

Orientation page for TriMetric model 2020

Please read this first:

If you have never installed or used the TriMetric before, refer to section below.

If you are familiar with previous TriMetric installation and setup, refer to information on reverse.

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(A) INSTALL: A qualified person should install the TriMetric.

STEP 1: Read (or at least quickly review) section **A**, pages 2-3 of the manual "**METER INSTALLATION-PRELIMINARY**":

STEP 2: Study the wiring diagram on last page of manual.

STEP 3: Install according to section **B: METER INSTALLATION**.

(B) ENTER DATA: To get the TriMetric working the first time, you need to enter some system data.

STEP 1: Refer to table 1 on page 13 of the instructions, which summarizes the TriMetric programmed data that may be changed, and shows how to change it. To get started, the most important data to enter correctly are the "**charged setpoint voltage**", the "**charged setpoint amps**" the "**battery capacity**" and the "**charge efficiency factor and shunt type**".

STEP 2: Enter the "charged setpoint voltage" (refer to first item of table 1, p. 13): Setting all other programmed data is done in a very similar manner, so once you've done this one, changing the others should be easy.

2.1 Push **select** until the display shows **volts**.

2.2 Press and hold **select**. While holding **select** press **reset**. Release both and the **volts** light should flash and a number will show in the display -- the "charged setpoint" voltage.

2.3 This displayed number must be set to the correct value. If you have wet cell lead acid batteries, start by entering **14.3** if you have a 12 volt system, or **28.7** if you have a 24 V system. (More detail on choosing charged setpoints may be found in section C1, pages 4-5 of the manual.) Push **reset** a few times to change the numbers. As you do so notice that the numbers increase by .1 with each push. Holding **reset** down scrolls the display. (After the numbers go above 65.0, they cycle back to 10.0 again.) Put in the number you desire and press **select** again to get out of the program mode.

STEP 3: Enter the "charged setpoint amps": Programming this is similar to STEP 2 except that instead of starting from the "volts" display, you start from the "Amps" display. Start by programming "**OFF**". This appears just after 100, and before 1. "OFF" means that the TriMetric will not use the "amps" data when determining whether the batteries are charged..

STEP 4: Enter the "charge efficiency factor and shunt type": Programming this is similar to STEP 2 except that instead of starting from the "volts" display, you start from the "Battery % Full" display. If you have a 500A/50 mV shunt (the most common) enter "**H**" (which is the factory default). If you have a 100A/100 mV shunt, enter "**L**". Use "**94**" for the efficiency factor for either **H** or **L**. You should end up seeing either "**H94**" or "**L94**" displayed.

STEP 5: Enter "battery capacity": This is necessary for the "**% BATTERY FULL**" display to read correctly. Determine your "battery capacity", that is, the total amp-hours which your *battery system* can hold when full. Refer to section C4, p.6 of instructions for information about capacity, or ask your dealer who sold you the batteries what this value is. While displaying "volts", "amps" or "battery % full", push and hold "select" for 2 seconds until you see "AH" appear. This is the "amp hours from full" display. Then enter program mode as you did in step 2.2 above. The desired "battery capacity" value is entered here by pressing on the reset button as you did in Step 3. Start by entering a value that is 50-75% of your actual battery capacity. Note that while showing the data, **if the decimal point is flashing**, that means multiply the number by 1000. For example, 1.20 with flashing decimal point means 1200 amp-hours.

(C) USE: A complete summary of TriMetric operation is shown page 12. The factory default setting on your meter has been set so that all three functions which would illuminate the "battery reminder" light are selected "off". Read sections C 5, C6 & C8 of instructions to activate these functions if desired. Also see the reverse side of this sheet.

(D) AFTERWARDS Read the instruction manual to become more familiar with the TriMetric. Review section C to check and "fine tune" the programmed data which is entered. You may also want to read "**Using the TriMetric (or other battery system monitor) to maintain your battery system, conserve energy and troubleshoot system problems.**", which is written for persons with less technical background.

Quick description of what the main numbers mean:

"AMPS" tells how fast energy is being put in or removed from the batteries: useful for conservation awareness, and checking charging systems. The "minus" sign, when lighted indicates discharging. When the minus sign is not lighted (and the "charging" lamp is lighted) indicates "charging". Turning on and off an electrical load will tell you how much current draw the load takes by comparing the difference. Turning on or off a charging source will tell you how fast it's charging.

"BATTERY % FULL" tells how full the battery is. *This number is not valid until the first time the batteries are charged fully.* After the batteries are charged the first time causing the "charged parameters" to be attained "FUL" indicates a full battery. After discharging energy from the batteries for awhile, the number will show 90, 85, etc. to show about how much battery energy is available. When the number becomes less than 30, the display will say "LO"—which indicates that the batteries are getting low on energy and should be recharged. (more information, see sections D6 and C1, of instructions).

"VOLTS" gives an approximation of how charged the batteries are, especially at the extremes of fully charged, and almost empty. It is an important diagnostic tool for troubleshooting problems. Refer to information in **"Using the TriMetric (or other battery system monitor) to maintain your battery system, conserve energy and troubleshoot system problems."**

To learn more we suggest that you should read **Using the TriMetric (or other battery system monitor) to maintain your battery system, conserve energy and troubleshoot system problems.**

If you are familiar with installing and using TriMetric from before: here are the differences between the older type (TM-1B and TM-2B) and the new TriMetric 2020.

1. Installing the meter is the same as the "4 wire" (TM-1B, TM-2B) before. The same wiring diagram applies.
2. Refer to table 1 on page 13 of instructions for a summary of all programmed functions. Putting in the "voltage" and "amps" charged criteria is the same as before, except that the "auto reset" on/off function is done differently (see "Preferences" in table 1). *Now in addition you must enter battery capacity, which is the total amp-hours for your system, for the "BATTERY % FULL" display to show correctly.* Programmed data is entered similar to before. Note that shunt type and efficiency factor is entered now in the "Battery % FULL" data mode, not the "blank mode" as before.
3. See page 12 for operation summary. The Battery Reminder function will originally be "off". To activate it, refer to section C, parts 5-7.

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