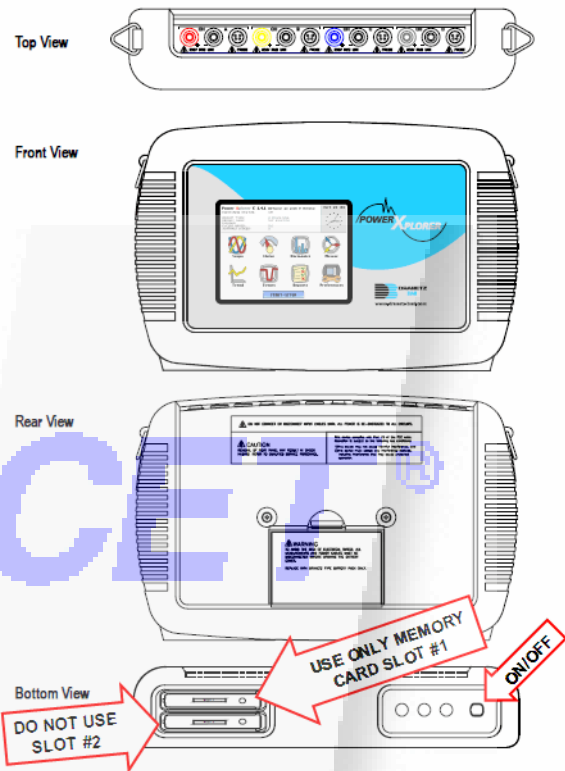


**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

PURPOSE: This document provides detailed configuration/setup instruction for the Dranetz-BMI PowerXplorer PX5, PowerGuide 4400 and PowerVisa 440 power monitors when used in the Power Quality Monitoring mode. The document is organized with discussion/explanation/instructions in the left column and the appropriate monitor screen in the adjacent right side column.

Memory Card Installation (Firmware version 4 and above)

The Compact Flash (CF) memory card **MUST** be installed in the upper (top) CARD SLOT #1. With firmware version 4 and above the bottom (lower) Card Slot #2 is no longer used.

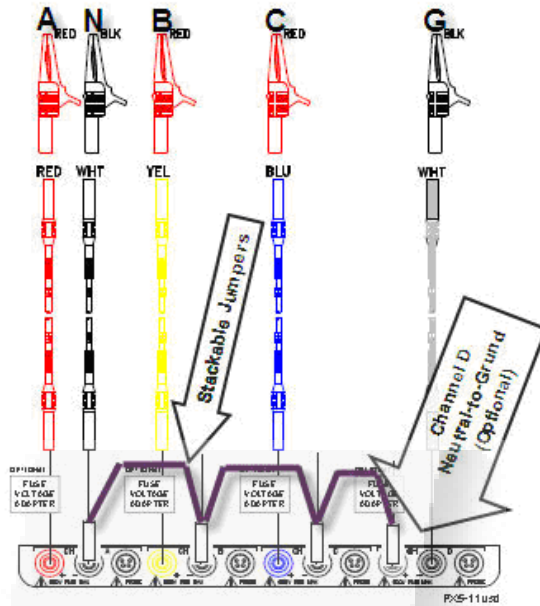


Drawing 1

**DETAILED SETUP INSTRUCTIONS
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Monitor Hardware Configuration (3-phase, 4-wire, wye)

The line drawing to the right shows a 3-phase 4-wire configuration with Neutral-Ground being monitored on Channel D and stackable jumpers used to connect neutral on each of the phase channels.



Drawing 2 – Voltage lead configuration using stackable jumpers for a 3P4W application with N-to-G on Channel D.

Picture of actual voltage wiring and use of stackable jumpers for the neutral.

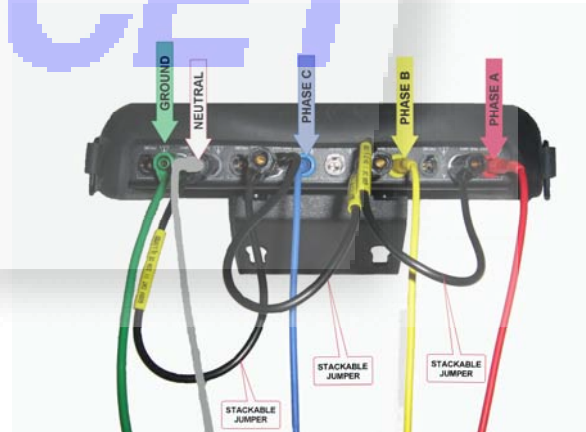


Photo 1 – Three-phase 4-wire using stackable jumpers for multiple neutral connections and neutral-ground connected to Channel D.

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All current probes will have an ARROW somewhere on the probe. The current clamp/probe should always be installed with the ARROW pointing toward the LOAD.

Installing current clamp/probes “backwards” will result in negative power (Watt) readings.

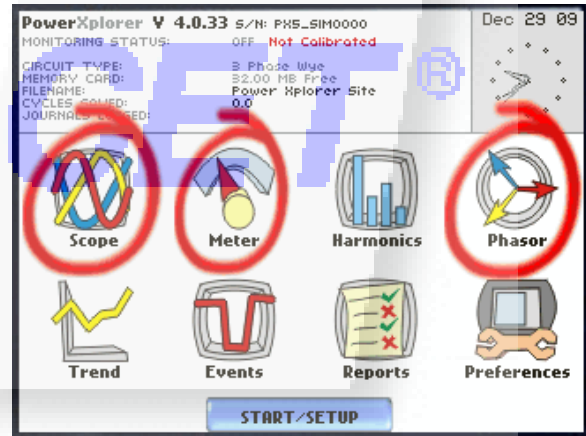


Photo 2 – Flex current probe connector showing ARROW.

Connection Verification

This activity assumes that at least initial monitor configuration has been completed and that the correct current probe selection has been made. In addition the monitor must be connected to an energized circuit ... hopefully one with a load.

The SCOPE, METER and PHASOR selection are used to verify correct physical connection of the monitoring equipment to the circuit being monitored.



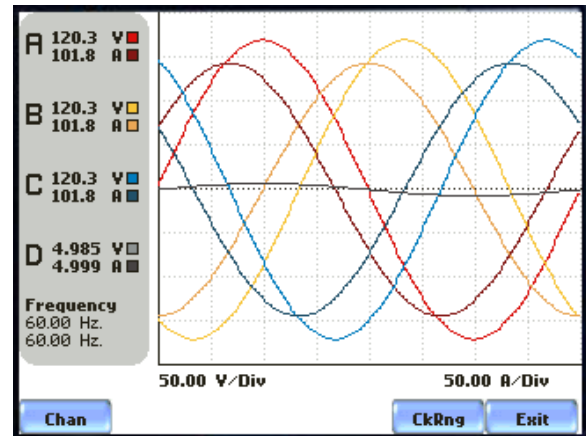
Screen 1

The SCOPE function displays the real-time waveforms for voltage and current if the monitor is connected to an energized electrical circuit.

The voltage and current readings are summarized in the box at the left of the screen.

The channel display can be controlled through the CHAN tab at the lower left of the screen.

Verify that the voltage and current waveforms make “sense” for the circuit configuration being monitored.



Screen 2

**DETAILED SETUP INSTRUCTIONS
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Next touch the METER icon on the menu screen to display the live meters.

Verify that the voltage and current meter readings are appropriate for the circuit being monitored.

Select the POWER tab along the left side of the screen to display the power meters.

| Standard | | | Distortion | | | Unbalance | | | UserFreq | | | Advanced | | |
|------------|-----|--|------------|--|-------|-----------|--|--|----------|--|--|----------|--|--|
| Basic | | | Volts | | | Amps | | | | | | | | |
| Comp Basic | A | | 120.3 | | 101.8 | | | | | | | | | |
| Power | B | | 120.3 | | 101.8 | | | | | | | | | |
| Demand | C | | 120.3 | | 101.8 | | | | | | | | | |
| Energy | D | | 4.985 | | 4.999 | | | | | | | | | |
| Harmonics | A-B | | 209.3 | | * | | | | | | | | | |
| Flicker | B-C | | 209.3 | | * | | | | | | | | | |
| | C-A | | 206.3 | | * | | | | | | | | | |

* Derived values Exit

Screen 3

On the POWER meter screen verify that the WATTS are positive. A negative value generally indicates that a current probe has been reversed or that there is a reversal in some current probe wiring.

Touch **EXIT** to continue.

PowerCET

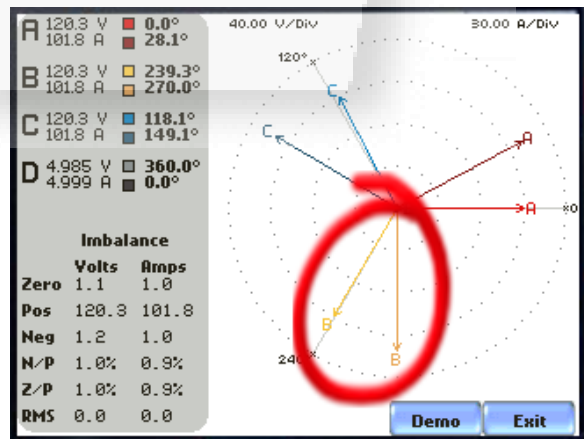
| Standard | | | Distortion | | | Unbalance | | | UserFreq | | | Advanced | | | | | |
|------------|-----|--|------------|--|--------|-----------|--|---------|----------|--------|--|----------|--|--|-----|--|--|
| Basic | | | Watts | | | VA | | | VAR | | | TPF | | | DPF | | |
| Comp Basic | A | | 10.80K | | 2.25K | | | -5.772K | | -0.882 | | -0.882 | | | | | |
| Power | B | | 10.51K | | 2.25K | | | -6.252K | | -0.858 | | -0.860 | | | | | |
| Demand | C | | 10.51K | | 12.25K | | | -6.295K | | -0.858 | | -0.858 | | | | | |
| Energy | D | | 24.92 | | 24.92 | | | <0.01 | | -1.000 | | -1.000 | | | | | |
| Harmonics | Tot | | 31.81K | | 36.74K | | | -18.32K | | -0.866 | | -0.866 | | | | | |

Exit

Screen 4

On the main screen select the PHASOR icon to view the real-time phasor display.

Verify that the voltage phasors are in the correct clock-wise rotation and that the phasor pairings are correct...the voltage and current phasors for each channel should be pointing in the same general direction. If a current phasor is pointing in the opposite direction from the voltage phasor this is an indication that either a current probe is reversed or that the current phasor is not paired with the correct voltage phasor.



Screen 5

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
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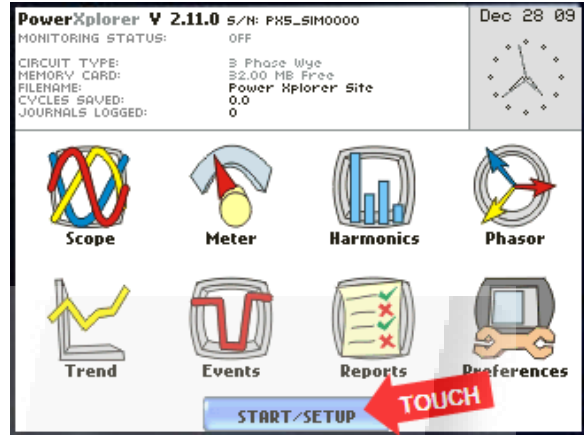
Detailed Power Quality Mode Configuration Programming

The following section takes the user through a detailed step-by-step configuration/setup of the Dranetz-BMI PowerXplorer PX5, PowerGuide 4400 or PowerVisa 440 monitor.

Initial setup/programming is always started from the MAIN MENU screen with the START/SETUP bar at the bottom.

The monitor may be programmed before or after it is connected to the circuit to be monitored. In any case it may be necessary to review the recorded monitoring data after a few hours/days of monitoring activity and adjust threshold values as needed...think of it as "tuning" the settings to the site being monitored.

Start by touching the **START/SETUP** bar.

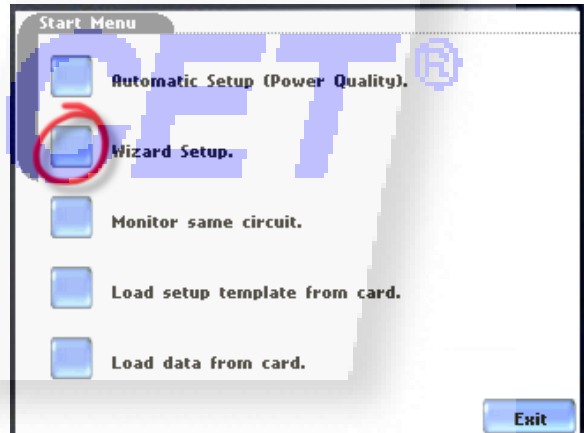


Screen 6

The next screen to appear will be the START MENU with 5 selections. Using the WIZARD SETUP is recommended for all initial setup activity.

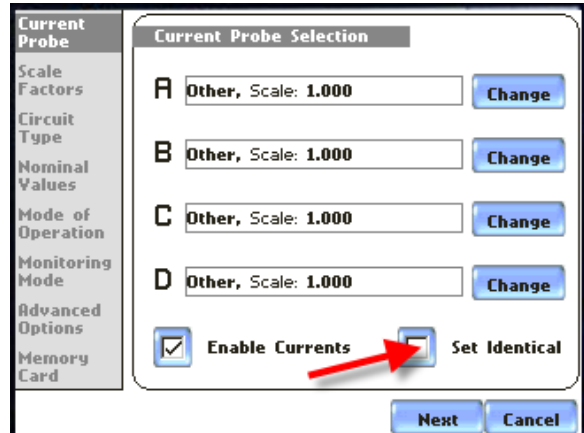
NOTE: If the monitor has already been programmed then MONITOR SAME CIRCUIT would be the selection. Selecting the "wizard" again will require complete reprogramming.

Touch **WIZARD SETUP** to proceed.



Screen 7

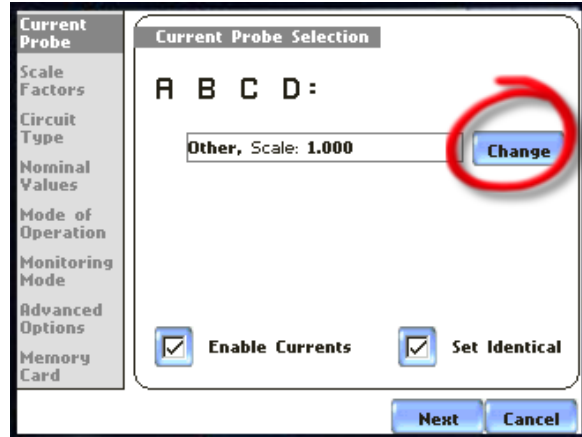
The CURRENT PROBE SELECTION screen will appear. If monitoring in a 3-phase situation select **SET IDENTICAL**.



Screen 8

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

Touch **CHANGE** from the screen to display a scrolling menu of pre-programmed (scale factors are set automatically) current probes.

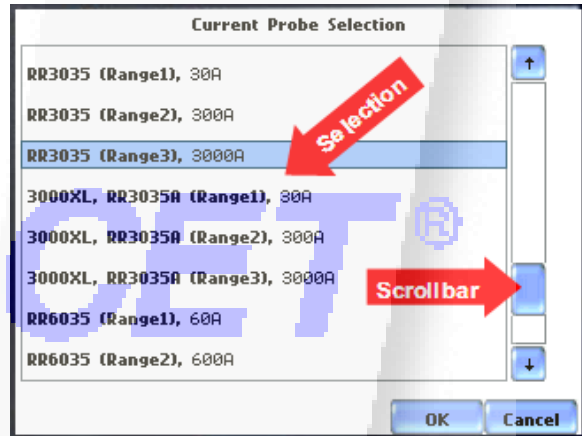


Screen 9

If the current probe you are using appears on the list it may be selected by touching the menu entry which will be highlighted...make sure you have selected the correct menu entry.

Touch **OK** to continue.

PowerCET



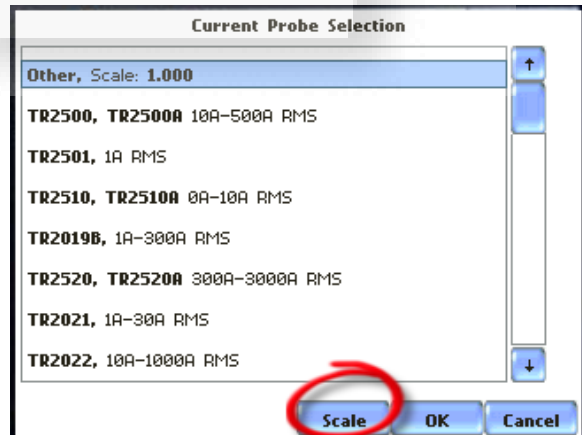
Screen 10

If the current probe you are using does not appear on the menu and there is no equivalent entry you may use the OTHER selection to manually set the appropriate scale factor.

To determine the correct scale factor for a current probe divide the full-scale range by the probe's full-scale output. Example: 6000A range with a 3V output would require a scaling factor of $6000/3 = 2000$.

Some probes will list their output as so many volts/amp. Example: 0.5V/A translates to 1A resulting in a 0.5V output... $1/0.5 = 2000$.

Touch **SCALE** to continue.

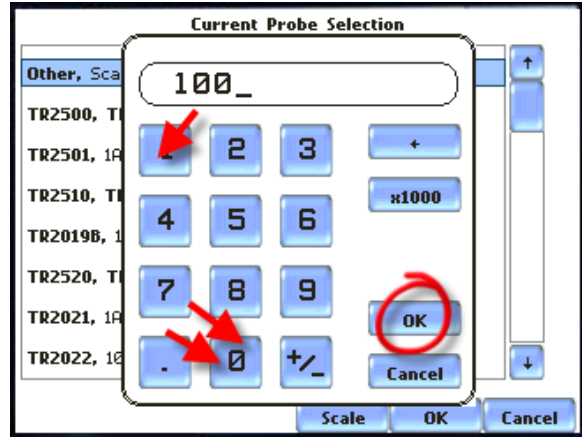


Screen 11

DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440

The touch key pad appears to allow the appropriate manual scale factor entry.

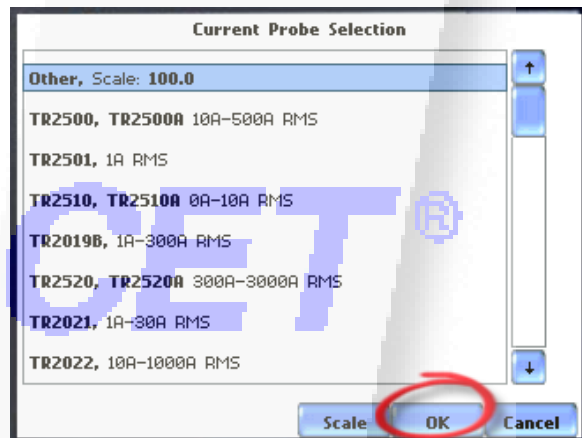
Enter the desired scale factor number and touch **OK** to continue.



Screen 12

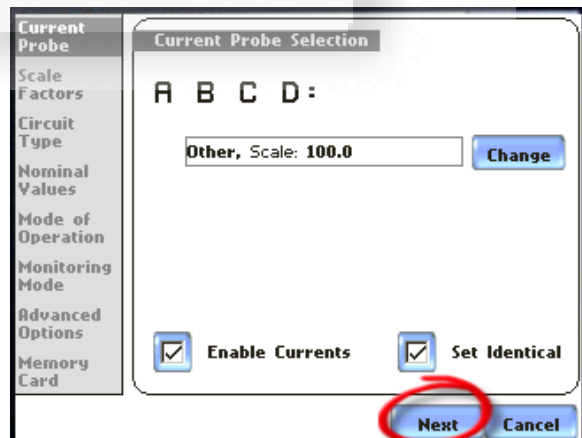
The selection menu reappears.

Verify the correct scale factor entry and touch **OK** to continue.



Screen 13

The CURRENT PROBE SELECTION menu should appear. If the entry is correct touch **NEXT** to continue.



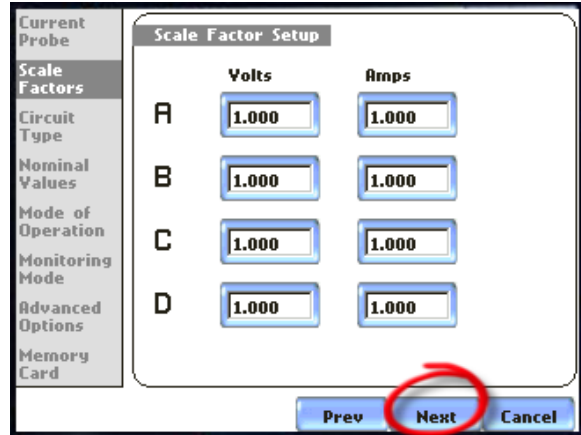
Screen 14

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The SCALE FACTOR SETUP screen should appear.

These scale factors are only used if the monitor is to be connected to the output of potential transformers (PT) in the case where voltages higher than 600Vrms are being monitored or the secondary of other metering current transformers (CT)...typically the 5A secondary of metering CTs.

Generally these values should remain as shown. Touch **NEXT** to continue.

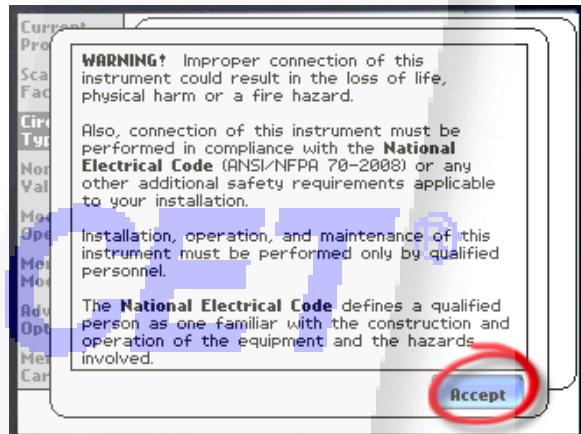


Screen 15

The WARNING message will appear

Read the message and touch the **ACCEPT** to proceed.

Power

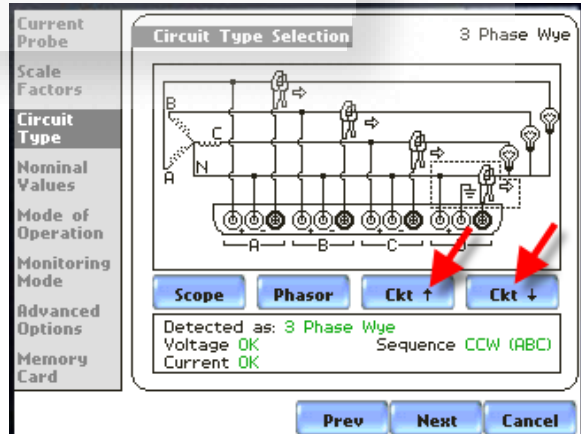


Screen 16

The CIRCUIT TYPE SELECTION screen will appear.

If the meter is connected to a live circuit it will automatically detect the circuit type. If not connected then it is necessary to use the **CKT** touch keys to change the circuit type which appears in the upper right of the screen and the schematic will change with each circuit type.

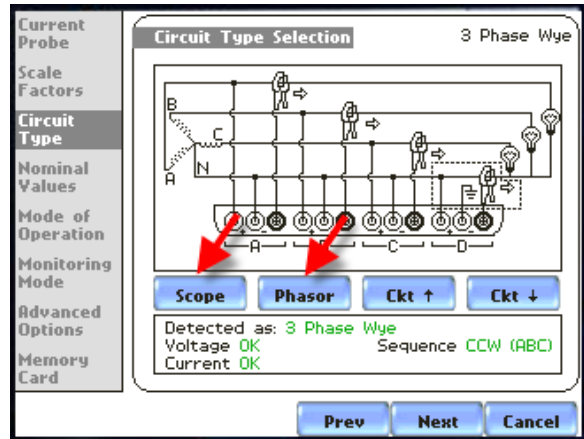
The box below the diagram indicates the circuit type detected and if the voltage, current and sequence are correct. The current must be at least 10% of the probe range to indicate OK.



Screen 17

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
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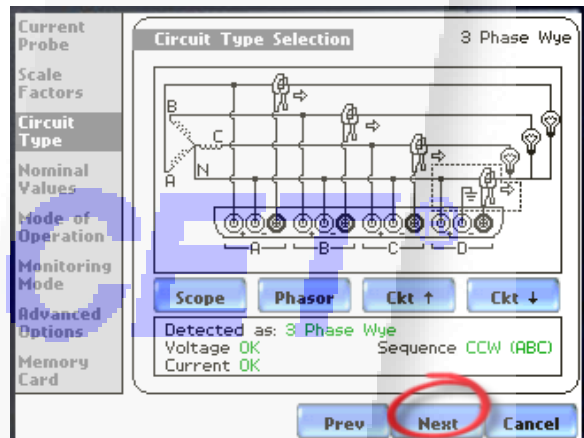
The SCOPE and PHASOR touch keys may be selected to view connected waveforms and phasors to aid in determination of any connection problems.



Screen 18

Touch **NEXT** to continue

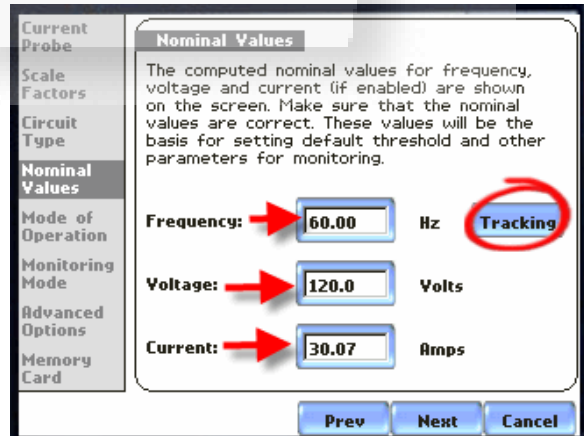
Power



Screen 19

The NOMINAL VALUES screen will show the voltage and current levels detected if the monitor is connected to a live circuit. The detected values may be accepted or new values can be entered. The value appearing/entered is used for establishing the *recommended* various threshold levels later in the programming activity. Ideally realistic values should be entered.

Touch **TRACKING**.



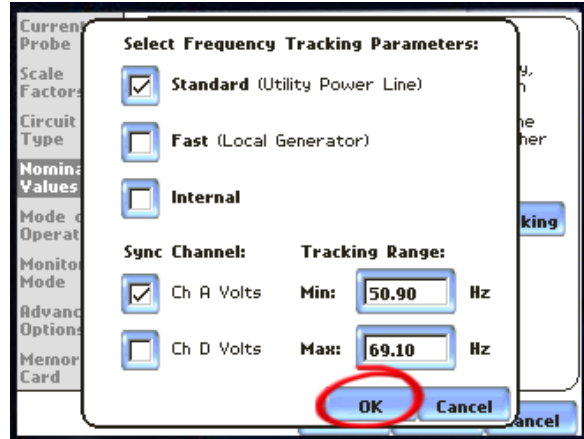
Screen 20

DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440

This screen allows you to control various features of the monitor with respect to the frequency of the power source being monitored and the line synchronization.

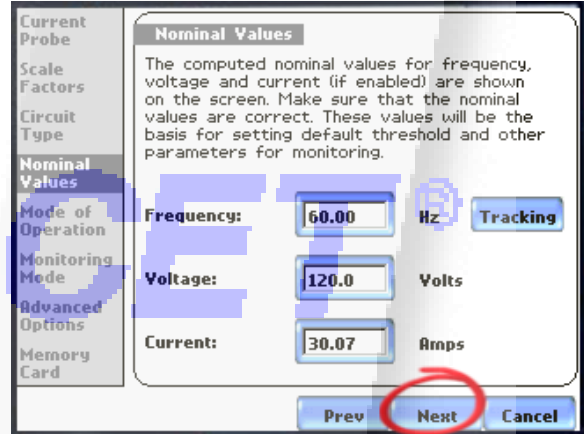
In most cases the default values should be sufficient.

Touch **OK** to continue.



Screen 21

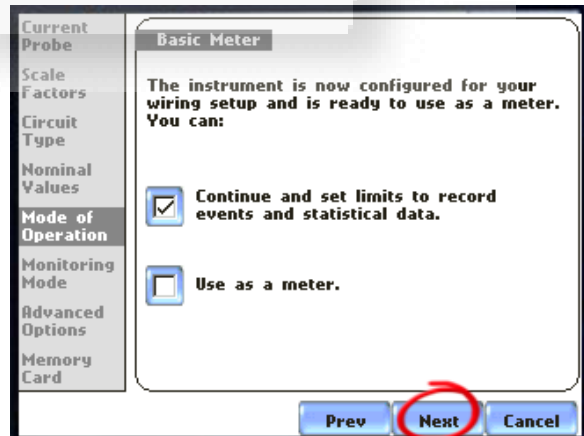
Touch **NEXT** to continue.



Screen 22

At this point in the setup process you can elect to exit and simply use the monitor as a meter by selecting the **USE AS A METER**.

Leave the default selection and touch **NEXT** to continue.



Screen 23

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The CHOOSE MONITORING MODE menu screen has 8 selections for the PX5 and PG4400 (the PV440 has only 4 selections).

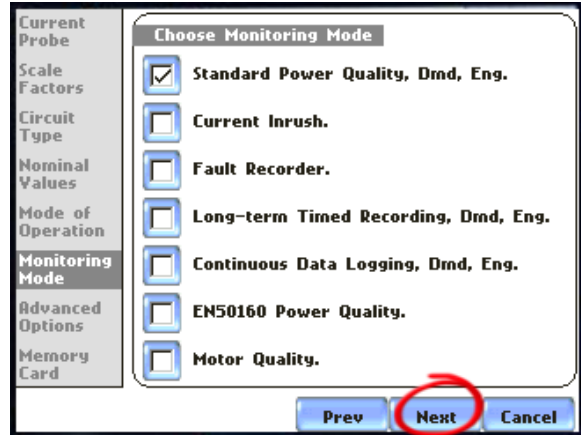
These selections are simply pre-programmed monitoring configurations to save the user time in configuring the monitor for various activities. In reality any of the configurations can be re-configured to any configuration or a totally unique configuration.

This procedure focuses on the STANDARD POWER QUALITY, DMD, ENG selection which is the most common. The following screens will discuss modification to the default configuration to improve the quality of the monitoring activity.

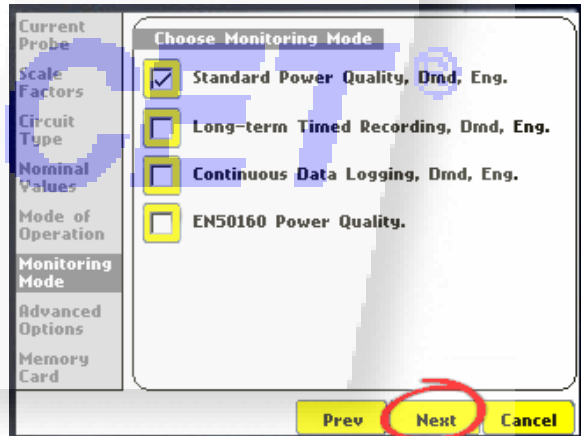
Leave the first selection checked and touch **NEXT** to continue.

This screen shows the selections for the PowerVisa 440.

Leave the first selection checked and touch **NEXT** to continue.



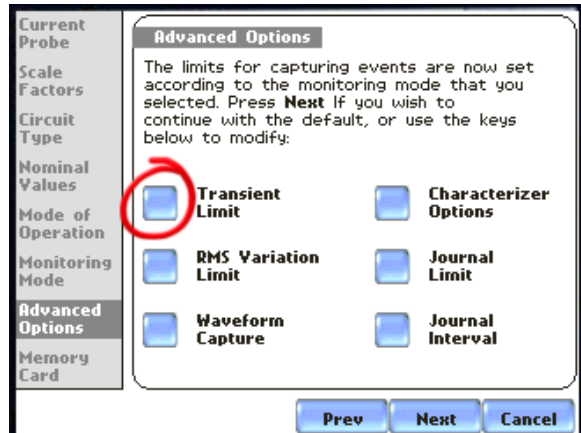
Screen 24 - This menu PX5 & 4400 only.



Screen 25 - This menu PowerVisa 440 only.

The ADVANCED OPTIONS menu screen marks the start of the threshold setting activity for event recording. There are 6 menu choices and it is best to start at the upper left and work through all of the selections.

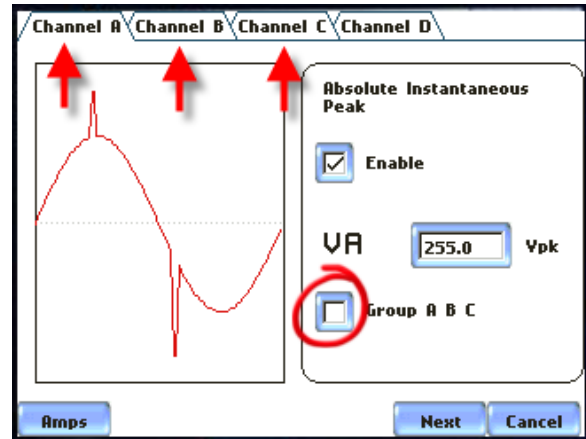
Touch **TRANSIENT LIMIT** to continue.



Screen 26

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The ABSOLUTE INSTANTANEOUS PEAK screen is the first under the TRANSIENT LIMIT's and initially shows the individual channels...A, B, C and D...as individual taps. Continuing in this configuration requires that each channel tab be selected and programmed individually...very time consuming. HINT! Get in the habit of touching the **GROUP A B C** box as soon as you enter the threshold screen when the application is 3-phase. Doing so will group channels A, B and C for programming purposes. Channel D is always programmed separately.

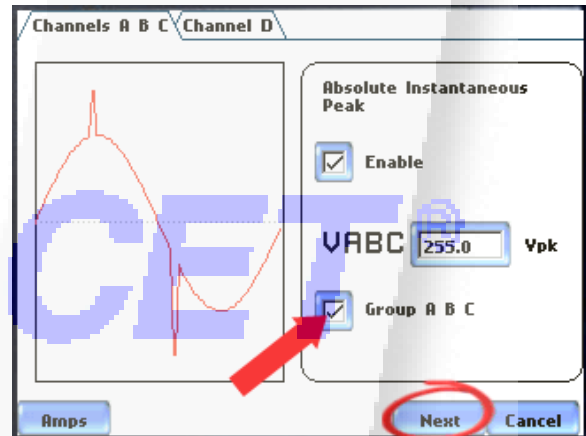


Screen 27

The ABSOLUTE INSTANTANEOUS PEAK threshold represents the peak value, **not** the RMS value. The peak value for a sinusoidal wave form can be determined by multiplying the RMS by 1.414...i.e., $120V_{rms} \times 1.414 = 170V_{peak}$. The default value of this threshold is approximately 1.5 times the peak value of the nominal voltage entered previously on Screen 17.

Generally the default value based on the correct nominal value should be sufficient for most monitoring applications.

Touch the **GROUP A B C** box and then **NEXT** to continue.



Screen 28

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

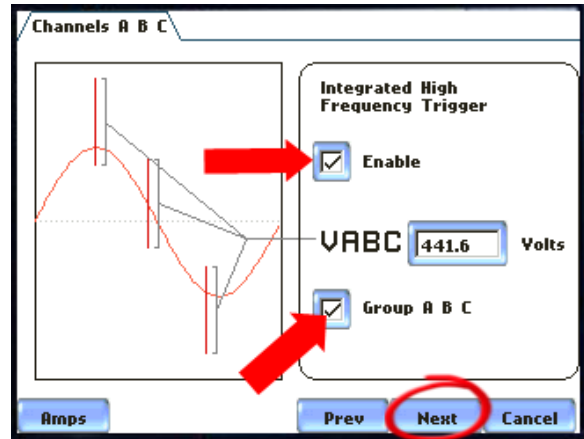
This screen, INTEGRATED HIGH FREQUENCY TRIGGER is only available on the PX5 and is associated with the 1MS/s high speed digitizer. The monitored signal is actually coupled through a high-pass filter (no 60Hz) and then is triggered by a peak detect circuit according to the threshold setting. The triggered signal is then digitized by the 1MS/s digitizer.

Initial threshold settings should be 10% to 20% above the peak value of the rms waveform to avoid triggering to SCR voltage notching every half-cycle. The threshold can always be decreased during later monitoring sessions.

Touch **GROUP A B C** and set threshold value to 110% to 120% of the peak value of nominal rms voltage.

It is possible to set this threshold for AMPS as well, but this should only be attempted if there is a specific need and initial current waveform recording evaluated to determine appropriate thresholds.

Touch **NEXT** to continue.

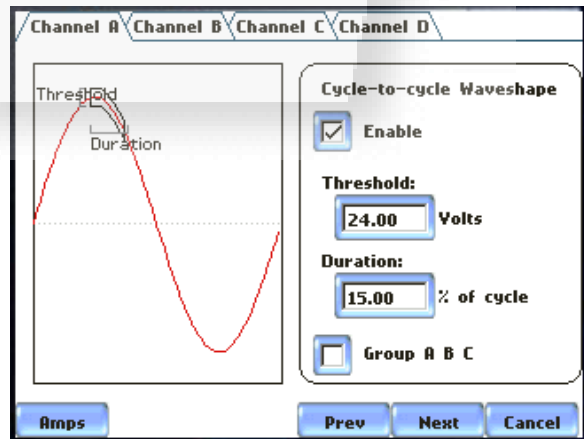


Screen 29 – This screen is PX5 only.

The CYCLE-TO-CYCLE WAVESHAVE is the next transient threshold and it deals with sub-cycle event triggering. This is a complex threshold as there is both amplitude and duration and if inappropriate values are chosen then a large number of anomalies will be recorded using up both monitor processor real-time as well as event memory.

In general this threshold should be disabled unless there is a good understanding of the need for it and the appropriate values.

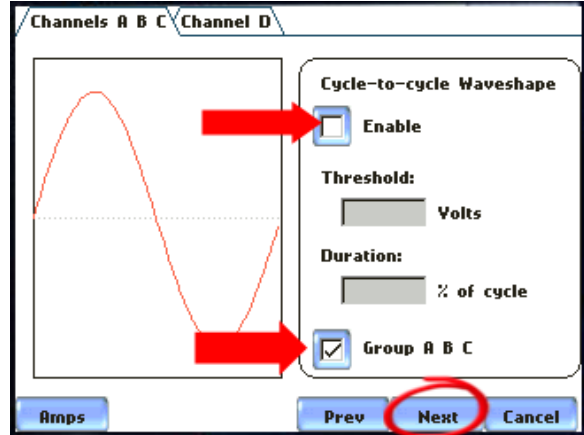
Touch the **GROUP A B C** box and then de-select the **ENABLE** box.



Screen 30

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

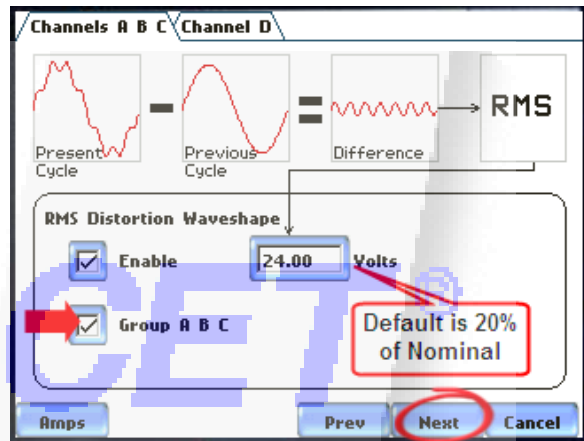
Touch **NEXT** to continue.



Screen 31

The RMS DISTORTION WAVESHAPE threshold is probably the most useful of the transient thresholds. It works on the absolute rms difference between cycles. If the difference exceeds the threshold value then the event is triggered. The default value is 20% of rms nominal voltage from Screen 17. A better value may be 10% of the rms nominal...in any case it can always be adjusted as needed.

Touch **GROUP A B C** and then enter the value of 10% of the nominal rms... 10V for 120Vnom, 20V for 208Vnom or 240Vnom, 30V for 277Vnom and 50V for 480Vnom.



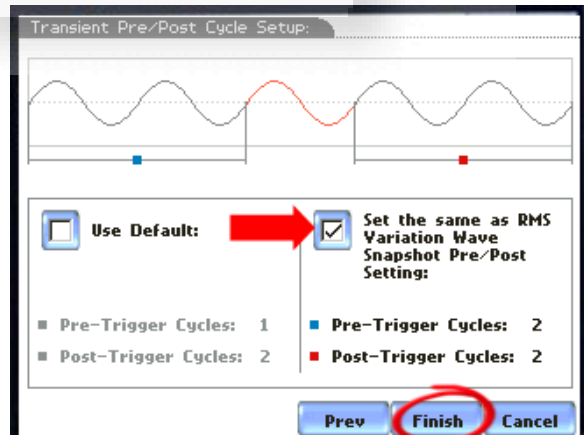
Screen 32

Touch **NEXT** to continue.

The next screen is the TRANSIENT PRE/POST CYCLE SETUP.

The default setting, 2-cycles pre/post, is satisfactory and can be changed in the next series of thresholds.

Touch **FINISH** to complete the TRANSIENT LIMIT thresholds.

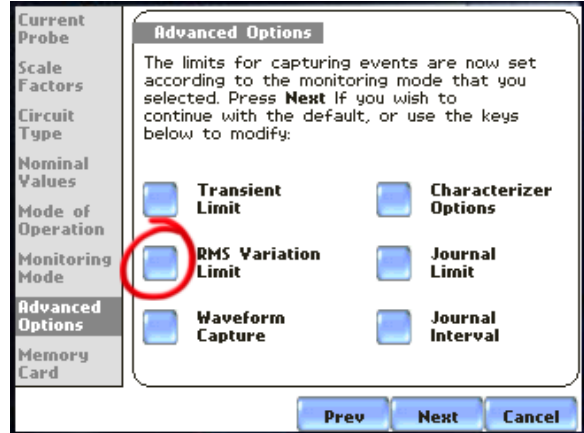


Screen 33

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

You are now returned to the ADVANCE OPTIONS menu screen.

Touch **RMS VARIATION LIMIT** to continue.

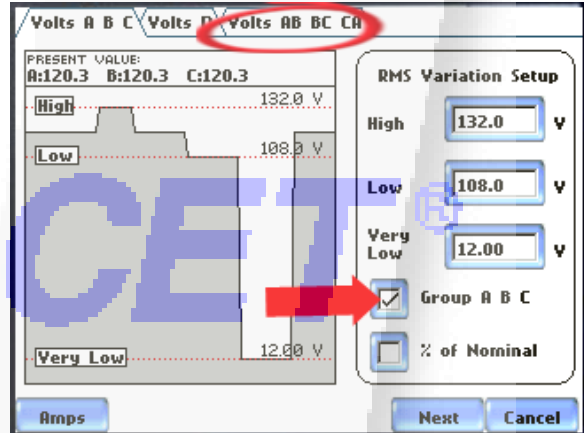


Screen 34

The RMSVARIATION SETUP is the traditional HI/LO limits that everyone has been using for years and it continues to be one of the most useful thresholds. This is sometime referred to as an absolute threshold...every time the threshold is crossed an event is recorded, in-limits to out-of-limits and out-of-limits to in-limits.

Touch **GROUP A B C**.

The default values are $\pm 10\%$ of the nominal (screen 17) and the VERY LOW is 10% of nominal.



Screen 35

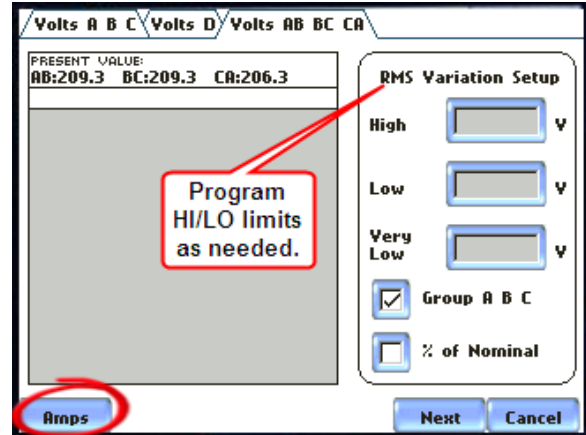
The default values are generally satisfactory. You may consider adjusting the VERY LOW to a value of 50% or 60% of nominal as most equipment will not function long at those levels and it would seem to make sense to report at a level where the equipment ceases to function.

In addition to phase-to-neutral voltage thresholds it is possible to have event triggers associated with phase-to-phase voltage levels. Touch the **VOLS AB BC CA** tap to program thresholds for phase-to-phase voltages

**DETAILED SETUP INSTRUCTIONS
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The default, in the wye configuration, is with the phase-to-phase thresholds disabled. If you need (or want) additional triggers associated with the phase-to-phase voltage levels they may be programmed on this screen. Make sure that the GROUP A B C box is checked.

After completing the programming for the voltage touch **AMPS** to set HI/LO LIMITS for the current channels if desired.

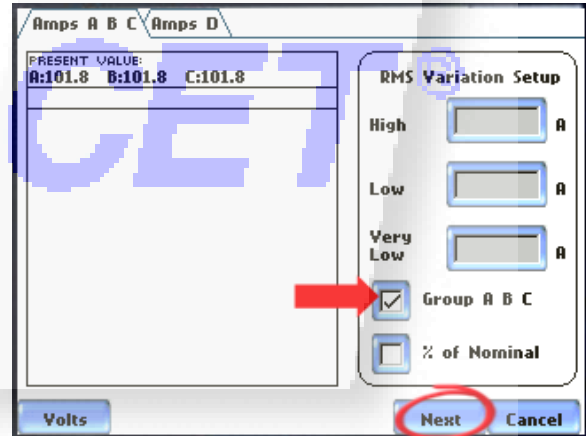


Screen 36

Setting RMS LIMITS for current can be difficult and should only be done when needed for a specific reason...breaker tripping, inrush, etc. The rms current in building or on a circuit is constantly changing. Equipment cycling ON will generally cause high inrush currents which may be anywhere from 3 to 10 times the rms run amps for the first half-cycle. Setting current limits without first understanding the characteristics of the environment being monitored can result in a "bad" monitoring experience with large numbers of meaningless events.

Care should be exercised when using the AMPS thresholds...if you need it then use it...otherwise leave the off (disabled).

Touch **NEXT** to continue.



Screen 37

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The next screen allows for the adjustment of pre/post cycle capture when events are triggered. The top 3 boxes deal with RMS VARIATION thresholds and the bottom 2 boxes deal with the TRANSIENT LIMITS.

The monitors are capable of recording up to 30-cycles pre event trigger and 10,000-cycles (PX5 & PG4400) and 100-cycles (PV440) post event trigger.

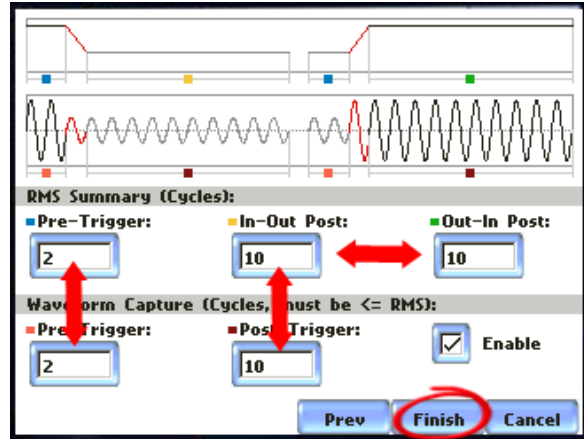
In general 2 to 10 pre trigger cycles is sufficient for most applications and 6 to 10 post trigger provides good information for most power quality events. Longer post trigger recordings are needed for recording motor start-up (inrush)...it is not unusual to need 600 to 1200 cycles post trigger recordings to record the complete inrush event.

Setting the pre-trigger cycles the same for type of events is recommended as well as setting the post trigger cycle capture the same for each event type. By doing this you will have the same type of event recording regardless of which threshold triggered the event...kind of like redundant triggering.

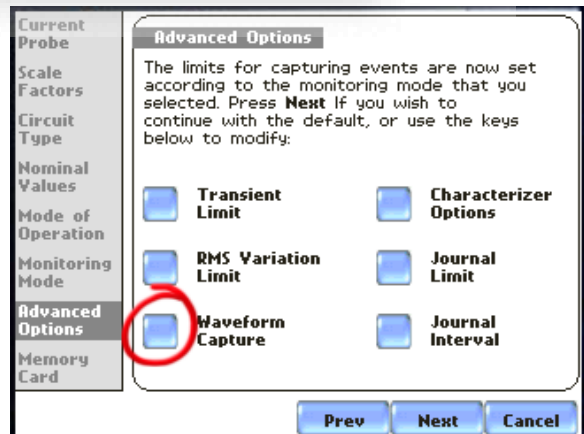
After setting the desired values touch **FINISH** to continue.

You are now returned to the ADVANCE OPTIONS menu screen.

Touch **WAVEFORM CAPTURE** to continue.



Screen 38



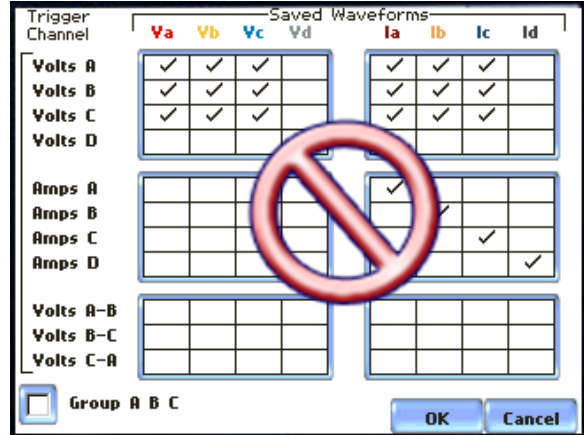
Screen 39

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The WAVEFORM CAPTURE screen is really a matrix that controls the ability to cross-channel trigger on events. This is a great feature of the Dranetz-BMI family of power monitors. However, the default settings are not optimum

Screen 35 shows the default setting for a 3-phase wye monitoring configuration. In the event of any current only triggers there will be no corresponding voltage waveform data available.

Enough said...go to the next screen.

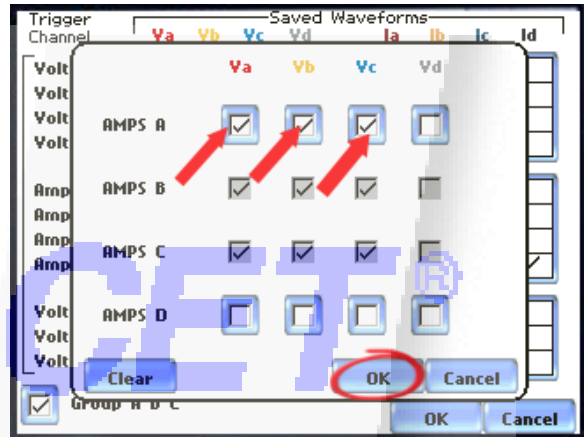


Screen 40

Touch the GROUP A B C box.

Touch the center of any of the 6 big boxes on the matrix and the programming screen for that box will appear. If you are monitoring 3-phase and not using anything on channel D then you should have 9 of the small boxes checked. Touch **OK** when complete and do the next box.

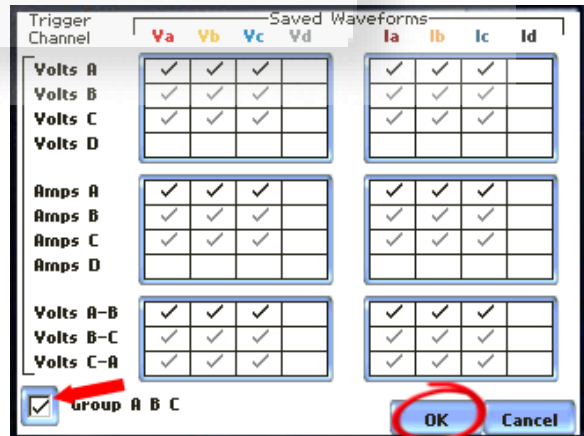
PowerCET



Screen 41

Screen 37 shows the ideal configuration for a 3-phase wye monitoring with phase-to-phase voltage thresholds set in addition to the phase-to-neutral thresholds.

Touch **OK** to continue.

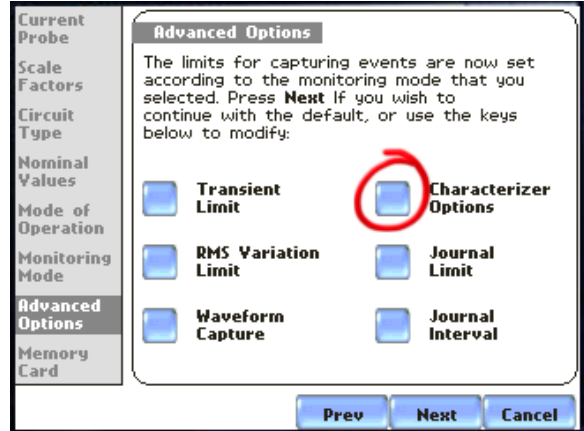


Screen 42

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

You are now returned to the ADVANCE OPTIONS menu screen.

Touch **CHARACTERIZER OPTIONS** to continue.

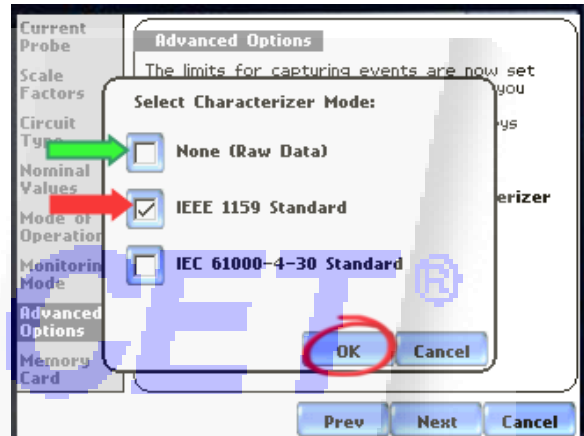


Screen 43

Screen 39 will appear. The default is IEEE 1159 STANDARD.

What the characterizer option does is assign a name (terminology) to each event according to the associated standard. This feature may be helpful for some users.

The problem with selecting either of the standard based options is that they take up processor resources and in the situation where events are occurring sequentially the monitor can run out of resources and a lock-up can result.



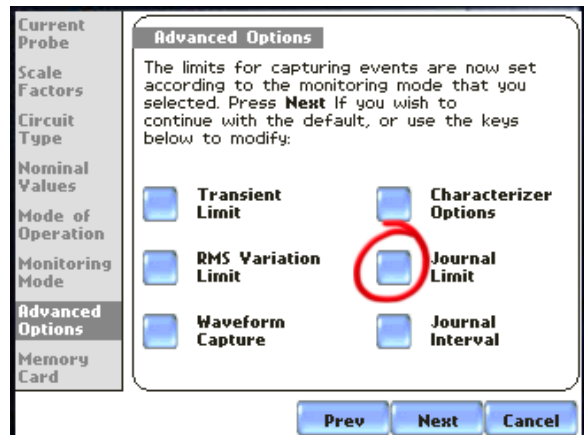
Screen 44

Selecting NONE (RAW DATA) records the same basic information only the characterization is omitted and the corresponding drain on resources is eliminated.

Make your selection and touch **OK** to continue.

You are now returned to the ADVANCE OPTIONS menu screen.

Touch **JOURNAL LIMIT** to continue.



Screen 45

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

Screen 41 is the JOURNAL CATAGORIES for the PX5 which is rather extensive.

Journal limits are based on the periodic readings controlled by the JOURNAL INTERVAL. The limits can be set to time stamp long-term variations in the various parameters. The individual journals can be activated without setting specific limits and provides the desired summary information without creating a large number of events.

Unless there is a specific need for JOURNAL LIMITS touch **DISABLE**.



Screen 46 – PX5 Journal Categories screen.

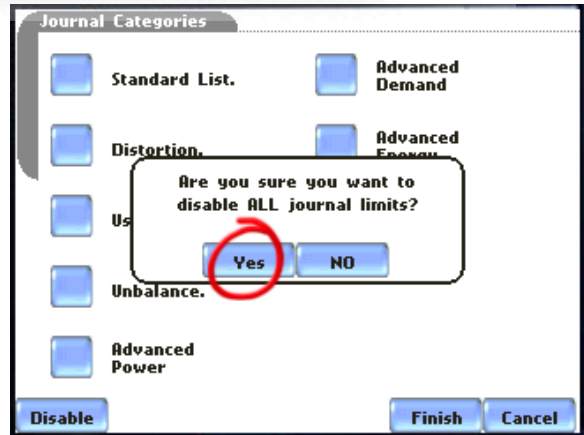
PowerGuide 4400 & PowerVisa 440 Journal Categories screen.

Unless there is a specific need for JOURNAL LIMITS touch **DISABLE**.



Screen 47 – PG4400 & PV440 Journal Categories screen.

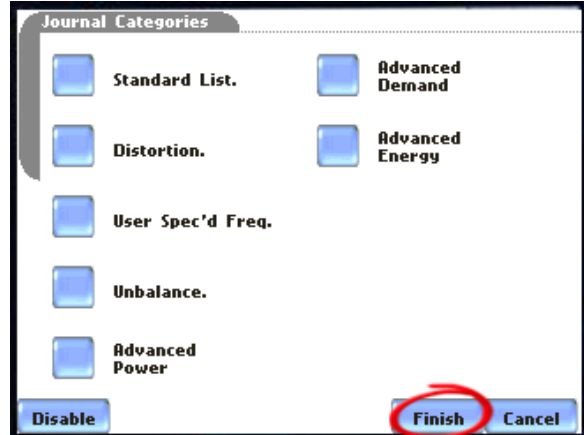
A confirmation screen will appear...touch **YES** to continue



Screen 48

DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440

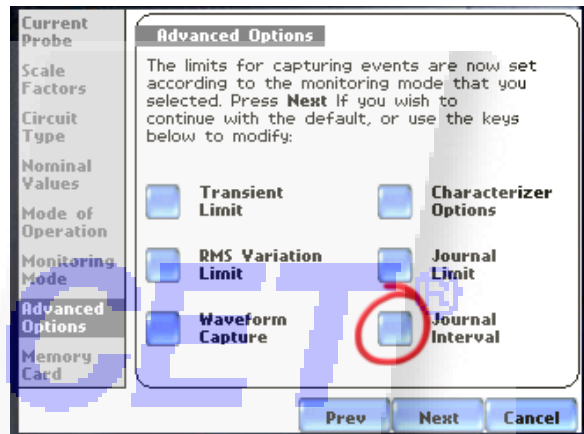
Touch **FINISH** to continue.



Screen 49

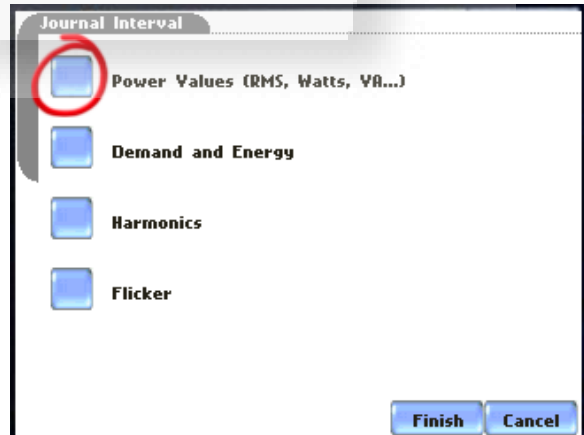
You are now returned to the ADVANCE OPTIONS menu screen.

Touch **JOURNAL INTERVAL** to continue.



Screen 50

On the JOURNAL INTERVAL screen touch **POWER VALUES (RMS, WATTS, VA...)** to continue.



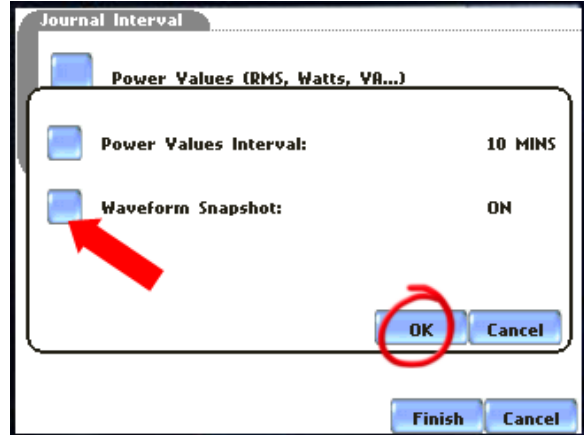
Screen 51

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The POWER VALUE INTERVAL controls how often time plot and journal information is updated. The default is 10-minutes which should be sufficient for most applications.

There is also the option of turning on WAVEFORM SNAPSHOT which, when turned ON, will record a 12-cycle waveform snapshot of circuit conditions at the end of the 10-minute interval. The snapshot waveform information may be post processed in DranView Enterprise software to obtain additional useful information.

Touch **WAVEFORM SNAPSHOT** to turn this feature ON.

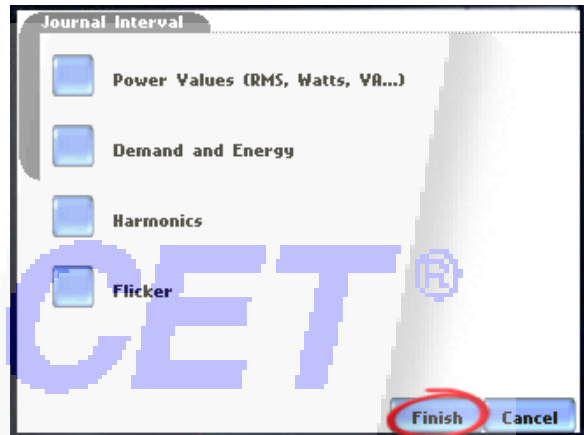


Screen 52

The other selection options on the JOURNAL INTERVAL screen may be left at default values unless there is a specific need to change them.

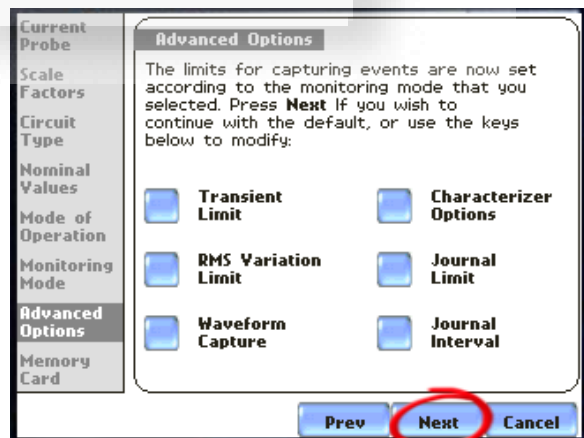
The DEMAND AND ENERGY default is 15-minutes for the demand period with three 5-minute subintervals.

Touch **FINISH** to continue.



Screen 53

From the ADVANCED OPTIONS screen touch **NEXT** to continue.

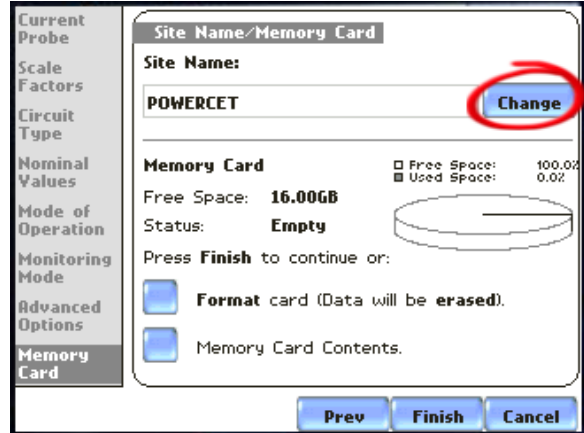


Screen 54

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The SITE NAME/MEMORY CARD screen allows you to enter a unique site (filename) for the monitoring data.

Touch **CHANGE** to enter the site name.



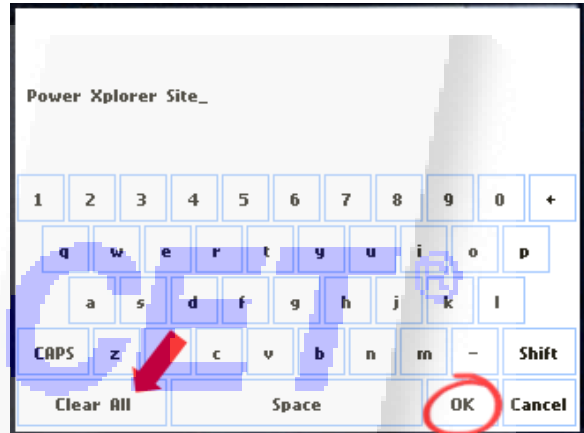
Screen 55

The following screen appears.

Touch **CLEAR ALL** to erase any existing site name entry.

Use touch screen keys to enter the desired name. Recommend keeping names short and meaningful. Try to avoid spaces and special characters in the first 8 spaces.

Touch **OK** when site name entry is complete to continue.



Screen 56

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

On returning to the SITE NAME/MEMORY CARD screen the Compact Flash (CF) memory card should be formatted.

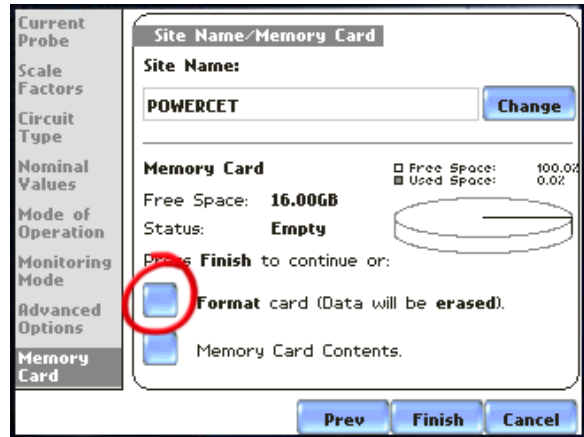
Touch **FORMAT CARD (DATA WILL BE ERASED)** to start the format process.

As a general practice it is a good idea to always format the memory card in the monitor prior to the start of monitoring activity. This will help ensure that data will be correctly written to the memory card.

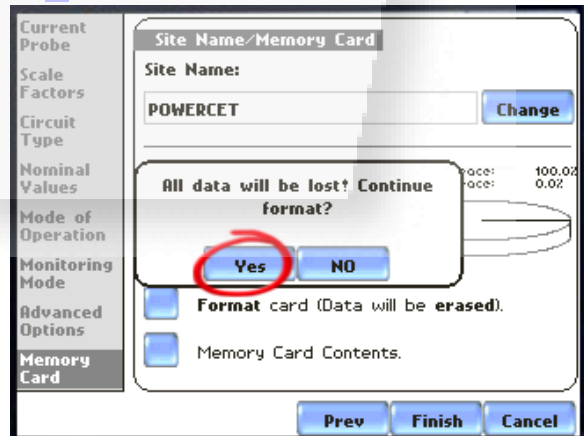
Also it is important to understand that CF memory cards used in the Dranetz-BMI monitors must meet minimum speed requirements. A speed test on the card is performed during the format process and if the card does not meet the minimum requirements the **format will fail**.

Starting with FIRMWARE VERSION 3.## the lower card slot, #2, is no longer used. **For all monitors with FIRMWARE 3 and above the memory card must be placed in the to card slot, #1.**

A warning screen appears...touch **YES** to continue.



Screen 57

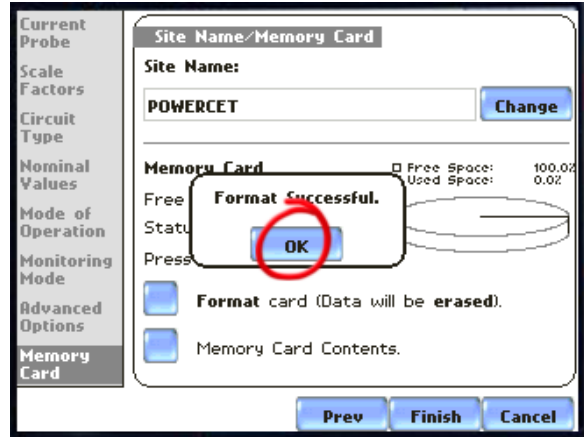


Screen 58

DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440

After a brief wait the following screen will appear if the format was successful.

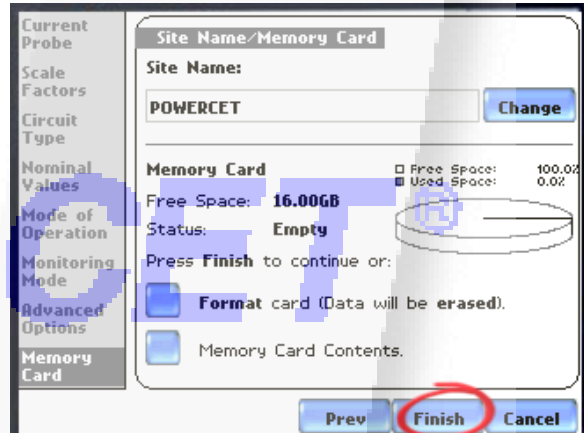
Touch **OK** to continue.



Screen 59

Returning to the SITE NAME/MEMORY CARD screen press FINISH to continue.

Power



Screen 60

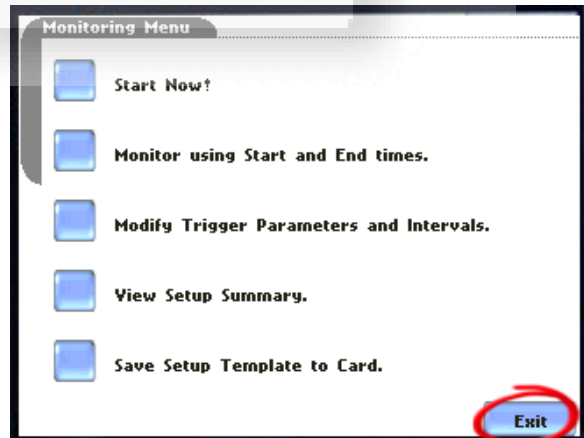
The MONITORING MENU screen will appear.

If the monitor has been previously connected to the circuit to be monitored and verified then START NOW! May be touched.

If necessary you may touch MODIFY TRIGGER PARAMETERS AND INTERVALS to make (or verify) configuration entries.

You can also touch VIEW SETUP SUMMARY to verify your configuration entries.

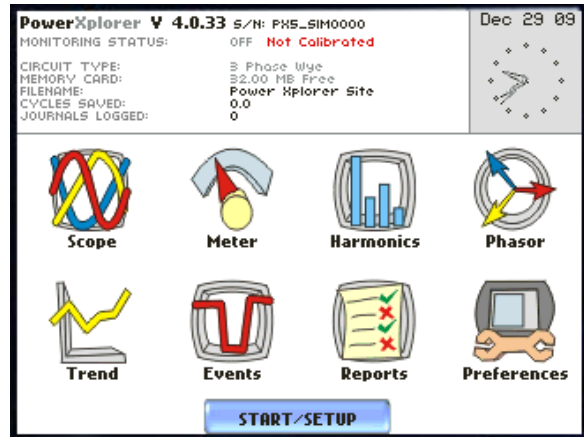
If not starting monitoring at this time press **EXIT** to continue. [NOTE: All of your configuration settings, setup, will be saved.



Screen 61

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

Returning to the START/SETUP screen will allow you to verify the connection configuration and that voltage and current readings are appropriate for the application. Use the SCOPE, METER and PHASOR menu selections to aid you in verifying correct physical connection to the circuit being monitored. Also you should use the METER selection to verify meter readings and that you have positive (KW) power...if you have a negative power indication it indicates there is a physical configuration problem.



Screen 62

Once you are satisfied that the physical configuration is correct you are now ready to start monitoring.

Touch **START/SETUP** to continue.

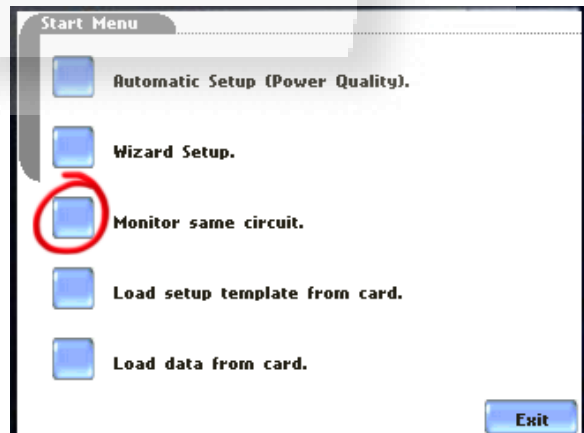


Screen 63

The START MENU appears...do not select either of the first two choices; doing so will require a complete reprogramming of the monitor.

Touch **MONITOR SAME CIRCUIT** to continue.

Anytime you are starting (or restarting) a monitoring session where the meter has previously been programmed the MONITOR SAME CIRCUIT should be selected.

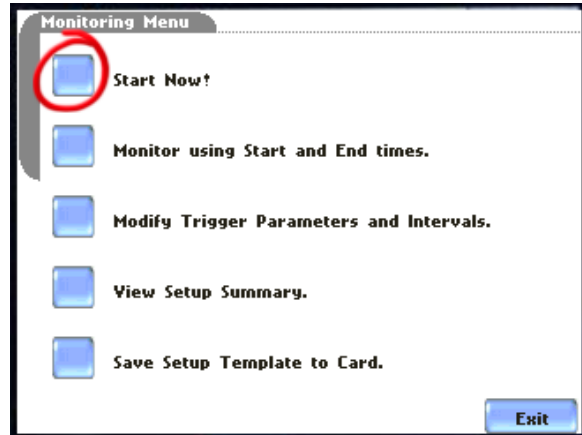


Screen 64

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The MONITORING MENU appears.

If there is not need to make any configuration changes then touch **START NOW!** To begin monitoring.



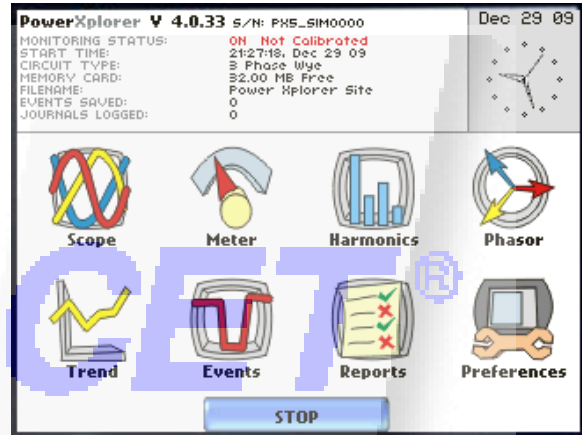
Screen 65

The following screen appears with the STOP bar at the bottom.

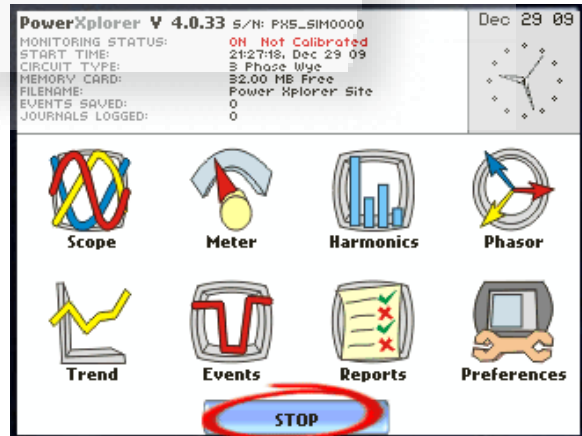
In the upper center of the screen will be the monitor status information indicating that monitoring has began along with the date, time and the number of journals and cycles saved, if any.

The SCOPE, METER, PHASOR, etc. icons may be selected to view real-time information without impacting the monitoring process. [NOTE: It is important to understand that recording the monitoring data has the highest priority and that updating the screen may be delayed if the processor is processing event data.]

To terminate (end) a monitoring session touch the **STOP** bar at the bottom of the screen.



Screen 66

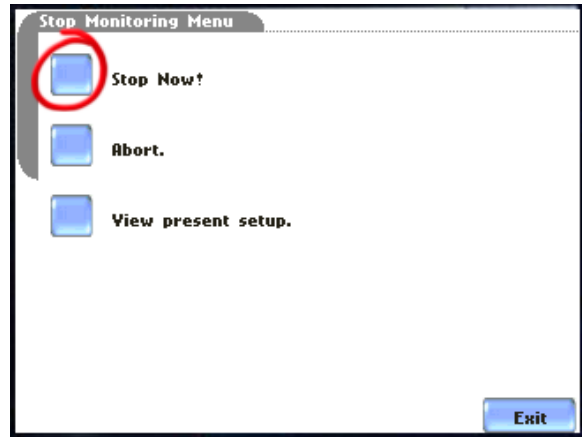


Screen 67

**DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440**

The STOP MONITORING MENU will appear to confirm that you actually want to stop the monitoring process.

Touch **STOP NOW!** to stop the monitoring activity.

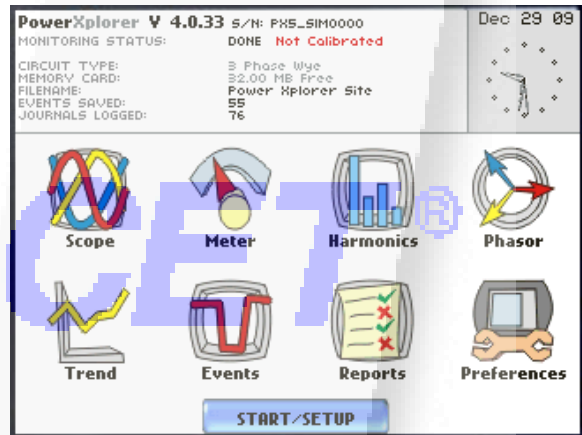


Screen 68

The following screen will appear with a DONE status shown in the upper center of the screen.

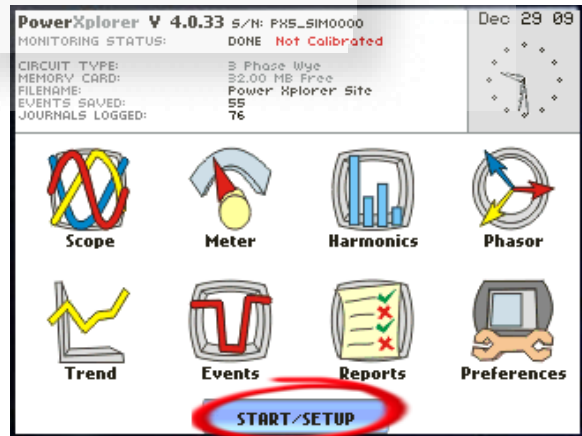
It is now safe to remove the CF memory card and transfer the data to your PC for analysis.

Limited data analysis on the monitor using the data icons...TREND, EVENTS and REPORTS. Transferring the data to a PC allows for much more complete analysis of the recorded data.



Screen 69

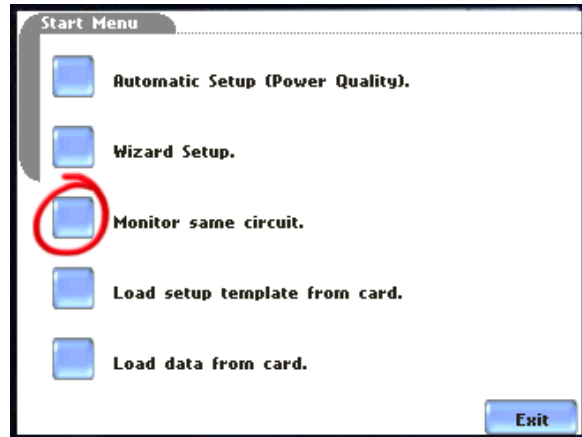
To restart monitoring using the same configuration/setup touch **START/SETUP**.



Screen 70

DETAILED SETUP INSTRUCTIONS
PQ MONITORING MODE
DRANETZ-BMI PX5/PG4400/PV440

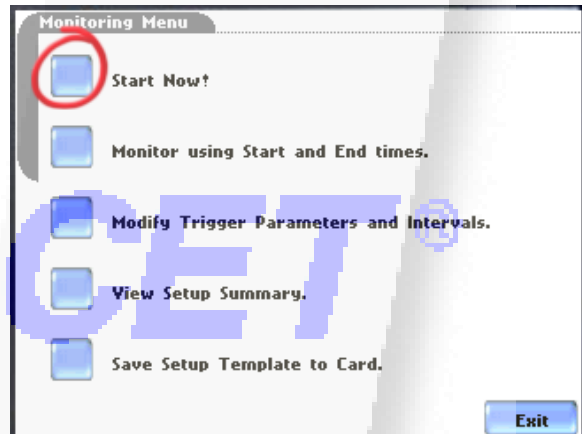
Touch **MONITOR SAME CIRCUIT** to continue.



Screen 71

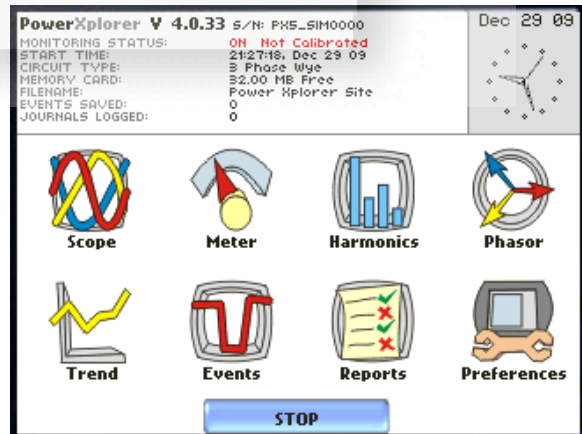
If there are not changes or modifications needed to the meter settings touch **START NOW!**

Monitoring will start and if there is an existing data file on the memory card the site/filename will be incremented by "1" and a new file created. Later, in DranView, it is possible to append multiple files together to create a seamless monitoring record if desired.



Screen 72

The START/SETUP screen will appear indicating that recording has started, the time and date that it started and the filename.



Screen 73

Prepared by:
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