Satellite Tracking and Monitoring Solutions

NMEA 2000 Installation Guide

Contact ***gplink*** at +1.252.504.5113 at least **24 hours** prior to scheduled installation for activation of units.
(48 hours on weekends)

www.gplink.com

Contents

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1. Introduction and Purpose

The purpose of this document is to guide a successful installation of the ***gplink***® vessel monitoring system. The ***gplink*** vessel monitoring system protects your vessel while underway or docked by monitoring engines and diagnostic codes - all while tracking the precise location of a boat anywhere in the world. ***gplink*** utilizes dual-band technology with GSM communications and optional Iridium satellite systems for location tracking, monitoring, emergency notification and communication. The success of the ***gplink*** vessel monitoring system relies on proper installation of the Monitoring Tracking Modules (MTM) and antennas.

1.1 Safety

As with any electronic installation, all electrical safety precautions should be observed while working around open panels. Proper caution should be used to prevent DC systems from an arc or short, causing an open flame or fire. Ensure AC power is isolated from open DC panels, and when working around batteries, proper personal skin and eye protection should be worn. In addition, extreme care should be exercised when making any penetrations through bulkheads, walls, etc. so as not to damage exterior surfaces, fuel tanks, wiring, etc. that may be on the other side of the wall.

1.2 Tools Required Parts

1.2.1 Phillips head screwdriver and drill for mounting MTMs.

1.2.2 Cable ties and/or adel clamps for cable management.

1.3 Replacement Parts

If replacement parts are required for any reason, please contact ***gplink*** for assistance in getting replacements.

2. System Overview

2.1 *gplink* Monitoring Tracking Modules (MTM)

The ***gplink*** MTMs collects information from the engine control module (ECM), GPS and any other attached sensors, then decodes it before transmitting via satellite or GSM/cell to ***gplink***. Once received the data generates alerts and can be viewed via the vessels secured ***gplink*** website.

2.2 Antennas

Depending on the application, several different antenna options are available.

2.2.1 GSM/GPS "Pancake" antenna (standard)

This is the basic module used for tracking and data uplink. It is designed for use in vessels where hull design and materials allow for an interior-mounted antenna. This antenna is included in kits which has GSM capability.

2.2.2 Iridium satellite "Pancake" antenna (standard)

The Iridium antenna adds uplink capability when operating outside of GSM range such as offshore or remote locations. Like the pancake antenna, It is also designed for use in vessels where hull design and materials allow for an interior mounted antenna. This antenna is included in kits which have satellite capability.

2.2.3 External dual-band "Dome" antenna (optional)

This is the external version of the pancake antenna intended for external mounting. This antenna is available (additional cost) for vessels which require external mounting of GSM capable antennas.

2.2.4 External tri-band "Dome" antenna (optional)

The tri-band antenna adds Iridium capability to the dual-band dome providing all three antennas in one externally mountable unit. This antenna is available (additional cost) for vessels which require external mounting of satellite capable antennas.

Dome antenna

Pancake antenna

2.3 Parts included in basic kit

GSM Kit	Description	Quantity
KTW475 SB GSM NMEA 2K w/I/O		
GWD083	SB GSM GPLINK NMEA2000 MTU	1
HN0771	6' HARNESS POWER & OP INT, I/O	1
HN9102	NMEA 2K STUB W/6 FOOT BLU/WHT I/O	1
AN0037	GSM/GPS ANTENNA	1

Dual Band Kit		
KTW47 DB NMEA 2K w/I/O		
GWD084	DB GSM/SAT NMEA2000 MUT	1
HN0771	6' HARNESS POWER & OP INT, I/O	1
HN9102	NMEA 2K STUB W/6 FOOT BLUE/WHT I/O	1
AN0037	GSM/GPS ANTENNA	1
AN0048	SAT ANTENNA	1

Antenna Options		
PPI0511	DUAL BAND GSM/GPS	1
PPI0411	TRI-BAND GSM/SAT/GPS	1

3. Installing *gplink*

The following describes the basics of a standard installation. Keep in mind that every vessel is different and some variations on these instructions may need to be implemented depending on the situation and hardware present. It is the responsibility of the installing technician to make sure that proper steps are taken to ensure a safe and functional installation. If there are any questions please contact ***gplink*** at +1-252-504-5113.

3.1 Location

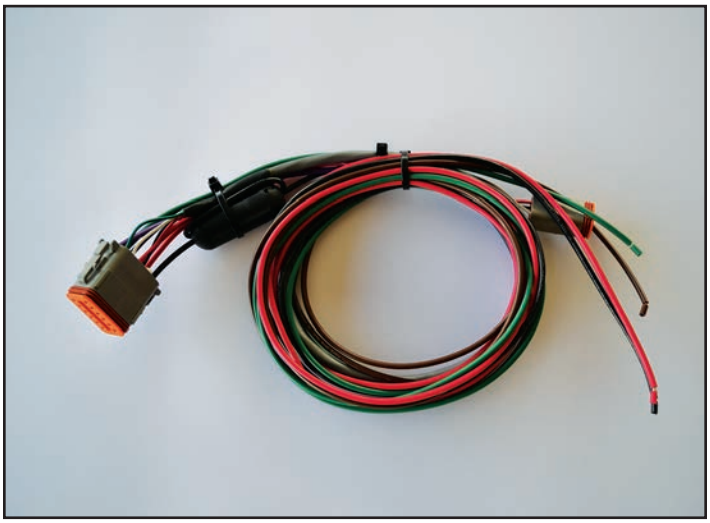
Locate a suitable mounting location for the MTM and antennas. The MTM will need easy access to power and the NMEA 2000 backbone and should be securely mounted to a bulkhead or other hard point in a dry location. Antenna mounting will depend on the type of antenna being used, please note that all will need to have cable runs back to the MTM. The location of ***gplink*** MTM should also allow easy access for removal of end connector plugs after installation for diagnostic purposes.

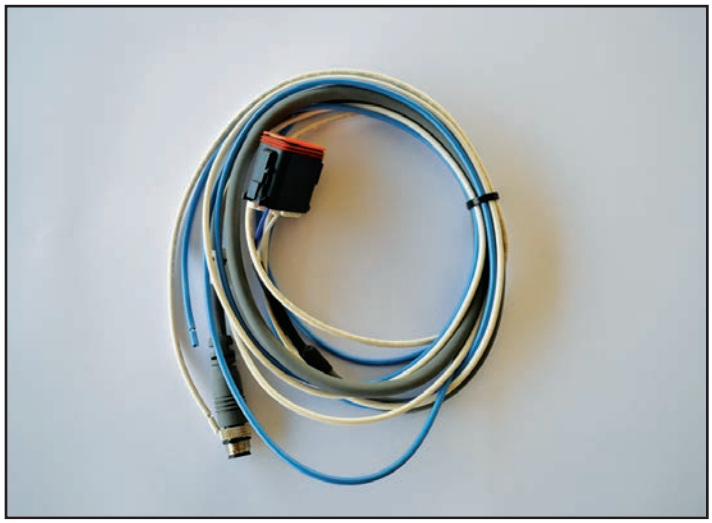
3.1.1 Loose fit

It is recommended to perform a loose fitting of the MTM and antennas, as well as performing a signal test with the included blue 2-inch gauge before any drilling or mounting.

3.2 Power

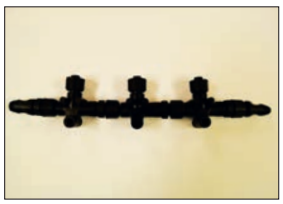
The system is powered via an uninterrupted 12/24VDC source. (This means unswitched power source is installed directly to the battery if necessary with the fuse that is provided). The entire ***gplink*** system must receive power from the same source as the engines (not a backup system). This includes the grounding. If the system is not installed by these instructions, ***gplink*** will not be liable for any damage to other vessel electronics. Before installation, make sure that the selected power source will not be turned off when the vessel is docked and has a 5A fuse. Once a proper source is located, run a power line to the MTM mounting location and secure it with proper cable management equipment.

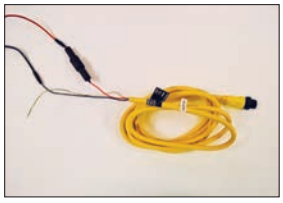




3.3 Connecting to NMEA 2000 Backbone

The NMEA 2000 backbone consists of several T-connectors strung together with a power input in one "T" and a resistor cap on both ends. Each NMEA 2000 device will use one T-connector. If there is an available T-connector, the gplink MTM can be connected directly. If not, remove the resistor from either end of the backbone and add a T-connector ensuring the resistor is replaced on the new end of the backbone (T-connector not supplied). After connecting the gplink NMEA 2000 harness to the backbone, run the cable to the MTM mounting locating and secure it with proper cable management equipment.





3.3.1 RF system

If an RF sensor kit is not being installed terminate the blue, white, brown and green wires coming from the 12 pin plugs and secure them out of the way as they are not used. Alternatively, they can be removed from the plug entirely. See RF Instruction Guide for install of RF System.

3.4 Antennas

The internal and external antennas each have different installation requirements.

3.4.1 Internal antennas

Internal antennas must be mounted in a horizontal position with the logo facing up. Try to find a mounting location with the least amount of material between the top of the antenna and open sky. Keep in mind that fiberglass typically does not block a signal but materials such as carbon fiber, steel, aluminum, copper, etc. will. Try to find a location that is as far as possible from other equipment or large cable runs due to potential interference. After mounting the antennas, run the cables to the MTM mounting location and secure them with proper cable management equipment.

3.4.2 External antennas

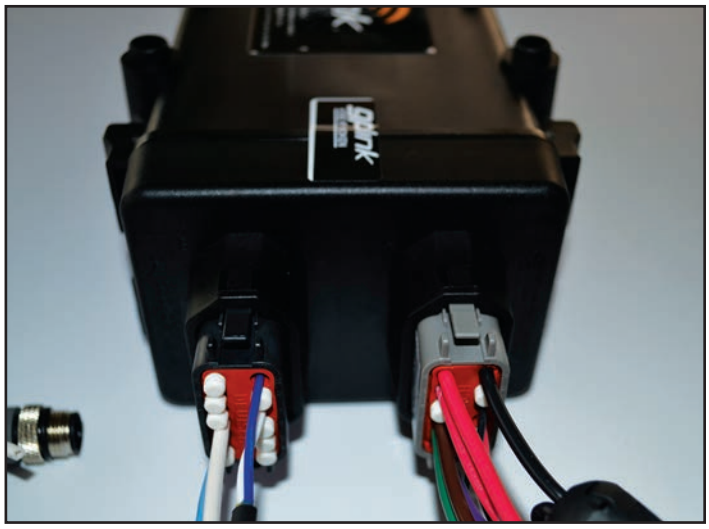
Due to variations in installation types, ***gplink*** does not include a mount for the dome antennas. A mounting pole or bracket that matches the vessels' configuration and decor can be purchased from a local marine supply store. Be sure to follow the proper install procedure for the selected mount, ensuring that any through hull cable runs are properly sealed. After mounting the antennas run the cables to the MTM mounting location and secure them with proper cable management equipment.

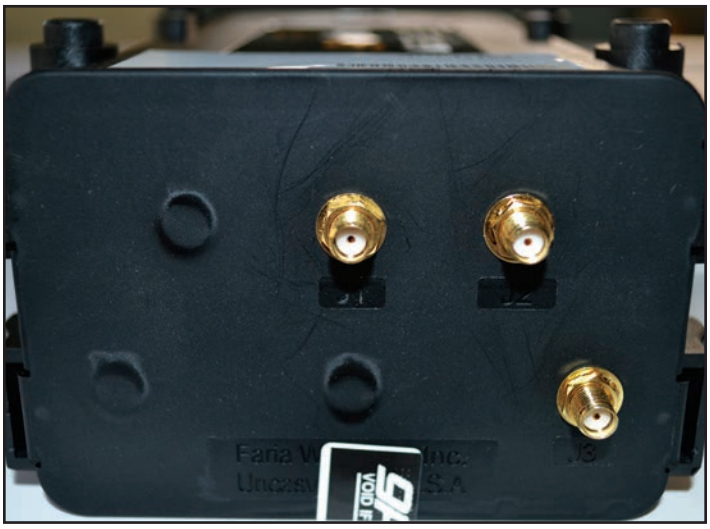
3.5 Connecting and mounting the MTMs

Before mounting the MTM it is recommended to connect all the cables to ensure proper reach.

3.5.1 Connecting antenna cables to primary MTM

The SMA ports on the top of the primary MTM are labeled J1, J2 and J3. Connect the GPS cable (blue or labeled GPS) to J1. Connect the GSM cable (yellow or labeled phone) to J2. Connect the satellite cable (white or labeled SAT) to J3. On installations without an Iridium satellite connection the J3 port will be capped.





3.5.2 Connecting NMEA 2000 Harness to MTM

Plug the NMEA 2000 harness into the B-port on the bottom of the MTM. This plug is keyed, so ensure it is inserted in the proper orientation and that both latches click into place.

3.5.3 Connecting power to the MTM

The power leads for the MTM are connected into the power harness. Connect these leads to the power cables using the provided Posi-Lock Connectors or another suitable connection method. Plug the power harness into the A-port on

the bottom of the MTM. This plug is also keyed, so ensure it is inserted in the proper orientation and that both latches click into place. The 4-pin plug is a diagnostic and data port and can be simply secured out of the way until needed.

3.5.4 Mount the MTM

Once all cables are in place, securely mount the MTM using the supplied screws or with other suitable mounting hardware.

3.6 Initial data uplink and testing

Contact ***gplink*** at +1.252.504.5113 and a vessel monitor will walk you through the testing of the install. After the initial uplink the firmware will be checked and updated if needed. Depending on the speed of the uplink this may take up to 90 minutes. After all updates are in place the vessel monitor may ask for the engines to be started to verify that good data is being sent to ***gplink***.

4. ***gplink*** Concierge & Technical Support

Phone: +1.252.504.5113
Email: concierge@gplink.com

There are a number of other ***gplink*** resources available to installers, dealers & owners,

Other *gplink* Resources

- Installation Guide (this document)
- Terms Of Service - www.gplink.com/terms-conditions/
- Demonstration Video - https://gplink.com/support/
- Operator's Manual - https://gplink.com/support/
- Instructional Videos -https://gplink.com/support/

4.1 Transferable Limited Warranty

During the first twenty four (24) months from date of original retail purchase (with a continuous subscription/activation status) if a ***gplink*** system that fails due to unit defect, the unit will be replaced at no charge to the owner, excluding the labor of uninstalling the failed unit and reinstallation of the replacement unit.

To submit a warranty claim, contact the ***gplink*** Service Center at +1.252.504.5113 or warranty@gplink.com. Our Concierge will review the problem with you in detail. If no solution is found, you will be given an authorization number to return the product, postage paid. Package the part(s) appropriately to prevent damage while in transit. Provide your name, address, daytime telephone number, sales receipt, and a brief description of the problem to:

gplink
1500 Sensation Weigh
Beaufort, NC 28516
U.S.A.

Removal, reinstallation expenses, or any damage to the ***gplink*** system resulting from natural disasters, misuse, neglect, accident, misapplication, improper installation, unauthorized repair or alteration are not covered by this warranty. Products returned to ***gplink*** that are not covered under this warranty will be repaired or replaced at our service rates or returned to you as-is, at your option. ***gplink*** expressly disclaims any liability for incidental or consequential damage caused by product defects. Some states do not allow the exclusion or limitation of consequential damages, so the above may not apply to you. The Warranty herein is lieu of any other expressed warranty of merchantability or fitness or any other obligation on the part of ***gplink*** or the retailer. All implied warranties are limited to the initial period, as stated above. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you also have other rights, which may vary from state to state.