Issue v2.1

Actisense®

Connect without limits



WGX-1-ISO

NMEA 2000 WiFi Gateway

Introducing the latest addition to the Actisense Gateway product range, the WGX-1-ISO.

The **WGX-1-ISO** is a **Multi-function NMEA2000 Gateway**, providing Wi-Fi streaming, NMEA data conversion, data logging functionality and includes an ISO (serial / NMEA 0183) port.

The **WGX-1-ISO** is a **powerful routing device** allowing advanced routing of data between the NMEA 2000 network, its ISO (serial / NMEA 0183) port and its 3 separate Wi-Fi data servers.

NMEA 2000 data can be converted to a number of useful formats including NMEA 0183, N2K ASCII and N2K Actisense (proprietary formats) as well as NGT Actisense format (compatible with our NGT/NGX products).

Converting NMEA 0183 data to NMEA 2000 (and vice versa), allows sharing of information between devices from the two standards and the WGX-1 provides all the features of the popular legacy NGW-1.

It provides an easy way to link a PC to a NMEA 2000 network and also provides all the features of the popular legacy NGT-1 allowing NMEA 2000 data to be transferred from an NMEA 2000 backbone to any compatible device (e.g. laptop, tablet or smartphone) connected to it via the serial port or via Wi-Fi.

It's Wi-Fi data server functionality allows a variety of vessel data (e.g. position, speed, course, wind speed, depth, engine data, AIS messages etc.) to be shared with compatible software applications.

Its fully isolated ISO / serial port is capable of running seamlessly at a baud rate of up to 230,400bps to ensure safe and fast transfer of all data without the need for any additional isolation when connecting to onboard systems.

It also provides high speed data logging to a micro SD card (not supplied) which can be used for voyage data logging and analysis.

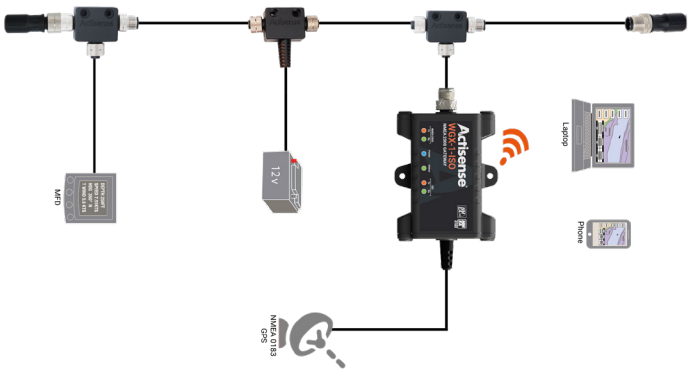
It has the built in Actisense-I network health checker which provides valuable network diagnostics and continuous monitoring of bus voltage.

The WGX-1 has the legendary Actisense "Reliability Built In" along with useful diagnostic LEDs, internal antenna, enhanced password security, full certification and all packaged in an extremely rugged IP67 case.

Features:

- Bi-directional conversion between NMEA 2000 and NMEA 0183.
- Wi-Fi streaming via 3 separate data servers.
- Transfer NMEA 2000 data to connected devices.
- Data logging for voyage data logging to SD card (micro SD card not supplied).
- Works as an access point and also connects to existing Wi-Fi networks in client mode.
- Award winning ISO-Drive™ technology provides safe and secure interconnectivity.
- Actisense-i[1] network health checker provides valuable diagnostics.
- Fully configurable over Wi-Fi using built in Webapp.
- Advanced routing and filtering capability.
- Rugged water resistant IP67 enclosure.
- Multiple diagnostic LED's provide valuable feedback.
- Can be used to configure and update other Actisense NMEA 2000 devices. *(via serial, wi-fi config to be added in future update).*
- Firmware is upgradeable, ensuring device is futureproof.

[1]Actisense-I is a developing feature, with more capability to be added in future updates



Integrate seamlessly with Raymarine® products

The STNG-A06045 adaptor cable enables users to integrate Raymarine SeaTalkNG products into the standard configured NMEA 2000® bus and vice-versa.
Currently only available when purchased with an Actisense NMEA 2000® Gateway product.

Actisense®

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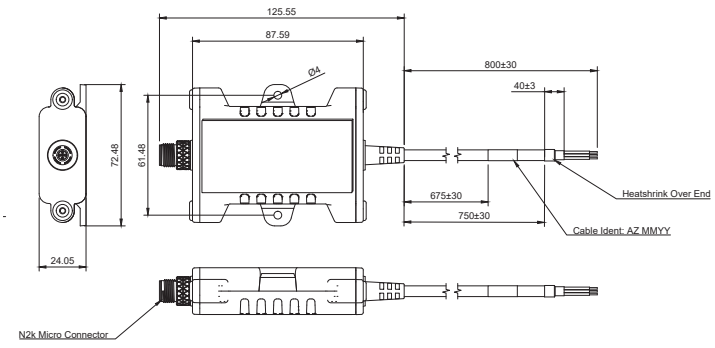
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WGX-1 Specifications

NMEA 2000 Port	
Network Power	9 to 30V DC
Speed / Baud Rate	250kbps
Connectivity	M12 Male (A coded)
LEN	
WGX-1-ISO (A-WGX-1-ISO)	LEN = 2 (93mA avg)
WGX-1-ISO (A-WGX-1-ISO-V2)	LEN = 2 (90mA avg)
ISO Port	
Compatibility	Full NMEA 0183, RS232 & RS422 compatible. RS485 Listener compatible
Speed/Baud Rate	4800 to 230400 Baud
Output Voltage Drive	>= 2.1V (differential) into 100Ω
Output Current Drive	20mA max.
Output Protection	Short circuit and ESD
Input Voltage Tolerance	-15V to +15V continuous -35V to +35V short term (< 1 second)
Input Protection	Current limited and overdrive protection to 40VDC
Connectivity	5mm stripped and tinned wire
Cable Length	0.8m
Isolation	
NMEA 2000 Port to ISO Port	Uses IsoDriveTM, Hi-Pot tested to 1000V
Wi-Fi Radio	
Compatibility	IEEE 802.11 b/g/n
Speed	802.11n up to 150Mbps
Frequency Band	Wi-Fi: 2412 -2484MHz
Max Output power	Wi-Fi: 19.14dBm (802.11b) 19.22dBm (802.11g) 19.12dBm (802.11n)
Antenna	Integrated internal antenna, 3.4dBi
Range (Open space)	approx. 30 meters
Security	WPA_PSK, WPA2_PSK, WPA_WPA2_PSK
Configuration	
IP support	Supports TCP & UDP broadcast
Data protocols	NMEA 0183 & Five proprietary
Security	Unique SSID and unique default Password per device. (Password is user configurable)

Mechanical	
Housing Material Body	Flame retardant Polycarbonate
Housing Material End Caps	Flame retardant PBT
Weight	112g
Dimensions	126mm x 73mm x 24mm
Approvals and Certifications	
NMEA 2000	NMEA 2000 Certified
NMEA 0183	IEC 61162-1 & 61162-2 compliant
RoHS and REACH	Compliant
Module Certification	KCC / BQB / IC / Wi-Fi / NCC / MIC / FCC DSS / FCC DTS / SRRC / CE
EMC	EN 60945:2002 Edition 4 (section 9.3) EN 301 489-1 V2.2.3 EN 301 489-17 V3.2.4 EN 300 328 V2.2.2 Radiated Spurious Emissions FCC Part 15b ICES-003 Iss 7
Environmental Protection	IP67
Operating Temperature	-25°C to +70°C
Storage Temperature	-30°C to +70°C
Recommended Humidity	0 to 93% RH @ 40°C
Guarantee	5 years

Product Dimensions:



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