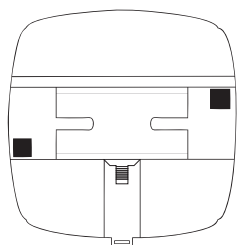
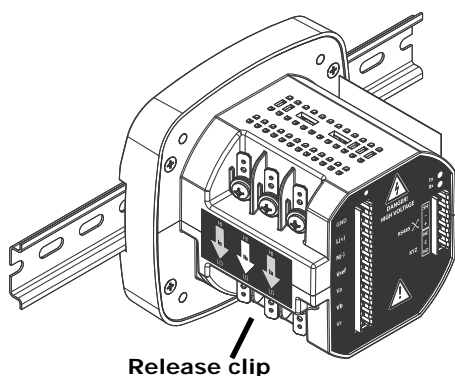
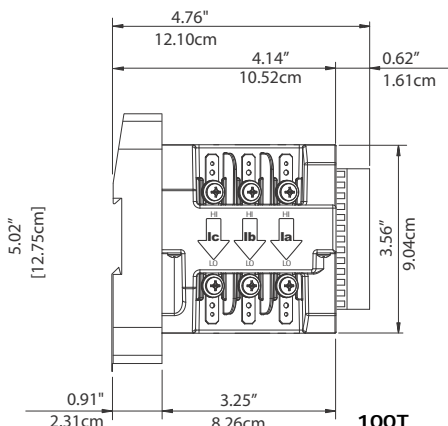


Shark® 100T Quickstart Guide

Mechanical Installation



DIN Rail with black rubber stoppers

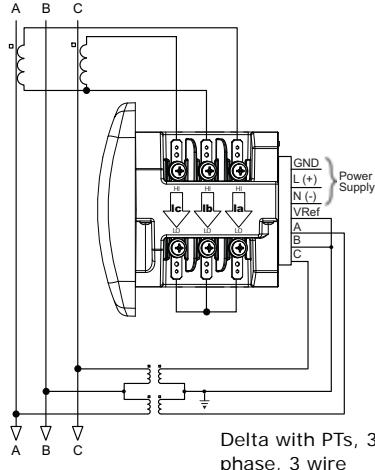
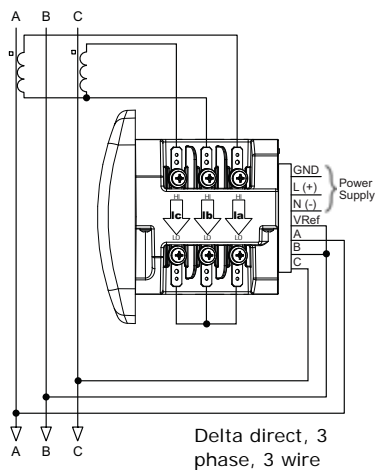
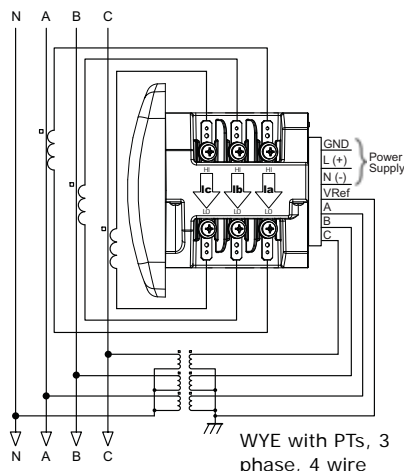
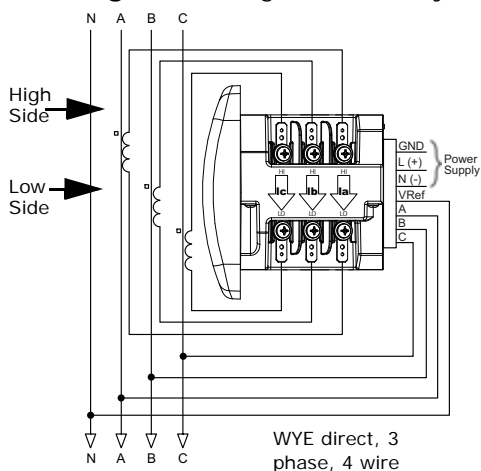


100T Dimensions

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 Wiring: Select diagram to meet your application.

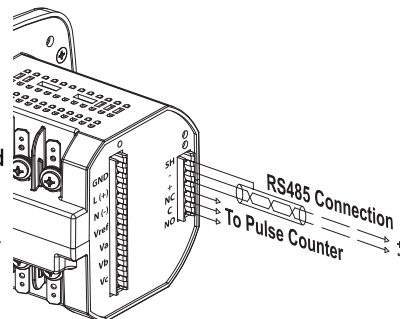


NOTE: Other wiring configurations are available. See the full Manual on the enclosed CD.

Program the Shark® 100T Using RS485

Communication Wiring: The Shark® 100T meter's RS485 port uses standard 2-wire, Half Duplex Architecture.

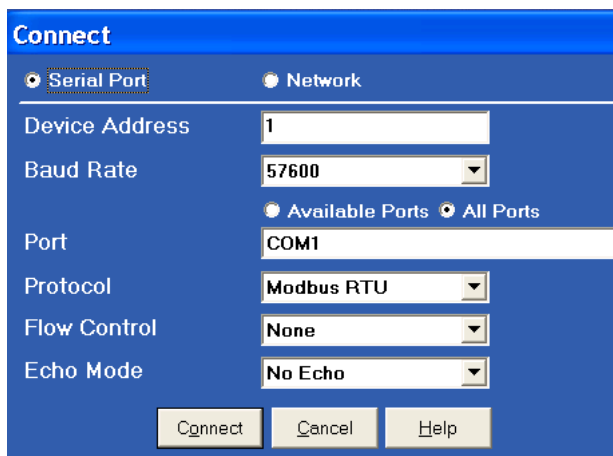
Factory Initial Default Settings: When the Shark 100T is powered up, for 10 seconds you can connect to the meter using the Factory Default Settings (even if the Device Profile has been changed). After 10 seconds the Device Profile reverts to the actual Device Profile in use. This is one way you can always connect to the meter. The Factory Initial Default Settings are:



- Device Address: 1
- Baud Rate: 9600
- Protocol: Modbus RTU

Connection Steps:

1. Open Communicator EXT software.
2. Click Connect on the tool bar. The Connect screen appears. Make sure your settings match these (use pull-down windows). Click Connect. Device Status screen confirms the connection.
3. Click OK. The main screen of Communicator EXT appears.

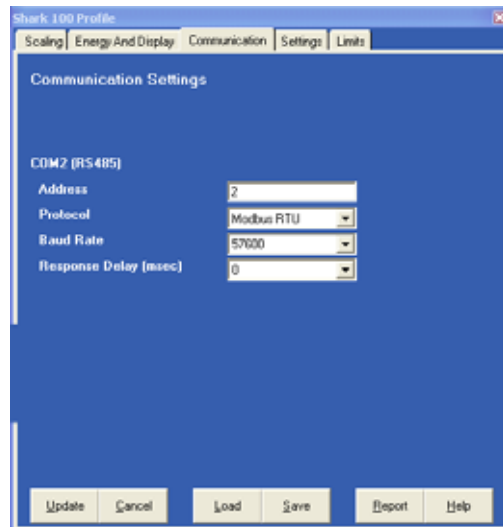


Configuration Steps:

4. Click the Profile button on the tool bar. A set of programming screens appears.
5. Click the Communications tab and select settings based on your application.
6. Click the Scaling tab and select settings based on your application.

Communications Settings:

- COM2 (RS485):
- Address (1-247)
- Protocol (Modbus RTU, ASCII or DNP)
- Baud Rate (9600 to 57600)
- Response Delay (0-750 msec)



Scaling (CT, PT Ratios and System Wiring)

- CT Numerator, Denominator, Multiplier, CT Fullscale (Calculated automatically)
- PT Numerator, Denominator, Multiplier, PT Fullscale (Calculated automatically)
- System Wiring: Use pull-down menu to select
- Number of Phases: One, Two or Three

NOTE: Voltage Full Scale = PT Numerator x PT Multiplier

Current Full Scale = CT Numerator x CT Multiplier

WARNING: Specify Primary and Secondary Voltage in Full Scale (NOT Ratios).

Example CT Settings:

200/5 Amps: Set Ct-n value for 200, Ct-S value for 1.

800/5 Amps: Set Ct-n value for 800, Ct-S value for 1.

2,000/5 Amps: Set Ct-n value for 2000, Ct-S value for 1.

10,000/5 Amps: Set Ct-n value for 1000, Ct-S value for 10.

Example PT Settings:

14,400/120 Volts: Pt-n value is 1440, Pt-d value is 120, Pt-S value is 10.

138,000/69 Volts: Pt-n value is 1380, Pt-d value is 69, Pt-S value is 100.

345,000/115 Volts: Pt-n value is 3450, Pt-d value is 115, Pt-S value is 100.

345,000/69 Volts: Pt-n value is 345, Pt-d value is 69, Pt-S value is 1000.

Update Device:

7. When changes are complete, click the Update button to send a new profile to the Shark 100T meter.

8. Click Cancel to Exit the profile (or) click other tabs to update other screens.

9. Use Communicator EXT to communicate with the device and perform required tasks.

NOTE: For further details and additional programming screens (Password, Limits, Energy and Display), refer to the Shark User's Manual & Communicator EXT 3.0 Software Manual on the enclosed CD.

Program the Shark 100T Using Ethernet (INP10 Option)

Communication Wiring: The Shark 100T meter with Ethernet has an RJ45 port on the meter back. Use an Ethernet cable to connect the meter to your PC.

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

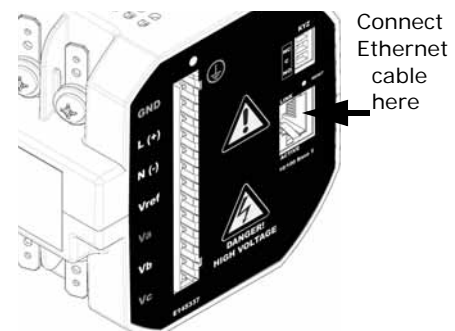
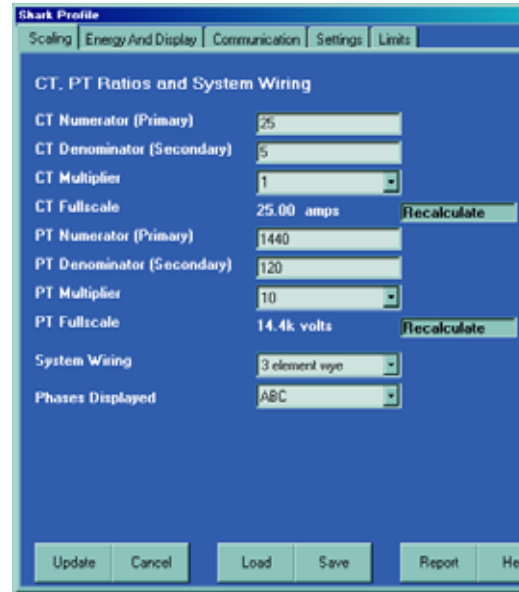
Set up the PC's Ethernet Adapter: The PC's Ethernet Adapter must be set up for point-to-point communication.

1. Select Start>Control Panel>Network Connections. Right-click on the Local Area Connection you will use to communicate with the meter and select Properties.

2. Select Internet Protocol [TCP/IP] and click the Properties button.

3. Click Use the Following IP Address radio button and enter: IP Address: 10.0.0.2; Subnet Mask: 255.255.255.0.

4. Click the OK button.



Set up the Ethernet Card (INP10 Option): Establish a Telnet connection on port 9999.

(**NOTE:** Windows 7 users must enable Telnet Client. Select Control Panel>Programs and Features> Turn windows features on or off. Check the Telnet Client box and click OK. Telnet Client is now active.)

1. From the Windows Start menu, click **Run** and type 'cmd'.
2. Click the **OK** button to bring up the Windows' Command Prompt window. In the Command Prompt window, type: "telnet 10.0.0.1 9999" and press the **Enter** key.

NOTE: Make sure there is a space between the IP address and 9999.

3. When the Telnet connection is established you will see a message similar to the example shown on the right.

```
Serial Number 5415404  MAC Address 00:20:4A:54:3C:2C
Software Version V01.2 (000719)
Press Enter to go into Setup Mode
```

4. To proceed to Setup Mode press Enter again. You will see a screen similar to the one shown on the right.
5. Change **ONLY** the parameters in group 1. To do so, type number "1."
6. Once group 1 is selected, the individual parameters display for editing. Either: Enter a new parameter if a change is required, OR press **Enter** to proceed to the next parameter without changing the current setting.

```
1) Network/IP Settings:
IP Address ..... 10.0.0.1
Default Gateway ..... not set ---
Netmask ..... 255.255.255.0
2) Serial & Mode Settings:
Protocol ..... Modbus/RTU,Slave(s) attached
Serial Interface ..... 57600,8,N,1,RS232,CH1
3) Modem/Configurable Pin Settings:
CP1 ..... Not Used
CP2 ..... Not Used
CP3 ..... Not Used
4) Advanced Modbus Protocol settings:
Slave Addr/Unit Id Source .. Modbus/TCP header
Modbus Serial Broadcasts ... Disabled (Id=0 auto-mapped to 1)
MB/TCP Exception Codes .... Yes (return 00AH and 00BH)
Char, Message Timeout ..... 00050msec, 05000msec

D)efault settings, S)ave, Q)uit without save
Select Command or parameter set (1..4) to change:
```

IMPORTANT! Settings 2, 3, and 4 must have the default values shown here.

Example: Setting device with static IP Address.

```
IP Address <010> 192.<000> 168.<000> .<000> .<001>
Set Gateway IP Address <N>? Y
Gateway IP Address: <192> .<168> .<000> .<001>
Set Netmask <N for default> <Y>? Y
```

7. Continue setting up parameters as needed. After you finish your modifications, press the **"S"** key on the keyboard. This saves the new values and causes a Reset in the Ethernet card.

CAUTION! DO NOT PRESS 'D' as it will overwrite any changes and save the default values.

Connection Steps:

1. Open Communicator EXT software.
2. Click Connect on the tool bar. You will see the Connect screen shown on the right. The setting shown here is the default setting.
3. Click Connect. The Device Status screen confirms the connection.
4. Click OK. Communicator EXT's Main screen opens. Follow the instructions on page Q-2.



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