Installation

Location:

Be sure to locate the WD500 MTU so the internal GPS and Cellular antennas have a clear view of the sky. The orientation of the MTU does not matter as long as it is not installed behind or below materials that can block radio transmissions.

The preferred mounting is with the harnessing coming from the bottom of the MTU with appropriate strain relief.

Note: Materials such as metal can interfere with the radio transmissions used by the MTU and can reduce service reliability. These types of materials should be avoided. Materials like fiberglass allow radio signals to transmit without interference. It is OK to mount behind or below these types of materials.

The MTU should be installed in a dry area, away from the elements. This unit is rated IP-66 and protected from Dust and Splashing water.
Installation

Locate the 2 12-pin Deutsch connectors. Insert the gray connector into the gray connection on the MTU. Insert the black connector into the black connection.

### Wire Connection

#### Gray Connector

<table>
<thead>
<tr>
<th>Label</th>
<th>Connection</th>
<th>Pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilge Pump #1</td>
<td>To Bilge pump counter #1 (pos)</td>
<td>1</td>
</tr>
<tr>
<td>Battery #2</td>
<td>To Battery #2 (positive)</td>
<td>2</td>
</tr>
<tr>
<td>Entry Alert</td>
<td>To door or motion sensor (NO)</td>
<td>3</td>
</tr>
<tr>
<td>Ground</td>
<td>To negative side of battery</td>
<td>4</td>
</tr>
<tr>
<td>Battery #1</td>
<td>To Battery #1 (positive)</td>
<td>5</td>
</tr>
<tr>
<td>Bilge Pump #2</td>
<td>To Bilge pump counter #2 (pos)</td>
<td>6</td>
</tr>
<tr>
<td>High Water</td>
<td>High water switch (to ground)</td>
<td>7</td>
</tr>
<tr>
<td>Analog input</td>
<td>Analog input #1</td>
<td>8</td>
</tr>
<tr>
<td>Serial to CAN</td>
<td>CAN Connector</td>
<td></td>
</tr>
</tbody>
</table>

#### Black Connector

<table>
<thead>
<tr>
<th>Label</th>
<th>Connection</th>
<th>Pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>To temperature sensor</td>
<td>1</td>
</tr>
<tr>
<td>Control #1</td>
<td>Relay coil sink (150ma) to ground</td>
<td>2</td>
</tr>
<tr>
<td>Boot-load</td>
<td>To boot-load ground</td>
<td>3</td>
</tr>
<tr>
<td>Boot-load</td>
<td>To boot-load switch</td>
<td>4</td>
</tr>
<tr>
<td>TBD</td>
<td>No Connections</td>
<td>5</td>
</tr>
<tr>
<td>TBD</td>
<td>No Connections</td>
<td>6</td>
</tr>
<tr>
<td>Shore Power</td>
<td>To DC adapter negative lead</td>
<td>7</td>
</tr>
<tr>
<td>Shore Power</td>
<td>To DC adapter positive lead</td>
<td>8</td>
</tr>
<tr>
<td>Temperature</td>
<td>To temperature sensor</td>
<td>9</td>
</tr>
<tr>
<td>Control #2</td>
<td>Relay coil sink (150ma) to ground</td>
<td>10</td>
</tr>
<tr>
<td>Control #3</td>
<td>Relay coil sink (150ma) to ground</td>
<td>11</td>
</tr>
<tr>
<td>Temperature</td>
<td>To temperature sensor</td>
<td>12</td>
</tr>
</tbody>
</table>
Connect the Violet Wire (pin 5 - Gray connector) to the main battery (12 or 24 vDC ready) or an un-switched power source with in-line fuse (3 A) installed.

Connect the Black Wire (pin 4 - Gray connector) to the negative side of the battery or vessel ground.

Connect the CAN connector to the CAN Bus.

**Harness Connections**

**HN0915**

![Diagram of HN0915]

**HN0909**

![Diagram of HN0909]

**HN0916**

![Diagram of HN0916]

**HN0917**

**Power/CAN Harness**

Gray Connector

12: Blue or Red
11: White
10: Black
9: Violet or Red
8: Pink
7: Orange

**Accessory Harness**

Black Connector

12: Yellow
11: Tan/Blue
10: Tan/Black
9: Red/Violet
8: White
7: Black

**NMEA2000**

+V  Red 2
CAN_L  Blue 5
-V  Black 3
4  CAN_H  White

**J1939**

A: White - CAN_H
B: Red - CAN_L
C: Black - Ground

**SmartCraft**

K: White - CAN +
J: Red - CAN -
H: N/C
G: N/C
F: N/C
E: N/C
D: N/C
C: N/C
B: N/C
A: N/C
Additional Monitoring

**Bilge Pumps**

If bilge pumps are to be monitored connect bilge pump 1 via the Blue Wire (Pin 1 - Gray connector) to positive side of pump #1. If a second bilge pump is to be monitored connect the Gray Wire (Pin 6 - Gray connector) to the positive side of the bilge pump #2.

**High Water Detection**

If a High Water Detection is required connect the Orange Wire (Pin 7 - Gray connector) to the ground side of the FB-Sentry High Water/Float Switch Part # SW0052.

**Entry Door Monitoring**

If entry monitoring is required connect the Brown Wire (Pin 3 - Gray connector) to the FB-Sentry Entry Door Switch Sensor Monitoring Kit (will do 2 doors, hatches, etc.) Part # SW0049 and follow the installation instructions.

**Shore Power Monitoring**

If shore power is to be monitored connect the White Wire (Pin 8 - Black connector) and Black Wire (Pin 7 - Black connector) to the FB-Sentry Shore Power Sensor Part # SN0073 and follow the installation instructions.

**Temperature Monitoring**

If temperature monitoring is required connect the Green/Black Wire (Pin 1 - Black connector) to the Black wire (Sender), Red/Violet Wire (Pin 9 - Black connector) to the Red wire (Sender) and Yellow Wire (Pin 12 - Black connector) to the Yellow wire (Sender) to the FB-Sentry Temperature Sensor Part # SN0072 and follow the installation instructions.

**Remote Digital Switching - Outputs are switched to ground**

The FB-Sentry MTU will sink 150mA's to turn on various switches.

Device #1 (relay) connect the Tan/White Wire (Pin 2 - Black connector)

Device #2 (relay) connect the Tan/Black Wire (Pin 10 - Black connector)

Device #3 (relay) connect the Tan/Blue Wire (Pin 11 - Black connector)

Connect to a FB-Sentry Control Relay(s) (12 vdc.) Part # SW0050 or FB-Sentry Control Relay(s) (24 vdc.) Part # SW0051.

For technical assistance, contact Faria Beede Instruments - Customer Service between 8:30 AM and 5:30 PM Eastern time weekdays at (860) 848-9271 or (800) 473-2742.
LED Indicators

With power applied check for blinking LED’s

- Amber for GSM Signal
- Green for GPS fix
- Red - Fault Code
- Blue - CAN Activity

Note: To view the LED look inside the clear plastic part of the case opposite the connectors. The LEDs are located inside the case.

To be fully operational both the Green and Amber LED must be solid (on) and the Blue LED blinking when engine running.

The tables below identify the meaning of the blinking sequence for diagnostic purposes.

### LED #1 (Cellular signal - Amber)

<table>
<thead>
<tr>
<th>LED Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>Modem Off</td>
</tr>
<tr>
<td>Slow Blinking (1 Hz)</td>
<td>Comm On - Searching</td>
</tr>
<tr>
<td>Fast Blinking (3 Hz)</td>
<td>Network Available</td>
</tr>
<tr>
<td>Alternates from Solid to Fast Blink (1 per second)</td>
<td>Registered but no Inbound acknowledgment</td>
</tr>
<tr>
<td>Solid (On)</td>
<td>Registered and Received Inbound acknowledgment.</td>
</tr>
</tbody>
</table>

### LED #2 (GPS signal - Green)

<table>
<thead>
<tr>
<th>LED Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>GPS Off</td>
</tr>
<tr>
<td>Slow Blinking (1 Hz)</td>
<td>GPS On - Searching</td>
</tr>
<tr>
<td>Fast Blinking (3 Hz)</td>
<td>GPS - Time Sync</td>
</tr>
<tr>
<td>Solid (On)</td>
<td>GPS - Fix</td>
</tr>
</tbody>
</table>
Activation

Go to www.fb-sentry.com
Click on the “Sign Up” link.

Enter your email and password at the prompts.
From your email, record the verification code.

_____________________

Enter verification code at prompt.

Enter your boat name.

Enter product key. The product key can be found on the MTU on the brand label.

The product key is also recorded on the label to the right.

Follow the remaining prompts to complete activation

Web Application
For your convenience you can add the web application (FB-Sentry) to your home screen.

iOS
Launch the Safari browser and navigate to www.fb-sentry.com. Tap the share button on the browsers tool bar.

Android
Launch Chrome for Android and open the website www.fb-sentry.com. Tap the menu button.

Both
Tap the Add to Home Screen icon in the menu. Name the icon shortcut and save.