PRO RANGE

RINA

Actisense®

PRO-BUF-2

Professional NMEA 0183 Intelligent Buffer

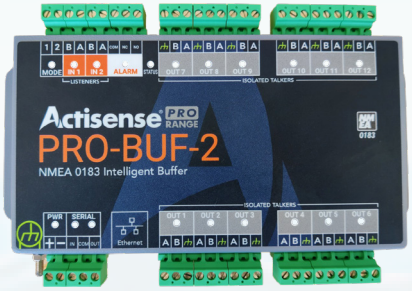
Feature	Advantage	Benefit
• 2 Opto-isolated NMEA 0183 inputs	✓ Two Listener inputs offer buffering, autoswitching or combining options	✓ Flexible configuration options to buffer autoswitch or combine NMEA data
• 12 ISO-Drive NMEA 0183 outputs	✓ Distributes data to each Listener on-board a large vessel. Each ISO-Drive output protects against ground loops	✓ ISO-Drive separates the Listener from the Talker to protect both the PRO-BUF and each connected device. Peace of mind and highest reliability
• Bi-directional isolated serial port (optional NMEA 0183 input/output)	✓ High (115200) baud rate supported. Standard RS232 serial port compatible	✓ Fast bi-directional data connection to a monitor and control software application
• Ethernet Port	✓ Ethernet data link for easy configuration of the PRO-BUF	✓ PRO-BUF can be configured using any web browser on any Operating system
• Automatic Baud Rate matching on inputs	✓ Device will automatically adjust to the baud rate of the connected Talker	✓ Quick and easy. Allows the PRO-BUF to work out of the box without baud rate configuration
• Flexible operating modes	✓ Both factory default and user defined operating modes can be selected to buffer, autoswitch or combine data	✓ Allows PRO-BUF to work out-of-the-box without configuration for basic installations, or can be easily user configured as required
• Alarm output options	✓ Relay output and NMEA sentence output can be configured to trigger under various alarm conditions	✓ Relay output is compatible with on-board alarm systems and NMEA Alarm sentence can be displayed and actioned on an MFD
• Web based configuration tool	✓ Not OS specific, supported by all popular web browsers	✓ Easy to access via network, doesn't require the device to be moved or have a serial connection to the PC.
• Diagnostic LEDs	✓ Visible indication of current state on each input and output	✓ Quick visual check gives the user confidence that each input and output is passing data
• Advanced Data Filtering and Routing	✓ Gives the user or installer greater control of the data	✓ Features can be utilised to fine tune data, avoiding data overloads on the outputs and connected listeners
• 2 virtual Autoswitch modules	✓ 2 independent Autoswitch channels which can be assigned to each output	✓ Allows automatic data priority selection between two devices of the same type of data (e.g. GPS)
• Data statistics and load indication via web tool	✓ Provides a real time view of how much data is present for each input and output	✓ Shows the NMEA 0183 on each I/O Port, and how frequently it arrives, great for low level diagnostics
• Designed for 12 / 24 Volt supply	✓ Can be powered from any standard DC power supply found on vessels	✓ Allows use on large vessel 24V DC power supplies systems
• Future proofing with easily upgradable firmware	✓ Gives the user or installer access to future updates	✓ Additional features in future firmware revisions are accessed using a simple update process via Actisense Toolkit over Ethernet
• 2-part pluggable connector system	✓ Quick installation of cables and reconnection between inputs / outputs	✓ Fast installations and supports both screw and screwless terminal types. Ideal for quick diagnostic swapping
• Stainless Steel Housing with DIN rail mount option	✓ Sturdy construction providing optimal corrosion resistance and RF shielding	✓ Increased durability, ease of installation and high performance
• Type Approved	✓ Certified to unified requirements of IACS E10 / IEC 60945	✓ Can be installed on vessels governed by Class Society Rules

Actisense®

GEEK MODE ON

PRO-BUF-2

Intelligent Type Approved NMEA Buffer



Two OPTO-isolated inputs and twelve ISO-Drive™isolated outputs. Offering device protection and excellent flexibility, all in one product.

Introducing the Actisense® PRO-BUF-2, the intelligent, type-approved PRO range buffer.

The PRO-BUF-2 is rugged, with a stainless steel housing, and provides isolation on all inputs and outputs. With two NMEA 0183 inputs, twelve NMEA 0183 outputs, a bi-directional serial port and an Ethernet port, the PRO-BUF-2 is a perfect solution for larger leisure vessels, commercial shipping and is a great addition for systems that require type-approved devices.

The PRO-BUF-2 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.

Mechanical	
Housing material	Polycarbonate / ABS blend
Flame retardancy	UL94 - V0
Dimensions (mm)	BAS-S: 160 x 32 x 107, BAS-R: 160x 32 x 122
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
Type approval	DNV planned
Environmental protection	IP44
Operating temperature	-20°C to +70°C
Storage temperature	-40°C to +85°C
Relative Humidity (RH)	0 - 80% RH
Guarantee	3 years, extending to 5 years when product registered

Part Numbers: PRO-BUF-2

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