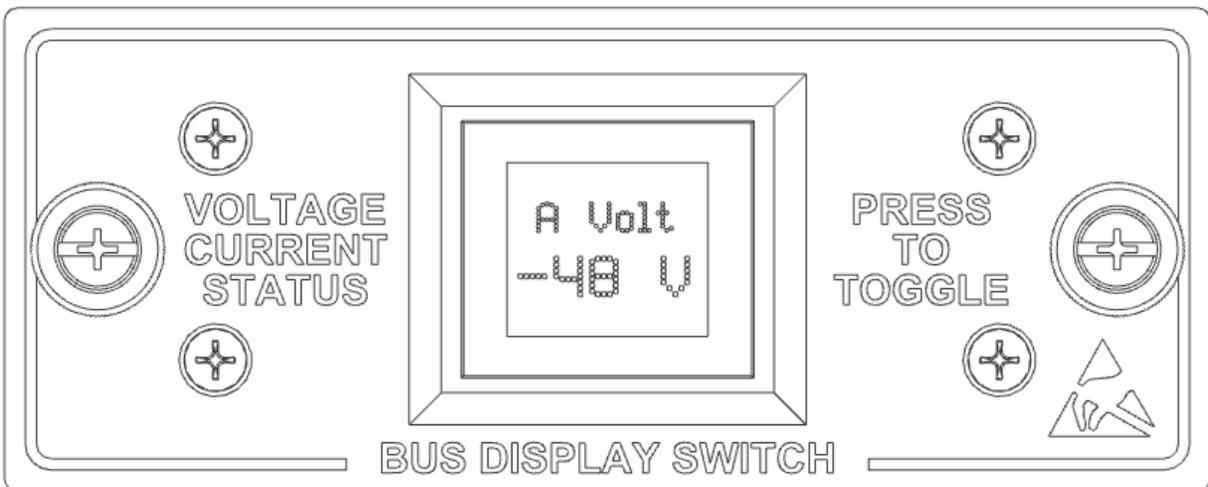




## Bus Display Switch (BDS) User Manual

Document INS-7800400001

This manual covers any products that incorporate the Bus Display Switch



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Thank you for choosing a Trimm, Inc. product with the integrated Bus Display Switch (BDS) for your application.

This manual describes the basic functionality of the BDS including how to toggle through the various screens on the bus display switch as well as how to enable the amber and red thresholds.

## Important User Information

### **WARNING**

This product should be installed in a restricted access area by qualified service personnel only. All connections/methods should meet all national/local electrical codes as well as company specific methods or procedures. Failure to do so may result in damage to the equipment, and or personal injury.

### **ESD WARNING**

This product may be affected by electrostatic discharge. Please follow your company's procedures for ESD mitigation when handling and installing this unit. This might include the use of grounded wrist straps or other grounding devices.

## Instructions

After following the specific power distribution installation manual use the following steps to quickly adjust the Bus Display Switch (BDS) configuration to your specific needs.

### Bus Display Switch Functionality

The Bus Display Switch enables typical DC power distribution units to have each busses voltage and current levels measured and displayed locally via a front mounted LCD screen. The BDS screen will also change to a flashing red screen when an overcurrent device installed in the panel has tripped. The BDS also allows two distinct low voltage and high current thresholds to be defined per bus to enable solid amber (minor) or flashing red (major) visual color change on the LCD screen when the threshold is crossed. The BDS also features a bar graph type gauge on the current display screens that also indicates the red current threshold point per bus.

### Navigating Through Each Screen

The Bus Display Switch features a LED screen that also doubles as a navigation button to toggle between 6 informational screens as described below. You can switch between each screen by simply pressing on

the LED screen itself. When an overcurrent device installed in the panel has tripped the screen will automatically change to a flashing red screen and display the bus on which the fault has occurred. When a major threshold point has been reached the screen will switch to the applicable screen and display the reading while flashing red.

### Bus Display Switch Screen Listing

- **A Bus Voltage:** Displays the A Bus voltage reading. The backlight color is green under normal conditions and will turn amber when a minor low voltage threshold point is crossed or flash red when a major low voltage threshold point occurs.
- **A Bus Current:** Displays the A Bus current reading. The backlight color is green under normal conditions and will turn amber when a minor high current threshold point is crossed or flash red when a major high current threshold point occurs.
- **B Bus Voltage:** Displays the B Bus voltage reading. The backlight color is green under normal conditions and will turn amber when a minor low voltage threshold point is crossed or flash red when a major low voltage threshold point occurs.
- **B Bus Current:** Displays the B Bus current reading. The backlight color is green under normal conditions and will turn amber when a minor high current threshold point is crossed or flash red when a major high current threshold point occurs.
- **Firmware Version Screen:** Displays the current firmware version installed on the BDS.
- **Voltage Adjustment Screen:** Allows the voltage reading to be calibrated up or down a few volts.

### Enabling the Voltage Or Current Thresholds

You can set the amber (minor) or flashing red (major) thresholds by following the procedure below.

1. Navigate to the voltage or current display screen you wish to set the threshold for.
2. Press and HOLD the screen down until “Amber” and a value is shown on the screen.
3. Press the screen until the desired Amber (Minor) threshold is displayed.
4. Wait a few seconds and the display should switch to “Red” on the screen.
5. Press the screen until the desired Red (Major) threshold is displayed.
6. Wait a few seconds for the screen to return to the normal display screen.
7. Repeat as necessary for each bus voltage or current threshold you wish to enable.

The bar graph gauge on the busses current display screen will show a small notch in the graph outline representing the Red (Major) threshold.

### Disabling the Voltage or Current Thresholds

You can disable the voltage or current threshold functionality by following the procedure below.

1. Navigate to the voltage or current display screen you wish to disable threshold functionality.
2. Press and HOLD the screen down until “Amber” and a value is shown on the screen.
3. Press the screen until “NONE” is the threshold value.
4. Wait a few seconds and the display should switch to “Red” on the screen.
5. Press the screen until “NONE” is the threshold value.
6. Wait a few seconds for the screen to return to the normal display screen.
7. Repeat as necessary for each bus voltage or current threshold you wish to disable.

## Adjusting the voltage calibration

If you find that the displayed voltage differs from the known measured voltage you can adjust the displayed voltage up and down up to 4 volts as follows. The adjustment applies to both busses at the same time.

1. Navigate to the “Voltage Adjustment Screen” that says “ADJUST Volts” on it by pressing the BSD screen.
2. Press and HOLD the screen down until “ADJUST” and a number is shown on the screen.
3. Press the button again to begin toggling through the +4 to -4 volt adjustment.
4. Release the button and wait a few seconds for the screen to return to “Adjust Volts” screen then toggle to the applicable voltage display screen.
5. Repeat as needed until the displayed voltage matches the known bus voltage.

## Servicing

The Bus Display switch has no user serviceable parts but in the event of a field failure a replacement unit may be sent out to restore operation.

### Replacing the Bus Display Switch

In the event of a failure of the Bus Display switch you can remove/replace the unit as follows.

1. Loosen the 2 thumbscrews on the left and right of the BDS faceplate.
2. Gently pull the BDS unit out of the panel.
3. Unplug all wire harnesses attached to the back of the BDS unit using care to remember the location of each.
4. Open and remove the new replacement from its packaging.
5. Plug the wire harnesses into the appropriate connectors on the back of the BDS unit.
6. Gently push the BDS unit back into the panel.
7. Secure the 2 thumbscrews on the left and right of the faceplate.

Revision Record

Legend:                    R=Revision                    A=Addition                    D=Deletion  
                                  T=Typo                        N=New                         V=Review

Revision	Date	Type	Section/Comments
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A	07/16/2020	N	New Document
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