PMI PowerFlex CT™

Overview

The PMI PowerFlex CT ™ is used in conjunction with a multimeter to measure load current on an individual circuit with a maximum range of 6000A.

Features of the PMI PowerFlex CT™

The PMI PowerFlex CT™ will convert the current reading to a proportional voltage measured with a Digital Volt Meter or Oscilloscope.

The PMI PowerFlex CT™ has multi-range Voltage output, which allows it to be used with most any brand of multimeter. This includes the UNI-T® model UT60E True RMS multimeter the PowerFlex CT™ is bundled with from PMI.

The PMI PowerFlex CT™ measures current with its orange flexible CT by completely surrounding the conductor with the PowerFlex's CT. The PowerFlex's CT has an IP65 rating, protecting the CT against wet and dusty environments.

Note: The PMI PowerFlex CT™ is not a recording instrument; it is only used to view real-time current.

How to Use the PMI PowerFlex CT™

Note: The PMI PowerFlex CT™ is used in combination with any multimeter. The Current will display on the multimeter at a 1mV:1A ratio. Please set the multimeter to the 'mV' range.

These instructions show the user how to use the PMI PowerFlex CT™ with any multimeter and also include details for use with the UNI-T® UT60E multimeter that was bundled with your PMI PowerFlex CT™.

1. Plug the red lead from the PowerFlex CT™ into the voltage port on a multimeter (on the UT60E it is labeled 'HzVΩ'). Plug the black lead into the common port on a multimeter (on the UT60E it is labeled 'COM').
2. Turn the dial to Volts (on the UT60E turn the dial all the way to the left marked 'V').
3. Turn on the power on your Multimeter (for the UT60E push the orange power button once).
4. Place your multimeter into AC Voltage mode (for the UT60E press the blue button once to put it into AC voltage mode; pressing it again will toggle it back into DC voltage mode).

5. You may have to change the range on your multimeter from 'V' to 'mV' (to do this for the UT60E locate the four black buttons directly under the display. Choose the first button marked 'RANGE'. Press the RANGE button five times until it displays 'mV').

Note: when using other multimeters they may auto-scale to the correct range.

6. Locate the arrow on the black plastic piece of the orange flexible CT. Clip the orange Flexible CT around the conducting wire, insuring that the arrow is pointing in the direction of the current flow (towards the load).

7. To turn ON the PMI PowerFlex CT™ press the center button once. The button is marked 'POWER/RANGE'.

Note: [This note does not apply when using the PowerFlex CT™ with the UNI-T® UT60E] When using other multimeters you may find a limitation in the range the multimeter can display. If you are measuring current above 999 Amps and your multimter cannot display higher than 999 mV then you need to change the range of the PowerFlex CT™ by pressing the 'POWER/RANGE' button once again. When this button is pressed it can toggle between 2 different output ratios; 1mV:1A scale (1mV/A) and 0.33mV:1A scale (0.33mV/A) as indicated with the light-emitting diodes (LEDs) on the top right of the box. While in the 0.33mV/A range you will have to multiply the number on the display by 3 for the accurate measurement. Note: When powering on, the device will be in the last range selected before the last power off. Usually one should make sure the PMI PowerFlex CT™ is set to the 1mV/A range.

8. Hold the button for four seconds to turn OFF the PMI PowerFlex CT™. All three LEDs blink once before powering off.

9. The Ovld/Low Bat LED has two functions:

    a. Ovld (Overload) is indicated by a solid LED. If you see this condition the PMI PowerFlex CT™ is measuring current out of range and above 6000A.

    b. Low Bat (Low Battery) is indicated by a blinking LED.

Note: These directions are also located on the back of the PMI PowerFlex CT™.

Changing the Battery in the PMI PowerFlex CT™

Note: The battery in the PowerFlex CT™ is designed to last 2,000 hours. The PowerFlex CT™ uses a standard 9V battery and is not designed for routine battery replacements. The battery only needs replacing when indicated by the' Low Battery' LED.

1. Note the amount of gap between the top and bottom sections of the PowerFlex CT™ box.

2. Loosen the four corner screws with a Phillips head screwdriver.

Note: The screws do not pull completely out of the box lid.

3. Note the location of the green flex strip that attaches the lid to the bottom of the box. Avoid unplugging this strip from the PC circuit board.

- *Note: If you accidentally unplug the flex strip, plug it back in immediately.*
- *There is a two-pin connector on the bottom of the box, which plugs into the two-pin header attached to the flex strip. Plug the two-pin header into the two-pin connector.*
- *If you unplug the red and black wires next to the flex strip, do the same thing, except the PowerFlex CT™ box will only work if you reconnect the wires so that the red wire is above the black wire.*

4. Pull the connector out of the foam tape by the battery and unsnap the clip from the battery.
5. Replace the battery with another standard 9V battery.
6. Stick the battery back in, underneath the red and black wires, the way that it came out, with the cap closest to the red and black wires.
7. Close the lid.

Note: Make sure that nothing is covering the LEDs by looking through the small window on top of the PowerFlex CT™.

8. Remember to check the flex strip wires to be sure they did not accidentally become unplugged.
9. Screw the top back down, remembering the amount of gap between the top and bottom sections of the PowerFlex box.

Note: If the gasket starts compressing, do not force the screws down. It is okay to leave a tiny gap between the top and bottom of the box.

Please contact PMI's 24 hour technical support for further assistance.

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