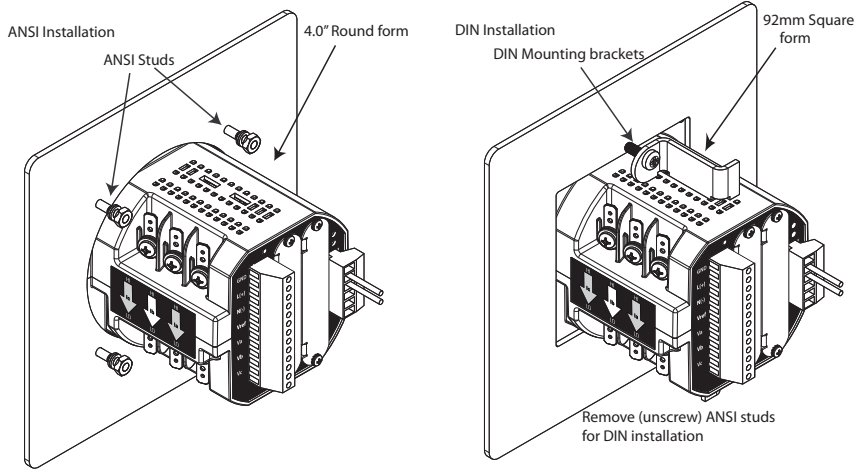
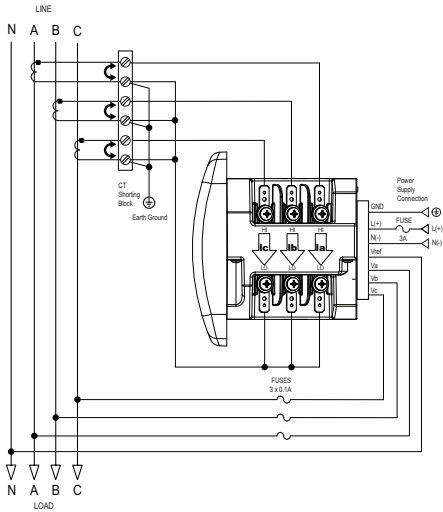


Shark® 250 Meter Quickstart Guide

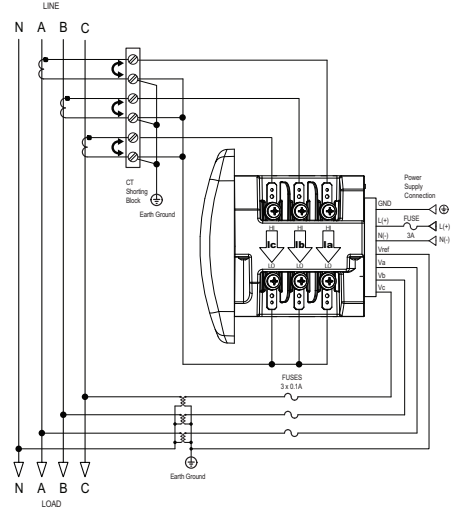
Mechanical Installation: **NOTE:** Do not overtighten nuts. The maximum installation torque is 0.4 Newton-Meter.



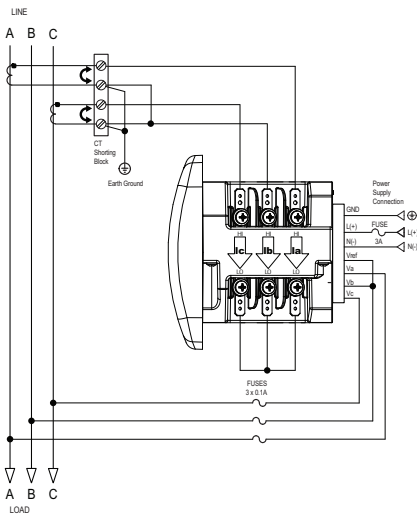
Electrical Installation: Select diagram for your application.



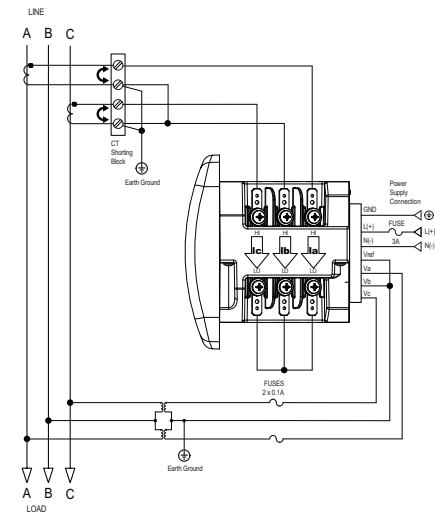
WYE direct, 3 phase, 4 wire



WYE with PTs, 3 phase, 4 wire



Delta direct, 3 phase, 3 wire

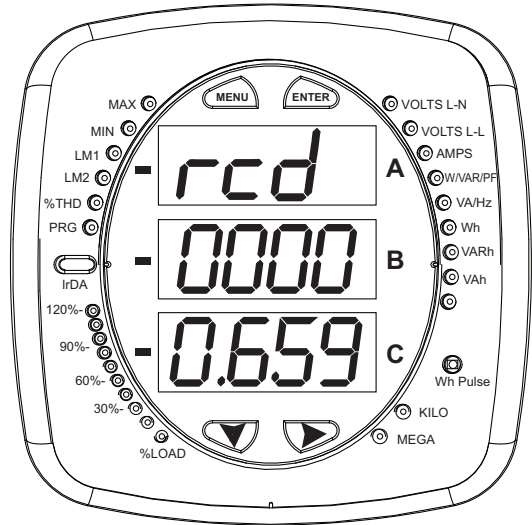


Delta with PTs, 3 phase, 3 wire

NOTE: Other wiring configurations are available. See the full User Manual on the enclosed CD.

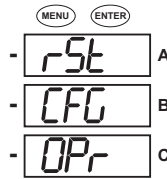
**Program Settings Using the Faceplate Buttons:
(MENU, ENTER, DOWN ARROW, RIGHT ARROW)**

See the figure on the right for the location of the faceplate buttons.



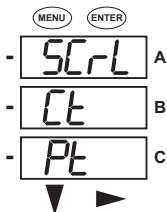
Access Configuration Mode:

1. Push the **MENU** button - you will see the display on the right; rSt will be blinking.

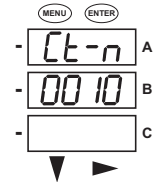


2. Press the **DOWN ARROW** once. CFG (Configuration) moves to the top of the display.

3. Press the **ENTER** button. You will see the Configuration menu, shown on the right.



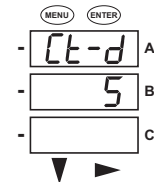
4. Press the **DOWN ARROW** and then press the **ENTER** button. You will see the CT numerator setting screen (Ct-n). The current CT numerator is shown in the second line. To change the setting, press the **DOWN ARROW** until the value you want is displayed. Then press the **RIGHT ARROW** to move to the next digit. Repeat until the setting is done.



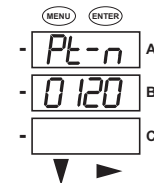
5. Press the **ENTER** button to go to the CT denominator screen (CT-d). This setting is display only - it can't be changed.

Example: 2,000/5 Amps: Set the Ct-n value for 2000.

NOTE: Ct-n is dictated by primary current; Ct-d is secondary current.



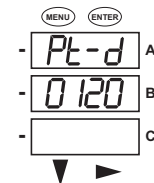
6. Press the **ENTER** button to go to the PT numerator setting screen (Pt-n). The current PT numerator is shown in the second line. To change the setting, press the **DOWN ARROW** until the value you want is displayed. Then press the **RIGHT ARROW** to move to the next digit. Repeat until the setting is done.



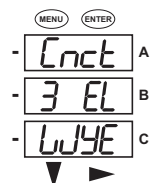
7. Press the **ENTER** button to go to the PT-denominator screen (Pt-d). The current PT denominator is shown in the second line. To change the setting, press the **DOWN ARROW** until the value you want is displayed. Then press the **RIGHT ARROW** to move to the next digit. Repeat until the setting is done.

Example: 277/277 Volts: Pt-n value is 277, Pt-d value is 277.

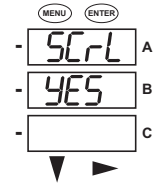
NOTE: Pt-n is dictated by primary voltage; Pt-d is secondary voltage.



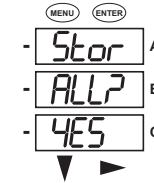
8. Press the **ENTER** button to go to the Connection setting screen (Cnct). The current setting is shown in the second line. Press the **DOWN ARROW** to choose another value. You can choose 3 EL (element) WYE, 2 Ct del (Delta), or 2.5 EL WYE.



9. Press the **ENTER** button to go to the Scroll setting screen (SCrL). The current setting is shown in the second line. Press the **DOWN ARROW** to choose another setting. You can choose YES (the meter readings will scroll on the display) or no (the meter readings will not scroll on the display).



10. Press the **MENU** button twice. You will see the Store Settings screen (Stor ALL?). The default setting is YES. To save the settings you've made, press the **ENTER** button. You will see the confirmation screen (Stor ALL done) and then the meter resets.



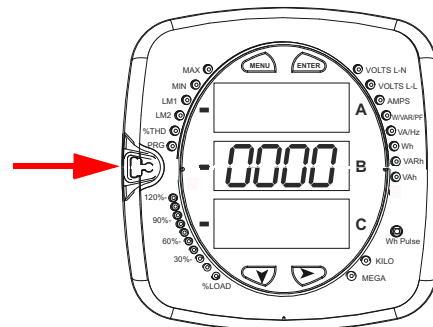
NOTE: If you do not want to save your settings, press the **RIGHT ARROW**. YES changes to no. Press the **ENTER** button.



For additional programming instructions for the faceplate buttons, see Chapter 2 in the *Shark® 250/250T Meter Installation and Operation Manual*, on the enclosed CD and on EIG's website: www.electroind.com.

Connect to the Meter through the USB Port:

The Shark® 250 meter has a standard USB port that makes connection between the meter and a laptop PC very simple.

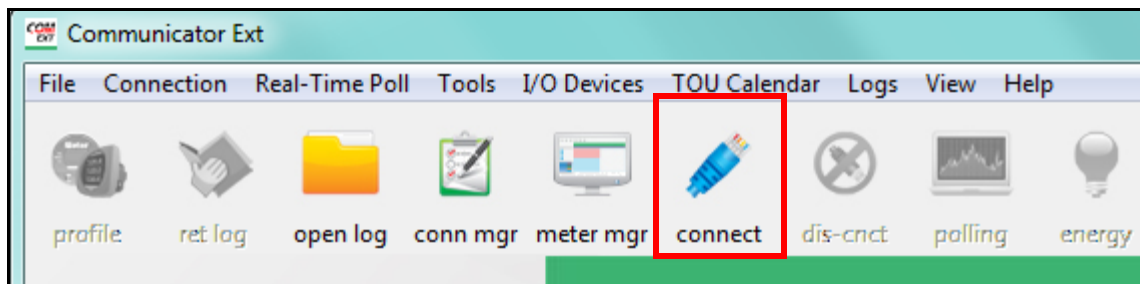


Follow these steps:

1. Connect the meter to the PC, using the USB cable. The meter's connection uses a USB mini-B plug. For your convenience, EIG offers a USB-Type A plug to USB mini-B plug cable (part number CAB26522) that can be ordered directly from directly from EIG's webstore: <https://electroind.com/shop/>.

2. Open Communicator EXT™ software (download from product CD).

3. Click **Connect** in the Icon Bar.



4. You will see the Connect screen. The default settings are shown in the following example screen.

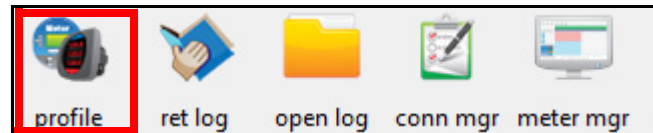
- a. Click the Serial Port button.
- b. Enter the Device Address (can be from 1-247).
- c. Select the Baud Rate of 57600.
- d. Click the Available Ports button.
- e. Select the USB Com port.
- f. Select Modbus ASCII protocol.
- g. Keep Flow Control, Echo Mode, and Parity as is shown here.
- h. Click Connect.

5. The Device Status screen opens, displaying information about the meter.

Device	Device Type	Serial Number	Item	Value
Test Shark250	Shark 250	0209443224	Boot Firmware Ver.	00AB
			Run Firmware Ver.	AA18
			ASIC Revision	3
			State	Run Mode Logging Enabled
			V-Switch	4
			Power On Time	Friday, June 22, 2018 12:43:43
			Assembly Date	11/30/1999 00:00:00
			Temperature	22.50 °C
			Option Card 1	Network Card HW: m BFW: 3.10 RFW: 3.45
			Option Card 2	Not Installed
			Protection	Security: Passwords Enabled

Polling Test Shark250

6. Click OK to close the Device Status screen, and then click the Profile icon in the Icon Bar.

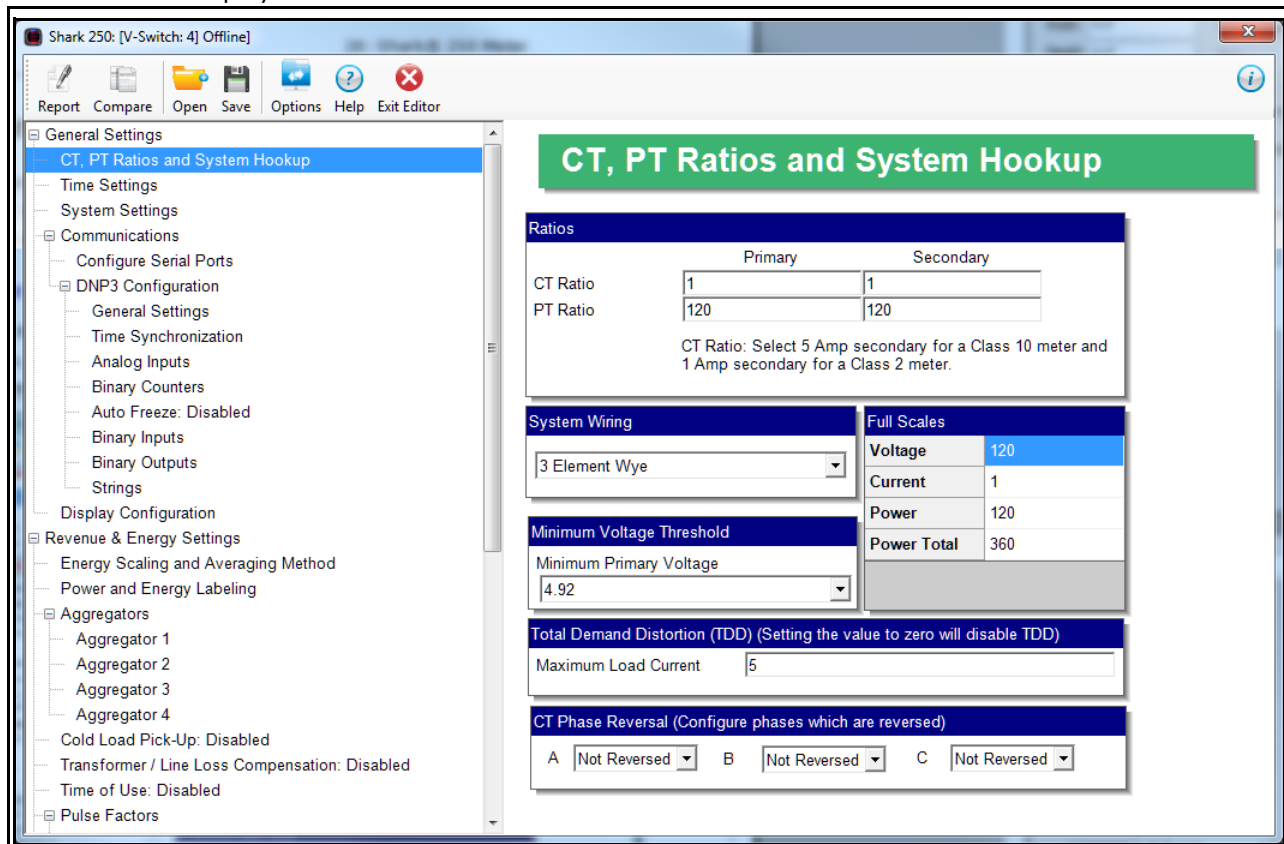


7. The meter's Device Profile screen opens, giving you access to the programmable settings for the meter.

NOTE: A few basic settings are explained here. Refer to the *Shark® 250 Meter Installation and Operation Manual* and the *Communicator EXT™ 4.0 and MeterManager EXT Software User Manual* on the Shark® Series CD for expanded instructions. You can also view the software manual by clicking the Help button on a settings screen, or by selecting Help>Contents from the top of the Communicator EXT™ software's Main screen.

Program CT, PT Ratios:

1. The first Device Profile screen is the CT, PT Ratios and System Hookup. If you were on another setting screen, double-click General Settings>CT, PT Ratios and System Hookup>one of the items in the list to redisplay this screen.



- a. CT Ratio, enter:
 - Primary (CT Numerator): 1 - 9999
 - Secondary (CT Denominator): 5 or 1 Amp
- b. PT Ratio, enter:
 - Primary (PT Numerator): 1 - 9999
 - Secondary (PT Denominator): 1 - 9999

Example Settings:

For a CT of 2000/5 A, set the following CT Ratios in the entry fields:

CT Numerator (Primary) 2000
 CT Denominator (Secondary) 5
 The Current Full Scale field will read 2000.

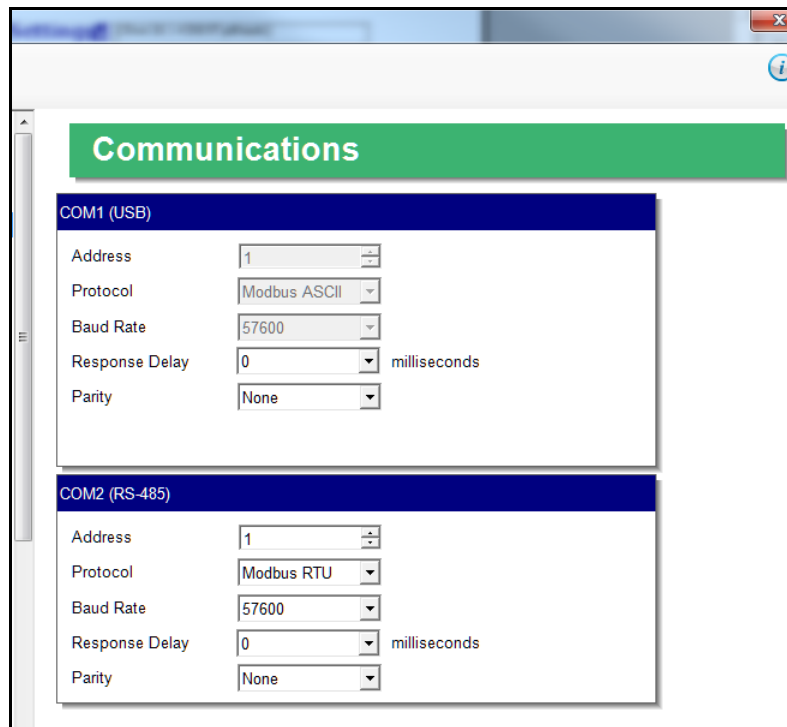
For a system that has 14400 V primary with a 120 V secondary line to neutral (PT Ratio of 120:1), set the following PT Ratios in the entry fields:

PT Numerator (Primary) 1440
 PT Denominator (Secondary) 120
 The Voltage Full Scale field will read 14.4k.

- c. System Wiring, select from pull-down menu:
- 3 Element Wye; 2.5 Element Wye; 2 CT Delta
This value must be set properly for the meter to calculate readings correctly.
- d. Use the Minimum Voltage Threshold box to enter the minimum voltage threshold, which is a percentage of the voltage full scale. This setting adjusts the pick up threshold for the voltage. You set a percentage of the PT primary (PT numerator X PT multiplier) up to 12.7 in the entry field, to configure when the meter will start reading values above 0 voltage.
- e. Total Demand Distortion (TDD Setting): This setting of the Device Profile allows you to set the maximum value for current, which is used for the TDD (Total Demand Distortion) calculation. TDD is an index used to measure harmonics. In this field enter the maximum load current for TDD. To disable TDD, enter 0 in the field.
- f. CT Reversal Phase Enables: Use this setting to enable CT reversal for any phase. This feature is useful if a CT is wired the wrong way and you do not want to (or cannot) change the wiring. This setting is only available for a three element WYE hookup. For any other hookup, this setting will be ignored.

Program Communications Setting:

1. From the Device Profile screen, double-click General Settings>Communications>a listed port.



The screenshot shows a software window titled "Communications" with a green header bar. Below the header, there are two sections for configuring serial ports:

- COM1 (USB):**
 - Address: 1
 - Protocol: Modbus ASCII
 - Baud Rate: 57600
 - Response Delay: 0 milliseconds
 - Parity: None
- COM2 (RS-485):**
 - Address: 1
 - Protocol: Modbus RTU
 - Baud Rate: 57600
 - Response Delay: 0 milliseconds
 - Parity: None

The settings shown here are for the meter's serial ports.

For the RS485 port, enter:

- Address (1-247 for Modbus); (1-65520 for DNP)
- Protocol (Modbus RTU, Modbus ASCII, or DNP3)
- Baud Rate (1200, 2400, 4800, 9600, 19200, 38400, or 57600)
- Response Delay (0 - 750 in 50 ms increments)
Response Delay is the delay the meter should use before responding to queries.
- Parity (Odd, Even, or None)

Program Meter Time:

The meter is preset to Eastern time. To change the meter time:

1. From the Main screen's Title bar, click Tools>Set Device Time.
2. You can either enter the time in the Time fields, or click Use PC Time to set the time using your PC's time.
3. Click Send.

NOTE: The meter offers multiple Time Synchronization methods.

See Chapter 28, Section 28.1.3 in the software manual (click Help>Contents from the Main screen to open the manual) for instructions on setting up Time Sync for the meter.

Set Device On-Board Clock

	Month	Day	Year
Date	06	19	2018
	Hour	Minute	Second
Time	16	20	18

Use PC Time

Send Cancel

Program Meter Name:

To enter a name/ID for the meter:

1. From the Device Profile screen, double-click General Settings>System Settings.

System Settings

Meter Identification

Meter Designation: 250-3A

Profile Name: [Empty]

User Memo: [Empty]

Test Mode Options

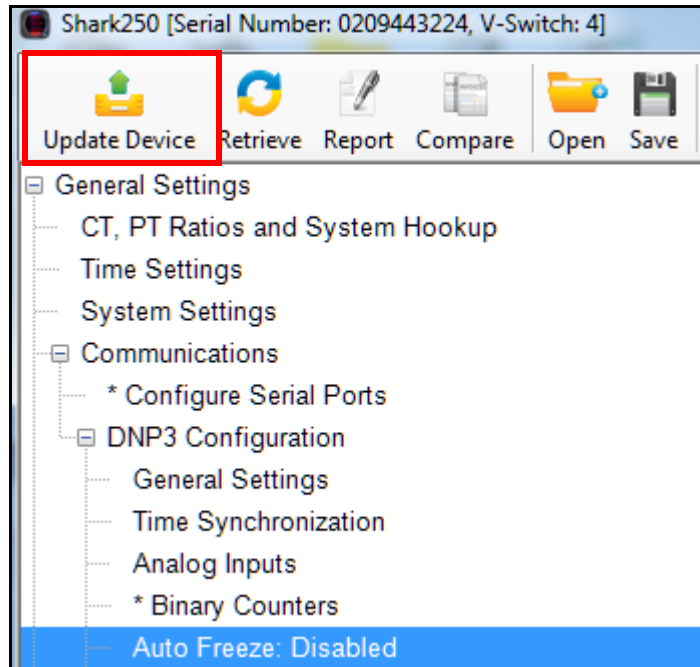
Exit Test Mode after 5 minutes of inactivity

VA/VAh Computation Method

Vector Sum

Input a new meter designation into the field. Note that it is important to name each meter individually, since the meter name is used to name the log databases when logs are downloaded.

IMPORTANT! When you have made changes to the meter's Device Profile, click Update Device at the top left of the Device Profile screen's Icon Bar, to send the new settings to the meter. The meter will reboot and then you can reconnect to it.



Shark® is a registered trademark of Electro Industries/GaugeTech. The distinctive shape, style, and overall appearance of the Shark® meter is a trademark of Electro Industries/GaugeTech. Communicator EXT™ is a trademark of Electro Industries/GaugeTech.