

Quick Start Guide

USG-2

USB to Serial Gateway



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Important Notices

The device to which this manual relates complies with the Electromagnetic Compatibility requirements according to EN60945. The unit should always be used in conjunction with appropriately approved, shielded cable and connectors as per NMEA 0400 to ensure compliance. A declaration of conformity is available for download at www.actisense.com.

If the device to which this manual relates is to be installed within five metres of a compass, please refer to the 'Compass Safe Distance' section in the 'Technical Specifications' table.

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Product Registration

Please register your product via the online form at www.actisense.com/product-registration/.

Your product package includes a unit serial number. The serial number is six digits long and can be found below the barcode on the label. Your registration will assist Actisense Support to link your product to your details, simplifying any future assistance you may require.

Product Disposal

Please dispose of this product in accordance with the WEEE Directive. The product should be taken to a registered establishment for the disposal of electronic equipment.

Technical Accuracy

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Product Guarantee

This product comes with a three year 'return to base' guarantee. If you suspect that the unit is faulty please refer to the Troubleshooting Section of the User Manual before contacting support.

It is a requirement of the guarantee that all installations of electronic equipment follow the NMEA 0400 specification. Any connection to a battery or power supply must meet the mandatory essential safety requirements that may be imposed by local regulatory agencies.

Actisense products are intended for use in a marine environment, primarily for below deck use. If a product is to be used in a more severe environment, such use may be considered misuse under the Active Research Ltd guarantee.

Introduction & Features

The USG-2's OPTO-isolated input and ISO-Drive isolated output makes it safe to connect NMEA 0183, RS232 and RS422 devices to your PC without the danger of ground loops. The high quality, shielded USB lead included with the USG-2 provides a high level of water protection when mated with the high retention Type-B USB receptacle, all vital features in the high vibration, noisy marine environment. The pluggable screwless connector (with locking latch) makes connecting devices quick and a DIN rail mount option is available to reliably secure the USG-2 to a bulkhead. For full details on the USG-2 and its features visit the Actisense website or refer to the USG-2 User Manual.

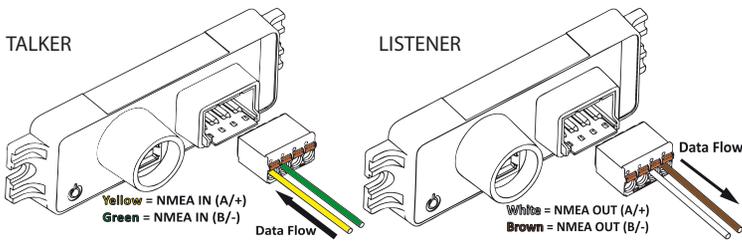
Before getting started

The wire colours used in this quick start guide are in accordance with the NMEA 0183 specification (v.4.10, June 2014) and are for illustration purposes only. Please ensure you check the wiring colours in the installation instructions for the device you wish to interface to the USG-2.

Connecting to Devices

Strands of wire must not be twisted before inserting in to the screwless connector, this will ensure a much more secure termination than if the wires are twisted. A small flat headed screwdriver (2-3mm) is needed to press down on the orange buttons and open the terminal for the wires to be inserted or removed.

Connecting to NMEA 0183 Devices



USG-2 label:	Connects to:
Talker A/+	NMEA 0183 Listener 'RX A/+ ' or 'NMEA IN A/+ '
Talker B/-	NMEA 0183 Listener 'RX B/- ' or 'NMEA IN B/- '
Listener A/+	NMEA 0183 Talker 'TX A/+ ' or 'NMEA OUT A/+ '
Listener B/-	NMEA 0183 Talker 'TX B/- ' or 'NMEA OUT B/- '

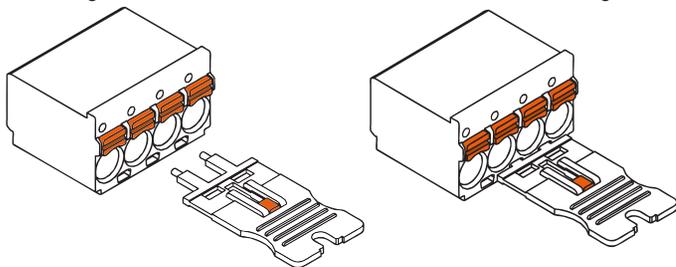
Bi-directional Connections

If connecting an NMEA 0183 Talker as well as an NMEA 0183 Listener to the USG-2, both devices must communicate at the same baud rate and connected as above.

Please refer to your device manual for the correct terminations when connecting the USG-2 to RS232 or RS422 devices.

Inserting the Strain Relief Clip

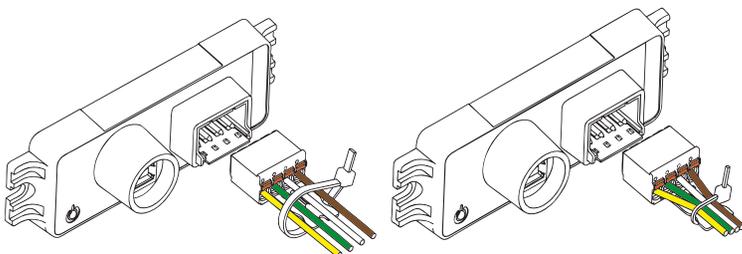
Once the strain relief clip is inserted it cannot be removed. Insert the strain relief clip on the right hand side if connecting to an NMEA 0183 Listener or RS232/RS422 receiving device and for bi-directional connections. Insert on the left if connecting to an NMEA 0183 Talker or RS232/RS422 transmitting device only.



NB – Use of the strain relief clip is optional, however it is required in order to remove the screwless connector.

Securing Data Wires

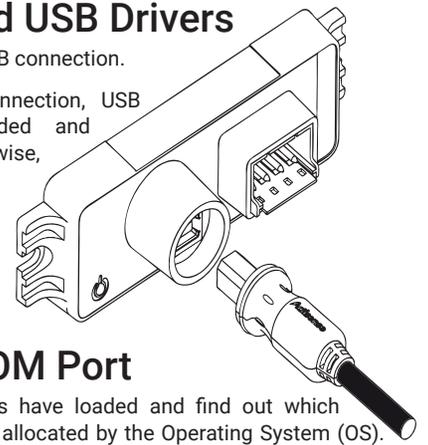
To protect against vibration, wrap the supplied cable tie around the terminated wires and in line with the groove on the strain relief clip. Pull the cable tie tight enough that it secures the data wires to the strain relief clip, but not too tight that it begins to crush the wire.



Power Supply and USB Drivers

The USG-2 is powered by the USB connection.

On PC's with an internet connection, USB drivers should be downloaded and installed automatically. Otherwise, USB Drivers can be found on the USG-2 downloads web page (QR code link on the back cover). To install the USB drivers, please refer to the USB Driver Install Manual.

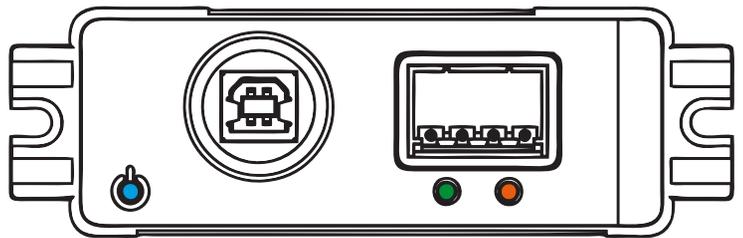


Using the USB COM Port

Step 1: Ensure the USB drivers have loaded and find out which COM port your USG-2 has been allocated by the Operating System (OS). Instructions for how to do this will vary depending on your PC OS, for Windows OS refer to Device Manager's 'Ports' section.

Step 2: The COM port must be opened at the same baud rate as the NMEA 0183 devices connected to the USG-2.

LED Behaviour

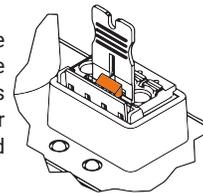


Colour	Blue	Green	Orange
Name	Power indicator	Receive LED	Transmit LED
Function	Illuminates solid blue when USB driver has successfully loaded	Flashes to indicate data is being received on the USG-2 input	Flashes to indicate data is being transmitted on the USG-2 output

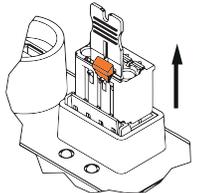
Separating the Pluggable Connector

The two halves of the connector can be separated for ease of installation and for temporary disconnection of devices:

Step 1: Push the orange release slider towards the male header as far forward as possible.



Step 2: Holding the orange slider in place, pull the mated male header away from the female connector.



Mounting the USG-2

The USG-2 should be installed in a suitable protected location (e.g. below deck) where it will not come in to any direct contact with water.

The USG-2 can be mounted with or without a DIN rail. DIN rail mounts sold separately.

