# ANT-191-XXX

***Quad-System L1 GNSS Through Hole Antenna***

## Applications

- Navigation
- Automatic Vehicle Location (AVL)
- Autonomous Vehicles
- Mobile Robots
- Drones
- Boats



## Product Features

- Low Profile Permanent Mount GNSS Puck Antenna
- Supports Worldwide GNSS Bands:
  - GPS L1
  - GLONASS L1/G1 & L1OC
  - Galileo E1
  - BeiDou B1c
- SMA Male Connector
- Integrated 27 dB Low Noise Amplifier (LNA)
- Small & Compact – 2.1 x 0.87 in
- Weatherproof – IP67 Rated
- TAA Compliant – Made in Taiwan

## Ordering Information

| Part No. | Description |
|---|---|
| ANT-191-003 | Screw Mount GNSS Antenna R/A SMA Male on 18 in Coax |
| ANT-191-007 | Screw Mount GNSS Antenna SMA Male on 6.6 ft Coax |

## General Description

Proxicast's low-profile active/passive multi-constellation single-band (L1/E1/B1) GNSS screw-mount antenna is designed for use in fleet management, automatic vehicle location (AVL), position tracking for autonomous farm equipment, robots and drones, precision timing, mobile video and recreational navigation applications that require peak gain in a compact, vandal resistant form factor.

The antenna receives global navigation satellite signals across multiple international constellations. This antenna is ideally suited for vehicular GNSS-enabled modems/routers/receivers using bands:

- GPS L1 (US)
- GLONASS L1/G1 & L1OC (Russia)
- Galileo E1 (Europe)
- BeiDou B1c (China)

The antenna can be used with passive or active GNSS equipment via its integrated 27 dB low noise amplifier (LNA) which is compatible with 3~5 VDC receivers.

The antenna permanently mounts via a 1/2 in (12 mm) hole with internal nut. Low-loss RG174 coax is fed through center mounting post and pre-terminated with an SMA Male connector. A rubber disk on the underside creates an IP67 water-tight seal. This vandal-resistant antenna is not removable from outside and there is no exposed coax cable once installed.

This antenna's color, coax lead length and connector type can be customized – minimum order quantities apply.


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## Electrical Specifications

| Parameter | Rating |
|---|---|
| Frequency Range | 1560 – 1610 MHz |
| Center Frequencies | 1575.42 ± 1.023 MHz<br>1568 - 1578 / 1596 - 1606 MHz |
| Supported GNSS Bands | GPS L1<br>GLONASS L1/G1 & L1OC<br>Galileo E1<br>BeiDou B1c |
| LNA Gain | 27 dB Typical |
| Passive Gain | 90° : 2.0 dBi Min.<br>20° : -5.0 dBi Min. |
| Minimum Ground Plane | 2.75 x 2.75 inches (70 mm x 70 mm) |
| Axial Ratio | 3 dB (max @ 90°) |
| VSWR (max) | ≤ 2.0:1 |
| Impedance | 50 Ohm |
| Polarization | RHCP |
| Noise Figure | 1.5 dB Max. (+25°C ± 5°C) |
| LNA Supply Voltage | 3 - 5 VDC |
| Current Consumption | At 3.0 V Typical: 13mA - Max: 16mA<br>At 5.0 V Typical: 18mA - Max: 22mA |
| Ex-Band Attenuation | for = 1575.42/1602.00 MHz<br>for ± 20 MHz 7dB MIN<br>for ± 30 MHz 12dB MIN<br>for ± 50 MHz 20dB MIN<br>for ± 100 MHz 30dB MIN |

Operation of this device outside the parameter ranges given below may cause permanent damage.



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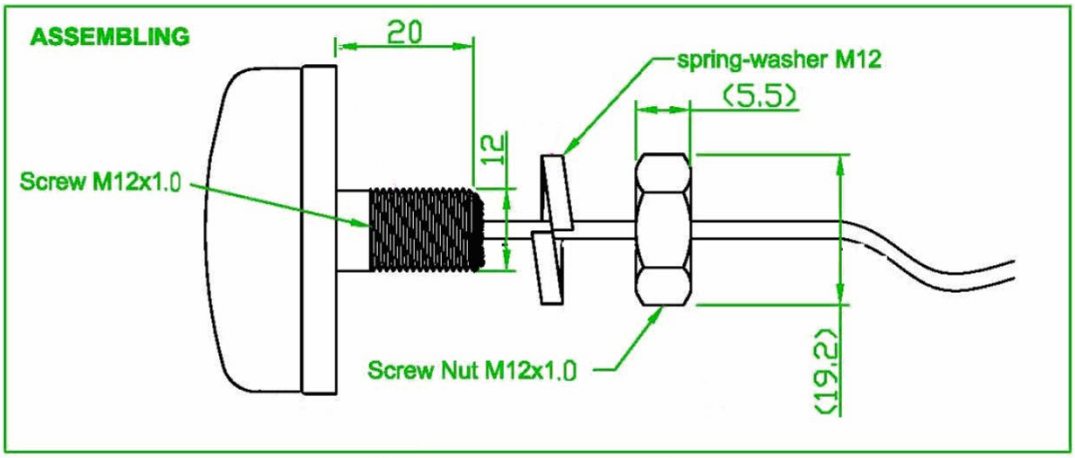
## Mechanical Specifications

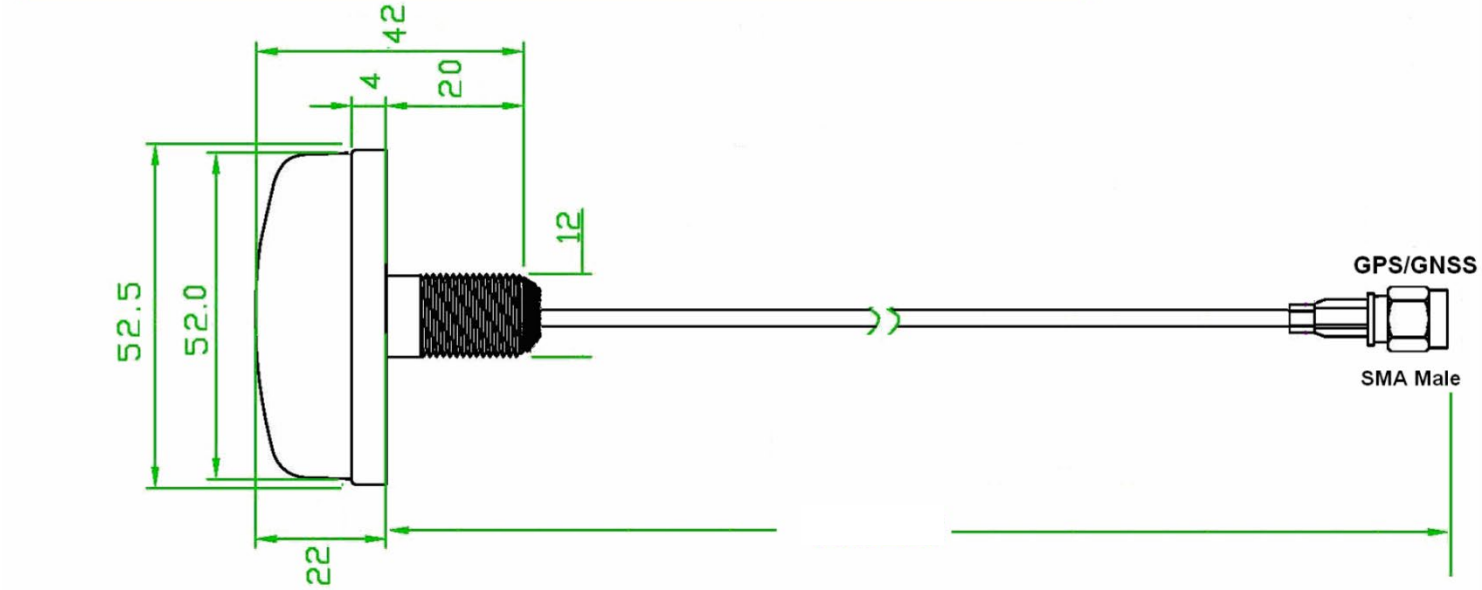
| Parameter | Rating |
|---|---|
| Connector Type | SMA Male (plug) – Right Angle (-003) or Straight (-007) |
| Coax Cable | RG174 low-loss coax – 18 in (-003) or 6.6 ft (-007) |
| Materials | ABS / Brass / Steel / Copper / Rubber / RoHS compliant |
| Dimensions | 2.1 x 0.87 in (52.5 x 22 mm) when mounted |
| Mounting Post | Diameter: 0.47 in (12 mm)<br>Length: 0.79 in (20 mm)<br>Nut: M12 x 1 Fine Pitch |
| Weight (excluding cable) | 3 oz (85 g) |
| Antenna Color | Black |
| Operating & Storage Conditions | Temperature: -40°F to 194°F (-40°C to +90°C)<br>Humidity: 10 to 95% RH |
| Environmental Rating | IP67 (waterproof) |
| Country of Origin | Taiwan (TAA/NDAA Compliant) |


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## Mechanical Dimensions

**Dimensions in millimeters**






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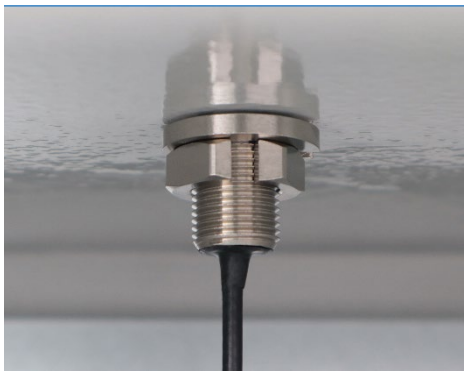
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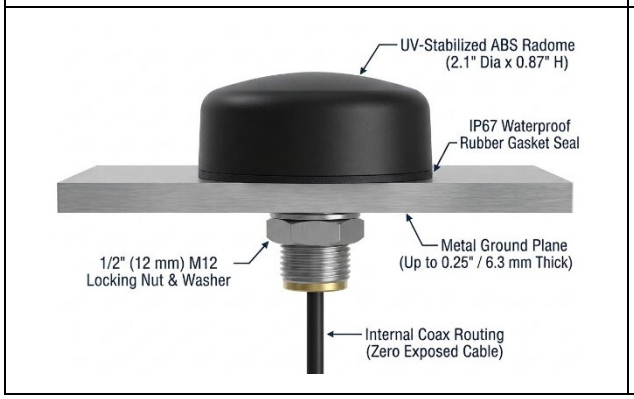
## Product Images

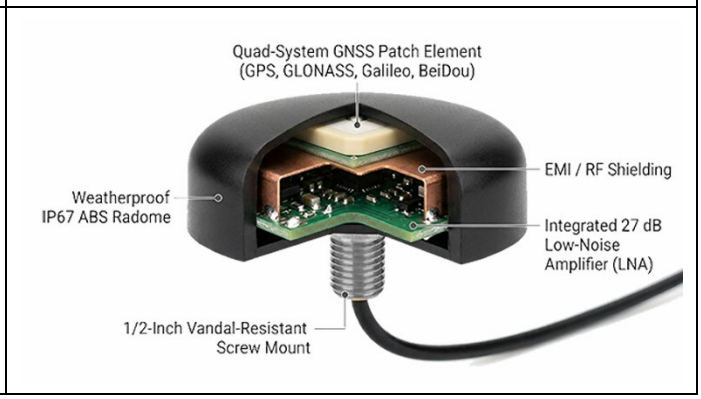







## Installation Instructions

- Drill a 0.5” (12 mm) hole in flat horizontal metal surface
- Remove mounting nut & washer and feed coax cables through hole
- Press antenna into hole and tighten nut & washer from underneath
- Optionally apply a thin bead of silicone caulk around the antenna rim


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## Contact Information

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