Maretron’s NBE100 allows you to go beyond the maximum NMEA 2000® network design rules and extend an NMEA 2000® network to two, three, four, and even five times larger than normal. The NBE100 also solves problems associated with network errors and other electrical issues caused by exceeding NMEA 2000® rules and it simplifies the design of large networks.

NMEA 2000® network rules allow a maximum of 50 products connected on a single network, a maximum trunk length of 200 meters, and a maximum drop length of 78 meters. If you have a network that exceeds any of these specifications, you can simply extend the network trunk by inserting the NBE100, along with the additional termination resistors and powertaps. This will split the network into multiple electrical segments allowing 50 products per segment. The NBE100 will transparently route NMEA 2000® messages between multiple network segments, making them work as a single logical NMEA 2000® network.

Lastly, the NBE100 can be used to build redundant networks or isolate certain network segments so that if one segment is compromised, the other segments continue to operate.

- Segments a single large NMEA 2000® network into smaller multiple electrical segments.
- Allows you to exceed the 50 product limitation on a NMEA 2000® network.
- Allows you to exceed the 200 meter trunk length limitation on a NMEA 2000® network.
- Allows you to exceed the 78 meter drop lengths limitation on a NMEA 2000® networks.
- Allows all NMEA 2000® devices to operate as if they were still on a single NMEA 2000® network.
- Optically isolates network segments, increasing signal integrity and network reliability.

**Products**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBE100-01</td>
<td>NMEA 2000® Network Bus Extender</td>
</tr>
</tbody>
</table>
### Network Extension Side-to-Side Example

- GPS
- Compass
- Weather
- Depth

### Network Extension End-to-End Example

- Engine Monitor
- Battery Monitor
- Electrical Panel
- Tank Monitor

### Certifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMEA 2000® Standard</td>
<td>Level A</td>
</tr>
<tr>
<td>Maritime Navigation and Radiocommunication</td>
<td>IEC 61162-3</td>
</tr>
<tr>
<td>Equipment &amp; Systems</td>
<td></td>
</tr>
<tr>
<td>Maritime Navigation and Radiocommunication</td>
<td>IEC 60945</td>
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<tr>
<td>Equipment &amp; Systems</td>
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</tr>
<tr>
<td>FCC and CE Mark</td>
<td>Electromagnetic Compatibility</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Description</th>
<th>PGN #</th>
<th>PGN Name</th>
<th>Default Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response to Requested PGNs</td>
<td>126464</td>
<td>PGN List (Transmit and Receive)</td>
<td>N/A</td>
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<tr>
<td></td>
<td>126996</td>
<td>Product Information</td>
<td>N/A</td>
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<tr>
<td></td>
<td>126998</td>
<td>Configuration Information</td>
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<tr>
<td>Protocol PGNs</td>
<td>059392</td>
<td>ISO Acknowledge</td>
<td>N/A</td>
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<tr>
<td></td>
<td>059904</td>
<td>ISO Request</td>
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<td></td>
<td>060928</td>
<td>ISO Address Claim</td>
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<tr>
<td></td>
<td>065240</td>
<td>ISO Address Command</td>
<td>N/A</td>
</tr>
<tr>
<td>Maretron Proprietary PGNs</td>
<td>126208</td>
<td>NMEA Request/Command/Acknowledge</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Operating Voltage

- 9 to 16 Volts DC

### Power Consumption

- <150mA

### Load Equivalence Number (LEN)

- 3

### Reverse Battery Protection

- Yes

### Load Dump Protection

- Yes

### Size

- 3.11" x 3.46" x 1.38"

### Weight

- 8 oz. (227 g)

### 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°C 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 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