A C T I S E N S E D A T A S H E E T

Actisense™

USB to Serial Gateway USG-1

Connect your boat's data network to your PC USB port with the safety of full electrical isolation...

The Actisense USG-1 is the safest way to connect your boat's data network to an on-board PC.

It simply converts a USB port into a serial port, suitable for connecting to a marine standard NMEA 0183 data bus.

Its ISO-Drive output and OPTO input provide full isolation, making installation simple and free from ground loops. No risks of burning wires, circuits or causing damage to PC equipment.

The output is separately isolated from the input (listener) circuit, and can "float" safely up to 1500VDC from ground. Its sophisticated circuitry is 100% compatible with both RS232 (single-ended) and NMEA 0183 (differential) drive systems.

Electrical spike protection is provided on the listener input using an OPTO-Isolator to protect any connected equipment from most common system faults.

Using a low cost USB to RS232 cable from a computer store risks expensive damage to the PC, as there is no isolation and also such a device may not provide either the drive current or the correct voltage levels for NMEA 0183 interfacing.

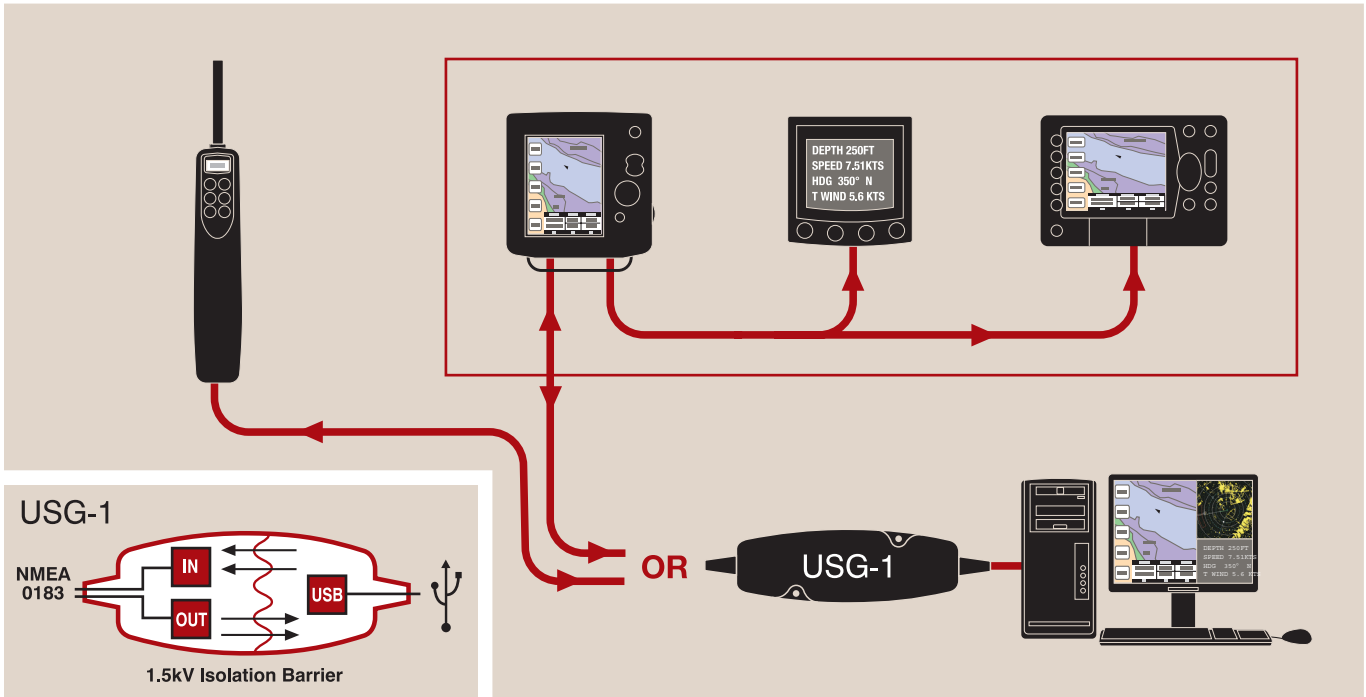
Just connect the USG-1 and relax, knowing that Actisense has it secured.

Uses

- Create a safe serial port connection to an NMEA 0183 system that may be on a different power circuit from the PC
- Connect two PCs together that are on different power circuits
- Provide a fully compliant NMEA 0183 port from a USB port
- Receive low level differential signals that are too small to be received by a PC serial port
- Frees up PC serial / COM port for other uses

Features

- Full electrical isolation - safe against the number one marine electronic fault condition (ground loops)
- Full USB compliance
- Can connect to either PC COM port or marine NMEA 0183 interfaces
- Up to 115.2 kbps data transfer rate



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Specifications

ISO-Drive Flexible Output

- Electrically isolated from input power and OPTO input to 1.5kV ground potential difference
- Electrically isolated from both USB ground and OPTO input
- Exceeds all NMEA 0183 output drive specifications
- Capable of driving more than 10 NMEA 0183 compliant listeners
- Can send data to PC (RS232) or Marine (NMEA 0183) listeners
- Short circuit protected
- Static discharge protected

OPTO-Isolated Flexible Input

- Full galvanic Opto-isolation (between input and output) offering up to 2.5kV DC protection
- Electrically isolated from both USB ground and ISO-Drive output
- Compatible with PC (RS232) or Marine (NMEA 0183) talkers
- Current limited to NMEA 0183 specification
- Overdrive protection to 40 volts DC

Baud rates

- Baud rates from 4800 up to 115200 are possible for full compatibility with NMEA 0183 version 3.0 (HS) and beyond

USB specification

- Full compliance with both v1.1 and v2.0 USB specification
- Upstream and downstream buffers for smoother data transfer
- No IRQ Required

System Requirements

- Operating systems supported:
  Windows 98, ME, 2000 and XP
  MAC OS X
  (check with website for other versions)
- Driver disk supplied
- USB Host Controller installed on the PC system

Built-in Firmware / Software

- No software required

Power supply

- Supply voltage 5 volts DC, taken from the USB host controller
- Current Consumption:
  45 mA off load
  65 mA with 100 ohm load (maximum NMEA 0183 recommended load)
  80 mA maximum (short-circuit)

Environmental

- Recommended operating temperature: -20°C to +70°C
- Splash proof plastic casing provided with sealing grommets to IP54
- Recommended humidity: 0 - 80% RH

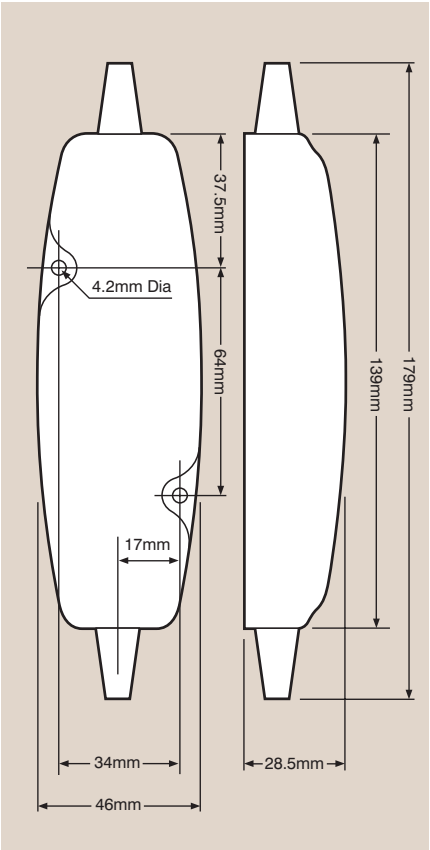
General

- Weight: 200 grams including cables
- Dimensions: see diagram
- Cable length:
  USB - 2 metres
  Serial - 2 metres
- Guarantee: 3 years

Part number

- USG-1

Dimensions



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