



## TRIMBLE GPS/GLONASS ANTENNAS

### BENEFIT HIGHLIGHTS

- Active GPS/GLONASS antennas include low noise amplifier
- Two form factors: Magnetic Mount and Bulkhead
- Various connector options
- 3 V or 5 V supply voltage
- Ideal for solutions incorporating GPS and GLONASS receiver technologies

### KEY FEATURES

- The same antenna will handle both GPS and GLONASS systems
- Internal low noise amplifier (LNA)
- Waterproof, corrosion-resistant
- Mounting / Connector choices:
  - Magnetic mount: MCX, SMA connectors
  - Bulkhead: TNC connector
- Specifications:
  - Center Frequency: 1,593 MHz
  - Gain: 5V up to 32 dBic @ 25 °C  
3V up to 30 dBic @ 25 °C
  - Output Impedance: 50 Ω
  - LNA Noise Figure: as low as 2 dB @ 25 °C

### TRIMBLE'S GPS/GLONASS ANTENNA COLLECTION

Trimble offers a selection of active micropatch antenna products for use with Trimble's GPS/GLONASS receivers. GLONASS is the Russian Global Navigation Satellite System (GNSS).

These packaged antennas are waterproof and corrosion resistant. All antennas include an internal low noise amplifier (LNA) to provide sensitive performance in the toughest environments (-40 °C to +85 °C with high humidity).

### FORM FACTORS OF YOUR CHOICE

Trimble GPS/GLONASS antennas are available in two form factors, providing choices of housing, mounting and connectors, as well as choice of supply voltage for bulkhead antennas (3 V or 5 V).

**Magnetic Mount** antennas, with their small size and slim profile, are designed for quick and convenient installation on, or inside, vehicles or equipment. The tough plastic housing and magnetic base enable them to withstand exposure to shock, vibration, and weather extremes. Available in two 3 V models, they provide a choice of connector type.

**Bulkhead** models, in both 3 V and 5 V, are designed for drill-through mounting on vehicle roof and trunk panels. The tough plastic housing and the feedthrough threaded nut mount enable these units to withstand exposure to shock, vibration, and weather extremes. These models feature a TNC connector.

### COMPLETE YOUR GPS/GLONASS SOLUTION FROM TRIMBLE

Trimble's antenna products are built with the best components and meet the highest production quality standards.

Are you designing a solution with a GPS/GLONASS receiver? Are you looking for top-tier positioning performance, accuracy, and sensitivity? These antennas complete your GPS/GLONASS solution from Trimble.



# TRIMBLE GPS/GLONASS ANTENNAS

## MODEL COMPARISON

Differentiating Features and Key Specifications.

MODEL TYPE	MOUNT	DIMENSIONS	WEIGHT	CABLE LENGTH	SUPPLY VOLTAGE	POWER CONSUMPTION	OUTPUT CONNECTOR	CABLE TYPE	PART NUMBER
<b>Magnetic Mount</b> 70229-XX	Magnetic	49.14 mm x 46.14 mm x 15.94 mm	130 g (typ) <sup>4</sup>	5 m	3 V	8 mA (typ) <sup>4</sup>	MCX <sup>1</sup>	RG-174	70229-50
							SMA <sup>1</sup>	RG-174	70229-52
<b>Bulkhead</b> 70228-XX	Threaded Nut Mount	63.3 mm dia x 40.1 mm	115 g (typ) <sup>4</sup>	N/A	5 V	13 mA (typ) <sup>4</sup>	TNC <sup>3</sup>	N/A	70228-20
					3 V	7 mA (typ) <sup>4</sup>	TNC <sup>3</sup>	N/A	70228-30

1. Straight plug.
2. Right-angle H.FL plug (HFL-LP-DFS111-A).
3. (75 Ω) TNC jack (mates to UFL jack)

## ELECTRICAL SPECIFICATIONS

Differentiating Features and Key Specifications.

	3 V VERSION	5 V Version
<b>Supply Power</b> Magnetic Mount DC Levels Consumption	3.0 V ±0.3 V 8 ±3 mA max (@3.0 ±0.1V)	N/A
<b>Supply Power</b> Bulkhead DC Levels Consumption	3.0 V ±0.5 V 6.5 ±2 mA max (@3.0 ±0.1V)	5.0 ±0.6 V 13±2 mA max (@5.0 ±0.1V)
<b>Frequency Range</b> Magnetic Mount	1575 MHz to 1615 MHz	N/A
<b>Bulkhead</b>	1575 MHz to 1610 MHz	1575 MHz to 1610 MHz
<b>Gain</b> Magnetic Mount <sup>1</sup>	30 dBic (typ) <sup>4</sup>	N/A
<b>Bulkhead<sup>2</sup></b>	30 dBic min <sup>3</sup>	32 dBic min <sup>3</sup>
<b>Output Impedance</b>	50 Ω	
<b>LNA Noise Figure</b> Magnetic Mount <sup>1</sup>	2.0 dB (typ) <sup>4</sup>	N/A
<b>Bulkhead<sup>2</sup></b>	2.0 dB (typ) <sup>4</sup>	

1. Gain is for when antenna module is mounted on 70 x 70 mm ground plane @3.0 ±0.1 V.
2. Gain is for specified ground plane.
3. "min" is at temperature of 25 degrees C ±5 °C.
4. "typ" is at typical temperature (25 °C ±15 °C).

## ENVIRONMENTAL SPECIFICATIONS

<b>Temperature</b>	Typical . . . . . 25 °C ±15 °C
Operating . . . . .	-40 °C to +85 °C
Storage . . . . .	-40 °C to +90 °C
<b>Humidity</b> . . . . .	65 ±20% RH
<b>Waterproofing</b> . . . . .	Waterproof (JIS D0203 S2)
<b>Shock</b>	Vertical axis . . . . . 50 G
All axis . . . . .	30 G
<b>Vibration</b>	10 Hz to 200 Hz . . . . . Log sweep 3.0 g
	(Sweep time: 15 minutes) 3 axis
<b>Magnetic Mount Pulling Force</b>	Pulling Force . . . . . 29.4 N
Withstand . . . . .	Up to speed of 180 Km/h
<b>Cable Pulling Force</b> . . . . .	49 N minimum (room temp)
<b>Bulkhead Antenna Installation</b>	Minimum Torque . . . . . 3 N-m
Maximum Torque . . . . .	6.7 N-m
Recommended Drill Size . . . . .	19 mm

## ORDERING INFORMATION

MODEL TYPE	PART NUMBER	ORDER QUANTITY			
Magnetic Mount	70229-50	20	80	400	400 x n
	70229-52				
Bulkhead	70228-20	1	96	480	480 x n
	70228-30				480 x n

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