



PRO-NDC-1E2K

Intelligent Type Approved NMEA Multiplexer

Quick Start Guide

Web: www.actisense.com
Email: sales@actisense.com
Tel: +44 (0)1202 746682

UK, BH17 0GE
Dorset
Poole

21 Harwell Road
Active Research Ltd



Important Notices

The device to which this manual relates complies with the Electromagnetic Compatibility requirements according to: IEC60945:2002-08, DNVGL-CG-0339:2019 & IACS UR E10 Rev7. 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.

Trademarks and Registered Trademarks

Actisense® and the Actisense logo are registered trademarks of Active Research Limited (Ltd). All other trademarks are the property of their respective owners.

The NMEA® name and NMEA logo are copyright held by the NMEA. All uses in this manual are by permission and no claim on the right to the NMEA name or logo are made in this manual.

Fair Use Statement

The contents of this manual may not be transferred or copied without the express written permission of Active Research Ltd.

Copyright © 2021 Active Research Ltd. All rights reserved.

Technical Accuracy

To the best of our knowledge the information contained in this document was correct at the time it was produced. Active Research Ltd cannot accept liability for any inaccuracies or omissions.

The products described in this manual and the specifications thereof may be changed without prior notice. Active Research Ltd cannot accept any liability for differences between the product and this document. To check for updated information and specifications please check actisense.com.

Active Research Ltd will not be liable for infringement of copyright, industrial property rights, or other rights of a third party caused by the use of information or drawings described in this manual.

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-NDC-1E2K is a reliable, robust, type approved device which provides industry leading isolation on all inputs and outputs as standard, enabling safe connection of all devices and avoiding hazardous ground loops. With five NMEA 0183 inputs, two NMEA 0183 outputs, a bi-directional serial port and an Ethernet port, the PRO-NDC-1E2K is a perfect solution for complex networks on commercial shipping, class society vessels and leisure vessels.

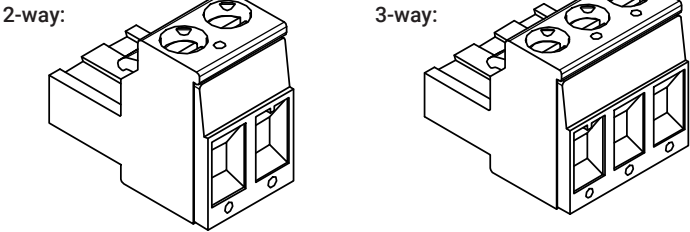
Before getting started

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-NDC-1E2K.

Terminals

The PRO-NDC-1E2K comes with 2-way and 3-way screw connectors. Screwless connectors are available as an accessory.

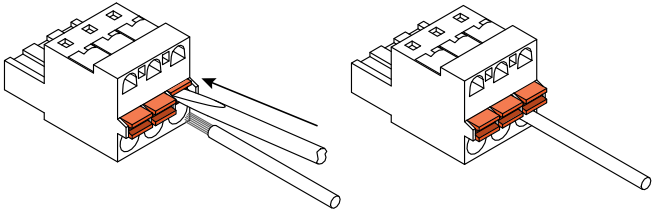
Screw Connector





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-NDC-1E2K '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'	Pulses blue to indicate presence of power.
'Out'	Flashes at a rate determined by baud rate and data length.
'In'	Flashes on receipt of valid data.
"Serial" In/Out	As 'In' & 'Out' above.
'Ethernet'	Green LED for activity, yellow LED for line speed: off = 10Mbps, on = 100Mbps.
'Status'	LED changes colour depending on multiplexer state. Refer to User Manual for full details.
NMEA 2000 Tx	Flashes upon output (Transmit) of data via N2K Port
NMEA 2000 Rx	Flashes upon input (Receival) of data via N2K Port

NMEA 2000 Connection

Connect drop cable to PRO-NDC-1E2K M12 Micro C Connection. Connect other end of drop cable to T-Piece / 4 Way-Tee on NMEA 2000 backbone.

Please note; device IS NOT powered from NMEA 2000 network. The only thing powered from NMEA 2000 backbone is the CAN Transceiver.

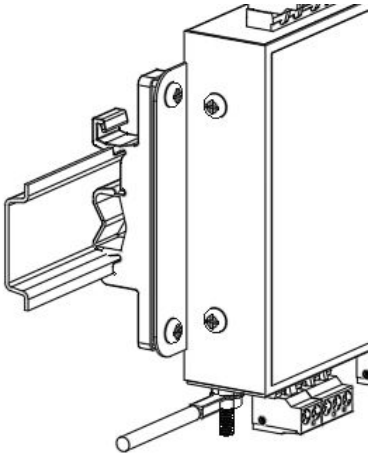
DIN rail fixing

Install the DIN rail in the desired location.

Attach the PRO-NDC-1E2K to the DIN rail as shown in the diagrams below.

Ensure the PRO-NDC-1E2K sits flush against the Actisense DIN-KIT-1 clips, and that the rail clips are securely fastened to the DIN Rail.*

Please note, the Actisense DIN-KIT-1 is an accessory, and is not supplied with the PRO-NDC-1E2K.



Web browser configuration tool

The Configuration Tool for the PRO-NDC-1E2K is built-in and can be accessed via the Ethernet connection. An internet connection is not required to access the Configuration Tool. The factory default log-in for both username and password is "admin".

Standard Ethernet networks

If the PRO-NDC-1E2K is connected to an Ethernet network containing both DHCP and DNS servers, launch any popular web browser and enter '//prondc-xxxxxx' in to the address bar (replacing 'xxxxxx' with the product's serial number).

Direct connections or basic Ethervnet networks

If the PRO-NDC-1E2K is connected directly to a PC (or the Ethernet network does not have a DHCP server), the PRO-NDC-1E2K will communicate using auto-IP by default. The auto-IP process can take up to 60 seconds to complete.

