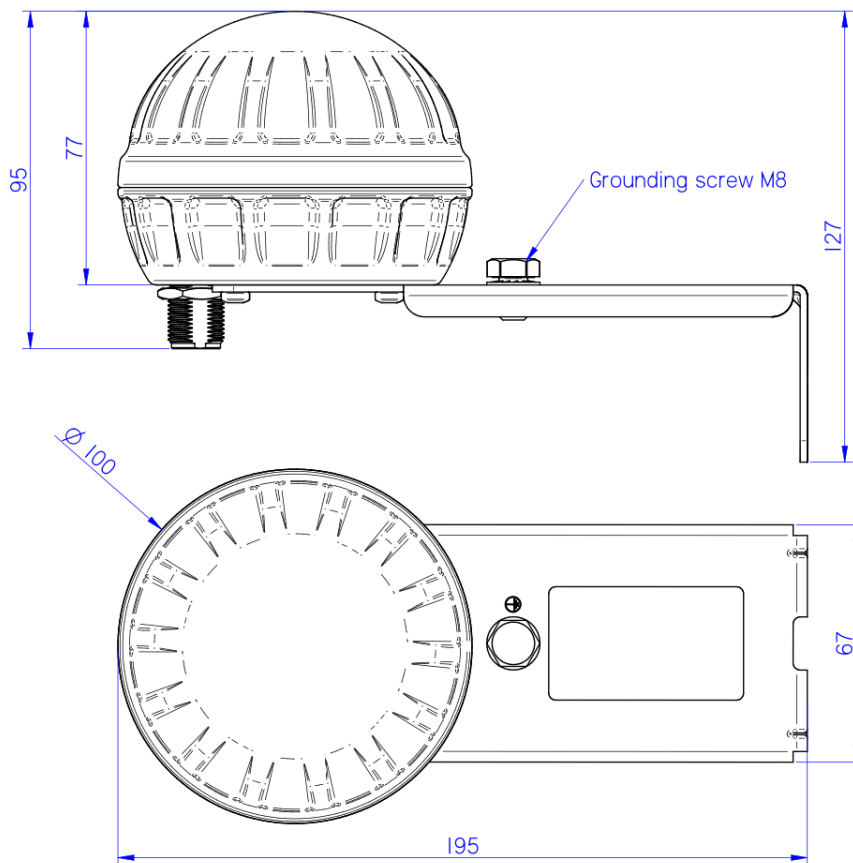
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Mechanical drawings



This drawing shows KA-7002-1010



This drawing shows KA-7002-1110