# OneControl® Tank Monitor V2 Controller

## OEM Installation Manual

LIPPERT COMPONENTS®

# TABLE OF CONTENTS



## Introduction

The OneControl® Tank Monitor V2 Control is an electronic control module that permits integration of tank monitoring, pumps and water heaters with the OneControl system. It will monitor up to six water tanks — fresh, black and/or gray water tanks — and three fuel or LP tank sensors. Additionally, four latching outputs offer the ability to electronically turn on or off a gas or electric water heater, water pump, tank heater or a light. The module also features one gas heater ignition feedback.

Typically, motorized units utilize a 20A version of the tank monitor, while travel trailers use a 10A version of the system. The controllers are functionally the same. However, the 20A version has two 10A fuses and two 20A fuses, while the 10A version has four 10A fuses. The higher amperage provides more options regarding the functions that are run off of the latching outputs.

## Safety

**⚠WARNING**

**The "WARNING" symbol above is a sign that an installation procedure has a safety risk involved and may cause death, serious personal injury, severe product or property damage if not performed safely and within the parameters set forth in this manual.**

**⚠CAUTION**

**Moving parts can pinch, crush or cut. Keep clear and use caution.**

## Preparation

### Resources Required

- Cordless or electric drill or screw gun
- Appropriate drive bits
- #8 x 1" wood screws

## Installation

Refer to the Wiring Diagram and the Tank Monitor Controller Harness and Sensor Resistor Pack sections when installing the wiring for the tank monitor module. Complete system installation as follows:

**1.** Install tank monitor controller to a solid surface with #8 x 1" wood screws.

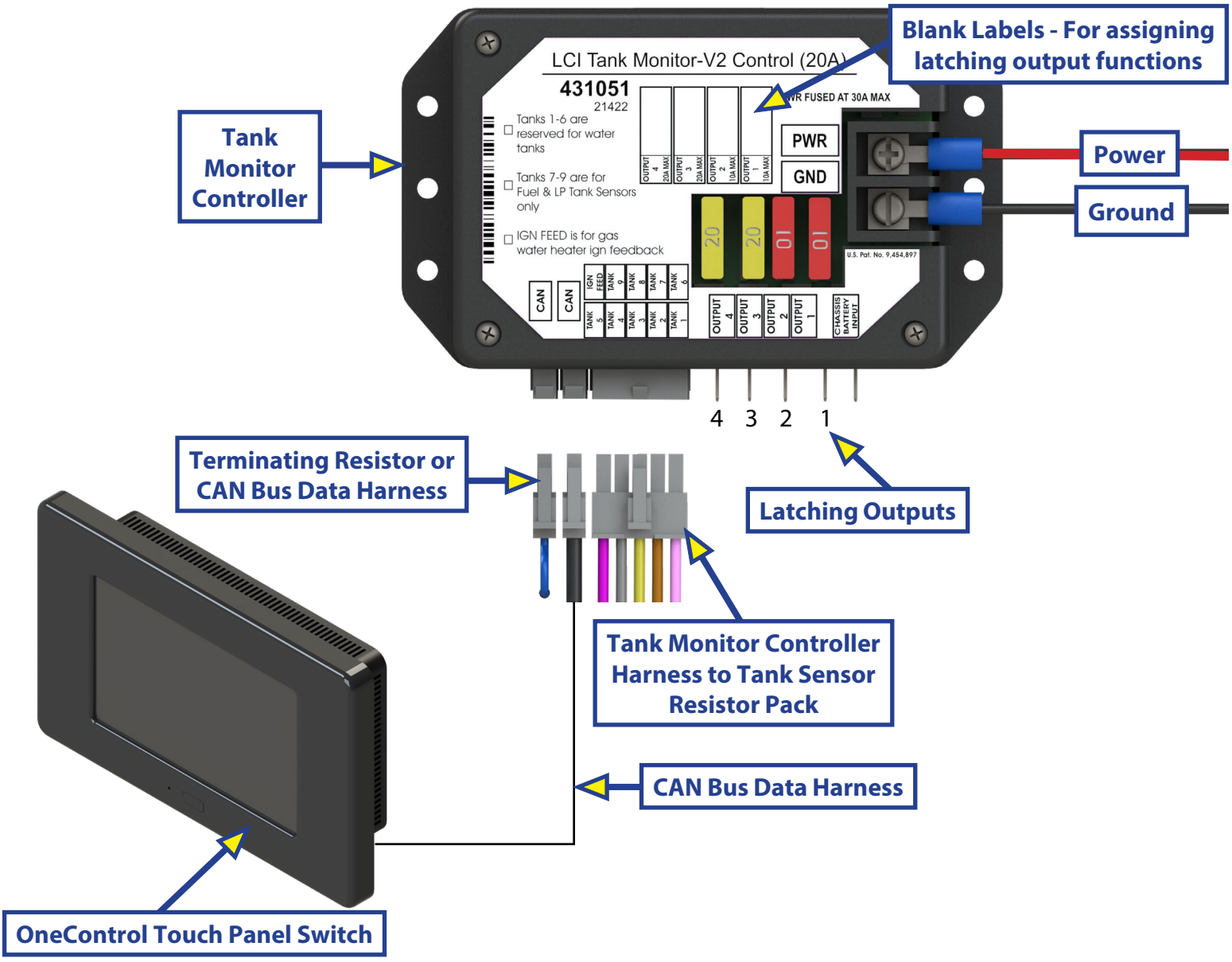
**NOTE:** The compartment where the controller is installed must be protected from the elements. Also, choose a mounting location that allows enough room to install wiring without kinks.

2. Connect a 12V DC power source to the controller's power and ground posts.
   **A.** There must be an OEM-supplied 30A maximum circuit protection placed in-line between the power supply and the controller. The circuit protection will vary depending on the output loads.
   **B.** Wiring is to conform to RVIA standards.
3. Connect the tank inputs for all tanks used by connecting the signal wires from the tank sensor resistor packs to the 10-pin tank monitor wiring harness. See Tank Monitor Controller Harness and Sensor Resistor Pack sections.
4. If using the latching outputs, use a quick-connect style connector from the output functions to connect to the latching output spade terminals on the tank monitor controller.
5. Write on the labels the names of the functions that correspond to each of the four latching outputs.
6. Connect the CAN bus data harnesses to the CAN ports to link the controller to the CAN network.

**NOTE:** Any controller CAN bus data harness may be connected to the tank monitor controller. Depending on the number of OneControl functions, there may not always be a direct connection to the OneControl Touch Panel.

**NOTE:** If using only one CAN port, use a CAN bus terminating resistor on the other port.

## Wiring Diagram

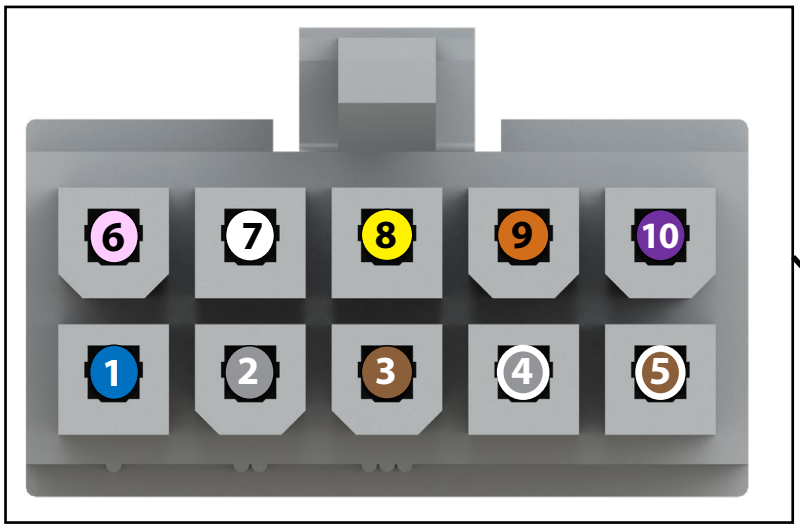


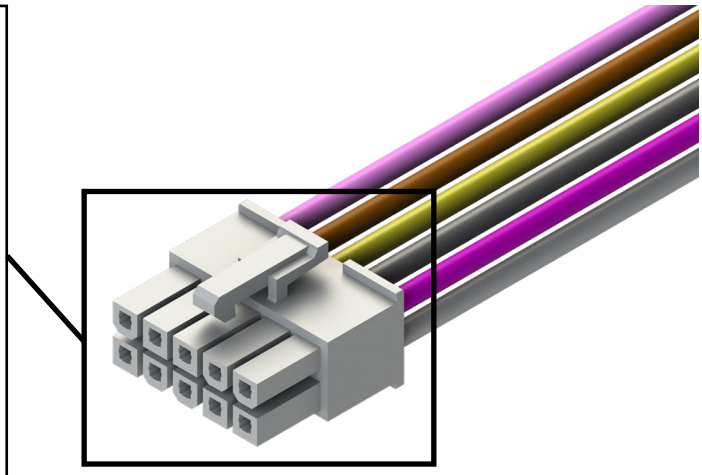
## Tank Monitor Controller Harness

Harness wires for tanks 1-6 are reserved for holding tank sensors. Harness wires for tanks 7-9 are for LP tank sensors only.

The ignition feed (IGN FEED) harness wire is for gas water heater ignition feedback. A DSI fault (Direct Spark Ignitor) indicates the hot water heater failed to start. The water heater will need to be turned off before attempting to start it again.

**NOTE:** All harness wires are 18 GA minimum.



| Pin | Color | What It Controls |
|---|---|---|
| 1 | Blue | Fresh tank (water) |
| 2 | Gray | Gray tank (water) |
| 3 | Brown | Black tank I (water) |
| 4 | Gray/White | Gray tank II (water) |
| 5 | Brown/White | Black tank II (water) |

| Pin | Color | What It Controls |
|---|---|---|
| 6 | Pink | Additional holding (water) |
| 7 | White | Fuel tank II |
| 8 | Yellow | Fuel tank I |
| 9 | Orange | LP tank monitor |
| 10 | Purple | Water heater ignition feedback |

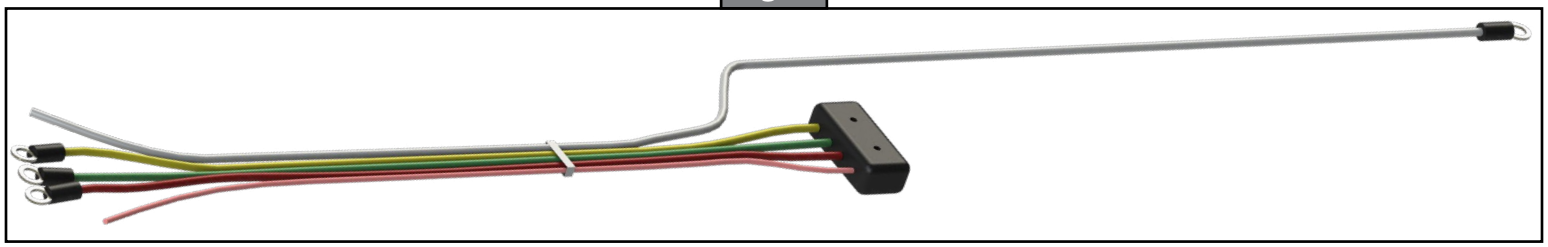
## Sensor Resistor Pack

The tank sensors are connected to the yellow, green and red wires on the sensor resistor pack (Fig. 1). The tank sensor resistor pack connects to the tank sensor with an eyelet secured to the sensor.

The wires are attached as follows:

- White – Ground (-) connect to EMPTY (E) sensor
- Yellow – Connect to LOW level (⅓) sensor
- Green – Connect to MID level (⅔) sensor
- Red – Connect to FULL level (F) sensor
- Pink – Signal wire connects to tank wire from monitor harness. This wire is connected to the proper input wire on the tank monitor controller harness.

**Fig. 1**



## Configuration

The controller will need to be configured prior to use. Do as follows:

1. Press and release the OneControl icon five times (Fig. 2A). It is located at the top left corner of the OneControl Touch Panel's home screen.
2. A warning box will appear indicating users are entering an advanced feature (Fig. 2). Press YES at the bottom of a box that asks if the user would like to continue.
3. Scroll down until finding the heading Tank Monitor Controller.
4. Give a name to each tank sensor.
   - **A.** Press the white box for tank sensor #1 (Fig. 3). A screen will appear so it can be renamed.
   - **B.** Press the line that says UNKNOWN (Fig. 4) to make visible a list of names available for the product/ function (Fig. 5).
   - **C.** Using the wiring diagram for the tank monitor controller harness, select a name and then press the blue SET button in the bottom right side of the screen (Fig. 5A). A Success message will be displayed under the new name indicating the name has been properly changed.
   - **D.** Repeat step 4 A-C for each tank that has a sensor connected to the tank monitor.

Fig. 2

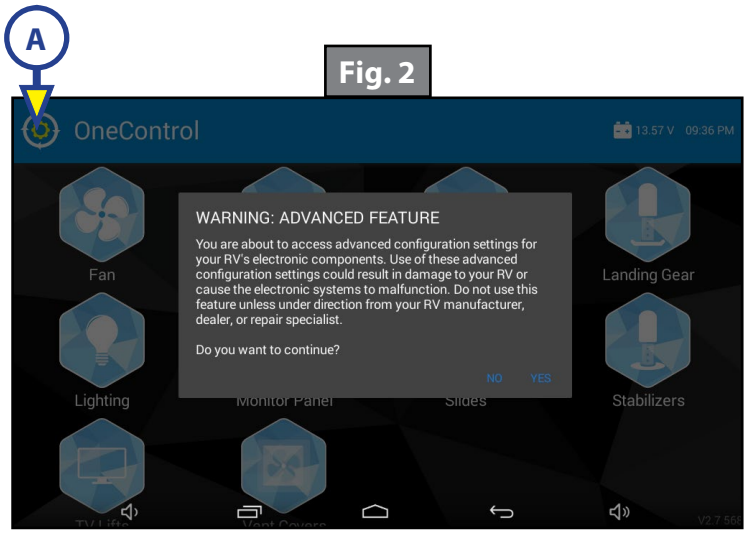



Fig. 3

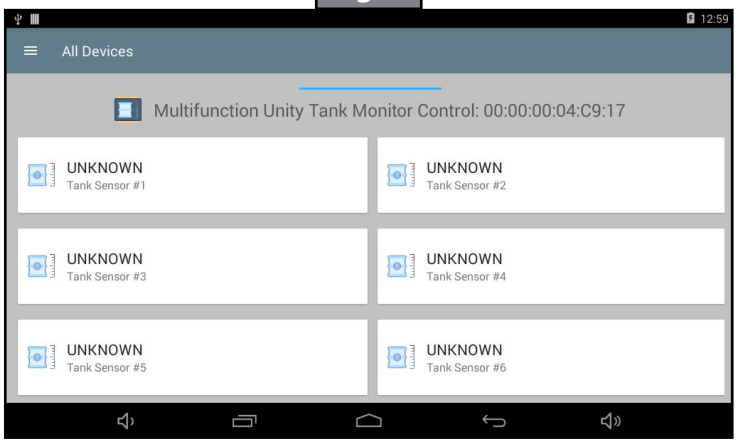



Fig. 4

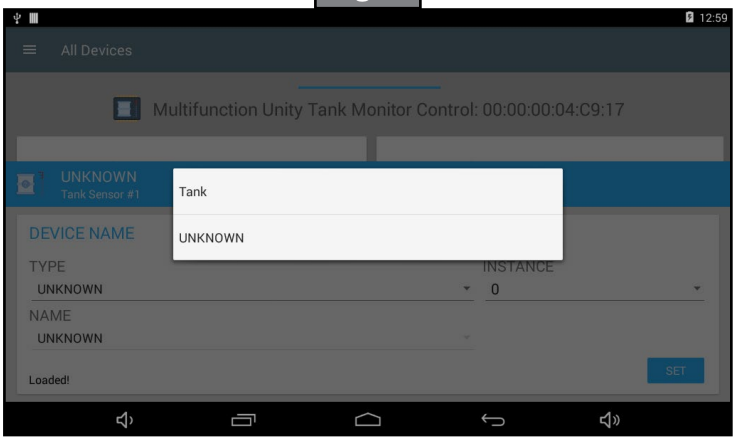
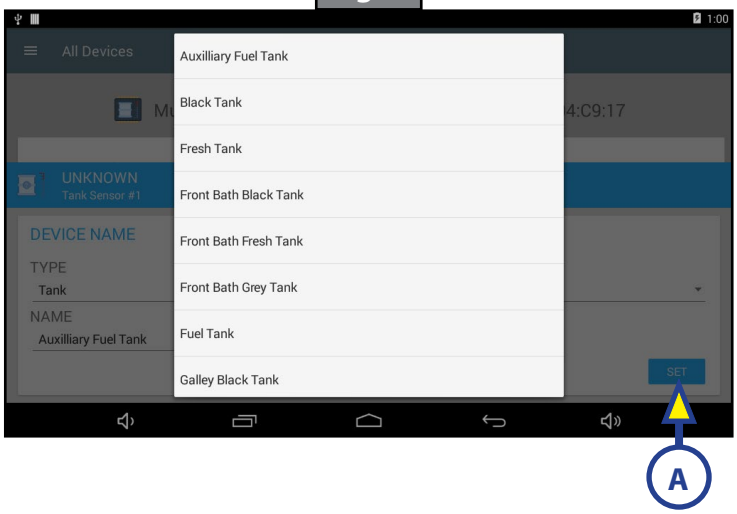



Fig. 5



5. Give a name to each latching relay.
   - **A.** Press the white box for latching relay #1. A screen will appear so it can be renamed (Fig. 6).
   - **B.** Press the line that says UNKNOWN to make visible a list of names available for the product/ function (Fig. 7).
   - **C.** Using the wiring diagram for the tank monitor controller harness, select a name and then press the blue SET button in the bottom right side of the screen (Fig. 7A). A Success message will be displayed under the new name indicating the name has been properly changed.

**NOTE:** Use the TURN ON and TURN OFF icons in the control device box to turn on a latching relay function that was connected to the output (Fig. 8). This will verify the output name is correct.

   - **D.** Repeat step 5 A-C for each latching relay used.

6. Once complete, press the Home icon in the center of the bottom row of the touch screen to exit the configurator (Fig. 8A).

**Fig. 6**

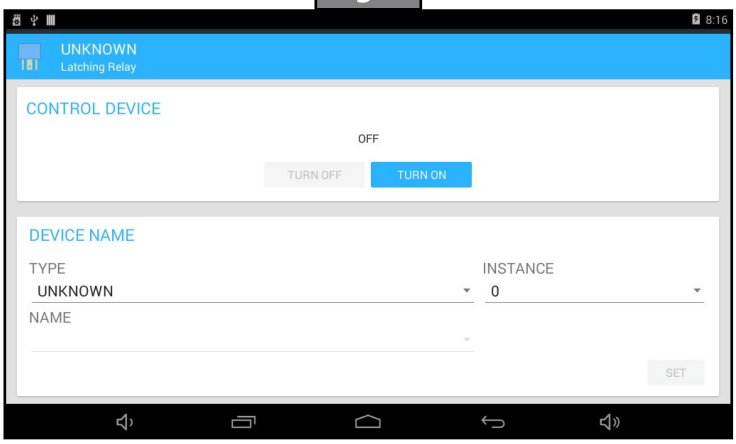



**Fig. 7**

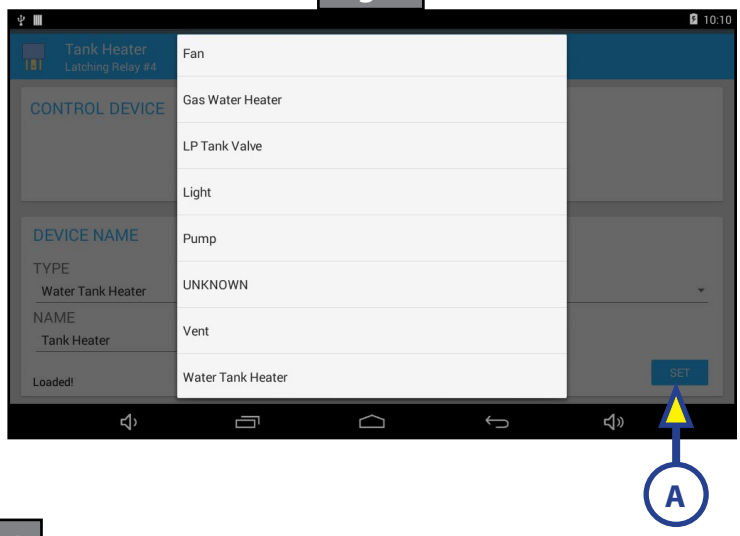
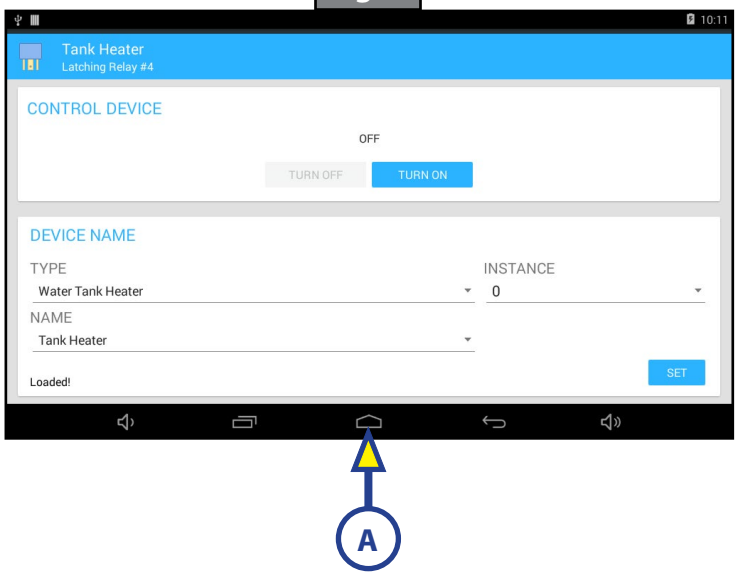



**Fig. 8**



**7.** The tank monitor is ready to use by pressing the Monitor Panel icon (Fig. 9A) to access the tank monitors (Fig. 10).

Fig. 9

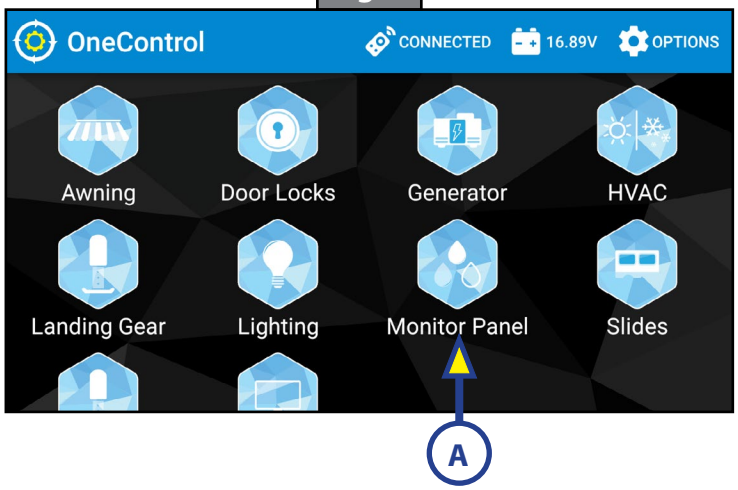
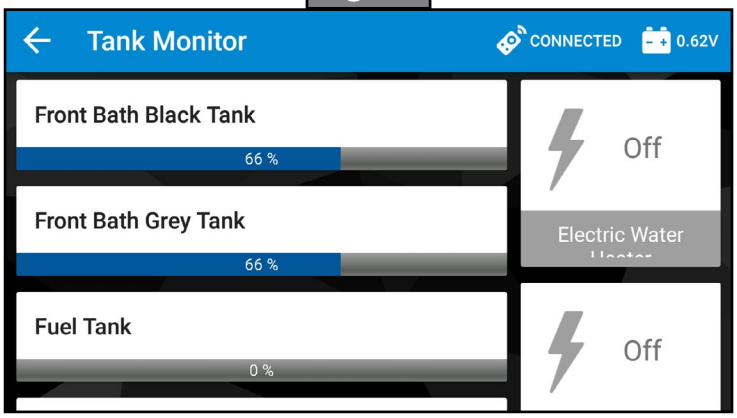



Fig. 10



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