Cx Wireless Extensions Instructions

August 2019

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Statements, Notices and Liability information

FCC Part 15 Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the affected equipment and the panel receiver to separate outlets, on different branch circuits.
- Consult the dealer or an experienced radio/TV technician for help.

Statement of Faultlessness:

The information in this manual has been reviewed for accuracy at the time of writing. No responsibility can be assumed by Rx Monitoring Services Inc. for inaccuracy or changes that have taken place since production. The "Cx Monitor User Manual" is for informational purposes only and is subject to change without notice.

Liability:

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Definitions

- **WARNING**
  This statement is to reinforce the practice of certain conditions may cause physical bodily harm or loss of life.

- **CAUTION**
  This statement is to reinforce the practice of certain conditions may cause physical damage to the Load Bank, Cx Monitor, accessories, equipment or property.

- **NOTE**
  General information for simplifying the user experience.

Abbreviations

CT's :	Current Transducers	Wireless Probes:	Wireless add-on's for power monitor
Rope Probes :	Rogowski coil current transducers	EWE:	External Wireless Extensions
Cx :	Power Monitor	Site:	Cx Monitor data set.
Monitor :	Power Monitor (Cx)		

Symols

The following are (IEC) symbols are used on this document or on the power monitor, and their definitions.


This symbol indicates AC or DC volrage or current

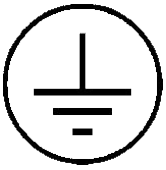

This symbol indicates DC only voltage or current


This symbol indicates AC only voltage or current


This symbol indicates earth ground conductor.


This symbol indicates that caution is necessary when operating the device or control close to where the symbol is placed, or to indicate that the current situation needs operator awareness or operator action in order to avoid undesirable consequences.


This symbol indicates high voltage. It calls your attention to items or operations that could be dangerous to you and other persons operation this equipment.
Read the message and follow the instructions carefully.


This symbol indicates safety ground conductor.

WARNING

To avoid electric shock or fire:

Review the entire manual before using the Power Monitor and its accessories and observe all warnings and cautions.

- Before using the power monitor inspect wireless probes, voltage probes, current probes, leads and accessories for mechanical damage or broken plastic and call Rx Monitoring Services Inc. for replacements.
- Wear proper Personal Protective Equipment, including safety glasses and insulated gloves when making connections to power circuits.
- Use only current probes, test leads, and adapters supplied with equipment.
- Remove unnecessary voltage leads or accessories that are not in use.
- Make sure the power monitor is properly connected through the power cord to protective earth ground.
- Do not insert foreign objects into connectors, only use approved accessories.
- Never open the equipment, there are no customer replaceable parts.
- Never use equipment outside or when condensing water is present.
- Use proper lockout procedures on circuits under test.
- Hands, boots and the working area must be dry when making connections to power system.
- Do not operate the equipment or probes around volatile gas or vapor.

********** WARNING DO NOT EXCEED CAT RATINGS **********

Voltage Ratings:

Power Monitor	**: CAT III - 600V**	**Pollution Degree 2**
Rope CT's	**: CAT III - 1000V**	**Pollution Degree 2**
Clamp CT's	**: CAT III - 600V**	**Pollution Degree 2**
Wireless DC	**: CAT II - 600V**	**Pollution Degree 2**
Wireless DCw	**: CAT III - 600V**	**Pollution Degree 2**
Wireless DCx	**: CAT II - 150V**	**Pollution Degree 2**

Table of Contents

DCw Release

Congratulations on receiving the newest product from Rx Monitoring Services the DCw.

There are a few notes to get the product up and running for your testing. To support the newest edition to the Cx Monitor's wireless **software needs to be updated.**

The minimum software versions to support the DCw / Air Pressure:

Cx Monitor : ***1.66***
Live-View: ***2.7***
U-View: ***2.9***

The included USB stick will have the newest version of Live-View and U-View. If the Cx Monitor does not have the latest software, contact Rx Monitoring Services to get a update.

Attached is the Specification sheet.

THESE STEPS MUST BE FOLLOWED IN THE ORDER PRESENTED OR PROBLEMS WITH WIRELESS COMMUNICATION COULD OCCUR.

1. Plug wireless host into Aux port 1 of Cx Monitor™

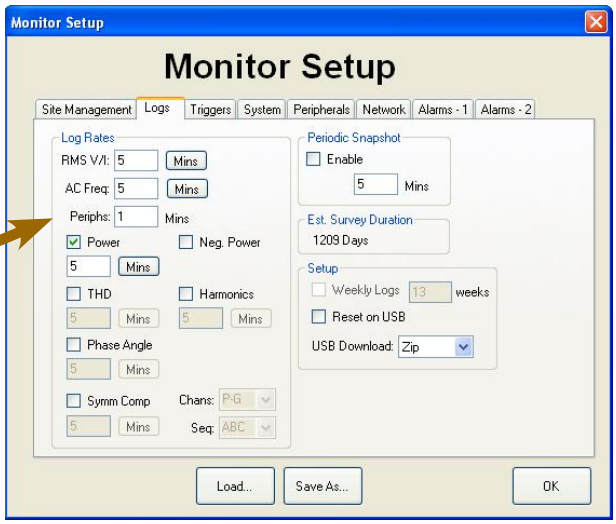
2. Power up Cx Monitor™, wireless host LED should blink

3. Set Log Rate with Live-View™ (See Cx User Manual)

a. Connect to Cx Monitor™ using Wi-Fi or ethernet crossover cable with Live-View™

b. Go to Live-View™ ==> Setup ==> Logs ==> Log Rates

c. Set periphs log rate in Live-View™, from 4 seconds to 30 minutes.



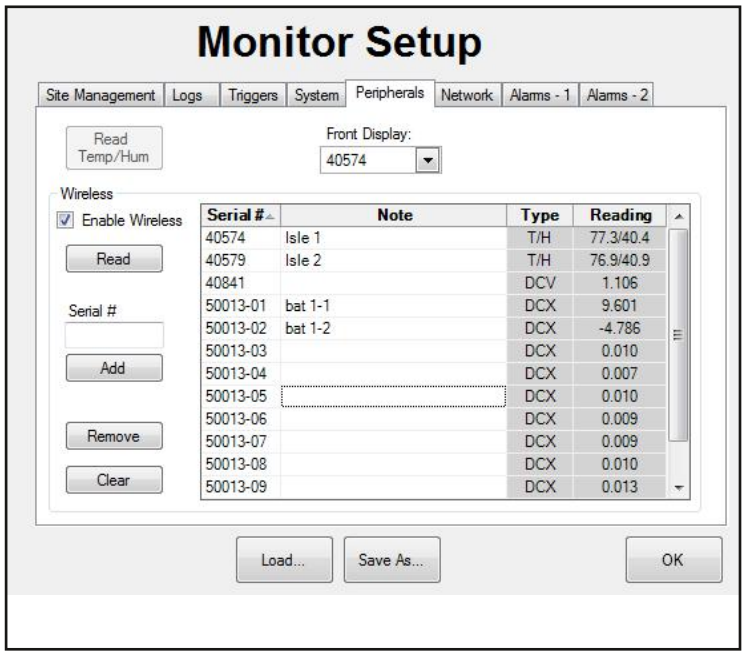
If you change the log rate with peripherals already running, they will need to be reset to obtain new value.

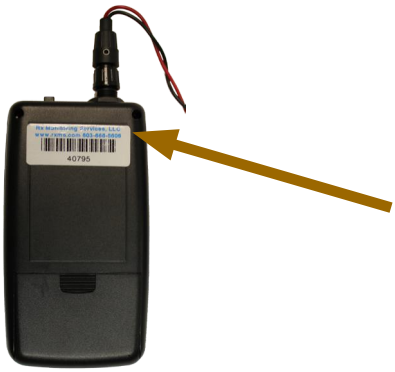
4. Add peripherals serial numbers and notes

Use the Peripherals tab in Live-View™ configure the monitors external peripherals

Click "Enable Wireless" to configure wireless mode.

- To add new peripherals, enter the serial number in the text box and click "**Add**".
- Remove peripherals by highlighting the serial number and clicking "**Remove**"
- Use the "**Clear**" button to remove all of the currently entered serial numbers.
- "**Front Display**" selects which peripherals readings are to be displayed on the front panel of the monitor





Peripheral Serial Number

5. Power up units & confirm communication

Switch & LED

a. Turn each probe on by depressing the button at the top, or the switch on front (DCx™).

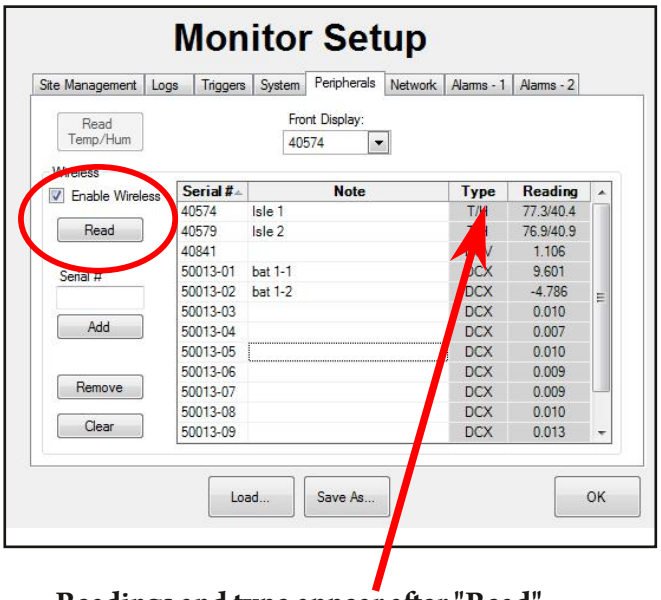
b. An LED will blink red a number of times and then blink green when it has established communications with the Cx Monitor™.

c. Click "Read" in Live-View™

If it does not blink red or green or flickers red, check your batteries or outlet power.
If it does not blink green, make sure you entered the serial number correctly and the wireless host is blinking.

d. Current reading should appear as well as type for each of the peripherals. (This can take up to the log interval to appear)

e. Any peripherals that show a blank reading have not established or lost communication with the monitor. Turn those peripherals off, wait 5 seconds, then turn on to have it re-register with the host.



Readings and type appear after "Read" button is pressed.

The wireless peripherals will auto-shutoff if they are unable to communicate with the wireless host for more than ten minutes. Be careful not to power the system off while monitoring!

Battery life is directly linked to peripheral log rates, at the minimum log rate (4 seconds) the probes should last 8 weeks before batteries need to be changed. (DCx™ - 2 Weeks)
At max log rate (30 Minutes) batteries can last up to a year. (DCx™ - 3 Months)

Temperature and Humidity Wireless Usage

All wireless peripherals have a 100ft indoor range.

Use magnet on back of peripherals to place in desirable location for accurate readings.

Temperature and humidity Probe

DC1 Voltage and DCi Wireless Usage

Single DC Voltage

a. Plug leads into DC probe & confirm power switch is on.

b. Connect Voltage leads to DC source to be monitored.

+/- 600V MAX

DC Current

Note: Wireless DC current probe is AC powered.
It requires a 120Vac power source to operate
DC Current probes are calibrated to either 2000A or 4000A
they are NOT interchangeable.

a. Plug 12V adapter into 120Vac (Wall socket)

b. Plug 12V barrel into DC current probe & confirm power switch is on.

c. Attach 5 pin plug to DC current probe

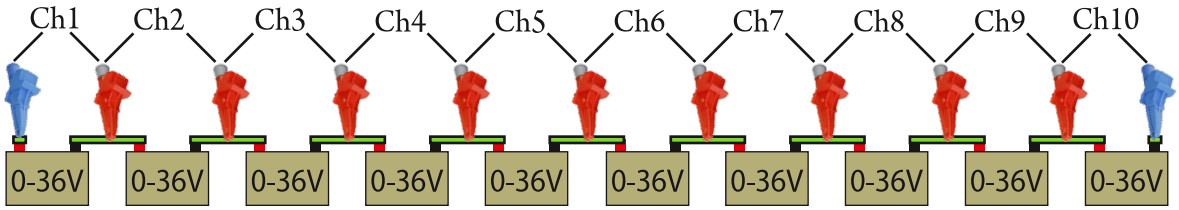
d. Leaving the probe unconnected. Turn the ***ZERO*** knob till the probe reads +/- 1 Amp. Use Live-View™ to see value or add DC Current probe to Front Display

e. Connect probe to point to be monitored.

Note: Wireless DCx™ probe is AC powered or battery powered. Each channel (10) can accept up to 60Vdc, for a total system voltage of 600V max.

If less then 11 connections are used, remaining channels will float to center point of connected voltage system.

a. Connect labeled wires from alligator clips to corresponding banana jacks on DCx™ probe.



b. Plug 12V adapter into 120Vac. (If used)

c. Connect the 12V multi-plug adapter to DCx™ or use 2x AA batteries

d. Turn power switch on. ("I" is on)

e. Confirm LED operation. If it does not blink red or green or flickers red, check your batteries or outlet power.

f. Use Live-View™ (Meter Mode) to confirm battery state of charge. (0-100%) This reads 100% if AC powered

To Connect more then one DCx™ probe in series, connect Wire11 of DCx™ 1 (blue) to the same point as Wire1 of DCx™ 2 (Blue).

DCw Wireless Usage

This mode will use the wireless function of the DCw, attempting to communicate thought the wireless host on the Cx Monitor.

Ensure the Cx Monitor is powered on and the Wireless Host is plugged into port 1.

Attach the DC current probe and the voltage leads

See DC Current section above for zeroing procedure for Hall effect current transducer.

MAX 600V

Power up unit using the 24Vdc supply provided:
At this point the DCw will attempt to communicate with the Cx Monitor that was assigned to it.
The Host LED has two modes:
Blinking = Searching for Host
Solid = Host found and communicating.

Use the hanging kit to place in a convenient location.

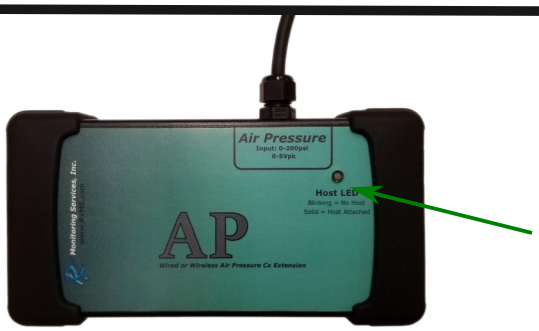
Air Pressure Wireless Usage

This mode will use the wireless function of the Air Pressure probe. Attempting to communicate thought the wireless host on the Cx Monitor.
Ensure the Cx Monitor is powered on and the Wireless Host is plugged into port 1.

Attach the Air Pressure probe:

Use only the provided air pressure kit.

Power up unit using the 24Vdc supply provided:
At this point the Air pressure probe will attempt to communicate with the Cx Monitor that was assigned to it.



The Host LED has two modes:
Blinking = Searching for Host
Solid = Host found and communicating.

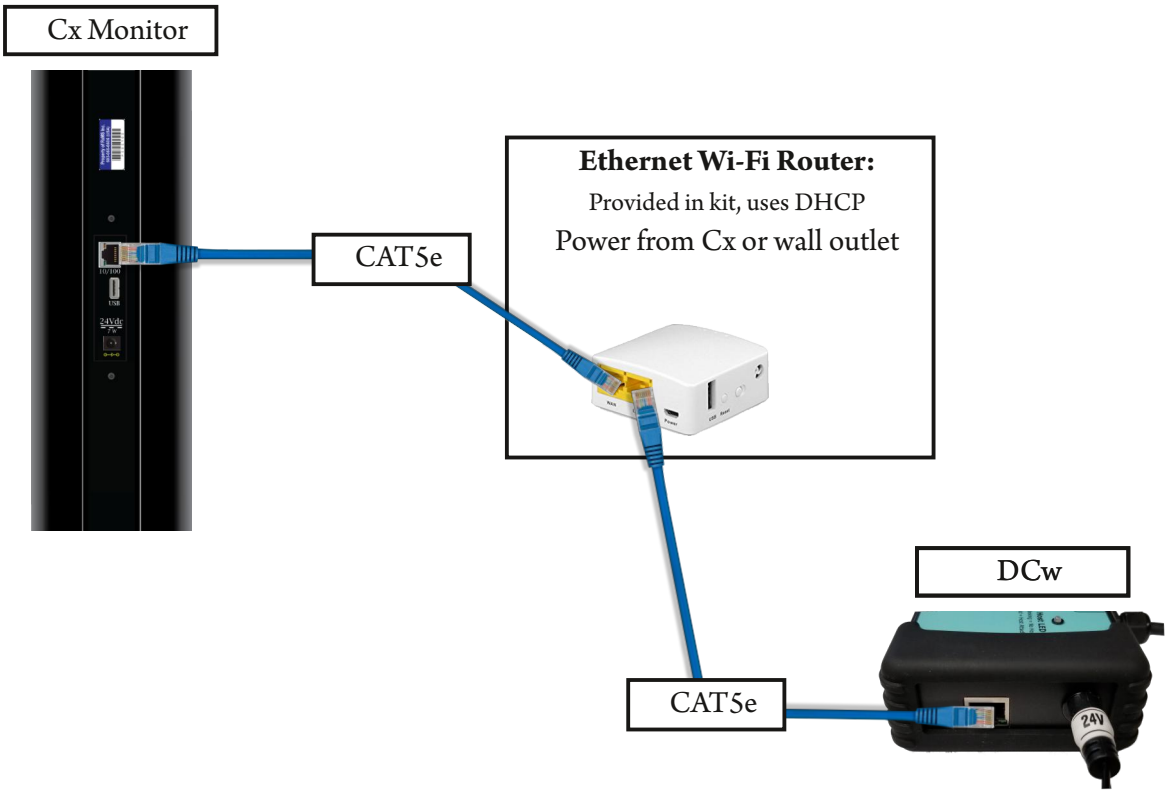
DCw/ Air Pressure Wired Usage

This mode will use the wired (ethernet) function of the DCw, attempting to communicate though the ethernet jack on the side of the DCw.
When DCw is attached to Cx Monitor through ethernet it will not attempt wireless communication.

Equipment needed for this communication type:

1.) DCw
2.) Cx Monitor
3.) 2x Ethernet cords (CAT 5E or above)
4.) Ethernet router (DCw uses DHCP for IP address)

Basic layout



LED blinking when searching for Cx Monitor.
Solid when Cx Monitor found.

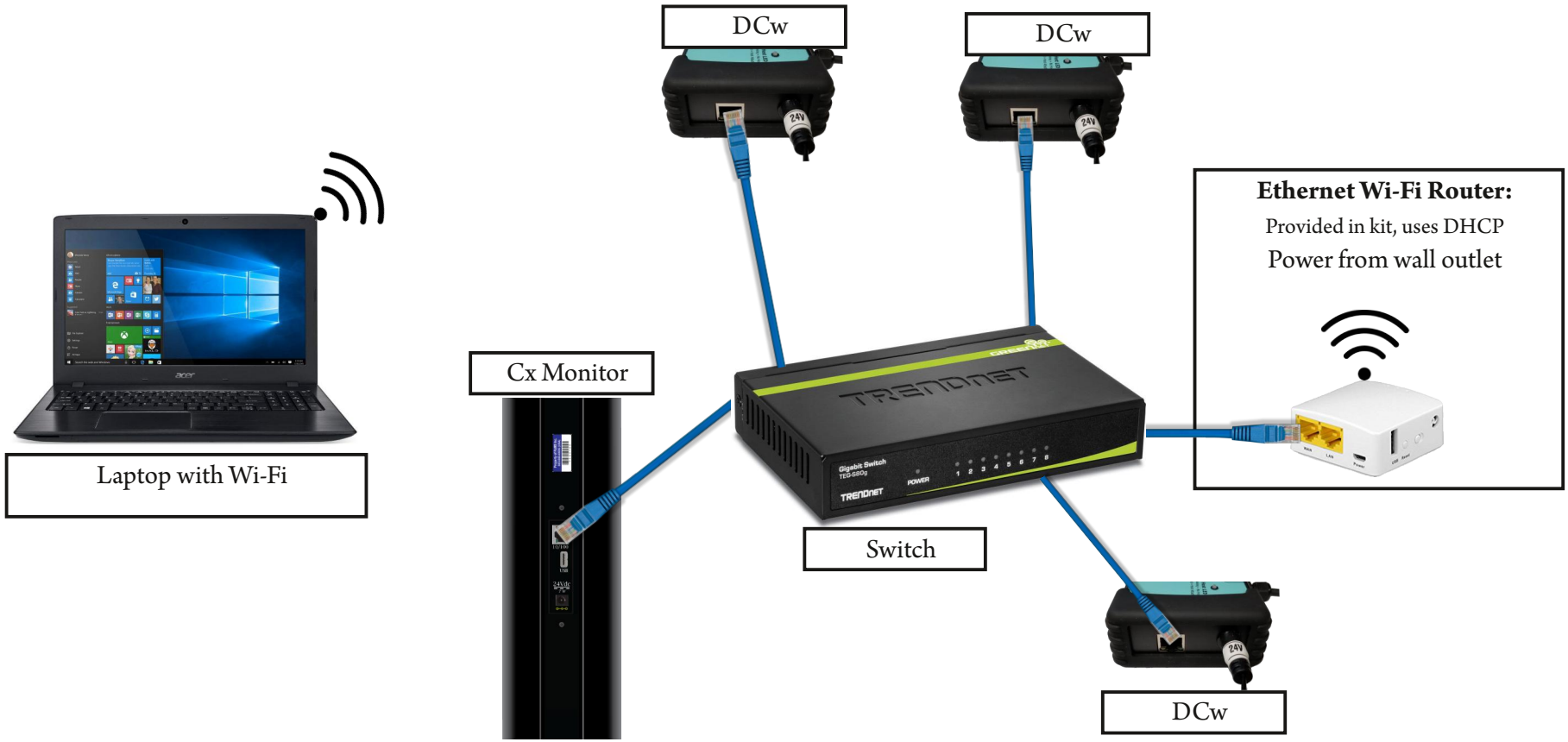
LED on if talking to Cx Monitor through ethernet.

LED on and blinking if ethernet cord and switch are working.

Advanced layout

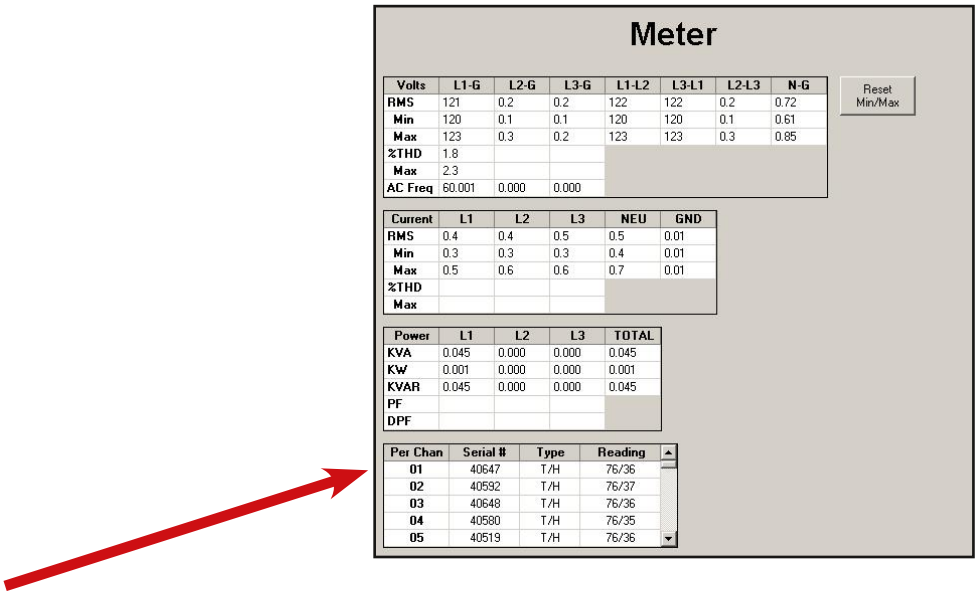
Equipment needed for this communication type:

1.) DCw, up to 6 with a 8 port switch
2.) Cx Monitor
3.) Ethernet cords (CAT 5E or above)
4.) Ethernet router (DCw uses DHCP for IP address)
5.) Ethernet switch (TRENDnet TEG-S80G) or simular



7. Check complete setup in meter mode

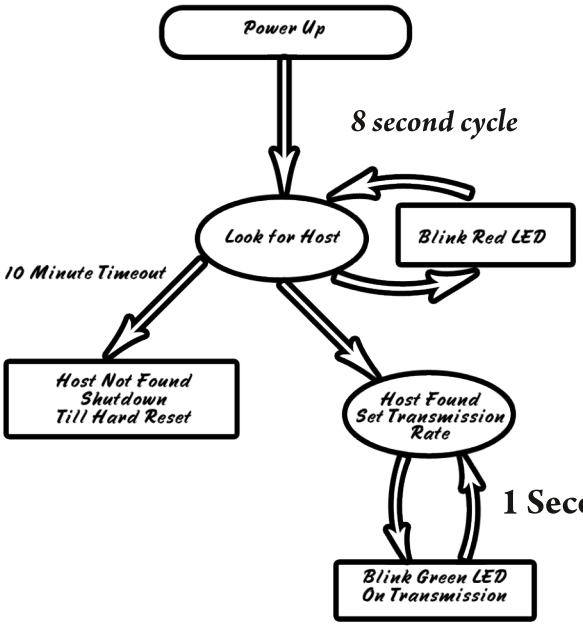
The Meter Mode display shows measurement values in real time.
The display is broken down into multiple sections; Volts, Current, Power, and if enabled, Wireless Peripherals.



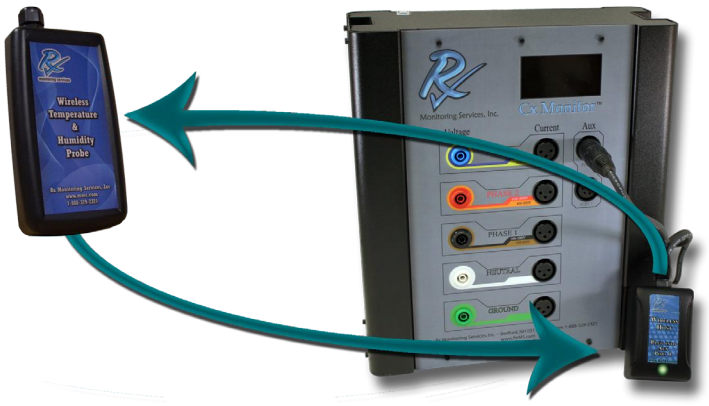
The Wireless Peripherals section displays the current reading for each of the configured probes. If wireless peripherals are not enabled in Setup, this section is not displayed.

If a blank value is displayed for the reading, the monitor is unable to communicate with the peripheral. Check the peripheral to ensure that it is properly plugged in or that the batteries are still working.

Cx Monitor Peripheral Logic Path



100 peripherals per Cx Monitor



1 Second - 30 Minutes, dependant on log rate