

ComNav®

New



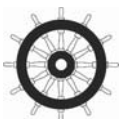
G2 and G2B GNSS Satellite Compass

Accurate Heading and Precise Position for Professionals



Marine Electronics &
Satellite Communications

www.mackaymarine.com



- **New:** Supports both GPS and **GLONASS** satellites for complete redundancy
- **New:** Heading accuracy < 0.25° rms
- **New:** Position accuracy < 0.3m 95% confidence (DGPS)
- **New:** An integrated 9 Axis Inertial Measurement Core (IMC technology) provides enhanced roll, tilt and heading stability even during momentary loss of satellite signals
- **New:** IMO Compliant G3 color display system (optional)
- **New:** Engineered enhancements to exceed sealed IP67 rating
- **New:** Extended 2 year warranty
- NMEA 0183 and NMEA 2000® interface
- Heave, Pitch, Roll and Rate of Turn as standard output
- Heading updates 1 to 20 Hz
- BAUD Rate selectable: 4800, 9600, 19200, 38400, 115200
- Fully compatible with on board NMEA 0183 and NMEA 2000® RADAR, ECDIS, AIS, Cameras, SONAR, PC and Autopilots
- Compact integrated surface mounting (Pole mount optional)
- IMO Compliant, Wheelmark and USCG approved
- Pre-programmed default settings for Heading, Rate of Turn, Course over Ground, Lat/Long position, Time & Date
- 1PPS output standard
- 15 meter serial cable standard (30 meter optional)
- 6 meter NMEA 2000® Cable (Optional)
- CE certified for EMI and RFI immunity
- Worldwide service

G2 and G2B

SYSTEM CONFIGURATION & OPTIONS

SPECIFICATIONS

Receiver Type:	L1, C/A code, with carrier phase smoothing
Channels:	Two x 32 parallel tracking GPS, GLONASS, SBAS
Update Rate:	Standard 10 Hz, Selectable up to 20 Hz (position and heading)
Horizontal Accuracy:	< 0.3 m 95% confidence (DGPS)* < 2.5 m 95% confidence (autonomous, no SA)**
Heading Accuracy:	< 0.25° rms
Pitch / Roll Accuracy:	< 1° rms
Heave Accuracy:	< 30 cm rms
Rate of Turn:	45° / sec max
Start-up Time:	< 60 sec typical
Heading Fix:	< 10 sec
Satellite Reacquisition:	< 1 sec
Timing Output:	1PPS, 50 ns accuracy, CMOS

BEACON RECEIVER SPECIFICATIONS (G2B)

Channels:	2-channel, parallel tracking
Frequency Range:	283.5 to 325 kHz
Operating Modes:	Automatic (signal strength or range) and manual
Compliance:	IEC 61108-4 Beacon Standard

COMMUNICATIONS

Serial Ports:	1 full-duplex RS-232 and 1 full-duplex RS-422,
Baud Rates:	Selectable 4800 - 115200
Correction I/O Protocol:	RTCM v2.3 (DGPS), RTCM SC-104
Data I/O Protocol:	NMEA 0183 / NMEA 2000® / Proprietary ASCII
Heading Warning I/O:	Open relay system indicates invalid heading
NMEA Heading Messages:	\$GPHDT, \$GPROT, \$PSAT, \$GPHDM, \$GPHDG
Timing Output:	1PPS CMOS, active low, 10KΩ, 10pF load

ENVIRONMENTAL

Operating Temperature:	-32°C to +74°C (-25°F to +165°F)
Storage Temperature:	-40°C to +85°C (-40°F to +185°F)
Humidity:	0 - 99% non-condensing

POWER

Input Voltage:	10 to 36 VDC
Power Consumption:	~ 3 W nominal
Current Consumption:	~ 250 mA @ 12 VDC
Isolation:	Power supply isolated from serial ports
Reverse Polarity Protect:	Yes

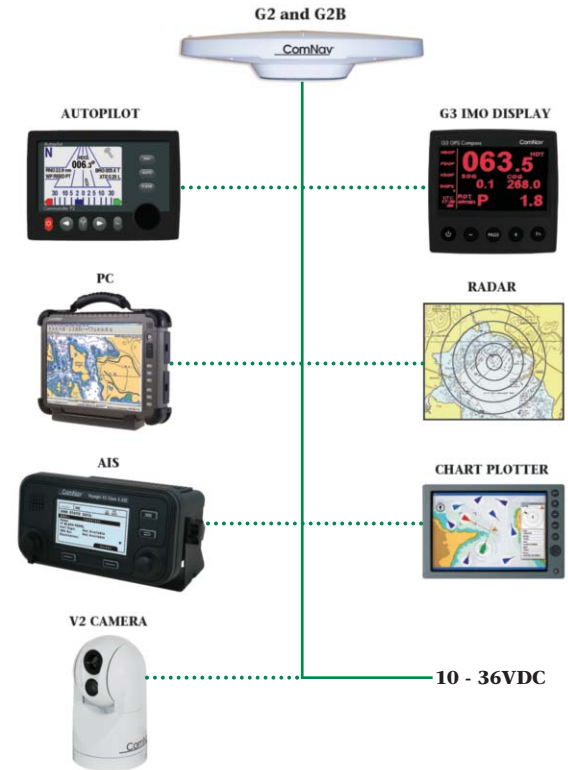
MECHANICAL

Weight:	G2: 2.2 kg (4.8 lb) / G2B: 2.7 kg (5.9 lb)
Power/Data Connection:	18-pin female circular, IP67 sealed cable

AIDING DEVICES

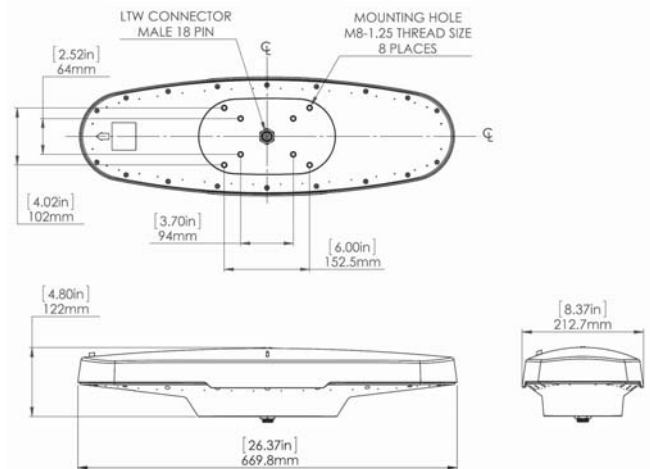
Gyro:	Provides smooth heading, fast heading reacquisition and reliable < 1° heading for periods up to 3 minutes when loss of GPS has occurred (static conditions)
Tilt Sensor:	Assists in fast start up of heading solutions

- * Depends on multipath environment, number of satellites in view, satellite geometry, baseline length (for local services), and Ionospheric activity.
- ** Depends on multipath environment, number of satellites in view, and satellite geometry.



DIMENSIONS: 669.8mm x 122mm x 212.7mm / 26.37" x 4.80" x 8.37" LxHxW

WEIGHT: G2: 2.2 kg (4.8 lb) / G2B: 2.7 kg (5.9 lb)



ADDITIONAL OPTIONS:

- 30m NMEA 0183 Serial Data Cable
- 6m NMEA 2000® Cable (not IMO compliant)
- Color LCD Sunlight G3 Instrument Display

ComNav®



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