AcuRev 4100 Series
Multi-Channel Branch Circuit Submeter

QUICK SETUP GUIDE

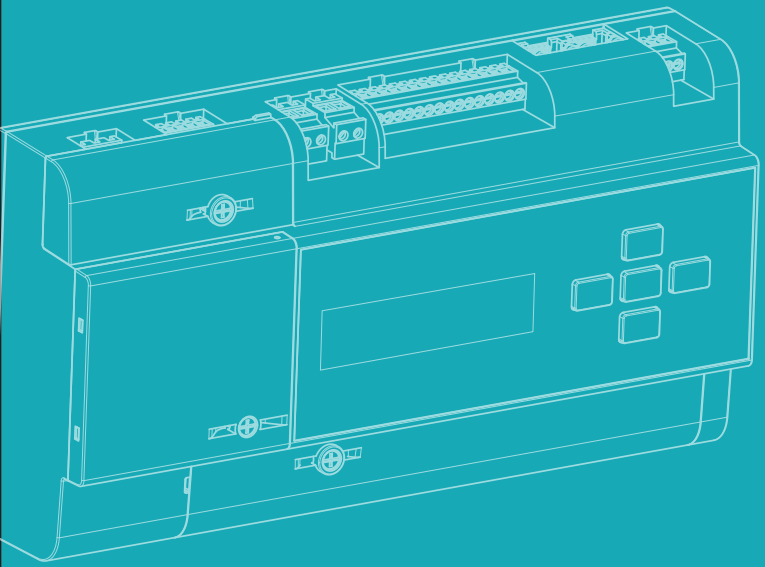

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Table of Content

MODELS	AcuRev-4110-mA AcuRev-4110-mV

Important Safety Notice

Read this document and the following symbols carefully before the installation, operation and maintenance of the AcuRev 4100 Series meter.

Accuenergy is not responsible or liable for any damages or injuries caused by improper meter installation and/or operation.

- Prior to maintenance and repair, the equipment must be de-energized and grounded.

- A switch or circuit breaker must be included in close proximity to the equipment and operator.
- All maintenance work must be performed by qualified professionals with formal training and experience in high voltage/current.
- Meter must be installed in an NRTL-certified enclosure to provide suitable protection.

The following symbols can be found either in this document or on the product.

ELECTRIC HAZARD: Indicates information about procedures which must be followed to reduce the risk of electric shock and danger to personal health.

WARNING ALERT: Indicates a hazardous circumstance which may result in severe injury or death.

NOTE: Provides additional information before an action shall be taken by the user.

Legal Notice

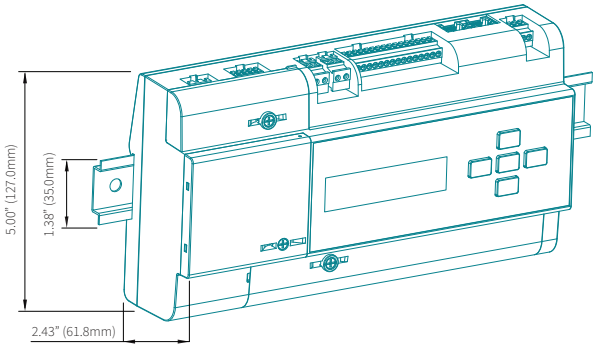
This AcuRev 4100 Series Quick Setup Guide provides informational and operational guidance regarding the use of the meter. While effort has been made to ensure the accuracy, reliability, and completeness of the information at the time of publication, Accuenergy assumes no responsibility for any errors, omissions, or misunderstandings in this document and reserves the right to modify its content at any time without prior notice.

Users should verify with Accuenergy or their authorized local representative that the document in use is the latest version and strictly adhere to the installation, operation, and maintenance procedures specified herein. Accuenergy shall not be held liable for any damages or consequences resulting from improper use or failure to comply with the provisions of this document.

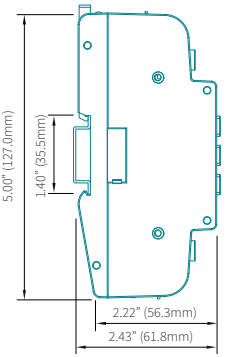
1. Appearance and Dimension

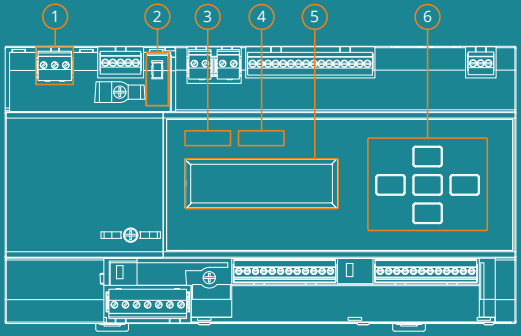
PART NUMBER	DESCRIPTION
1. Power Supply Terminal	Control power terminal
2. Seal Switch	Enable and disable the seal status.
3. State Indicator	LED light to indicate if an alarm has been triggered.
4. Pulse indicator	LED light to indicate energy pulse signal.
5. LCD Screen	Backlight screen.
6. Navigation Keys	Five keys to navigate through the screen and configure settings.
7. Digital Inputs	Four digital input terminals.
8. Relay Outputs	Two relay output terminals.
9. Digital Outputs	Eight digital output terminals.
10. Ethernet Ports	Two ports for Ethernet communication.
11. RS485 Port	Single port for Modbus RS485 communication.
12. Voltage Inputs	Voltage input terminals.
13. Current Inputs	Twenty-four current input terminals.
14. DIN Rail	Used on a 35mm DIN rail mount.

DIN RAIL MOUNT

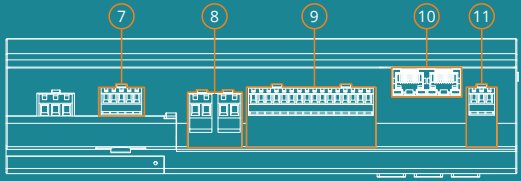


SIDE VIEW

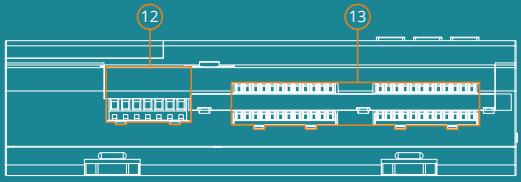




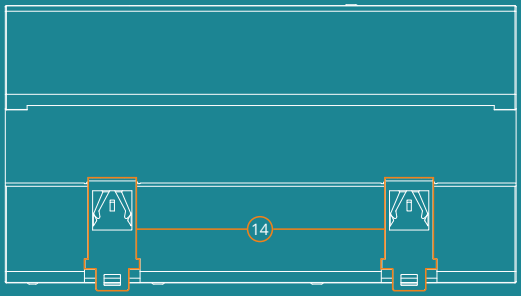
FRONT VIEW



TOP VIEW



BOTTOM VIEW



REAR VIEW

2. Operating Environment

WARNING ALERT

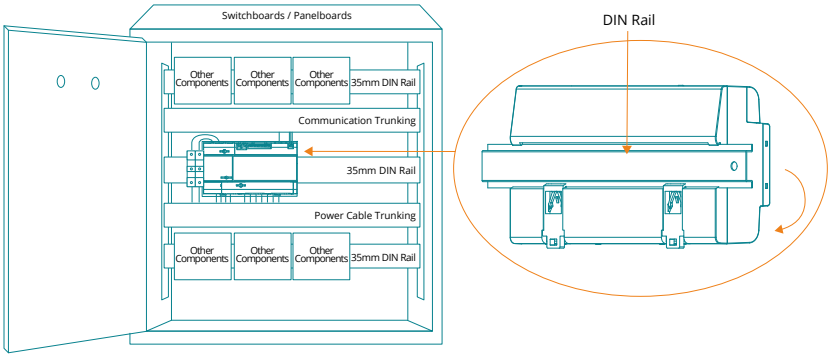
Ensure the following specifications are met. Failure to do so may affect accuracy, impair system function, damage hardware, or pose safety risks.

Location	Indoor
Pollution Degree	2
Operating Temperature	-25 °C to +70 °C (-13 °F to +158°F)
Operating Humidity	0 % to 75 % RH
Storage and Shipping Temperature	-40 °C to +85 °C (-40 °F to +185°F)
Storage and Shipping Humidity	0 % to 95 % RH
Altitude	0 to 2000m

3. Panel Installation and DIN Rail Mounting

The AcuRev 4100 is designed for installation on a standard 35mm DIN rail for integration into switchboards or panelboards.

The figure below depicts the AcuRev 4100 mounted on the DIN rail inside a panel.

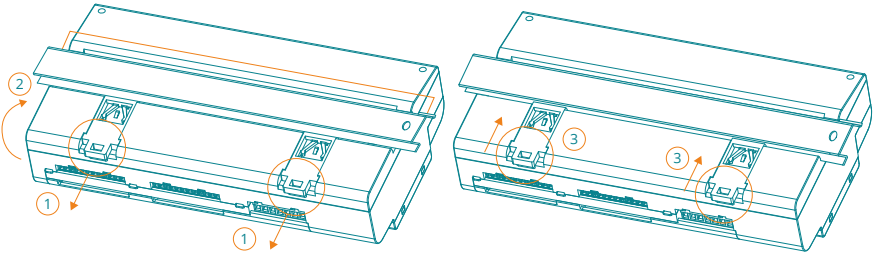


NOTE

When installing the meter in switchboards or panelboards, sufficient clearance must be maintained at the front, rear, top, and bottom of the device to facilitate wiring and removal.

Power cables and communication cables must not be routed in the same trunking to prevent EMI.

DIN Rail Mounting Procedure



1. From the rear of the AcuRev 4100, simultaneously pull down the two clip locks in unison, as shown in ① of the figure.

2. Position the rear of the AcuRev 4100 to face the DIN rail. As illustrated in the figure above, fit the AcuRev 4100 onto the bottom mounting bracket ② and hook the two upper mounting bracket on the top of the DIN rail groove.

3. Push the two clips back up ③ until a click sound is heard, indicating the AcuRev 4100 is securely locked onto the DIN rail.

4. AcuRev 4100 Series Wiring

WARNING ALERT

Appropriate safety wear is mandatory to ensure safe installation.

Caution must be taken before working on voltage and current channels, including cables and terminal blocks.

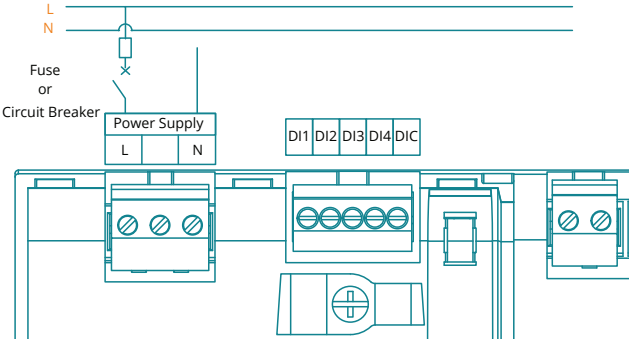
Before energizing the meter, please refer to the meter's label and specifications. Do not perform high voltage tests or insulation experiments to output, input, or communication terminals

4.1 Power Supply Wiring

The AcuRev 4100 supports 100VAC – 300 VAC (50/60 Hz) CAT III and 100VAC – 480VAC (50/60 Hz) CAT II power supply options. Contact the manufacturer for other power requirements.

The source of the power supply can be a dedicated supply or a measured circuit. A regulator is recommended where the voltage is unstable.

A (1A/500VAC) UL/CSA certified fuse or a small CE certified circuit breaker which complies with IEC60947 is recommended for the power supply.



ELECTRIC HAZARD

The 480VAC power supply is limited to L-L connections.

4.2 Voltage Input Wiring

To connect the voltage input terminal, ensure that the input range is 60VAC to 480VAC (line-to-neutral) or 60VAC to 830VAC (line-to-line), CAT III. A 1A/500VAC fuse should be used in the voltage input loop. Depending on the wiring method used, voltage input wiring varies as shown in the current input wiring diagrams below.

4.3 Current Input Wiring

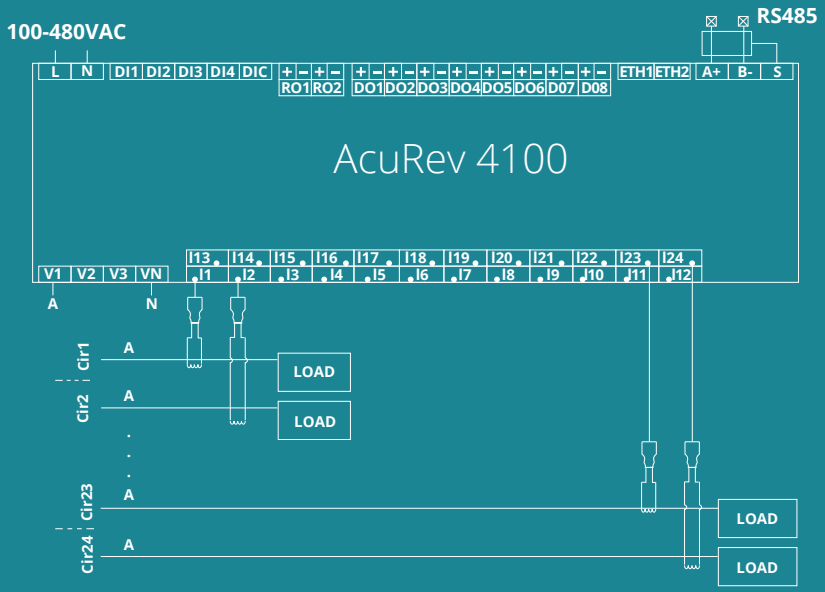
AcuRev 4100 supports up to 24 current inputs. To connect a current input terminal:

1. Loosen the terminal screw with a 3 × 0.5 mm (DIN 5264) screwdriver.

2. Insert a 16–14 AWG copper wire and tighten the screw to secure it.

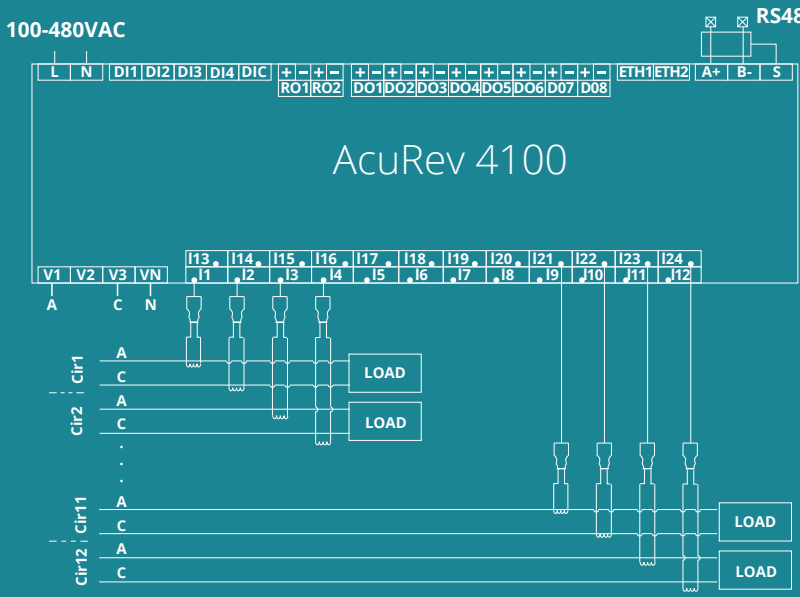
Five different current input wiring methods are supported.

1 Element 2 Wire



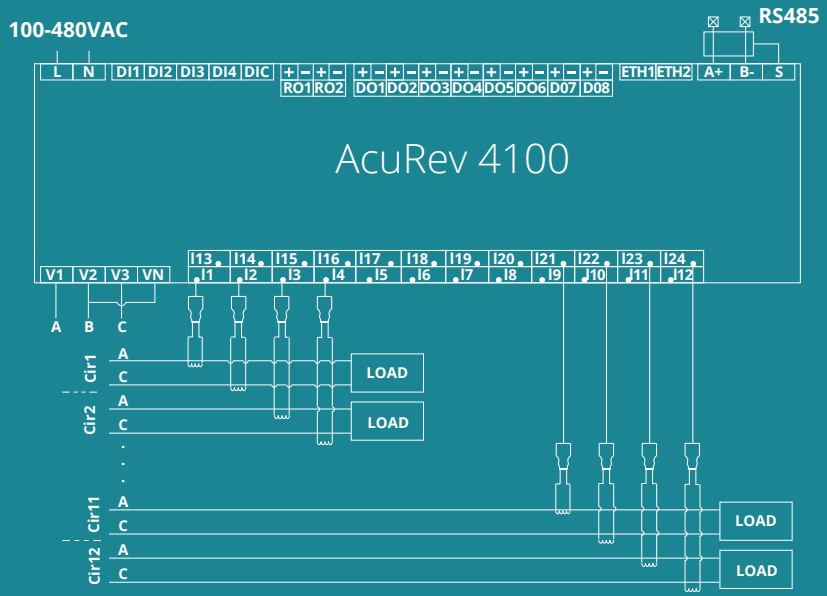
INPUT CHANNEL	PHASE A	INPUT CHANNEL	PHASE A	INPUT CHANNEL	PHASE A
Channel 1	I1	Channel 9	I9	Channel 17	I17
Channel 2	I2	Channel 10	I10	Channel 18	I18
Channel 3	I3	Channel 11	I11	Channel 19	I19
Channel 4	I4	Channel 12	I12	Channel 20	I20
Channel 5	I5	Channel 13	I13	Channel 21	I21
Channel 6	I6	Channel 14	I14	Channel 22	I22
Channel 7	I7	Channel 15	I15	Channel 23	I23
Channel 8	I8	Channel 16	I16	Channel 24	I24

2 Element 3 Wire 1 Phase



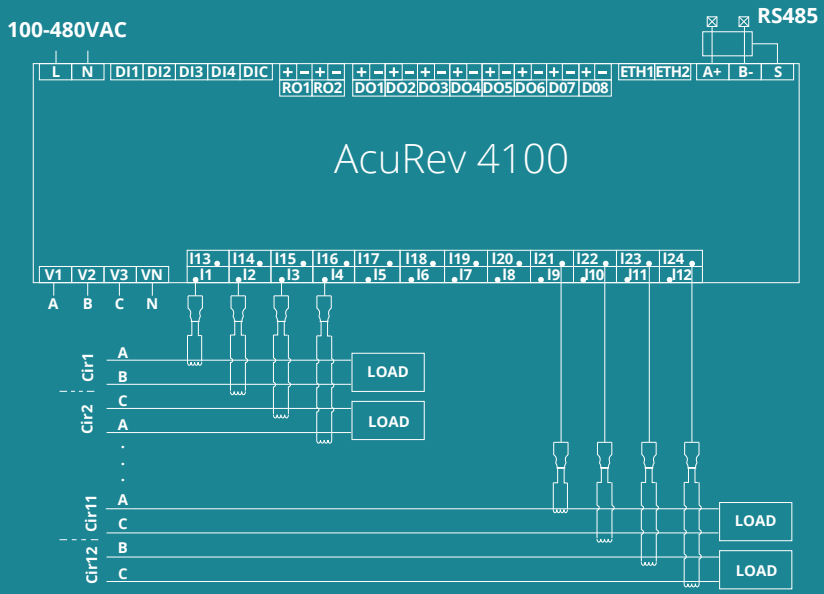
USER CHANNEL	PHASE A	PHASE C	USER CHANNEL	PHASE A	PHASE C
Channel 1	I1	I2	Channel 7	I13	I14
Channel 2	I3	I4	Channel 8	I15	I16
Channel 3	I5	I6	Channel 9	I17	I18
Channel 4	I7	I8	Channel 10	I19	I20
Channel 5	I9	I10	Channel 11	I21	I22
Channel 6	I11	I12	Channel 12	I23	I24

2 Element 3 Wire Delta



USER CHANNEL	PHASE AB	PHASE BC	USER CHANNEL	PHASE AB	PHASE BC
Channel 1	I1	I2	Channel 7	I13	I14
Channel 2	I3	I4	Channel 8	I15	I16
Channel 3	I5	I6	Channel 9	I17	I18
Channel 4	I7	I8	Channel 10	I19	I20
Channel 5	I9	I10	Channel 11	I21	I22
Channel 6	I11	I12	Channel 12	I23	I24

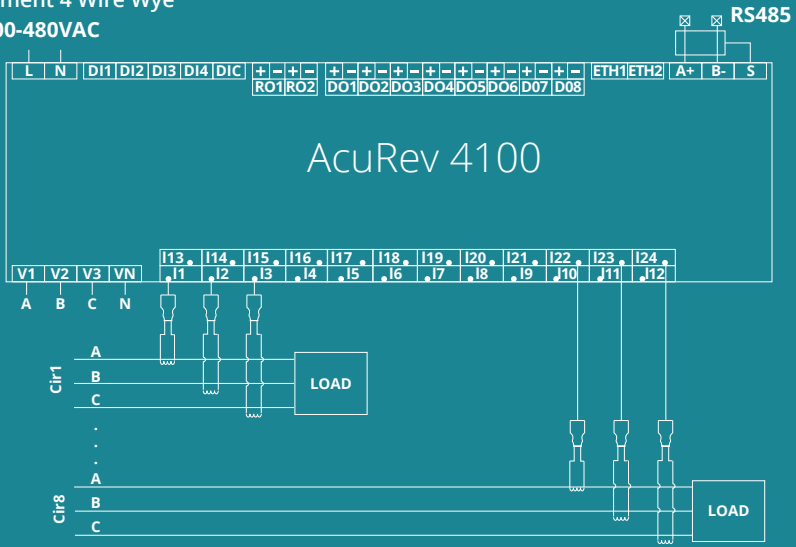
2 Element 3 Wire Network



INPUT CHANNEL	PHASE A	PHASE B	PHASE C	INPUT CHANNEL	PHASE A	PHASE B	PHASE C
Channel 1	I1	I2		Channel 7	I13	I14	
Channel 2	I4		I3	Channel 8	I16		I15
Channel 3		I5	I6	Channel 9		I17	I18
Channel 4	I7	I8		Channel 10	I19	I20	
Channel 5	I10		I9	Channel 11	I22		I21
Channel 6		I11	I12	Channel 12		I23	I24

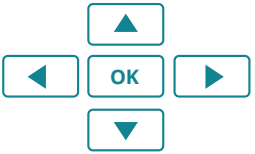
3 Element 4 Wire Wye

100-480VAC



INPUT CHANNEL	PHASE A	PHASE B	PHASE C	INPUT CHANNEL	PHASE A	PHASE B	PHASE C
Channel 1	I1	I2	I3	Channel 5	I13	I14	I15
Channel 2	I4	I5	I6	Channel 6	I16	I17	I18
Channel 3	I7	I8	I9	Channel 7	I19	I20	I21
Channel 4	I10	I11	I12	Channel 8	I22	I23	I24

5. Navigation Keys and User Settings



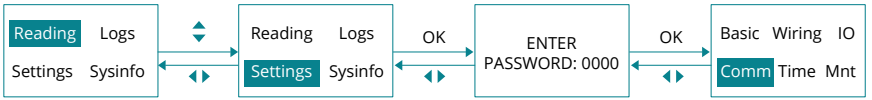
OK Confirms the selection.

- Use navigation keys to select menu or setting options.
- Use to set digit inputs.

Press both keys simultaneously to return to the previous screen.

5.1 Basic Settings Screen

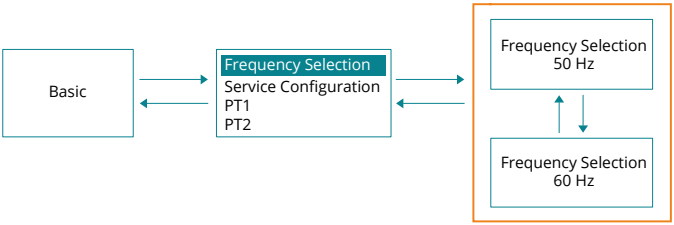
From the Home screen, navigate to **Settings** and enter the default password **0000** for access. See the diagram below.



Frequency Setting

Home > Basic > Frequency Selection

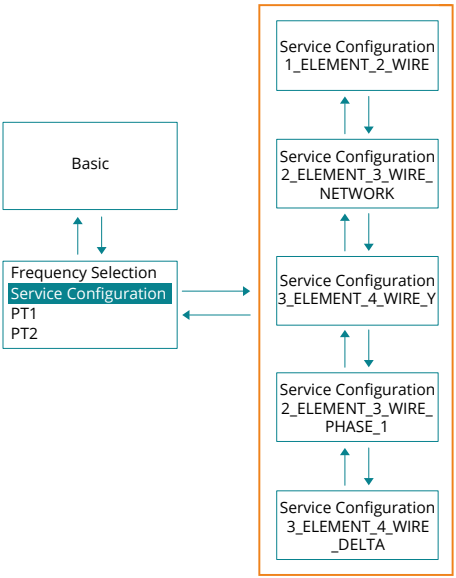
From **Basic** screen, configure the frequency selection to either 50Hz or 60Hz.



Service Configuration

Home > Basic > Service Configuration

From **Basic** screen, select the service configuration options: 1_ELEMENT_2_WIRE, 2_ELEMENT_3_WIRE_NETWORK, 3_ELEMENT_4_WIRE_Y, 2_ELEMENT_3_WIRE_PHASE_1, 3_ELEMENT_4_WIRE_DELTA.

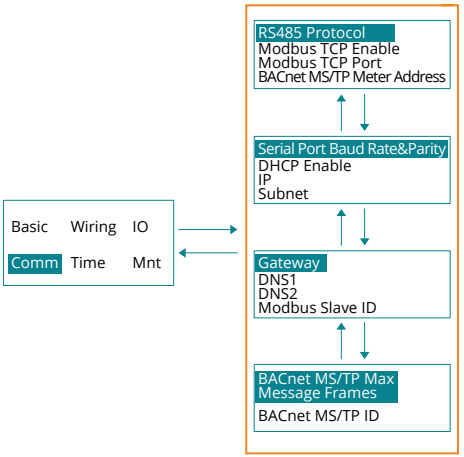


5.2 Communication Settings

Home > Comm

From the **Basic** screen, select the Communication settings to view the available options as depicted in the image below.

The Communication settings allows users to configure the Modbus TCP/IP via Ethernet; Modbus RTU and BACnet MS/TP via RS485 connection.



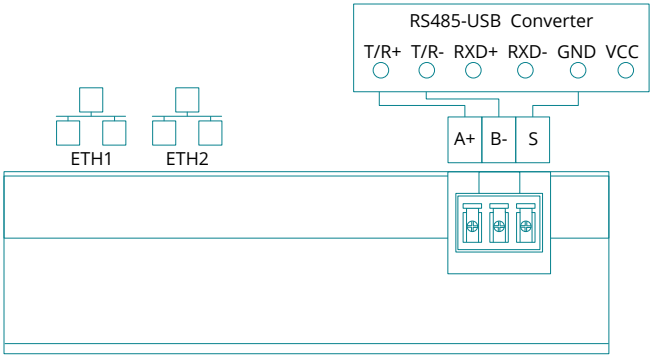
Ethernet

The AcuRev 4100 supports dual 10/100Mbps Ethernet ports (not independent). A CAT5 cable is recommended for IP or DHCP configuration.

DEFAULT ETHERNET SETTINGS	
IP Address	192.168.001.254
Subnet Mask	255.255.255.000
Gateway	192.168.001.001

RS485

The AcuRev 4100 supports an RS485 port and can cover distances up to 1200m. To avoid communication errors, use shorter cables when connecting multiple devices or selecting a high baud rate. Use an RS232-to-RS485 converter if the master has an RS232 port, or an RS485-to-USB converter for software connections.



To improve RS485 communication quality:

- Wiring: Use a shielded 22AWG cable and avoid T topology connections.
- Noise Reduction: Minimize electrical noise with single-point earthing and keep communication cables away from power cables.
- Use a 120-300Ω, 0.25W terminating resistor at the end of the daisy-chain.

DEFAULT RS485 SETTINGS AND OPTIONS		
SETTING	**OPTIONS**	**DEFAULT VALUE**
Baud Rate	2400, 4800, 9600, 19200, 38400, 57600, 76800, 115200	19,200
Parity	None1, None2, Odd, or Even	None1 (No Parity, 1 Stop Bit)
Slave Address	1 to 247	1

5.3 Wiring Settings

Select the Wiring option to set the Input Channel and User Channel configurations.

User channel

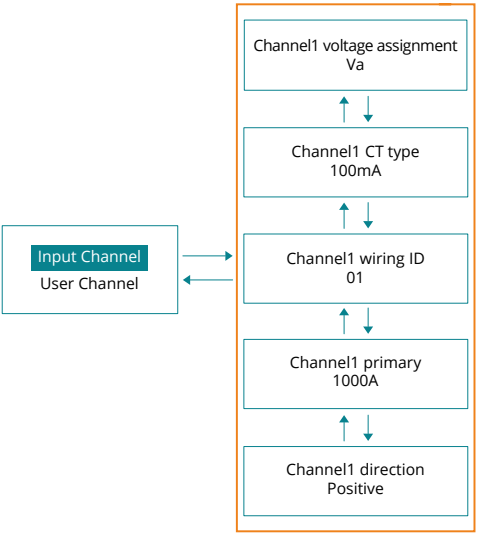
Home > Wiring> User Channel

Select the User Channel option to set the number of user input channels from 1 to 12. Each user channel can then be assigned input from 1 to 24.

Input channel

Home > Wiring> Input Channel

Select the Input Channel option to set individual parameters in each of the 24 channels.

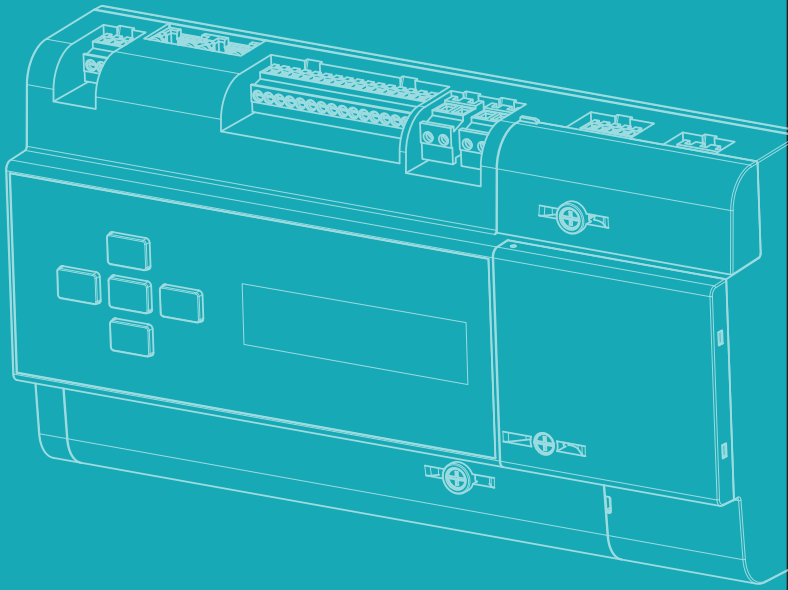


NOTE

The meter is compatible with 80mA, 100mA CT input, as well as 333mV and 120mV Rogowski coil.

NOTE

The AcuRev 4100 supports forward and reverse current input directions. If input is wired in reverse, set the current direction to negative in **Acuview 2** or from the meter display settings to prevent the energy readings from appearing negative.



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Specs Subject To Change Without Notice.