

Shark® 100BT Transducer Quickstart Guide



CAUTION! Installation of the Shark® 100BT transducer must be performed only by qualified personnel who follow standard safety precautions during all procedures. Those personnel should have appropriate training and experience with high voltage devices. Appropriate safety gloves, safety glasses and protective clothing are recommended.

During normal operation of the Shark® meter, dangerous voltages flow through many parts of the unit, including: Terminals and any connected CTs (Current Transformers) and PTs (Potential Transformers), all I/O Modules and their circuits. All Primary and Secondary circuits can, at times, produce lethal voltages and currents. Avoid contact with any current-carrying surfaces.

Do not use the meter or any I/O device for primary protection or in an energy-limiting capacity. The meter can only be used as secondary protection.

IMPORTANT! Refer to your meter's Installation and Operation Manual for additional safety warnings before performing installation, wiring, or maintenance of your meter. See the link to the manual, below.

NOTE: This Quickstart Guide gives basic installation, wiring, and programming instructions. For additional meter operation and programming information, refer to your meter's *Installation and Operation Manual* and the *Communicator PQA™*, *MeterManagerPQA™*, and *EnergyPQA.com™ Software User Manual* on EIG's website:

User Manual:

<https://www.electroind.com/products/shark-100b-bacnet-ip-communicating-multifunction-meter/>

From the webpage, click Technical Documents>User Manual.

Software Manual:

<https://www.electroind.com/products/communicatorpqa-software-application-5/>

From the webpage, click Technical Documents>User Manual.

CommunicatorPQA™ Setup Software:

<https://www.electroind.com/products/communicatorpqa-software-application-5/>

From the webpage, click Download CompQA Pro. To get a Professional license for the software, email sales@electroind.com or call 516-334-0870.

All EIG's metering and software products' literature can be accessed from:

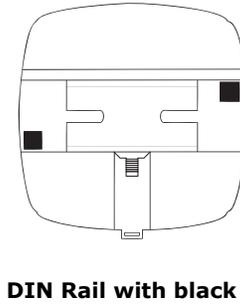
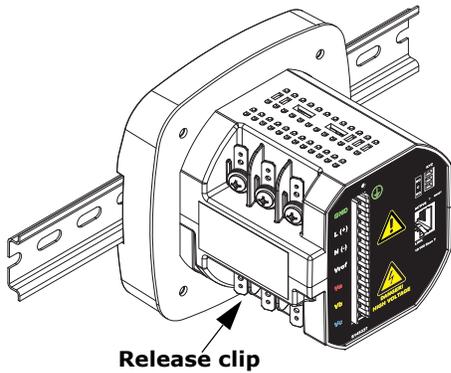
<https://www.electroind.com/all-products/>

For software and metering integration, EIG's Technical Support Engineers are available on an hourly or daily basis to help with typical commissioning assistance, which includes:

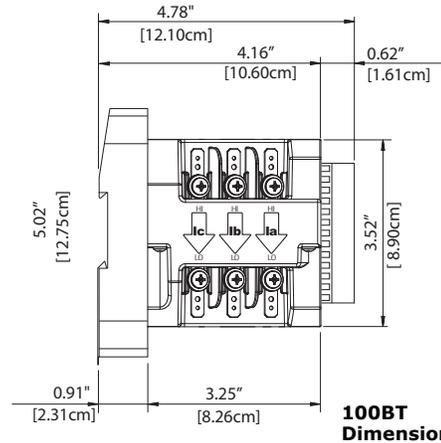
- Verifying meter installation and wiring.
- Verifying proper system integration.
- Working with 3rd parties to ensure cross compatibility.
- Advising users on best practices for optimal implementation.

You can reach Technical Support from 8 a.m. to 8 p.m. EST, Monday-Friday, at 516-334-0870.

Mechanical Installation



DIN Rail with black

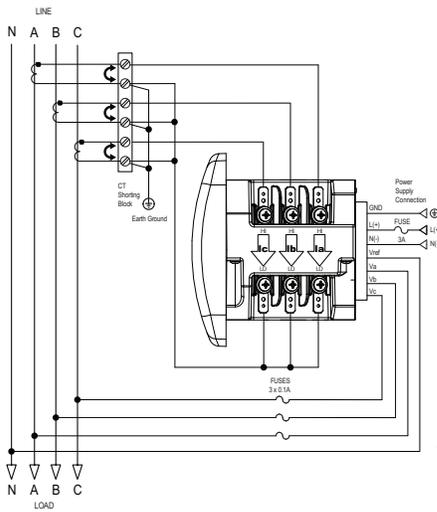


100BT Dimensions

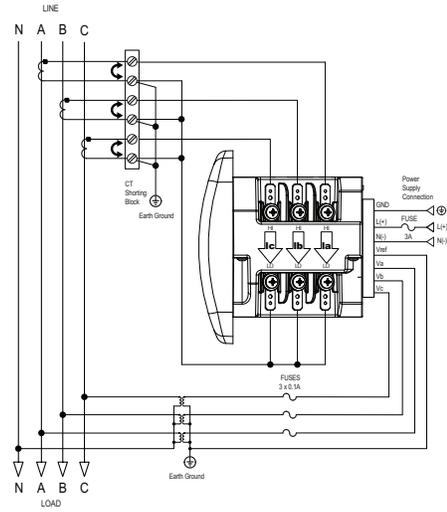
DIN Installation

Installation Steps: Slide top of groove of meter onto DIN Rail. Press gently until the meter clicks into place. If mounting with DIN Rail provided, use Black Rubber Stoppers (also provided) shown above. To remove meter, pull down on Release clip.

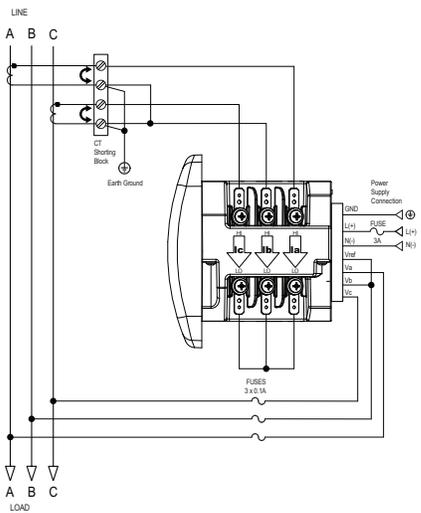
Electrical Installation: Select diagram for your application.



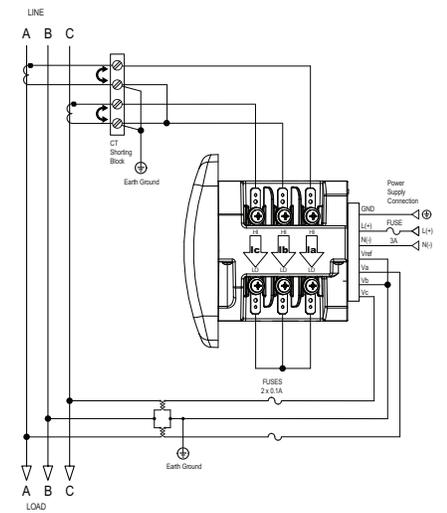
WYE direct, 3 phase, 4 wire



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 Shark® 100/100BT meter User Manual (see page QS-1 for the download link).

Communication Wiring: The Shark® 100BT has an RJ45 port on its backplate, which accommodates a standard Ethernet cable.

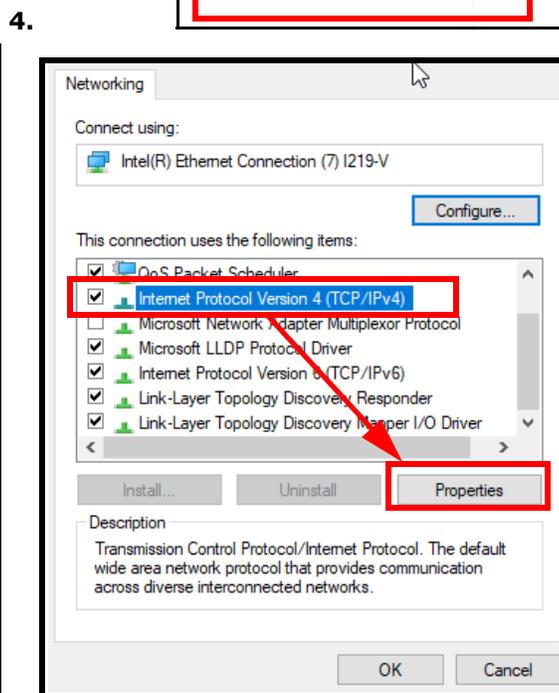
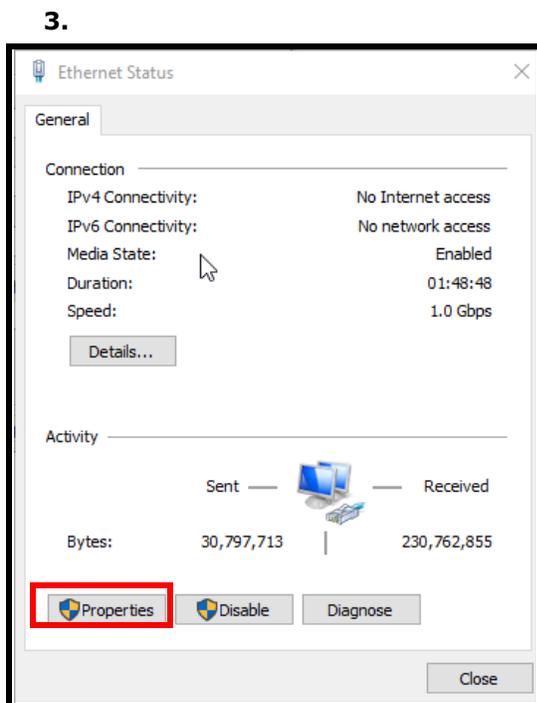
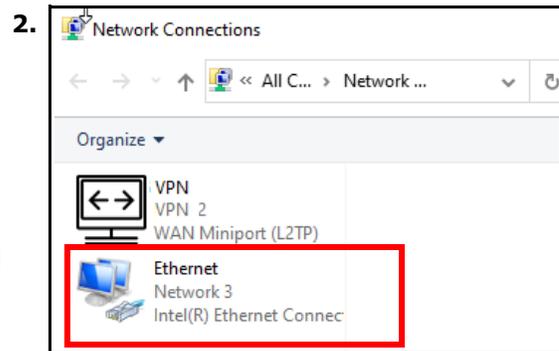
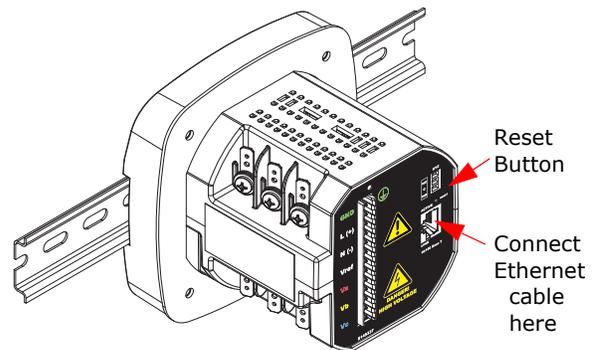
Factory Default Settings: The Factory Default IP parameters programmed in the INP10 card are:

IP Address: 10.0.0.1

Subnet Mask: 255.255.255.0

Set up Ethernet Communication with a PC: You need to establish communication between your PC and the meter in order to configure the meter’s IP address so that it will communicate on your Network.

1. Select Settings>Network and Internet>Change Adapter Options.
2. Right-click on the connection you want to use.
3. Click the Properties button.
4. Click on the Internet Protocol Version 4 (TCP/IP) and click the Properties button.



5.

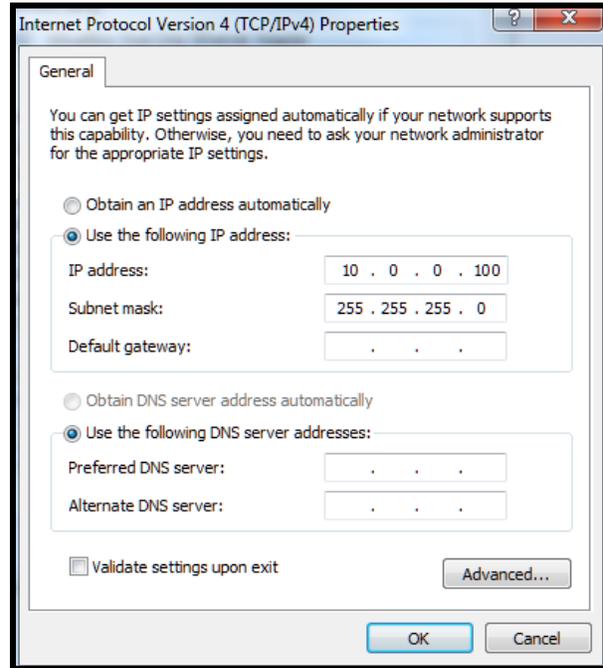
5. Click Use the Following IP Address radio button and enter:

IP Address: 10.0.0.100
 Subnet Mask: 255.255.255.0

6. Click OK and then Close to close the two screens.

7. Connect the meter's RJ45 port to your PC's Ethernet port using a standard Ethernet cable.

8. Open your web browser, type http://10.0.0.1 in the address bar and press **Enter**. You will see the screen shown below, on the right.



NOTE: If you don't see the screen, reset the meter: insert a pointed tool, for example, a ballpoint pen, in the Reset button for 30 seconds (see the figure at the top of page QS-4 for the Reset button's location). Then repeat step 8.

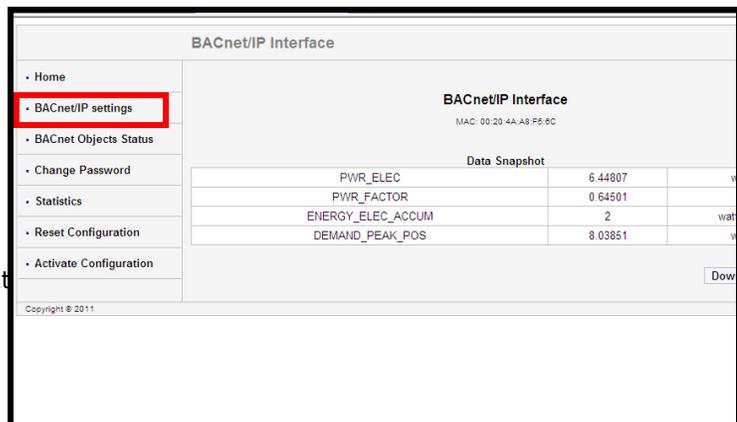
9. Enter the following default settings:

User name: admin
 Password: admin



10. Click OK. You will see the BACnet/IP Home webpage, shown on the right.

11. Click BACnet/IP Settings on the left side of the webpage to see the webpage shown at the top of the next page.

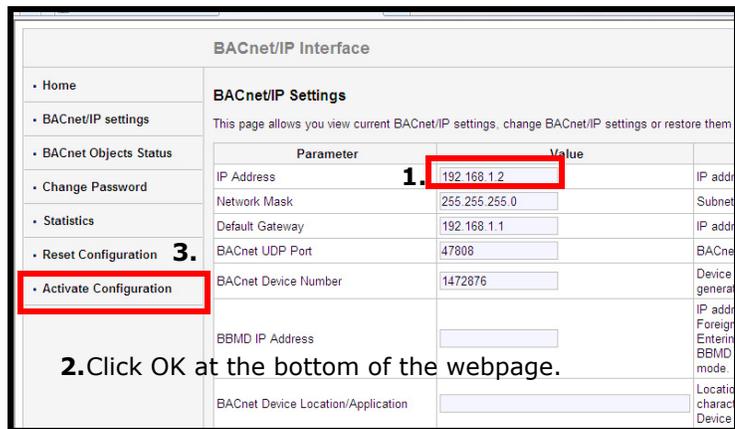


12. Click in the IP/Address field and change the meter's factory-set IP address (10.0.0.1) to an IP address in the same subnet as your Network. Contact your System Administrator if you are unsure of the address to use.

13. Click OK at the bottom of the webpage.

14. Click Activate Configuration on the left side of the webpage to display the screen shown on the right.

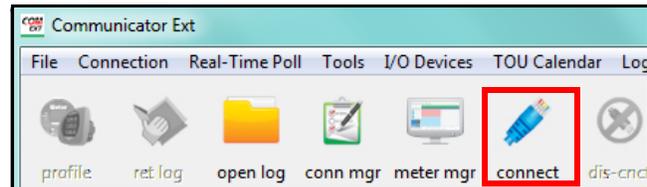
15. Click Confirm. You will see a message that the configuration has been saved and the meter is rebooting.



Software Configuration:

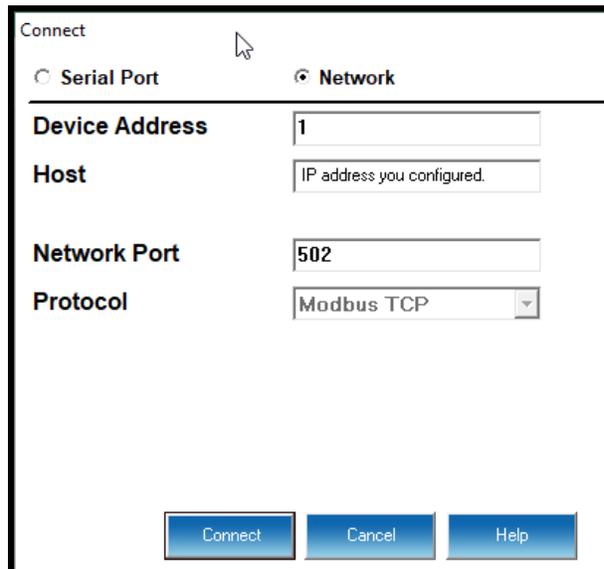
1. Open CommunicatorPQA™ software (see page QS-1 for the download link).

2. Click Connect in the Icon bar.

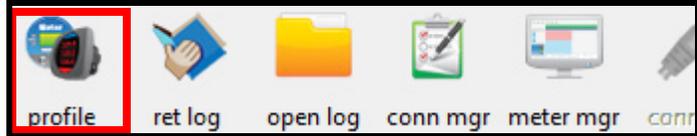


3. Click the Network button and enter the meter's new IP address in the Host field; then and click Connect.

4. The Device Status screen opens, confirming the connection. Click OK to close the Device Status screen.



5. Click the Profile icon in the Icon bar.



6. The Device Profile screen opens. The tabs on the top of the screen let you choose setting screens.



Program CT, PT Ratios

1. This is the first Device Profile screen. To return to this screen from another settings screen, click the Scaling tab.
2. These are the settings:
 - a. CT Numerator (enter value you want), Denominator (display only), Multiplier (1, 10, or 100), CT Fullscale (Calculated automatically)
 - b. PT Numerator (enter value you want), Denominator (enter value you want), Multiplier (1, 10, 100, or 1000), PT Fullscale (Calculated automatically)

CT, PT Ratios and System Wiring			
CT Numerator (Primary)	<input type="text" value="5"/>	< Update CT	<input type="text" value="1"/>
CT Denominator (Secondary)	<input type="text" value="5"/>	Update Ratio >	<input type="text" value="1"/>
CT Multiplier	<input type="text" value="1"/>		
CT Fullscale	5.000 amps		
PT Numerator (Primary)	<input type="text" value="120"/>	< Update PT	<input type="text" value="1"/>
PT Denominator (Secondary)	<input type="text" value="120"/>	Update Ratio >	<input type="text" value="1"/>
PT Multiplier	<input type="text" value="1"/>		
PT Fullscale	120.0 volts		
System Wiring	<input type="text" value="3 element wye"/>		
Phases Displayed	<input type="text" value="ABC"/>		

NOTE: Voltage Full Scale = PT Numerator x PT Multiplier

Current Full Scale = CT Numerator x CT Multiplier

IMPORTANT! Specify Primary and Secondary Voltage in Full Scale (NOT Ratios).

NOTE: You can also enter the Ratios for CT/PT Numerator and Denominator and click the Update CT/ Update PT buttons to let the software calculate the Numerator, Denominator, and Multiplier for you. You can then empty the Ratio fields and click the Update Ratio buttons to confirm the calculated settings: you will see the same ratios you initially entered.

See Chapter 9 in the software manual for additional screen settings instructions (see page QS-1; alternatively, you can click Help>Contents from the CommunicatorPQA™ software's Main screen).

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.

Program Meter Name:

To enter a name/ID for the meter:

1. From the Device Profile screen, click the Settings tab.
2. Input a new meter designation into the Device Designation 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.

See Chapter 9 in the software manual for an explanation of the other settings in this screen.

IMPORTANT! When you have made changes to the meter's Device Profile, click Load Profile at the bottom of the Device Profile screen to send the new settings to the meter. The meter will reboot and then you can reconnect to it. Note that you can also click Save Profile to save your changes without sending them to the meter.

NOTE: For additional wiring options, meter configuration screens, and instructions on using the Shark® 100BT's BACnet®*, refer to the *Shark® 100/100T/100B/100BT Meter Installation and Operation Manual* and the *CommunicatorPQA™, MeterManagerPQA™, and EnergyPQA.com™ Software User Manual* (see page QS-1 for the download links).

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