

## J2K100

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. All the information you need is available anywhere and everywhere you need it.

The J2K100 only listens to the J1939 network and draws no power from it (power is derived from the NMEA 2000® interface). The J2K100 does not transmit any information over the J1939 network so it will not interfere with existing engine control or status data in any way.

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



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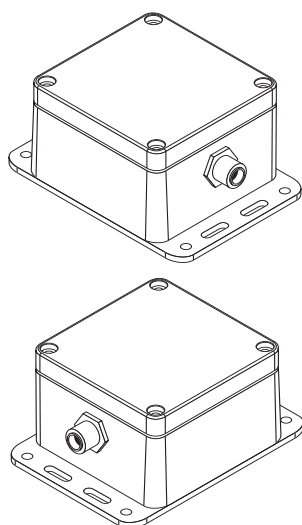
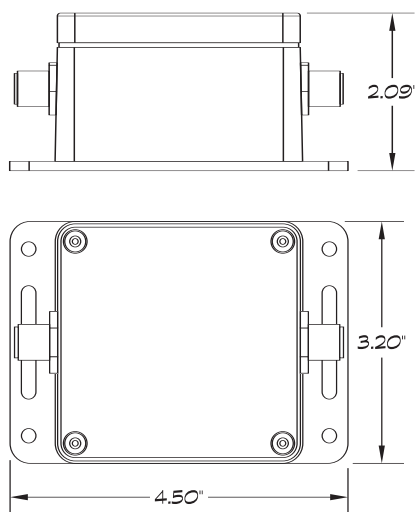
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The J2K100 is compatible with any engine, transmission, or genset equipped with a J1939 interface, including products from the following manufacturers:

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

The J2K100 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



### Maretron

9034 N. 23rd Avenue  
Suite 13  
Phoenix, AZ 85021

Phone: 866-550-9100

Fax: 602-861-1777

Email: sales@maretron.com

Web: www.maretron.com

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### J1939 Data Translated to NMEA 2000® Data

| J1939 SPG/PGN | Description                          | NMEA 2000® PGN |
|---------------|--------------------------------------|----------------|
| 190 / 61444   | Engine Speed                         | 127488         |
| 102 / 65270   | Engine Turbocharger Boost Pressure   | 127488         |
| 100 / 65263   | Engine Oil Pressure                  | 127489         |
| 175 / 65262   | Engine Oil Temperature 1             | 127489         |
| 110 / 65262   | Engine Coolant Temperature           | 127489         |
| 167 / 65271   | Alternator Potential (Voltage)       | 127489         |
| 183 / 65266   | Engine Fuel Rate                     | 127489         |
| 247 / 65253   | Engine Total Hours of Operation      | 127489         |
| 109 / 65263   | Engine Coolant Pressure              | 127489         |
| 94 / 65263    | Engine Fuel Delivery Pressure        | 127489         |
| 92 / 61443    | Engine Percent Load at Current Speed | 127489         |
| 513 / 61444   | Actual Engine - Percent Torque       | 127489         |
| 189 / 65214   | Engine Rated Speed                   | 127498         |
| 237 / 65260   | Vehicle Identification Number        | 127498         |
| 234 / 65242   | Software Identification              | 127498         |
| 523 / 61445   | Transmission Current Gear            | 127493         |
| 127 / 65272   | Transmission Oil Pressure            | 127493         |
| 177 / 65272   | Transmission Oil Temperature         | 127493         |

### Certifications

| Standard   | Comment                       |
|--|-------------------------------|
| NMEA 2000®   | Level B+                      |
| Maritime Navigation and Radiocommunication Equipment & Systems | IEC 60945                     |
| EMC (Europe and FCC) and CE mark                               | Electromagnetic Compatibility |

### NMEA 2000® Parameter Group Numbers (PGNs)

| Description               | PGN #  | PGN Name                                    |
|---------------------------|--------|---|
| Periodic Data PGNs        | 127488 | Engine Parameters, Rapid Update             |
|                           | 127489 | Engine Parameters, Dynamic                  |
|                           | 127498 | Engine Parameters, Static                   |
|                           | 127493 | Transmission Parameters, Dynamic            |
|                           | 065030 | J1939 Generator Average Basic AC Quantities |
|                           | 127504 | AC Output Status                            |
| Response to Request PGNs  | 126464 | PGN List (Transmit and Receive)             |
|                           | 126996 | Product Information                         |
|                           | 126998 | Configuration Information                   |
| Protocol PGNs             | 059392 | ISO Acknowledge                             |
|                           | 059904 | ISO Request                                 |
|                           | 060928 | ISO Address Claim                           |
|                           | 065240 | ISO Address Command                         |
|                           | 126208 | NMEA Complex Request/Command/Acknowledge    |
| Maretron Proprietary PGNs | 126720 | Configuration                               |

### 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      | 4.5" x 3.2" x 2.09" | Including Flanges For Mounting |
| Weight    | 24 Oz.              |                                |

### Environmental

| Parameter                | Value   |
|--------------------------|---|
| IEC 60945 Classification | Exposed   |
| Degree of Protection     | IP67  |
| Operating Temperature    | -25°C to 55°C   |
| Storage Temperature      | -40° to 70°C  |
| Relative Humidity        | 93%RH @ 40°C per IEC 60945-8.2  |
| 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 7 days @ 40°C, 95%RH after 2 hour Salt Spray per IEC 60945-8.12 |
| Electromagnetic Emission | Conducted and Radiated Emission per IEC 60945-9                         |
| Electromagnetic Immunity | Conducted, Radiated, Supply, and ESD per IEC 60945-10                   |
| Safety Precautions       | Dangerous Voltage, Electromagnetic Radio Frequency per IEC 60945-12     |

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