Actisense® PRO RANGE

PRO-BUF-1

Professional NMEA 0183 Buffer



Adaptable NMEA 0183 Buffer with two OPTO-isolated inputs and twelve ISO-Drive™ isolated outputs, making ground loops a thing of the past and keeping devices safe from damage.

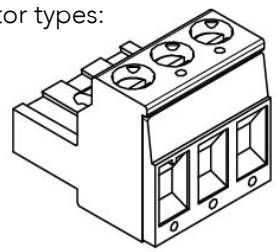
Introducing the Actisense® Professional NMEA 0183 Buffer (PRO-BUF-1), the first product in the new Actisense 'PRO' range.

PRO-BUF-1 is reliable, robust and provides isolation on all inputs and outputs as standard. With two NMEA 0183 inputs, twelve NMEA 0183 outputs, a bi-directional serial port and an Ethernet port, the PRO-BUF-1 is a perfect solution for larger leisure vessels and commercial shipping.

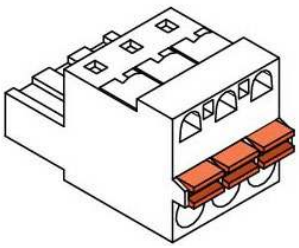
The PRO-BUF-1 is designed to suit the majority of NMEA 0183 systems and ready to go 'out of the box' by simply hard-wiring the two mode inputs as required. The manually configurable basic modes of operation include variations of buffer modes, autoswitch modes, and combine modes. For all other configurations, leaving the mode inputs floating selects the 'User Configuration Mode'. The web browser based configuration tool allows full customisation of the PRO-BUF-1, and is compatible across all popular Operating Systems.
The PRO-BUF-1 supports a direct Ethernet connection to a PC without the need for a specialised Ethernet crossover cable.

To make installation quick and simple the PRO-BUF-1 features 2-part pluggable connectors that allow use of screw or screwless terminals, and a professional DIN rail mounting mechanism *(DIN rail included)*. Helpful LEDs indicate power, data in, data out and the alarm status to aid diagnostics.

Connector types:



R - Screw Terminals



S - Screwless Terminals

Product Code	Description
PRO-BUF-1-BAS-R	Standard configuration with pluggable screw terminals
PRO-BUF-1-BAS-S	Standard configuration with pluggable screwless terminals

Features:

- 2 x NMEA 0183 OPTO-isolated inputs
- 12 x NMEA 0183 ISO-Drive™ isolated outputs
- 1 x bi-directional isolated serial port
- 1 x Ethernet port
- 1 x Alarm output* (N/O and N/C contacts)
- Pre-defined modes of operation
- 'User Configuration Mode'
- Diagnostic LEDs (power, data in/out & alarm)
- Designed for 12 and 24 Volt supply
- Pluggable connector system supports both screw and screwless terminals
- Isolation to battery supply
- Browser based configuration tool
- Automatic baud rate matching on inputs
- Independently configurable outputs
- 'Future proof' easily upgraded firmware

Features may change without notice.

Actisense®

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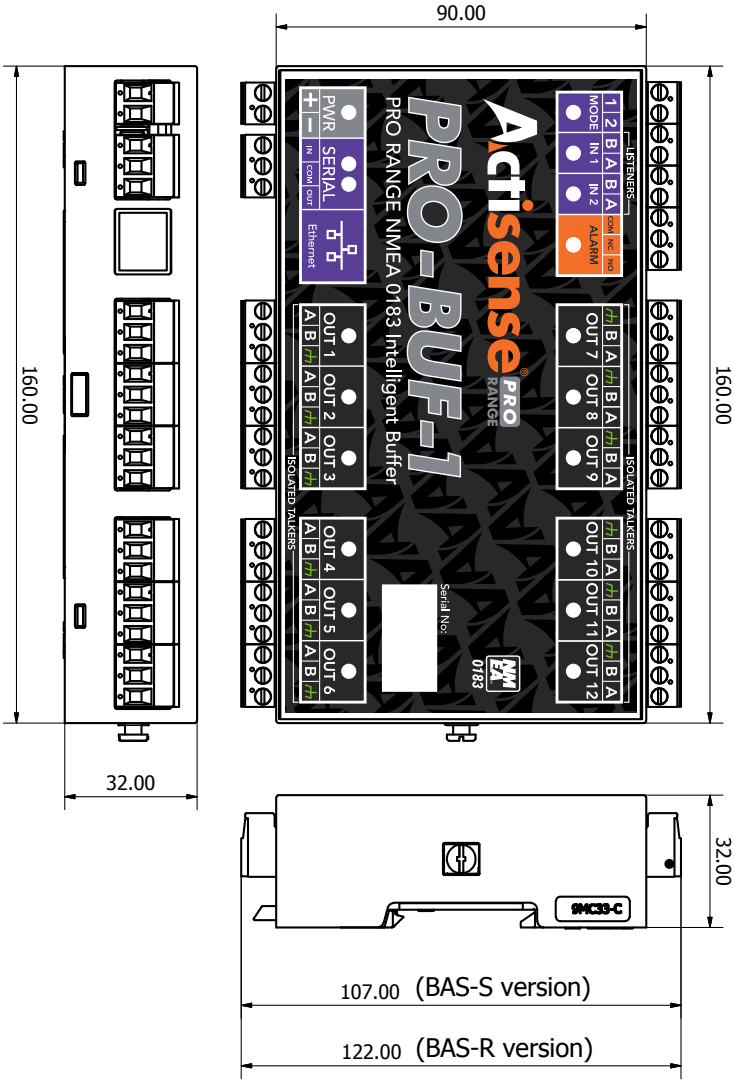
PRO-BUF-1: Specifications

Power Supply	
Input supply voltage	10 to 35 V DC
Input supply current	325mA max @ 12V DC (all outputs @ full drive into 100 ohm loads)
Input protection	Continuous reverse polarity, transient overvoltage and ESD protection
Power indicator	LED, Blue - indicates unit is functioning correctly
NMEA 0183 Port - Listener & Talker	
Number of Listener / input ports	2 isolated NMEA 0183 Listeners
Number of Talker / output ports	12 isolated NMEA 0183 Talkers
Compatibility	Fully NMEA 0183, RS422 & RS232 compatible. RS485 Listener compatible
Electrical isolation	2500 V input to ground, 1500 V output to ground using ISO-Drive™
Speed / baud rate	4800 to 38400 bps
Talker output voltage drive	>= 2.1V (differential) into 100 ohm
Talker output current drive	20 mA maximum per output
Talker output protection	Short circuit and ESD
Listener input voltage tolerance	-15 V to +15 V continuous, -35 V to +35 V short term (< 1 second)
Listener input protection	Current limited, overdrive protection to 40 VDC and ESD protection
Listener data indicator	LED, Green (Flashes to indicate valid input)
Talker data indicator	LED, Orange (Flashes at data rate)
Serial Port	
Number of input ports	1 isolated input
Number of output ports	1 isolated output
Compatibility	RS422 & RS232 compatible. RS485 Listener compatible
Electrical isolation	2500 V input to ground 1500 V output to ground using ISO-Drive™
Speed / baud rate	4800 to 115200 bps
Output voltage drive	>= 2.1V (differential) into 100 ohm
Output current drive	20 mA max.
Output protection	Short circuit and ESD
Input voltage tolerance	-15 V to +15 V continuous, -35 V to +35 V short term (< 1 second)
Input protection	Current limited, overdrive protection to 40 VDC and ESD protection
Ethernet Port	
Host interface	10/100BaseT, automatic polarity detection
Supported protocols	TCP/IP for configuration and firmware updating
	TCP/IP and UDP for NMEA 0183 comms*
Connector	RJ45
Electrical isolation	2kV
Indicators	Green - Link, Yellow - 100 Mbps
Mode Inputs	
Input voltage range	0 to 35V DC
Protection	Transient overvoltage and ESD protection
Alarm Output	
Contacts	Normally open and normally closed*
Electrical isolation	1000V between power supply and contacts
Alarm indicator	LED, red indicates a valid alarm condition

*Available on future release.

Mechanical	
Housing material	Polycarbonate / ABS blend
Flame retardancy	UL94 - V0
Dimensions	See diagram below
Weight	250g
Mounting	DIN rail mount (35mm top hat rail EN 50 022)
Compass safe distance	TBD
Wiring terminals	Pluggable 2/3 way screw or screwless connectors, 5mm pitch, 12 to 30 AWG
Approvals and Certifications	
EMC	IEC 60945 (sections 9 & 10)
CE	2004/108/EC
Environmental protection	IP44
Operating temperature	-20°C to +70°C
Storage temperature	-40°C to +85°C
Relative Humidity (RH)	0 - 80% RH
Guarantee	5 years

Product Dimensions.



Designed and manufactured in UK

All specifications are taken with reference to an ambient temperature of 25°C unless otherwise specified.
All specifications correct at time of print.