

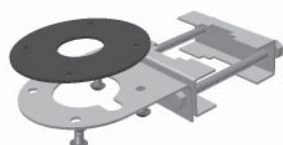
GPS Timing Reference Antennas



GPSL1GL-TMG-SP-40N



GPS-TMG-MHD



GPS-TMG-LMNT



Low Noise Amplifier Specifications

Frequency Band: 1590 ± 30 MHz
LNA Gain: 40 dB ± 4 dB @ GPSL1 GALILEO E1 38 dB ± 4 dB @ GLONASS L1
Nominal Impedance: 50 ohms
Output VSWR: <2.0:1
Maximum Noise Figure: < 2.5 dB @ +25°C including pre-selector
DC Voltage: 3.3-9.0 V
DC Current: < 40 mA
Filtering: 3 stage filtering including pre-selector
Out of Band Rejection: ≥ -60 dB @ f ≤ 1530 MHz ≥ -60 dB @ f ≥ 1660 MHz
Lightening Protection: 90 V, 20 kA, 8/20 μs

40 dB GPS L1/GLONASS L1/GALILEO E1 Timing Antenna with Integrated Lightning Protection

The **GPSL1GL-TMG-40N** timing reference antennas are specifically designed for long-lasting, trouble-free deployments in congested cell-site applications. The low noise, high gain amplifier is well suited to address attenuation issues associated with applications requiring longer cable runs.

The proprietary quadrifilar helix design, coupled with multistage filtering provides superior out-of-band rejection and lower elevation pattern performance than traditional patch antennas.

Their unique radome shape sheds water and ice, while eliminating problems associated with bird perching. The antenna may be purchased by itself or with pipe mounting hardware. Custom models or site kits options are also available.

This antenna is made of materials that fully comply with provisions stipulated by EU directives RoHS 2002/95/EC.

The antenna provides integrated lightning protection capability.

The antenna also features ESD, reverse polarity protection and transit voltage suppression.

Antenna Electrical Specifications

Frequency Band	Antenna Gain	Nominal Impedance	VSWR	Polarization	Connector
1575.42 ± 10 MHz 1602-1615 MHz	≥ 3.5 dBic ≥ 3 dBic*	50 ohms	<1.5:1	Right hand circular	N, female (one - bottom fed)

Mechanical Specifications

Antenna Dimensions	Shipping Dimensions	Antenna Weight	Radome Color
7.25" H x 3.2" D (184 x 81 mm)	7.5" L x 4.4" W x 3.8" D (190 x 112 x 96 mm)	0.75 lbs (0.34 kg)	White

Environmental Specifications

Temperature Range	Humidity
-40°C to +85°C	95%

Mounting

All mounting options fit pipes of 1"-1.45" (25 mm-37 mm) maximum diameter.

Model	Options
GPSL1GL-TMG-40N	Does not include mounting hardware.
GPSL1GL-TMG-SP-40NLM	Includes standard mounting hardware consisting of pipe clamp (GPS-TMG-LMNT).
GPSL1GL-TMG-SPS-40NCB	Includes heavy duty mount (GPS-TMG-MHD).

For additional Information:

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**GPS TIMING WITH INTEGRATED
SURGE INSTALLATION BULLETIN**

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Installation Instructions

Read these instructions thoroughly before installation or assembly. Follow the sequence for proper assembly and operation.

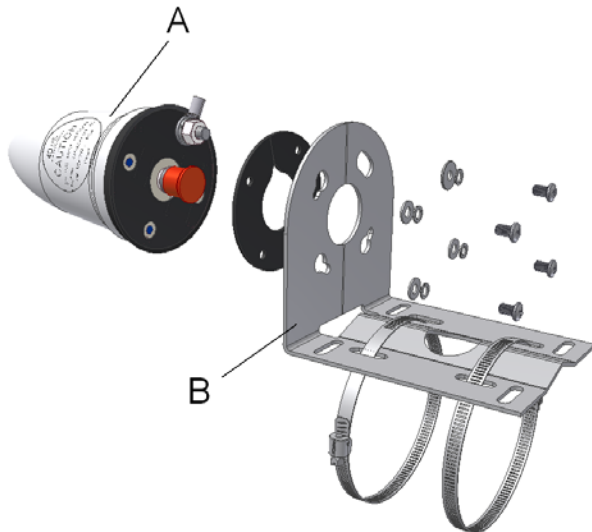
Notice - The installation, maintenance, or removal of antenna systems requires qualified, experienced personnel. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

Antenna Description:

GPSXX-TMG-SPI- XXNCB (cover) is a self-contained GPS antenna and mount kit. The kit includes a right hand circularly polarized antenna that incorporates a high performance, low noise amplifier. It also includes a medium duty L mount bracket to attach the antenna to a vertical and horizontal pipe within a range of diameters detailed below.

Contents:

A - 1ea Timing Antenna w/ surge and watershed gasket.
B - 1ea Medium Duty Mount Kit - ** Mount kit may contain extra hardware and gasket depending on product Type installed. Extra components can be discarded.



MOUNTING KIT DESCRIPTIONS

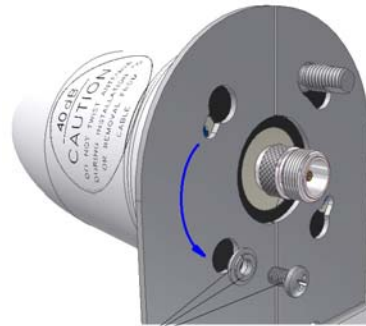
Range of Mounting Pipe Diameters for Medium Duty Bracket Mount Kit.

The L mount Bracket Kit attaches the GPS antenna on vertical or horizontal pipes and beams with a diameter ranging from 2 1/2 - 8 1/2 in [60mm-215mm] diameter. **Note – installation of antenna requires an unobstructed clear view to the sky.**

TOOLS REQUIRED FOR INSTALLATION

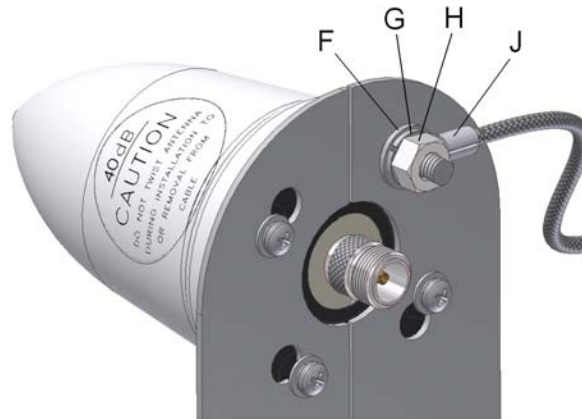
- (1) Type II Crossed Recessed Screw Driver
- (2) Adjustable Wrench or 3/8 wrench.
- (3) Crimping pliers

Antenna/Mount Assy – remove protective cap and grounding hardware from antenna. Align Water Shed Gasket to mounting holes and orient antenna onto bracket – Gasket may distort prior to installation. Install screw hardware [C,D,E] opposite ground stud. Rotate into place and tighten - Recommended torque 5-8lb*in [1Nm].



[C,D,E]

Repeat for remaining screws 2X. Assemble (AWG-6/16mm^2 min) Grounding cable to crimp lug [J] fasten with supplied hardware [F,G,H]. Do not over tighten - Recommended torque 5-8lb*in [1Nm].



Mount to Mast Assy – position antenna onto Mounting structure. Route hose clamps and tighten 2X.



Attach the other end of grounding cable to shortest possible ground connection. Attach coax cable, and Install weatherproofing (not provided with the Mount Kit) extending at least 2" below the bottom of the connector to directly underneath the base plate of the antenna.