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NGW-1
DATA SHEET
Issue 2.00

NMEA 2000® to NMEA 0183 Gateway

Hook up to NMEA 2000 whilst keeping currently installed NMEA 0183 devices.

Introduction

The Actisense NMEA 2000 to NMEA 0183 Gateway (NGW) provides an easy way to link between your boat's old and new data networks. The NGW makes it possible to convert NMEA 0183 data into NMEA 2000 data and vice-versa.

Features

- Converts the most common NMEA 0183 sentences into NMEA 2000 PGNs
- Converts the most common NMEA 2000 PGNs into NMEA 0183 sentences
- Galvanic Opto-isolation on NMEA 0183 input
- Galvanic isolation on NMEA 0183 / ISO-Drive™ output
- Galvanic Opto-isolation on NMEA 2000 CAN bus connection
- Compatible with all NMEA 0183 versions without configuring

- NMEA 0183 output compatible with RS422, RS232 and RS485 type listeners
- NMEA 0183 input compatible with RS422 and RS232 type talkers
- Configuration options available in NMEA Reader
- Configurable baud rate
- Transfer list for selecting which NMEA 2000 PGNs are sent and received
- Free Firmware updates provided when new features and conversions are added - update in the field via PC
- Pre-fitted cables for ease of installation

- Screw terminals for easy installation of custom cables if required
- Four available variants for different installation situations (see part code list on next page)
- Adaptor cable for connecting to Raymarine® Seatalk^NG networks provided with the STNG variant
- Multiple NGW-1 units can be used to multiplex numerous NMEA 0183 devices onto the NMEA 2000 network
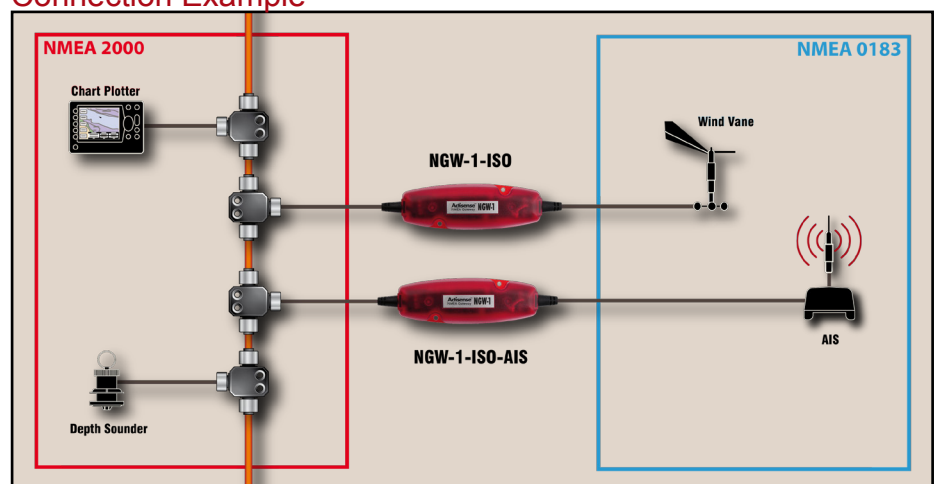

Connection Example

Figure 1

Technical Specifications

Power Supply (ISO, ISO-AIS & STNG Variants)	
Supply Voltage (NMEA 2000 port)	10 to 35 VDC
Supply Current (NMEA 2000 port)	35 mA @ 12 VDC
LEN	1

Power Supply (USB Variants)	
Supply Voltage (NMEA 2000 port)	10 to 35 VDC
Supply Current (USB Host port)	85 mA @ 5 VDC
Supply Current (NMEA 2000 port)	35 mA @ 12 VDC
LEN	1

Mechanical	
Housing Material	Polycarbonate
Weight NGW-1-ISO & ISO-AIS	220 g
Weight NGW-1-USB	210 g
Weight NGW-1-STNG	260 g

Approvals and Certifications	
Fully NMEA 2000 Certified	
Protection	IP54
Operating Temperature	-20°C to +70°C
Recommended humidity	0 - 80% RH
Guarantee	3 years

NMEA 2000 Port (All Variants)	
Compatibility	Fully NMEA 2000 Certified
Galvanic Isolation	Refer to 'NMEA 0183 Port' or 'USB Port'
Speed / Baud Rate	250 kbps
Connectivity	M12 Male (A Polarised) Connector Moulded on Cable
Cable Length NMEA 2000	1.5 m
Cable Length STNG Adapter	0.4 m (1.9 m with NMEA 2000 cable connected)

NMEA 0183 Port (ISO, ISO-AIS & STNG Variants)	
Compatibility	Full NMEA 0183, RS232 & RS422 Compatible. RS485 Listener Compatible
Galvanic Isolation	2500 V Input to Ground / 1500 V Output to Ground using ISO-Drive™
Speed	4800 to 115200 Baud
Output Voltage Drive	>= 2.1 V (differential) into 100 Ω
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 and Overdrive Protection to 40 VDC
Connectivity	Cable Length is Stripped and Tinned (5 mm)
Cable Length	1.5 m

USB Port (USB Variant)	
Compatibility	USB V1.1 and V2.0
Galvanic Isolation	2500 V Input to Ground
Speed / Baud Rate	4800 to 230400 Baud
Connectivity	Male Type A Plug Moulded onto Cable
Cable Length	1.5 m
Drivers (Latest OS)	Windows XP, Vista, 7 & MAC OS X supplied on CD & actisense.com/NGW-1/Downloads.php
Drivers (Legacy OS)	Contact Actisense for full details of the legacy OS versions supported support@actisense.com

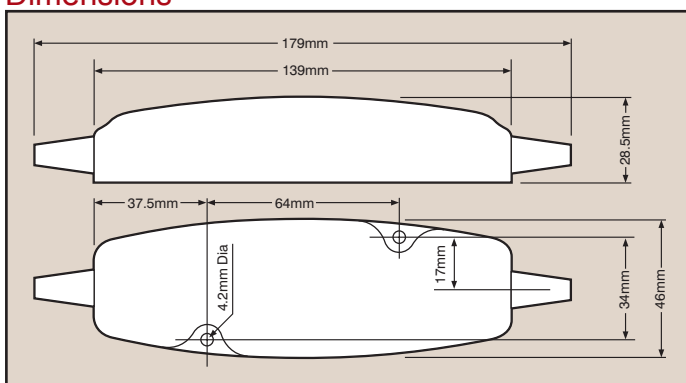*All specifications are taken with reference to an ambient temperature (TA) of +25°C.*
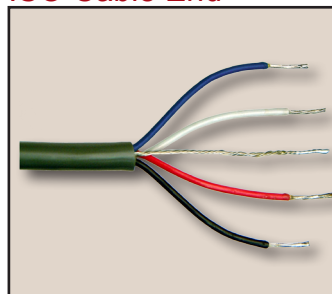
Dimensions

Figure 2

ISO Cable End

Figure 3

USB Cable End

Figure 4

NMEA 2000 Cable End

Figure 5

STNG Cable End

Figure 6

Part Number	Description
NGW-1-ISO	NMEA 2000 ↔ Serial Interface with ISO-Drive - Standard Configuration
NGW-1-ISO-AIS	NMEA 2000 ↔ Serial Interface with ISO-Drive - AIS Configuration
NGW-1-STNG	Raymarine SeatalkNG ↔ Serial Interface with ISO-Drive - Standard Configuration
NGW-1-USB	NMEA 2000 ↔ USB Interface - Standard Configuration