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Document Name: OMNIGND Calibration

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OMNIGND Calibration

Application: Discrete Resistors

Purpose:

Performing calibration/verification of the OMNIGND Continuous Monitoring System using a Resistor Decade Box and/or discrete resistors.

Calibration Equipment:

- ➔ 2 Test leads, 1ea bare wire to banana, 1ea banana to banana
- ➔ 1 Grounding wire (at least one end should be banana or ring type)
- ➔ Resistor decade box
- ➔ Flat head driver, tip size 2.5

NOTE - You can download a starter template for you calibration record keeping here:
Calibration Template

Resistors	Value
10Ω	10 ohms resistor @1%
100Ω	100 ohms resistor @1%
1k	1000 ohms resistor @1%
10k	10000 ohms resistor @1%
100k	100000 ohms resistor @1%
1M	1000000 ohms resistor @1%
10M	10000000 ohms resistor @1%

Preparing for Calibration:

- ➔ Disconnect all equipment from the OMNIGND monitoring ports and ground block.
- ➔ Power up the OMNIGND with the OEM 12V power supply.
- ➔ Grounding the OMNIGND
    a. Connect the ground wire to the grounding block on the OMNIGND.
    b. Connect the opposite end to a verified EGC/PE (Equipment Ground Conductor, Protective Earth).*
- ➔ Connecting to the decade box to the OMNIGND with test leads
    a. Bare wire to banana
        1. Connect the banana end of the first test lead (bare wire to banana) to the positive terminal on the decade box.
        2. Connect the bare wire end to the first monitoring port on the top of the OMNIGND.
            - The monitoring blocks are screw type (flat head).
            - Open the terminal by loosening the screw first.
            - Once the wire is inserted, tighten the screw down.
            - Gently tug the wire to confirm a solid connection with the terminal.
    b. Banana to banana
        1. Insert one end to the negative terminal on the decade box.
        2. Connect the other end to the grounding block on the bottom of the OMNIGND.

*__IMPORTANT__ - Please verify your outlet/EGC/PE for any ground faults. It is important you do not work on any electrical receptacles or grounding points under electrical fault/hazard.

Procedure

These steps will repeat for all 8 monitoring ports on the OMNIGND.

1. On your decade box switch in each resistor, one at a time. (see figure 1, below)
2. Record the value and port name/number on the display of the OMNIGND as each resistor is switched in.

Once all decades have been verified and recorded, remove the test lead (bare wire) from the monitoring port on the OMNIGND. Connect it to the next port. Repeat until all ports have been fully verified.

Figure 1.

Resistor	Accuracy
10Ω	± 10%
100Ω	± 10%
1k	± 10%
10k	± 10%
100k	± 10%
1M	± 10%
10M	± 10%