

Multiple GNSS Constellation Antenna



- Rugged Design
- GPS and GLONASS
- Vibration Tested
- Optional Ground Plane

G3-A1 Multiple GNSS Constellation Antenna



Multiple GNSS Constellation Antenna

The G3-A1 is a multiple constellation antenna, and based on the corresponding receiver can receive GPS and GLONASS satellite signals.

The G3-A1 is intended for high vibration uses, such as on the top of a machine control mast. The antennas have been tested to extreme vibration specifications and are recommended for the most rugged environments. Why risk placing an expensive electronic receiver at the top of a machine mast. This ruggedized antenna can be used with bulldozers, motor graders, scrapers, milling machines, and other systems.

An optional ground plane can be easily attached to supplement the reduction of multipath signal interference.

Topcon TotalCare

This online resource comes with real live people ready to help. Get expert training from Topcon University's large collection of online materials, and expert help directly from Topcon Technical Support.

Access software and firmware updates, current publications, and guidance from the experts at Topcon all right from your computer or mobile device.

Please visit the TotalCare website to learn more.
topcontotalcare.com



7400 National Drive • Livermore • CA 94550
(925) 245-8300

Specifications subject to change without notice. ©2013 Topcon Corporation
All rights reserved. P/N: 7010-2004 Rev. B TF Printed in U.S.A. 4/13

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Topcon is under license. Other trademarks and trade names are those of their respective owners.

SPECIFICATIONS

Operating Frequency Range

L1 GPS/GLONASS	1586.5 ± 25 MHz
L2 GPS/GLONASS	1236 ± 20 MHz
L5 GPS	1176 ± 12 MHz

Out of Band Rejection

L1	± 100 MHz -30 dBc (typical)
L2	± 100 MHz -60 dBc (typical)

Gain, Noise Figure and VSWR

LNA Gain	30 dB (typical)
Gain at Zenith (90°)	GPS L1 6 dBic (minimum) GPS L2 5.5 dBic (minimum) GPS L5 4 dBic (minimum) GLONASS L1 4.5 dBic (minimum) GLONASS L2 4 dBic (minimum)
Gain Roll-Off (from Zenith to Horizon)	GPS L1 -12 dB GPS L2 -13 dB GPS L5 -13 dB GLONASS L1 -12 dB GLONASS L2 -13 dB
Noise Figure	1.8 dB (typical)
VSWR	≤ 2.0 : 1
L1-L2 Differential Propagation Delay	6 ns (maximum)
Nominal Impedance	50 Ohms

Connector and Mounting

Antenna Connector / Mount	TNC female (G3-A1), N female (G3-A1M) / 5/8-11 thread
---------------------------	---

Physical Characteristics

Size without Ground Plane	141.6 x 141.6mm
Diameter	179.4mm (circumference, without Ground Plane) 200mm (with Ground Plane) 205mm (with GP and Anti-snow Spherical Dome)
Height	53.7mm / 149.5mm (with Anti-snow Spherical Dome)
Weight	515g (Antenna without Ground Plane) 185g (Ground Plane) 700g (Antenna with Ground Plane) 195g (Anti-snow Dome) 895g (Antenna with GP and Anti-snow Dome)

Power

Input Voltage Range / Power Consumption	+3 to +18 VDC / 30 mA (typical)
---	---------------------------------

Environmental

Operating Temperature (Methods 501.4, 02.4)	-50°C to +70°C
Storage Temperature (Methods 501.4, 02.4)	-55°C to +85°C
Waterproof / Dust Rating	IEC 60529 IPX5 / IEC 60529 IP6X
Vibration	Category 20, Composite Wheeled/Tracked Machine Exposure, along each of 3 axes (Method 514.5, Table 514.5C-VII and Figure 514.5C-3)
Mechanical Shock	Along each of 3 axes (Method 516.4, Procedure I, Functional Shock, Table 516.5-II, Figures 516.5-10 - accelerative forces up to 40g)
Humidity	95% (Method 507.4)
Salt Fog	5% (Method 509.4)
Drop Test	Repeated drops of antenna with pole from the height of 2m (the pole height) on asphaltic concrete surface.
RoHS Compliant	Yes

Your local Authorized Topcon dealer is: