

# Actisense®

Connect without limits

## WGX-1 NMEA 2000 WiFi Gateway



### Introducing the latest addition to the Actisense Gateway product range, the WGX-1 Gateway can act as an NMEA 2000 to PC Interface, or as a bi-directional NMEA 0183/2000 Converter with WiFi capability

The WGX-1 is an intelligent gateway that can route and convert data bi-directionally between its NMEA 2000 and ISO (hard wired serial) ports as well as stream this data over Wi-Fi.

NMEA 2000 data can be converted to a number of useful formats including NMEA 0183, N2K ASCII and N2K Actisense (proprietary formats) and NGT Actisense (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.

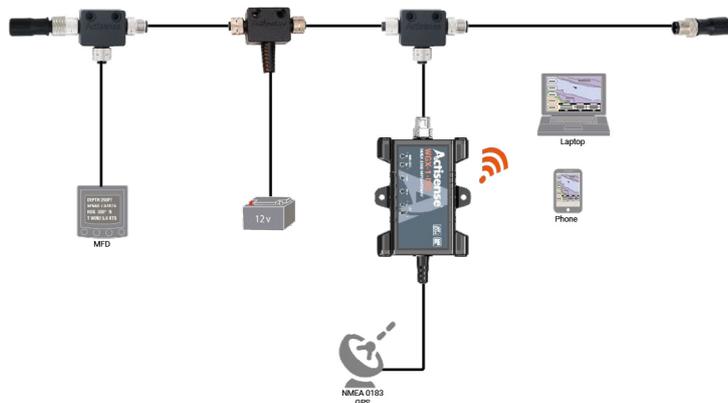
This creates the possibility of upgrading some of the vessel's electronics to NMEA 2000 and keeping the remaining NMEA 0183 devices. This can help spread the cost of transitioning to NMEA 2000, reducing the initial upgrade cost to accommodate a new NMEA 2000 device. This also allows a wide variety of vessel data (e.g. position, speed, course, wind speed, depth, engine data, AIS messages etc.) to be shared with NMEA 0183 compatible software applications running on connected devices.

The Actisense WGX-1 also makes it possible to send and receive NMEA 2000 data safely between a PC and an NMEA 2000 network. This allows the use of PC software applications replacing or complementing dedicated hardware such as Multifunction Displays (MFD) and Chart Plotters.

Acting as an NMEA 2000 to PC Gateway allows the device to act as a rule enforcing firewall between the PC and the network, giving the user full control over what data is passed and blocked. The WGX is capable of transferring every currently available NMEA 2000 PGN from the network to a PC application. Advanced filtering allows precise control of data.

The WGX-1 wireless connectivity enables data transfer from the WGX to any device (e.g. laptop, tablet or smartphone) connected to it via Wi-Fi. The ISO port provides OPTO Isolation on the input and ground breaking ISO-Drive™ technology on the output to keep your devices safe from hazardous ground loops.

Thanks to the device being low power, it is powered directly from the NMEA 2000 network, removing the requirement for an independent power supply. 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:

OPTO-isolated input and ISO-Drive output for safely interfacing with NMEA 0183 or RS232 / RS422.

Up to 230,400 baud rate data transfer rate. Integrated 0.75m ISO cable.

Advanced configuration using Actisense Toolkit allows Tx / Rx lists and Tx rates to be set.

Supports fast-heading at 10Hz.

Actisense-i network health checker provides valuable feedback on status of NMEA 2000 network.

Supports both TCP and UDP data streaming over Wi-Fi.

Wide range of support for various mobile apps.

Remote Firmware upgradability ensures the device is future proof.

IP67 rugged case.

Vital NMEA 2000 diagnostic tool.

Diagnostic LED's on both input and output.

Features may change without notice.

### Integrate seamlessly with Raymarine® products

The STNG-A06045 adaptor cable enables users to integrate Raymarine SeaTalk<sup>NG</sup> products into the standard configured NMEA 2000® bus and vice-versa.

Currently only available when purchased with an Actisense NMEA 2000® Gateway product.



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# WGX-1 Specifications

GEEK MODE ON

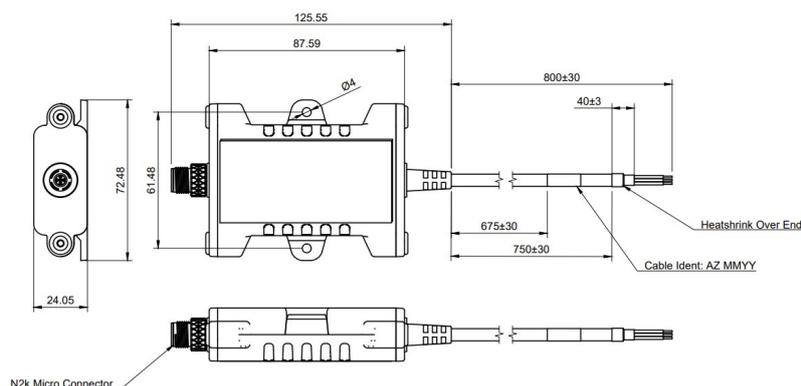


## Technical Specifications

Power Supply	
Supply Voltage (NMEA 2000 Port)	9 to 30V DC
Supply Current (NMEA 2000 Port)	78mA @ 9V DC, Max 220mA
Load Equivalent Number (LEN)	2
NMEA 2000 Port	
Speed / Baud Rate	250kbps
Connectivity	M12 Male (A coded)
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	0.75m
Isolation	
NMEA 2000 Port to ISO Port	Uses IsoDrive™, 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 WGX-1-ISO	112g
Weight WGX-1-USB	113g
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 / SRRCC / 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	IP68
Operating Temperature	-25°C to +70°C
Storage Temperature	-30°C to +70°C
Recommended Humidity	0 to 93% RH @ 40°C
Guarantee	3 years, extended to 5 years upon registration

## 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