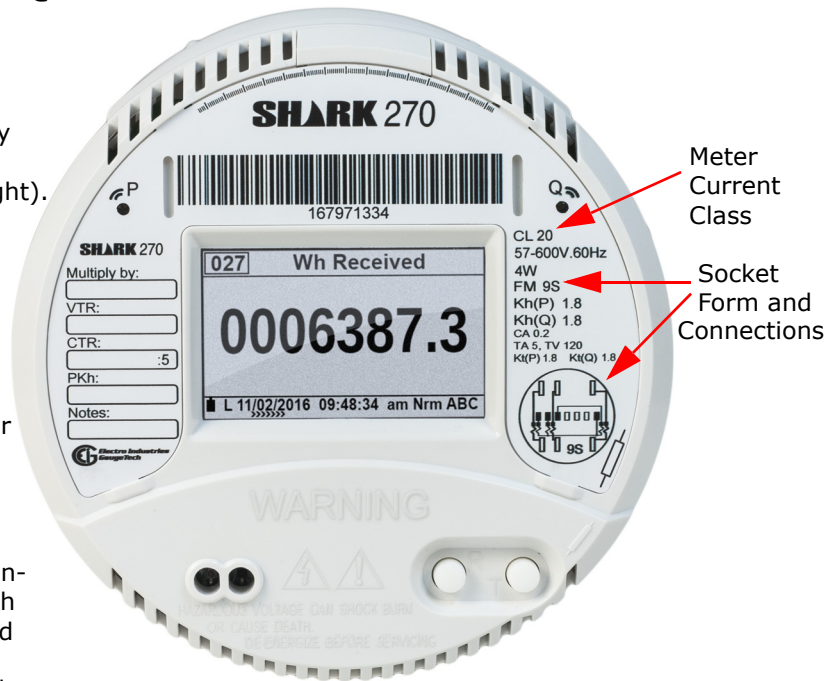


Shark® 270 Meter Quickstart Guide

Mechanical Installation:

The Shark® 270 Socket meter is designed to mount into a standard meter socket, so this meter can fit in any base that can accept that meter form. The socket form is listed on the meter's front label (see picture on the right).

1. Examine the label to verify that the meter you are installing is the correct form factor and service type.
2. Make sure that the socket and meter current class ratings are compatible.
3. Make sure that all communication and auxiliary power wiring is accessible in case disconnection is required for any reason.
4. Make sure that any communications wiring from the back of the meter is fed through the appropriate openings in your socket to allow for clean connections with external devices. Refer to the meter's Installation and Operation manual for wiring connections to the I/O modules and related information. The manual is on the Shark® Series CD that shipped with the meter.



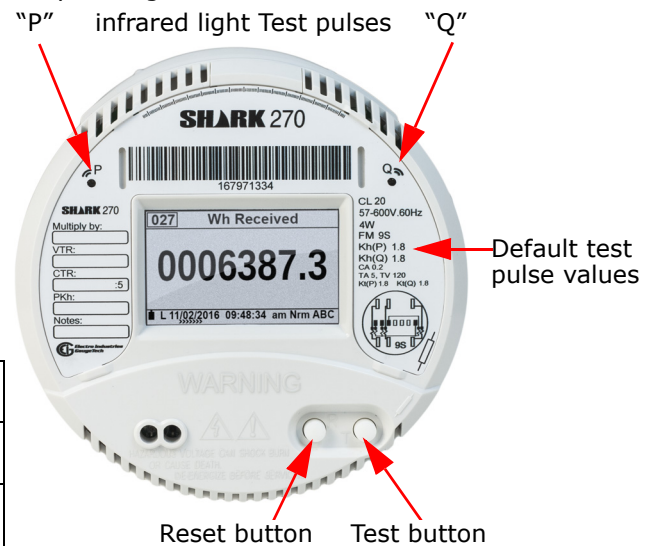
The possible socket forms for the Shark® 270 meter are: 9S, 36S, 45S, and 9A.

Testing:

The Shark® 270 meter has two infrared light ports for pulse-based accuracy testing.

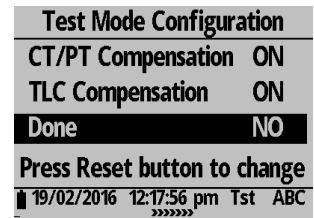
- The port labeled "P" produces Wh pulse outputs.
 - The port labeled "Q" produces VARh pulse outputs.
 - The associated constant values are Kh and Kt.
1. To enter Test Mode, remove the clear cover by turning it counter-clockwise, and press the Test button, located under the cover.
 2. The test pulses are fixed as shown in the table below.

Test Pulse	Wye		Delta	
	Class 2	Class 20	Class 2	Class 20
1 - Wh pulse (P light port)	0.18	1.8	0.12	1.2
2 - VARh pulse (Q light port)	0.18	1.8	0.12	1.2



They are also shown on the meter's label, under the form type.

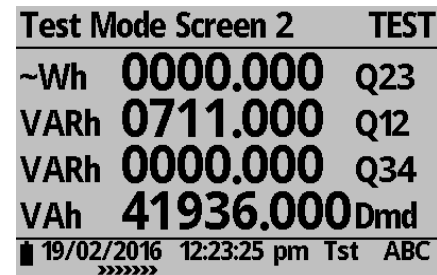
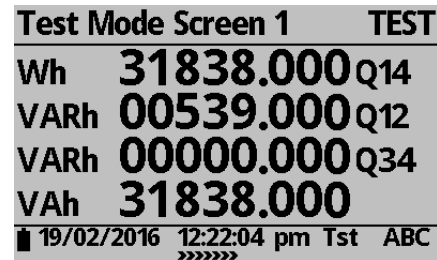
4. When you press the Test button, you first see the Test Mode Configuration LCD display screen. This screen lets you enable (ON) or disable (OFF) CT/PT and TLC compensation during testing. Click the Reset button to change ON to OFF, or vice versa; click the Test button to move to the next setting. When you have finished making your settings, click the Reset button to change NO to YES next to DONE.



5. Press the Test button again to begin testing. There are four Test Mode screens, which display accumulated real, reactive and apparent energy as well as Block Demand for real power. Advance through the Test Mode screens by pressing the Test button.

6. The table below shows the available screens, the data displayed on them, and the pulse source for each screen. Sample screens are shown on the right.

Screen	Parameters	Pulse 1 Source	Pulse 2 Source
1	Wh (Q1+Q4) VARh (Q1+Q2) VARh (Q3+Q4) VAh	Wh (Q1+Q4)	VARh (Q1+Q2) or (Q3+Q4)
2	Wh (Q2+Q3) VARh (Q1+Q2) VARh (Q3+Q4) VAh	Wh (Q2+Q3)	VARh (Q1+Q2) or (Q3+Q4)
3	W (Q1+Q4) Demand VAR (Q1+Q2) Demand VAR (Q3+Q4) Demand VA Demand	Wh (Q1+Q4)	VARh (Q1+Q2) or (Q3+Q4)
4	W (Q2+Q3) Demand VAR (Q1+Q2) Demand VAR (Q3+Q4) Demand VA Demand	Wh (Q2+Q3)	VARh (Q1+Q2) or (Q3+Q4)

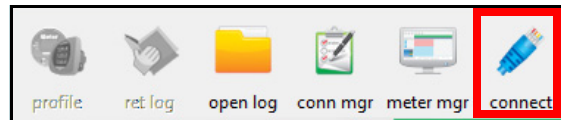


7. Use a comparator to compare the test pulses to the Energy standard to test the meter accuracy.

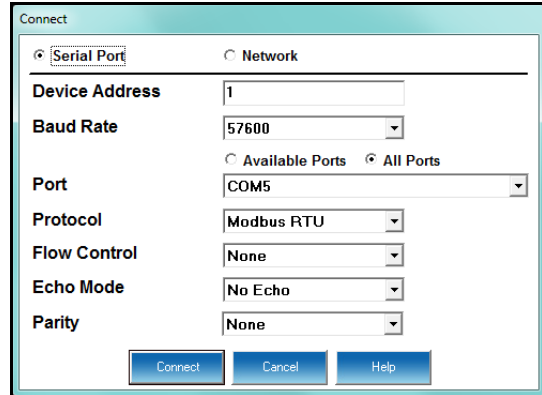
8. To exit Test Mode, press the Test Mode Button for more than three seconds. The meter returns to Normal Mode. Replace the meter cover.

Programming the Meter through Communicator EXT™ 4.0 Software

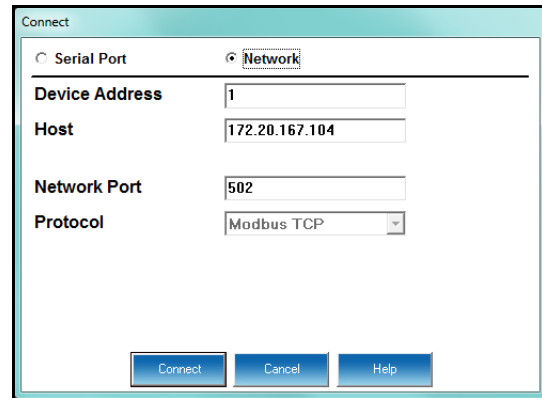
1. From the Communicator EXT™ software’s Main screen, click the Connect icon in the Icon Bar.



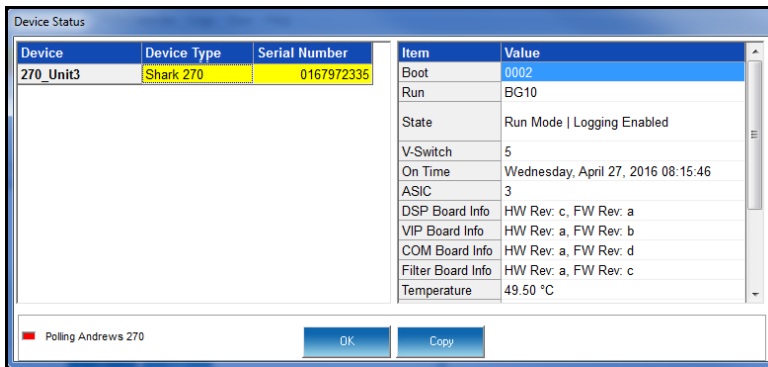
- If you are connecting through a serial port (RS485 or Optical port), use either a cable or an optical port reader to communicate from the meter to your PC and click the Serial Port radio button.
 - a. Enter device address.
 - b. Select baud rate (default for both ports is 57600), communication port you are using, protocol (default for RS485 is Modbus RTU and for the Optical port is Modbus ASCII), and parity (for RS485 - the default is None). You can leave the other fields as they are.
 - c. Click Connect.



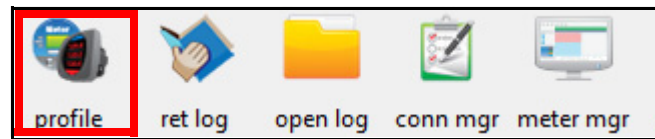
- If you are connecting through an Ethernet port, click the Network radio button.
 - a. Enter device address.
 - b. Enter the meter's IP address Network port (the default is 502).
 - c. Network protocol is Modbus TCP.
 - d. Click Connect.



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

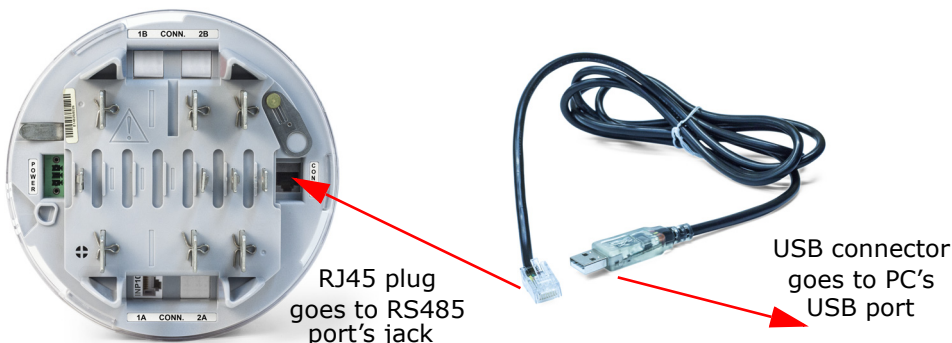


3. Click OK to close the Device Status screen, and then click the Profile icon in the Icon Bar.



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

NOTE: To connect via USB virtual serial port from a PC, please connect the RS485 to USB cable, part number E159343, to the meter's RS485 port's jack. See the picture below.



Program CT, PT Ratios

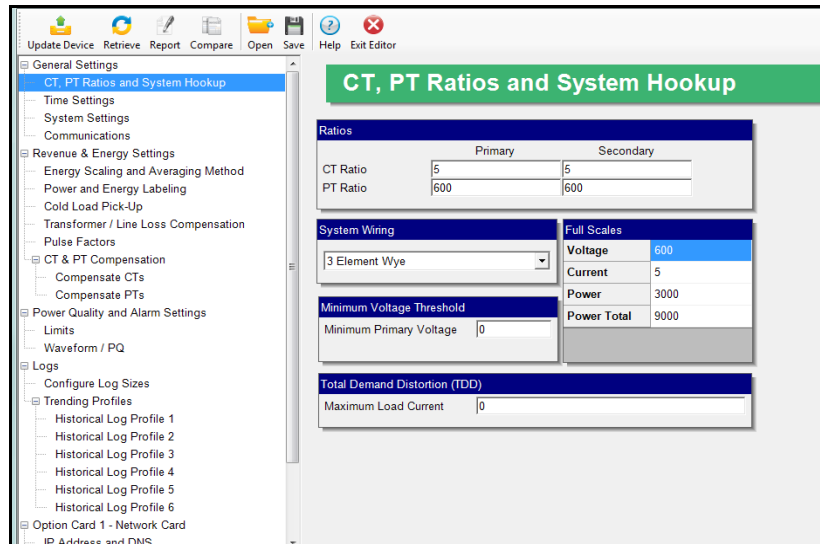
- Click General Settings>CT, PT Ratios and System Hookup from the left side of the Device Profile screen.
 - Enter CT Ratios Primary (1-65535). The Secondary is display only.
 - Enter PT Ratios Primary (1-9999999) and Secondary (1-65535) voltage.

Example CT Setting:

200/5 Amps: set the Primary current value as 200.00.

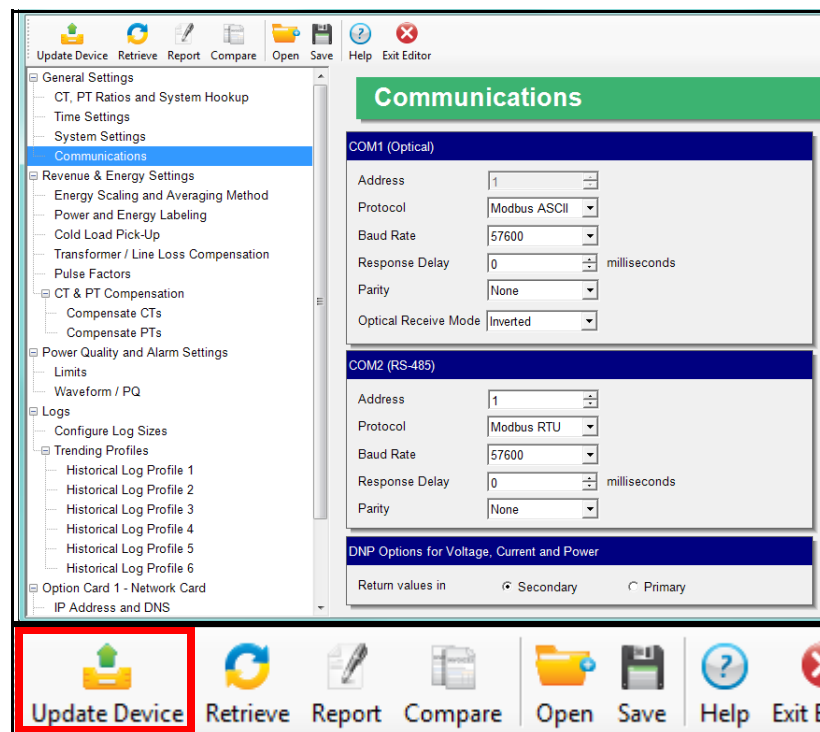
Example PT Settings:

14400/120 Volts: set the Primary voltage value as 14400.00; set the Secondary voltage as 120.00.



Program Communications Setting

- Click General Settings>Communications from the left side of the Device Profile screen.
- The settings shown here for the Optical port (Com 1) and the RS485 port (Com 2) are the default settings. Change the settings if necessary for your system.
- The DNP settings for voltage, current, and power are used for DNP protocol communication. Select whether you want to return the values in voltage, current, and power values in Primary or Secondary.



IMPORTANT! When you have made changes to the meter's Device Profile, click Update Device to send the new settings to the meter.

NOTE: For additional meter operation and programming information, refer to the *Shark® 270 Meter Installation and Operation Manual* and the *Communicator EXT™ 4.0 and MeterManager EXT Software User Manual* on the Shark® Series CD. 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.