USB100 *NMEA 2000®*
USB Gateway

Maretron's USB100 is a gateway for bridging computers to an NMEA network. This allows you to use PC based vessel monitoring and control software like Maretron's N2KView® or PC based navigation software. The gateway provides one simple connection between the network and the PC, which eliminates conventional multiplexers and the maze of wires usually associated with interfacing equipment to PCs.
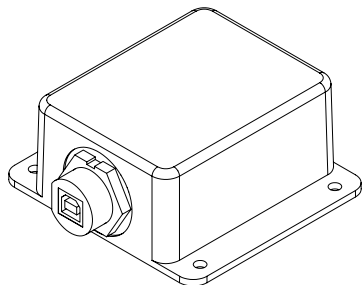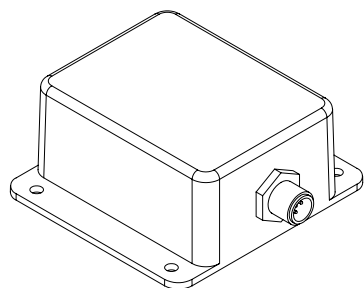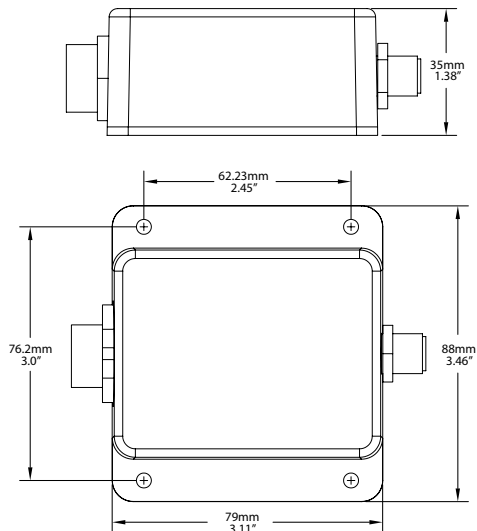
For older PC based navigation software that requires receiving data in NMEA 0183 format, the USB100 automatically converts information from the NMEA 2000® network to NMEA 0183 sentences. You can continue benefiting from navigational and charting software that you already own while enjoying the many benefits of networked NMEA 2000® instruments.

Maretron's USB100 gateway bridges the gap between NMEA 2000® networks and PCs equipped with a USB port. You can continue benefiting from navigational and charting software that you already own while enjoying the many benefits of networked instruments.

Products

PART NUMBER	DESCRIPTION
USB100-01	Gateway NMEA 2000® / USB

Maretron ®
Leading the way in NMEA open standards

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Parameter	Value	Comment
NMEA 2000® Connector	DeviceNet Micro-C	Industry Standard Waterproof
NMEA 2000® / USB Isolation	Opto-Isolated	No Electrical Connection Across Bridge
USB Standard	USB 1.1	
USB Connector	USB Type B	Industry Standard Waterproof
USB Supported Signals	D+, D-, +5V, GND	Bi-directional Gateway
USB Auxiliary Power	+5 Volts < 50 mA	
USB Baud Rate	Up to 12 Mb/s	Full Speed USB Data Rate
USB Interface Modes	NMEA 0183	With Maretron-Supplied Windows® Drivers
	Native NMEA 2000®	With Maretron-Supplied API

Certifications

Standard	Comment
NMEA 2000® Standard	Level A
Maritime Navigation and Radio Communication Equipment & Systems	IEC 61162-3
Maritime Navigation and Radio Communication Equipment & Systems	IEC 60945
FCC and CE mark	Electromagnetic Compatibility

Translated Data Types (NMEA 2000® to NMEA 0183)

Instrument Type	Data Types
Battery Monitor	Voltage, Current, Temperature
Compass	Vessel Heading, Attitude, Rate of Turn
Depth	Water Depth, Transducer Offset
Engine	Standard Sentences: RPM. Proprietary Sentences: Boost Pressure, Tilt/Trim, Oil Pressure, Oil Temperature, Coolant Temperature, Alternator Potential, Fuel Rate, Total Engine Hours, Coolant Pressure, Fuel Pressure
GPS	COG, SOG, DOP, Position, Satellites, Time, Date
Rudder Indicator	Rudder Position
Speed	Distance Log, Speed
Weather Station	Water Temperature
Wind	Wind Direction and Speed

Electrical

Parameter	Value	Comment
Operating Voltage	9 to 16 Volts	DC Voltage
Power Consumption	< 150mA	Average Current Drain
Load Equivalence Number (LEN)	3	NMEA 2000® Spec. (1 LEN = 50mA)
Reverse Battery Protection	Yes	Indefinitely
Load Dump Protection	Yes	Energy Rated Per SAE J1113

Mechanical

Parameter	Value	Comment
Size	3.11" x 3.46" x 1.38" (79mm x 88mm x 35mm)	Including Flanges for Mounting
Weight	8 oz. (227 g)	

Environmental

Parameter	Value
IEC 60945 Classification	Exposed
Degree of Protection	IP67
Operating Temperature	-25°C to 55°C
Storage Temperature	-40°C to 70°C
Relative Humidity	93%RH @40° per IEC60945-8.2
Vibration	2-13.2Hz @ ±1mm, 13.2-100Hz @ 7m/s² per IEC 60945-8.7
Rain and Spray	12.5mm Nozzle @ 100liters/min from 3m for 30min per IEC 60945-8.8
Solar Radiation	Ultraviolet B, A, Visible, and Infrared per IEC 60945-8.10
Corrosion (Salt Mist)	4 times 7days @ 40°C, 95%RH after 2 hour Salt Spray Per IEC 60945-8.12
Electromagnetic Immunity	Conducted, Radiated, Supply, and ESD per IEC 60945-10
Safety Precautions	Dangerous Voltage, Electromagnetic Radio Frequency per IEC 60945-12