

Quick Start Guide

PRO-NBF-1

Professional Type Approved NMEA 0183 Buffer



Important Notices

The device to which this manual relates complies with the Electromagnetic Compatibility requirements according to EN60945:2002, DNVGL-CG-0339:2019. 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 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.

Product Registration

Please register your product via the online form at www.actisense.com/support/prodreg.

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 Guarantee

All Actisense products are provided with a 3 year guarantee as standard. To activate the 5-year guarantee offered with this product please complete product registration either online at www.actisense.com/support/prodreg or by completing and returning the warranty card supplied in the box with the product.

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

PRO-NBF-1 is reliable, robust and provides industry leading isolation with on all inputs and outputs as standard, enabling safe connection of all devices and avoiding hazardous ground loops. With one isolated NMEA 0183 input and six isolated NMEA 0183 outputs, the PRO-NBF-1 is a perfect solution for smaller networks on commercial shipping, type approved and leisure vessels.

The PRO-NBF-1 is designed to suit the majority of NMEA 0183 systems and ready to go 'out of the box' with no configuration necessary. Simply connect your device to the input as required and this data will be sent to all 6 outputs. Helpful LEDs indicate power, data in and data out to aid diagnostics.

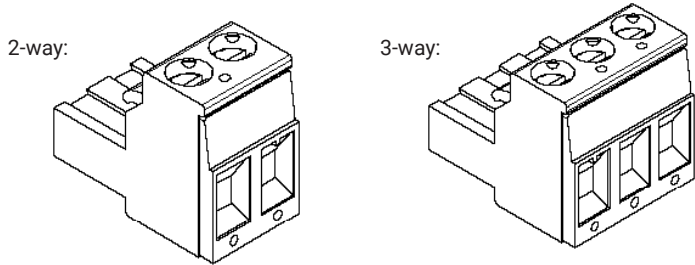
Before getting started

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 devices you wish to interface to the PRO-NBF-1.

Terminals

The PRO-NBF-1 comes with pluggable screw terminals. Screwless terminals are available as an extra.

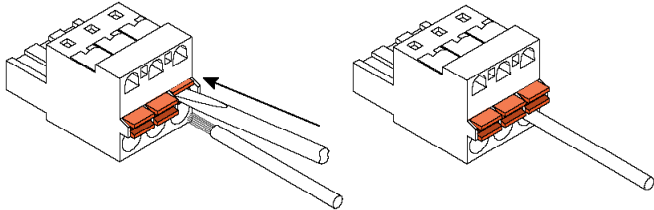
Screw Connector



Screwless connector

Open the clamp inside the screwless connector by pressing down on the orange button with a small (2mm) flat headed screwdriver. This will allow the wire to be inserted. For best connections do not twist the wire strands.

Release the orange button to lower the clamp on to the wire strands for a secure termination.



RF Ground

The shield from each Listener should be connected to the terminal on the PRO-NBF-1 'Isolated Talkers' ports. All terminals are connected internally and form a common bonding point at the RF ground stud.

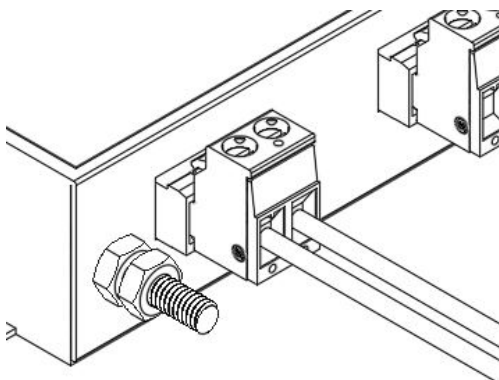
The RF ground stud should be connected to the vessels RF ground plate using a minimum conductor size of 8 AWG (10mm²) in accordance with NMEA 0400, (in version 3.1, this is in section 3.2).

LED functions

Name	Description
'PWR'	Solid blue to indicate presence of power.
'Out'	Flashes on output of data.
'In'	Flashes on receipt of data.

Powering the PRO-NBF-1

- The PRO-NBF-1 requires a power source providing between 10 and 35 Volts DC.
- The PRO-NBF-1 '+' Terminal should be connected to the vessel power supply '+' Terminal with the correctly rated fuse (in accordance with NMEA 0400)
- The PRO-NBF-1 Negative '-' Terminal should be connected to the vessels DC Ground Plate.
- The PRO-NBF-1 should only be used with standard negative ground DC



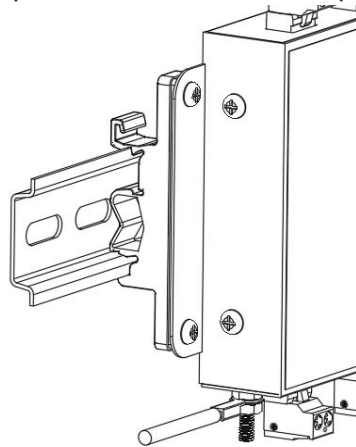
DIN rail fixing

Install the DIN rail in the desired location.

Fully retract the black securing latch in to the down position.

Attach the PRO-NBF-1 to the DIN rail as shown in the diagrams below.

Ensure the PRO-NBF-1 sits flush against the DIN rail, then push the securing latch back in to position to hold the PRO-NBF-1 in place.



Connecting to the Input

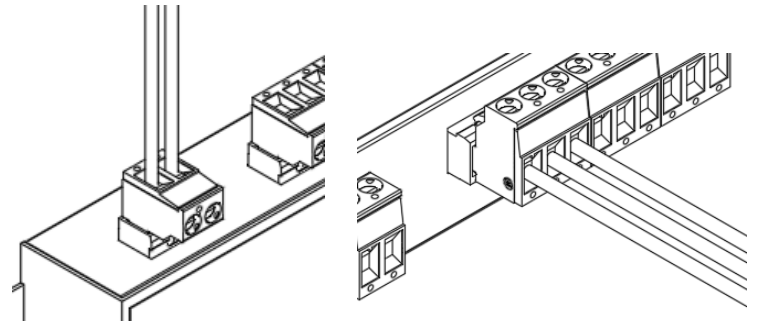
The input to the PRO-NBF-1 is labelled 'Listener' and this is where the NMEA Talker should be connected:

- Connect the PRO-NBF-1 Listener A/+ to the positive data line of the NMEA Talker.
- Connect the PRO-NBF-1 Listener B/- to the negative data line of the NMEA Talker.

Connecting to the Outputs

The output to the PRO-NBF-1 is labelled 'Talker' and this is where the NMEA Listener should be connected:

- Connect the PRO-NBF-1 Talker A/+ to the positive data line of the NMEA Listener.
- Connect the PRO-NBF-1 Talker B/- to the negative data line of the NMEA Listener.



Basic tech specs

Power Supply	
Input Supply Voltage	9 to 35V DC
Input Supply Current	150mA max @ 12V DC (all outputs @ full drive into 100Ω loads)
NMEA 0183 Port - Listener & Talker	
Compatibility	Fully NMEA 0183, RS422 & RS232 compatible. RS485 Listener compatible
Speed / baud rate	4800 to 115200 bps
Talker Output Current Drive	20mA max.
Isolation	
NMEA 0183 Listener	OPTO-Isolated, Hi-Pot tested to 1000V
NMEA 0183 Talker	Uses IsoDrive™, Hi-Pot tested to 1000V
Mechanical	
Mounting	Bulkhead mount or DIN rail mount (DIN kit 1)
Connectors	Pluggable 2/3-way screw terminals, 5.08mm pitch (12 to 30 AWG)
Approvals and Certifications	
Compass Safe Distance	600mm