

## Powermate 330 - Detailed Test Instructions

- 1) Turn Unit ON and **Verify** the 3Phase current probe set attached to the unit matches the set selected for usage (ie, verify "**CAL=xxxxx**" name on the right side of the screen). {To change the selected probe set, press <CTRL> and then <#4>; <F5> to exit}
  - 2) Press the <PEAK> key.
  - 3) Enter **Filename** as the {Serial # of meter}, **Description** as the {Customer Name}, **User** as {your initials}, and **Acnt** as {Account #}. [Only the filename is required].
  - 4) Press <F5> key to accept the **Required** Site Description data entry.
  - 5) If required, press the <F1> key to select the **Service Type**:  
If site is 3-phase, 4-wire, with Form 9 meter, leave Auto Detect service. Otherwise, scroll through the service types and select the correct definition of this site.  
Press the <F1> key to accept the Service Type.
  - 6) Carefully connect voltage clips and current probes: Normal definitions are: Red="A", Black="B", Yellow="C".
- 
- 7) Press the <2> key and verify the **Vector Analysis** is OK: Verify the voltage and current vectors for each phase are properly paired (Use F3 as an aid).
  - 8) Press the <F5> key to exit the Vector Analysis.
  - 9) Press the <3> key and verify the **Power Data Table** is OK: Verify normal voltage and current values and (usually) positive watts for each phase with reasonable PF values.
  - 10) Press the <F5> key to exit the Power Data Table.
- 
- 11) Start the formal testing by pressing the <8> key **Integrated Site Test**.
  - 12) After startup message, press the <F3> key to auto collect and save site data.
  - 13) When the screen indicates ready for Meter Test, press the <ENTER> key.
  - 14) Enter (or verify) the #Revolutions as 0, the proper Meter Constant (Kh), and Test Time as 60 seconds. Verify the Test Mode is set to "W-HR" (watt-hour), and verify all pulse factors are left at default values of 1.000 (use up/down arrow keys to move between fields).
  - 15) Press the <ENTER> key once to accept data and start the pulse setup mode.
  - 16) Install the optical pickup (or IR pickup) and adjust until meter pulses are indicated on the screen. (Cover with dark rag if sunlight present) {Pushbutton may also be used.}
  - 17) After the pickup is aligned, press <ENTER> once to start the Meter Test.
  - 18) After Meter Test is complete (or manual stop using the F4 key), review the displayed results. If %Registration is within limits and VARY is low, continue to step 20. If not, verify there is no setup problem and/or need to test longer. Continue to step 19 to correct and restart test. {If actual meter error, go to step 20 to save out-of-tolerance results.}
  - 19) To retest after test time change and/or correction of a setup problem, press the <F5> key once. Correct any data entry errors on the setup screen (if needed) and/or increase the Test Time to 300 seconds. Press <ENTER> again to restart testing.
  - 20) To accept the results of the previous Meter test, press the <F5> key, **wait for screen update**, and then press the <F5> key **again** (the message "**Data Saved**" appears).

## Powermate 330 - Detailed Test Instructions { Pacificorp }

- 21) At the Test CT#1 screen, press the following key based on the desired test:  
Press <F3> for Burden and Ratio test (**Strongly recommended**)  
Press <F2> for Burden ONLY test (Only if CT Primary not safely accessible)
  - 22) If required, use down-arrow to move to the **CT Secondary** line and then use right/left arrow keys to set "BURDEN/DIRECT" for secondary current input from a test switch.
  - 23) {Skip if Burden ONLY test} If required, use down-arrow key to move to the **CT Primary** line and then use right/left arrow keys to set for the actual probe being used for the CT primary current measurement (see Cautions below):  
If the High-Voltage fiber optic probe is used, select "BNC/HVOPT"  
If the 36" Flex probe is used (single wrap), select "IQV/FLEX36"  
If the 36" Flex probe is used (double wrap), select "IQV/FLEX18"  
If a clamp-on probe is used, select "+5A/xxxxxx" (xxxxxx=probe name)
  - 24) If required, use down-arrow key to move to the **Maximum Burden** and then use right/left arrow keys to set for "1.0 Ohm". (Site may change this test limit)
  - 25) Press <F3>, enter the **Nameplate CT and VT ratios**, and press <ENTER>. {If not entered here, nameplate data may be entered any time before the third CT is tested.}
  - 26) If needed, remove the PX186 clamp-ons (or IQ Plugs) and set them aside (do not drop).
  - 27) **Make sure the Burden cable is connected to the Powermate** and then plug the Burden Direct (purple color code) into Phase A test switch position (CT secondary).
  - 28) {Skip if Burden ONLY test} Connect the CT Primary probe selected in step 23 to the Powermate and then around the CT Phase A primary conductor. Refer to specific probe setup instructions on the following page.
- 
- 29) Press <ENTER> to start the CT testing and display the test results.
  - 30) Observe any displayed warning messages and review the test results. If within limits, continue to step 32. If not within limits, verify there is no setup problem and continue to step 32 to save results if no setup problem found.
  - 31) To retest after discovery and/or correction of a setup problem, press the <F5> key once. Correct any data entry errors on the setup screen (if needed). Then press <ENTER> again to restart CT testing.
  - 32) Press the <F5> key, **wait for screen update**, and then press the <F5> key **again** (the message "Data Saved" appears) to save the final CT test results. {Data is not saved until this message appears.}
- 
- 33) **To test CT Phase B:** Press the <ENTER> key to start the CT test setup menu, plug the Burden Direct (purple color code) into Phase B test switch position (CT secondary), move the primary current probe to the phase B primary conductor, and repeat steps 29 to 32.
  - 34) **To test CT Phase C:** Press the <ENTER> key to start the CT test setup menu, plug the Burden Direct (purple color code) into Phase C test switch position (CT secondary), move the primary current probe to the phase C primary conductor, and repeat steps 29 to 32.
  - 35) After "Data Saved" is displayed, press <ENTER> to skip further entries.
  - 36) Carefully remove the primary probe and all secondary connections. Neatly fold or roll the test leads (as appropriate) into their cases.

# Powermate 330 - Detailed Test Instructions { Pacificorp }

## CT Test Probe Instructions

### CONNECTION STEPS for CT Primary Probes :

**If using High Voltage Fiber Optic Probe:** Connect 3' coax cable from receiver module to the BNC connector (Process Voltage In) of the Powermate. Connect the "fork" shaped measurement head to the end of a hot stick (telescopic). Press the black buttons on both modules to turn both modules ON (receiver display reads 0.0) and quickly extend the hot stick until the opening of the probe is fully around the Phase "x" conductor (black button faces source). {Unit turns OFF in 2 minutes if no current.}

**If using 36" Flexible Current Probe: [\*\*\*Less than 600V\*\*\*]** Connect the Flex probe to the IQV input of the Powermate (use extension cables if required). Wrap the flexible probe around ALL of the CT primary Phase "x" conductor cables. Wrap twice if specified in step 28 above. (Arrow on Flex probe points toward the source.)

**If using Clamp-On Current Probes: [\*\*\*Less than 600V\*\*\*]** Connect the clamp-on probe to the +5A input of the Powermate (use 5A extension cables if required). Clamp the probe around ALL of the CT primary Phase "x" conductor cables. (Arrow on probe points toward the source.)

### \*\*\*CAUTIONS\*\*\*:

- 1) **ONLY** the High Voltage Fiber Optic probe may be used for measurements on conductors at voltages above 480V.
- 2) The gray extension cables used with the flexible probe is only rated to 300 volts and should not be allowed to droop inside a CT cabinet. The black cables between the flexible probe head and final output are rated for over 600 volts and are safe for running through a 480V service area.
- 3) When using the 36" flexible probe, try to wrap the probe twice around the CT conductors for best accuracy. If wrapped twice, remember to setup the Powermate to the FLEX18 setting because the current output will be doubled and this setting will recognize the proper output. Keep the wrapped probe as close to perpendicular to the conductor(s) as possible.
- 4) When using clamp-on probes, verify there is nothing on the closing surfaces of the probe and that the probe jaws close fully. (Allow the probe jaws to "snap" closed and listen for a solid impact.) Keep the probe as close to perpendicular to the conductor(s) as possible.

# Powermate 330 - Data Download Instructions

- 1) If not already active, apply power to the computer and allow W95/98/NT to boot.
- 2) Connect the communications cable between the laptop and Model 330.
- 3) Apply power to the Model 330.
- 4) Double click on the EDIT330 Icon to start the communications program.
- 5) Single click on Red Communications button and answer YES.
- 6) On the Default Screen, leave NONAME as the default filename. Also select the desired "Save In" directory {normally RAWDATA} and click on SAVE.
- 7) Verify the serial port {normally **COM1**} is selected, the baud rate is set {normally **57600**}, and the data is set to be "Saved By" **FILENAME**.
- 8) Click on the "Auto Dump All" button and let the data dump complete.
- 9) Download automatically starts with the Main Menu displayed followed by a display of each data screen and data record dumped from the Powermate.
- 10) Download is complete when the Model 330 returns to the Main Menu screen and the "COMPLETE" message appears on the laptop.
- 11) To stop the laptop communications mode, single click on the Green Communications button and answer YES to the verification to stop communications.
- 12) Click FILE (upper left) and then OPEN to view a directory of downloaded files. (Verify the directory is the same as selected for download in step 6.)
- 13) Verify all data has been dumped by selecting data files that were downloaded and reviewing the saved screens. Repeat step 12 for other files as desired.
- 14) (The Model 330 may be powered OFF and the cable disconnected.)
- 15) (When complete, exit the EDIT330 program by clicking on the upper "X" button or by clicking on FILE and EXIT.)
- 16) AFTER all data has been verified to be downloaded to the computer, clear the Powermate local memory. From the Main Menu, press the <I/O> key and then press the <F4> key (Clear Memory). When prompted for verification, press the <CTRL> key to confirm memory clear.

**NOTE:** The latest EDIT330 communications software with installation instructions can be downloaded from our WebPage [www.powermetrix.com](http://www.powermetrix.com) under the Software Updates button (near bottom of main page).