

NMEA 2000® / USB 网关

- 连接计算机及NMEA 2000® 网络
- 使得个人计算机上的导航软件 (Nobeltec, Rose Pointe, MaxSea, 等) 可以使用NMEA 0183 格式
- 使得个人计算机上的船只监测控制软件 (N2KView)可以使用 NMEA 2000® PGNS
- 使得个人计算机上的诊断工具 (N2KAnalyzer®)可以使用 NMEA 2000® PGNs
- 简单的连接PC到 NMEA 2000®

**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
Model: USB100
9-16 VDC 150 mA
S/N: 9999999
PN: M005002
NMEA 2000 LENC 3
CE, FCC, NM, EA



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.

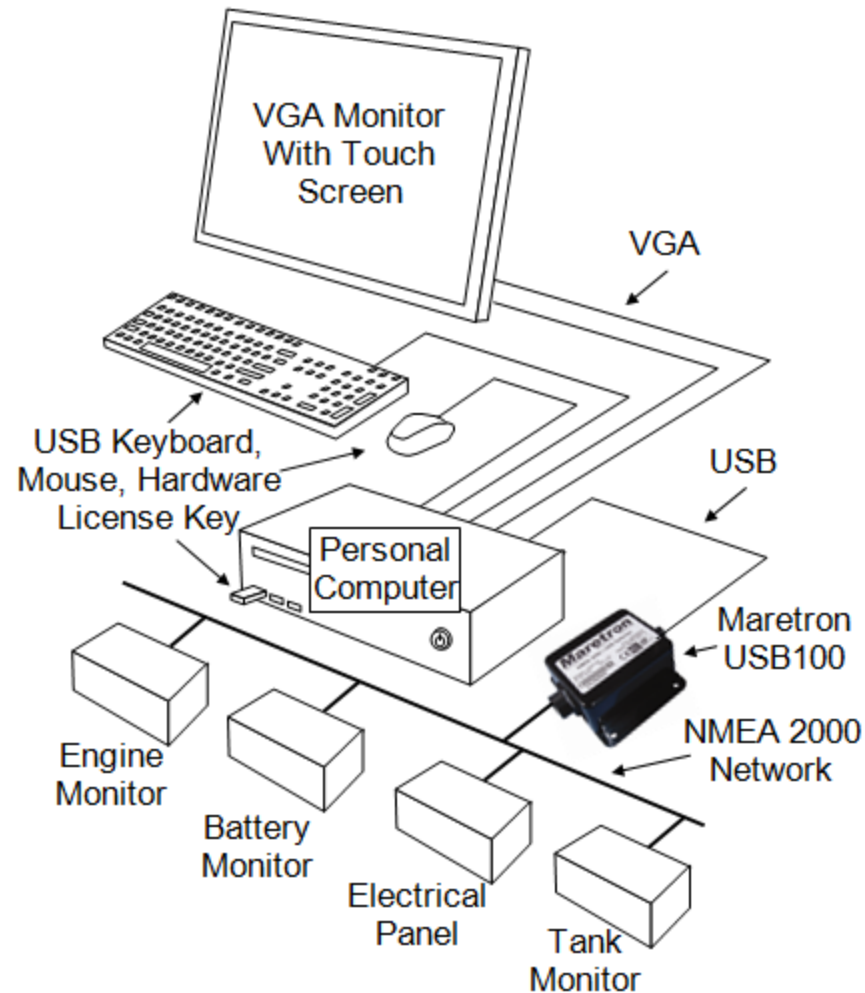
Products

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

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USB100 网络架构



因特网协定网关 (IPG100)

- 将 NMEA 2000® 数据封包起来并透过以太网端口传输出去
- USB 埠为连接 N2KView® 授权钥匙之用
- N2KServer® 在 IPG100 内运转
- 从属的 N2KView® 在个人计算机, MBB100 工业计算机, 触控面板, 以及掌上型行动装置上运转 (使用传统的因特网协议技术连接到 IPG100)

IPG100 Internet Protocol Gateway

The Internet Protocol Gateway (IPG100) lets you connect Maretron black boxes (MBB100's), Maretron touch screens (DSM800's), PC's, Mac's, tablets, or smartphones to an NMEA 2000® network so you can monitor and control your vessel using Maretron's N2KView® software. The conventional way of viewing NMEA 2000® information is with a display on the vessel that is directly connected to an NMEA 2000® network, but with the IPG100, you are not limited to direct connected displays. With the IPG100, you can use any device running N2KView® software to monitor and control your vessel from onboard or ashore.



Products

PART NUMBER	DESCRIPTION
IPG100-01	Internet Protocol Gateway
PK0952	USB Waterproof Cover
PK0337.6M00	Waterproof Ethernet Cable 16.4'

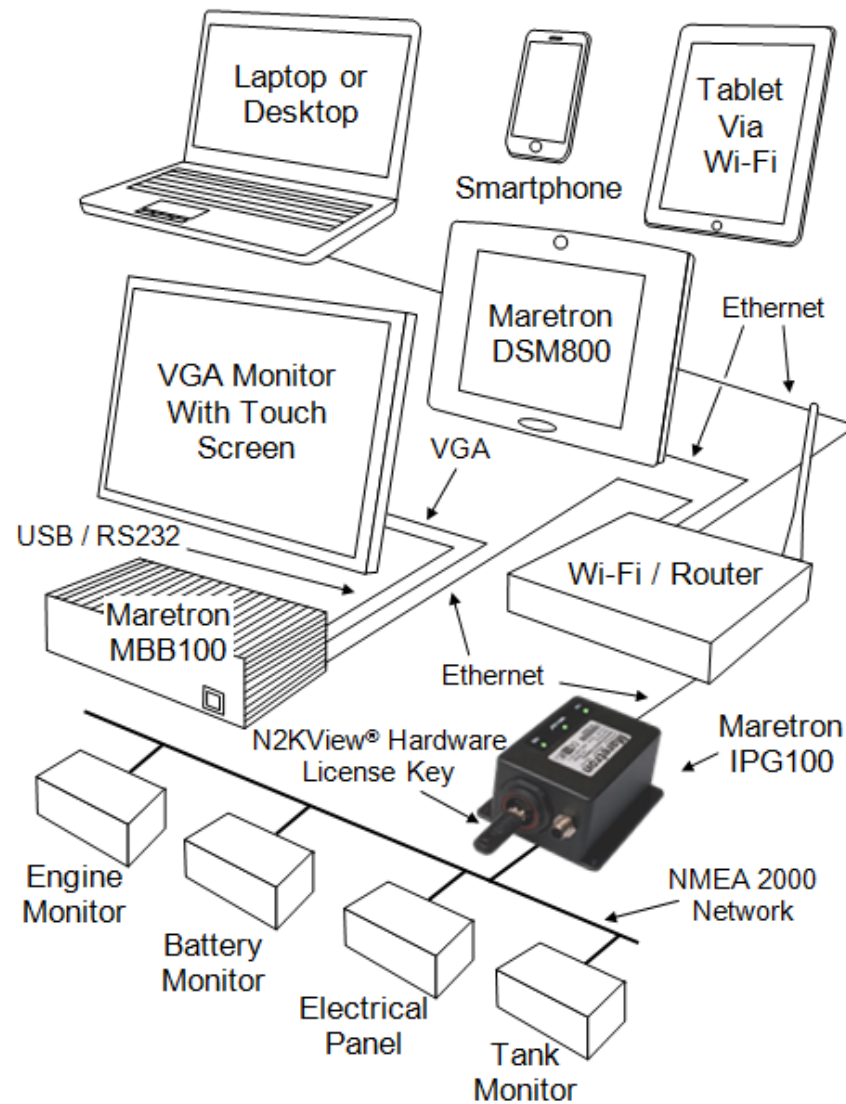


The IPG100 has an NMEA 2000® and an Ethernet data port for exchanging information between the onboard NMEA 2000® network and Internet Protocol (IP) enabled devices using conventional technology such as routers, switches, and wireless modems. In addition, the IPG100 includes a USB port used for connecting Maretron's hardware license key. The hardware license key is used to enable remote devices running N2KView® software. For example, if you purchase three N2KView® license keys, you can run N2KView® at the helm, another on a handheld device connected via Wi-Fi, and another at home on your PC or Mac with an Internet connection back to the vessel. The licenses are floating, so if you were to shut down N2KView® running at home, you could fire up the third N2KView® license on the vessel.

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IPG100 网络架构



连接J1939 到 NMEA 2000® 的网关

- 连接到任何 J1939 的主机, 传动系统, 或发电机, 包括
 - ✓ Caterpillar, Cummins, Detroit Diesel, John Deere, Kohler, Northern Lights, Onan, Perkins, Steyr, Volvo Penta, Yanmar, etc.
- 转换下列的 J1939 信息到 NMEA 2000® 信息, 用来显示在兼容的设备上 (Furuno, Garmin, Maretron, Raymarine)
 - ✓ 交流发电机的电流, 频率, 和电压, 转速, 运转小时, 冷却液压力和温度, 机油压力和温度, 燃油消耗率, 等.
- 作为 Dometic 空调与制冰机的界面
 - ✓ 监测与设定室温, 控制模式以及风扇速度

J2K100 J1939 to NMEA 2000® Gateway

Maretron's J2K100 attaches directly into J1939 networks of compatible engines, transmissions, and gensets and converts the J1939 data to the new marine digital interface (NMEA 2000®). Critical engine, transmission, and genset data is then distributed throughout the vessel over a single cable where it can be monitored by any NMEA 2000® compatible display.

The J2K100 converts the following information:

- AC Generator Current
- AC Generator Frequency
- AC Generator Voltage
- Tachometer
- Engine Hours
- Coolant Pressure
- Coolant Water Temperature
- Engine Oil Pressure
- Engine Oil Temperature
- Boost Pressure
- Fuel Rate Monitoring
- Charging Voltage
- Percent Engine Load
- Percent Engine Torque
- Rated Engine Speed
- VIN
- Software ID
- Transmission Gear
- Transmission Oil Pressure
- Transmission Oil Temperature

The J2K100 is compatible with any engine, transmission, or genset equipped with a J1939 interface, including products from the following manufacturers:

- Caterpillar
- Cummins
- Detroit Diesel
- John Deere
- Kohler
- Northern Lights
- Onan
- Perkins
- Steyr
- Volvo Penta
- Yanmar

The J2K100 can also be used as part of a complete fuel computer. Simply connect the J2K100 together with Maretron universal displays (DSM200/DSM250/N2KView®) and GPS antenna/receiver (GPS100) and you have a system capable of displaying gallons per hour and/or miles per gallon.

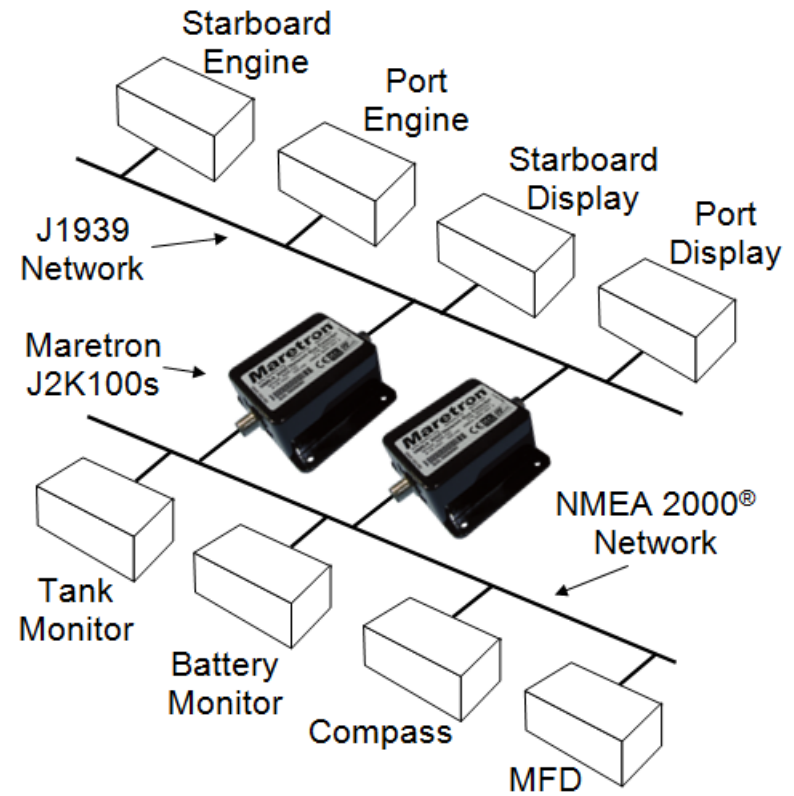
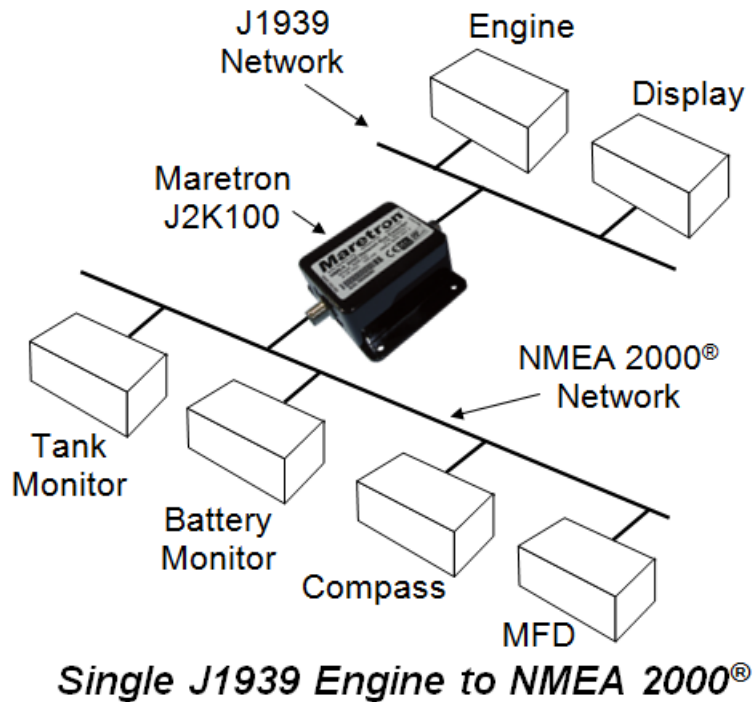



Products	
PART NUMBER	DESCRIPTION
J2K100-01	J1939 to NMEA 2000® Gateway
MCF-3M-01	J2K100 adapter Micro Female to Distributor 4 Pin 2 Meter Cordset
CF-2M-012	J2K100 adapter Micro Female to Distributor 12 Pin 2 Meter Cordset
MCF-3M-01 250'	J2K100 adapter Micro Female to Distributor 12 Pin 2.5 T cable

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J2K100 网络架构



NMEA 2000® 总线延伸器 (NBE100)

- NMEA 2000® 设备数量限制为 50 个节点, 为 CAN Bus 驱动器的功能
- NMEA 2000® 总线延伸器允许延伸为 100 个节点, 150 个节点, 200 个节点, 250 个节点 (250 为其限制 (Addressing Limit))
- 网络上所有的产品都在相同的逻辑网络上 (每一个显示设备都可以看到每一个传感器)
- 每一个次网络都有其独立的电源供应和终端电阻
- 如果某一个次网络失效了, 其他的次网络继续运作

NBE100 Network Bus Extender

Maretron's NBE100 (Network Bus Extender) allows you to extend the maximum node count, network trunk length and cumulative device's drop lengths of any NMEA 2000® network. The NBE100 solves bus errors and other electrical issues caused by exceeding any of these limitations and makes design of large networks easier.

NMEA 2000® networks have a maximum of 60 nodes allowed on a single network, a maximum network trunk length of 200m and a maximum cumulative device's drop lengths of 78m.

If you have a network that exceeds any of these specifications, you can simply extend the network trunk by inserting the NBE100, along with additional termination resistors. This will split the network into multiple electrical segments, each of which can have up to 60 nodes, these segments allow increase of nodes on the logical network. The NBE100 will transparently route NMEA 2000® messages between the multiple network segments, making them work as a single logical NMEA 2000® network. Advanced priority-based message routing ensures that higher-priority messages are always prioritized over lower-priority messages, enabling predictable and reliable network operation.



- Segments a single large NMEA 2000® network into smaller multiple electrical segments.
- Allows you to exceed the 60 node limitation on a NMEA 2000® network.
- Allows you to exceed the 200m trunk length limitation on a NMEA 2000® network.
- Allows you to exceed the 78m cumulative device's drop lengths limitation on a NMEA 2000® network.
- Allows all NMEA 2000® devices to operate as if they were still on a single NMEA 2000® network.
- Priority-based message routing ensures higher-priority messages get through the bus extender first.
- Optically isolates network segments, increasing signal integrity and network reliability.

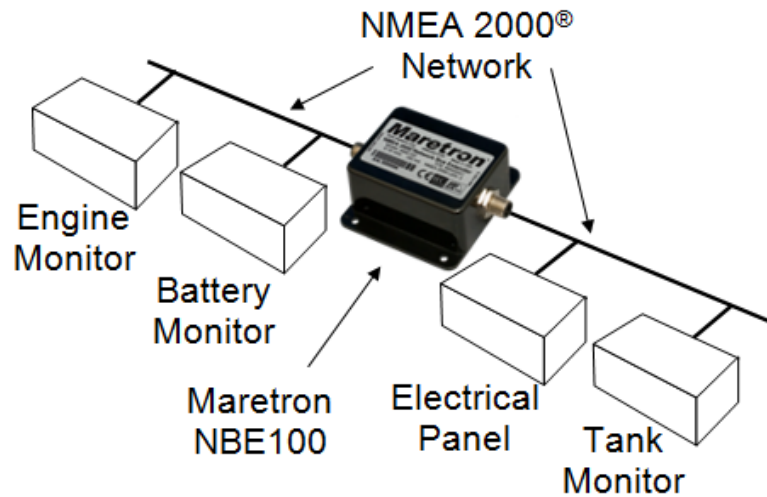
Products

PART NUMBER	DESCRIPTION
NBE100-01	NMEA 2000® Network Bus Extender

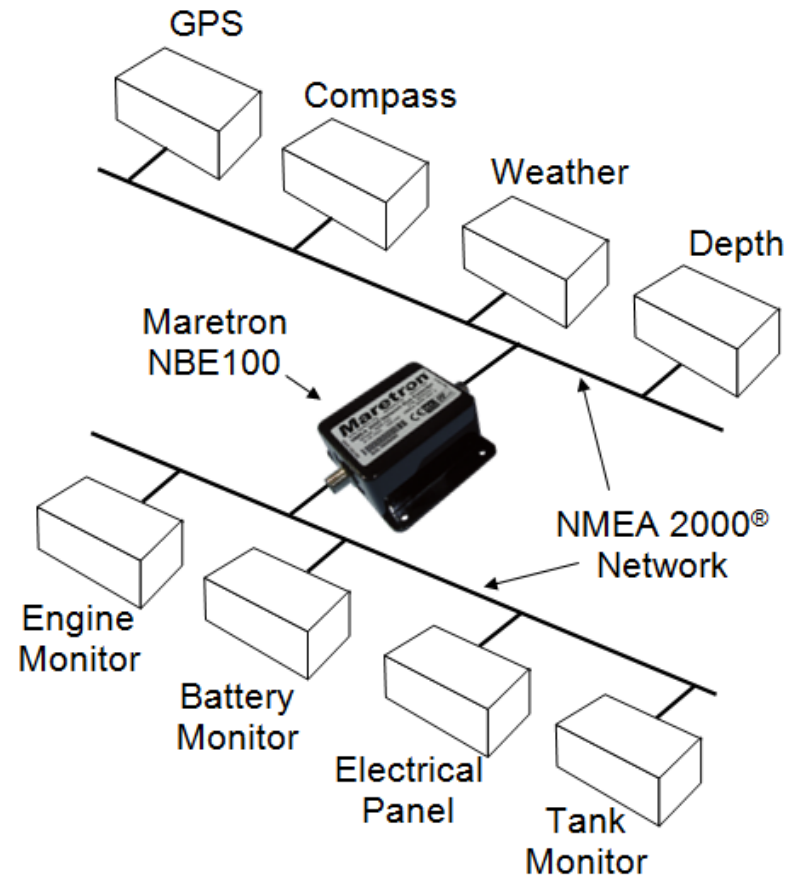
Maretron
Vessel Monitoring & Control Systems

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NBE100总线延伸器架构



Network Extension End-to-End Example



Network Extension Side-to-Side Example

NMEA 2000® / GSM 网关 (SMS100)

- 有时候没有因特网联机可以将警报讯息传送到岸上
- 因应对于船只与船东的手机间低成本简单联机的大量需求
- **GSM Modem 接受透过 NMEA 2000 网络,从警报产生器 (N2KView® or DSM250)发出来的电话号码与简讯内容,发送该简讯到无线手机网络**
- **Available Q2 2012**

