

AcuHMI 4” Display
Remote Meter Monitor
User Manual





ACCUENERGY

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Please read this manual carefully before installation, operation, and maintenance of the AcuHMI 4" Display.

The information contained in this document is believed to be accurate at the time of publication.

However, Accuenergy assumes no responsibility for any errors which may appear here and reserves the right to make changes without prior notice as part of continuing improvements.

Safety Notice

Please read this document carefully before the installation, operation and maintenance of the AcuHMI 4" Display.

If the equipment is used in a manner not specified by Accuenergy, the protection provided by the equipment may be impaired.

Prior to maintenance and repair, the equipment must be de-energized and grounded. All maintenance work must be performed by qualified, competent, accredited professionals who have received formal training and have experience with high voltage / current devices.

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

NOTE: THERE IS NO REQUIRED PREVENTIVE MAINTENANCE OR INSPECTION NECESSARY FOR SAFETY. HOWEVER, ANY REPAIR OR MAINTENANCE SHOULD BE PERFORMED BY THE FACTORY.

DISCONNECT DEVICE: The following part serves as the designated disconnect device for this equipment.

Important Symbols

The following symbols in this manual are used to provide warning of danger or risk during the installation and operation of the meters.



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



WARNING SYMBOL: Information about a hazardous or operational circumstance, if not considered, may result in injury.



INFO SYMBOL: An advanced notice providing additional information before an action is taken by the user.

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Chapter 1: Introduction

1.1 Overview

The AcuHMI 4" Display module is a remote meter monitor designed for compatible Accuenergy energy meters. It can be installed in a panel with a 92 × 92 mm cutout or a 35 mm DIN rail in accordance with IEC 60715.

The display provides real-time parameter reading, visualization, I/O status monitoring, basic meter configuration, and Modbus TCP pass-through gateway functions.

The module communicates with connected meters over RS485 through Modbus RTU and dual Ethernet using Modbus TCP, serving as a centralized display and communication hub for multiple meters.

1.2 Applications

- Panel-mount energy meter display for industrial and commercial buildings.
- Centralized multiple meter monitoring in distribution panels.
- Submetering display for tenant billing systems.
- Data center and PDU monitoring.
- Modbus TCP pass-through gateway.
- Integration with Building Management Systems (BMS).
- Integration with SCADA systems.

1.3 Key Features

Centralized Multi-Meter Monitoring

- Supports up to 8 connected meters simultaneously.
- Compatible with AcuRev 1320, Acuvim II, and AcuRev 4100.
- Automatic wiring-based phase mapping based on configured wiring.
- Device list with status indication.

Communication

- RS485 and dual Ethernet ports for Modbus RTU and Modbus TCP communication with meters.
- Modbus TCP forwards upstream TCP requests to connected downstream meters over Ethernet or RS485.

Meter Configuration

Password protected access to configuration of wiring, CT/PT setup, demand settings, and communication parameters.

Firmware Upgrade

Firmware update via RS485 or Ethernet with dual-bank firmware architecture.

Industrial Design

12 - 36 VDC independent power supply with reverse polarity protection.

Human Machine Interface

An on-board full-colour LCD with keys for real-time data visualization and device configuration.

1.4 Compatible Meters

Table 1-1 Supported Devices

Meter	Function	Connection
AcuRev 1320	DIN Rail Energy Meter and Power Quality Analyzer	RS485 or Ethernet
Acuvim II	Advanced Power & Energy Meter	RS485 or Ethernet
AcuRev 4100	Multi-Channel Branch Circuit Submeter	RS485 or Ethernet

Chapter 2: Display Screen and Parameter Settings

WARNING

Operate the device only when it has been properly installed, wired and powered by qualified personnel.

Store the device in a dry environment when not in use for an extended period.

Before performing any operation that exposes terminals, disconnect all power and verify the absence of voltage.

Inspect the device before use. Do not supply power to the device if the enclosure is damaged or terminals are loose.

Do not exceed the rated supply voltage of 12–36 VDC. Overvoltage will damage the device.

INFO

Do not install the device outdoors or in humid, corrosive, or explosive environments unless additional protective enclosure is provided.

Do not clean the device with wet cloth or solvents.

Do not disassemble or modify the device.

Unauthorized disassembly will void the warranty.

Periodically inspect the panel mounting area for proper sealing, dust accumulation, or moisture.

Check that terminals are secure with no signs of loosening.

Clean the front panel with a dry, soft cloth. Do not use solvents or corrosive cleaners.

Record the **Device Status** from the **Info interface** for traceability.

2.1 HMI and Keys

The AcuHMI 4" Display module features a 320 × 240 resolution RGB565 colour LCD screen providing access to menus, parameter configuration, readings, and other functions. The interface follows a clear logic, simple operation with 5 navigation keys.



Figure 2-1 HMI Display and Navigation Keys

Table 2-1 Function Keys Illustration

Keys		Functions
∧	UP	• Move up in menus or items. • Increment the value or change option when editing.
∨	DOWN	• Move down in menus or items. • Decrement the value or change option when editing.
<	LEFT	• Switch left in the same menu. • Select the previous digit when editing a numeric value.
>	RIGHT	• Switch right in the same menu. • Select the next digit when editing a numeric value.
○	OK	• Enter submenu. • Confirm selection and modification. • Enter parameter edit mode.

Press < and > simultaneously to:

- Return to previous level.
- Cancel operation.
- Exit current interface.
- Exit parameter edit mode.

2.2 Overall Menu Structure

The AcuHMI 4" Display operates in two modes – local device and slave device.

Local device refers to the current AcuHMI-1-4 unit.

Slave devices refer to devices configured in the AcuHMI-1-4 **Device List,** including AcuRev 4100, AcuRev 1320, and Acuvim II.

Below describes the respective modes and its menu structure:

- Menu 1 describes the local device mode.
- Menu 2 describes the slave device mode.

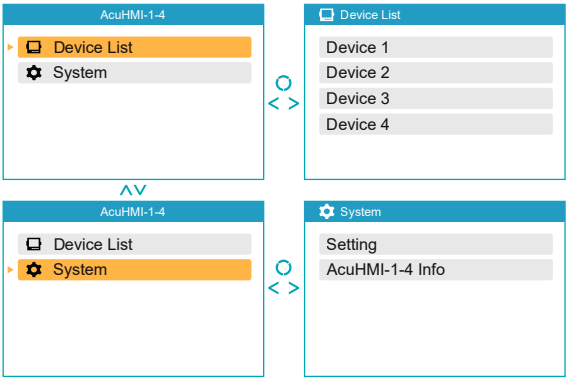


Figure 2-2 Menu 1 Local Device Structure

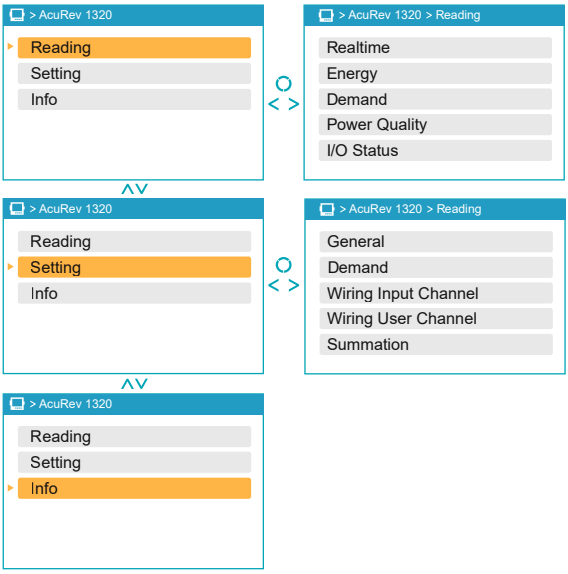


Figure 2-3 Menu 2 Slave Device Structure

Press **OK** on any device in the **Device List** of Menu 1 to enter Menu 2.
Press **LEFT** and **RIGHT** simultaneously from Menu 2 to return to the **Device List** of Menu 1.

2.3 Interface Composition

The LCD display interface consists of the following areas:

- **Status Bar:** Displays the current device model and menu path.
  For example: AC-HMI, AcuRev-4100 > General
- **Data Area:** Displays data including menu lists, measured values, status, phasors.

2.4 Local Device Interface

After powering on the AcuHMI 4" Display, the main interface appears.

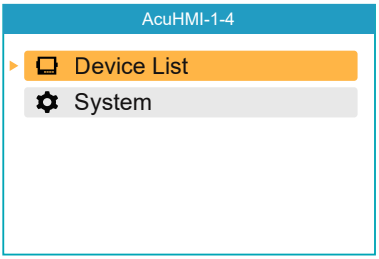


Figure 2-4 Local Device Interface

1. Press **UP** or **DOWN** to navigate between menu items.
2. Press **OK** to enter the menu.

2.4.1 Device List Interface

The **Device List** menu displays the configured connected meters.

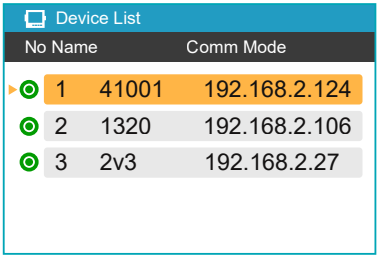


Figure 2-5 Device List Interface

1. Press **UP** or **DOWN** to navigate between devices.
2. Press **OK** to enter the device main menu.
3. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

2.4.2 System Interface

The **System** menu provides access to the AcuHMI 4" Display local device settings and information.

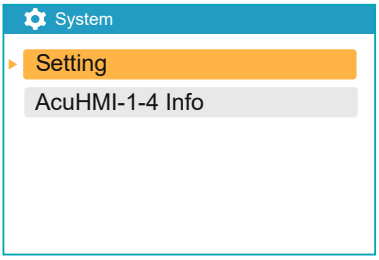


Figure 2-6 System Interface

1. Press **UP** or **DOWN** to navigate between menus.
2. Press **OK** to enter the Setting or AcuHMI-1-4 Info menu.
3. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

2.4.3 Setting Interface

After entering the **Setting** menu, an authentication interface appears.

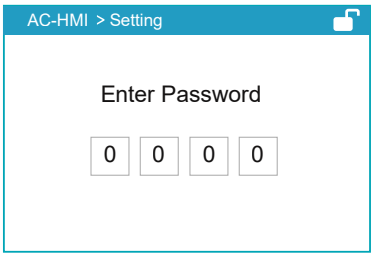


Figure 2-7 Password Authentication Interface

1. The default password is 0000.
2. Press **OK** to enter password editing mode.
3. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

In password editing mode:

1. Press **LEFT** or **RIGHT** to switch the digit being edited.
2. Press **UP** or **DOWN** to modify the digit value.
3. Press **LEFT** and **RIGHT** simultaneously to exit password editing.
4. Press **OK** to authenticate the password.

If the authentication fails, an incorrect password prompt appears and the password interface screen returns. If the password is forgotten, it can be changed through Acuview 2 software. Download the software at www.accuenergy.com/acuview-2-software.

If the password is correct, the **Modbus** parameter configuration interface opens, as described next.

Password authentication is required to enter modify device configuration.

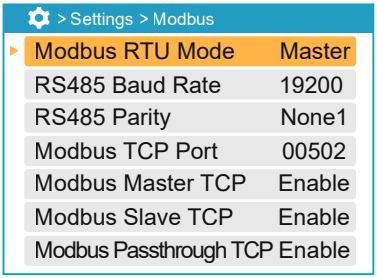


Figure 2-8 Modbus Screen

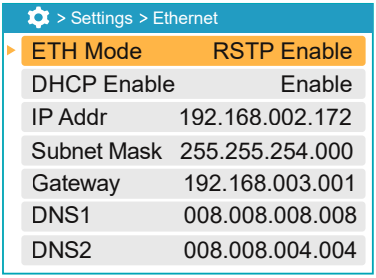


Figure 2-9 Ethernet Screen

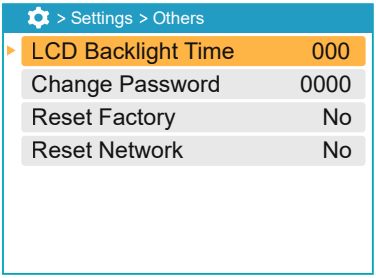


Figure 2-10 Other Settings Screen

In the parameter configuration interface:

1. Press **LEFT** or **RIGHT** to switch between the settings screens.
2. Press **UP** or **DOWN** to navigate between parameters.
3. Press **OK** to enter edit mode.
4. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

In parameter editing mode:

1. Press **OK** to save parameters.
2. Press **LEFT** and **RIGHT** simultaneously to exit editing mode.
3. For numeric parameters, press **LEFT** or **RIGHT** to switch between digits and press **UP** or **DOWN** to adjust value.
4. For enumerated parameters, press **UP** or **DOWN** to change options.

Change Password

The password can be changed through the HMI under **Change Password.** The current password is required to complete the change.

> **INFO** The default password is 0000 and the password length is four digits. Password authentication is required when accessing local HMI settings or connected-meter settings through the HMI.

2.4.4 Info Interface

The **Info** menu displays system information for the local device.

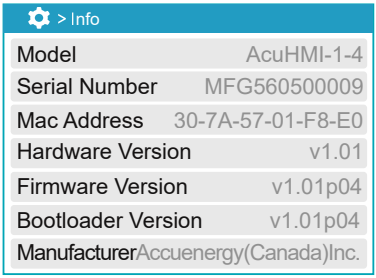


Figure 2-11 Info Interface

1. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

2.5 Slave Device Interface

The left side of the status bar displays the device name and parameter screen. The right side shows the device connection status.

- **Green:** Online
- **Red:** Offline
- **Yellow:** Querying

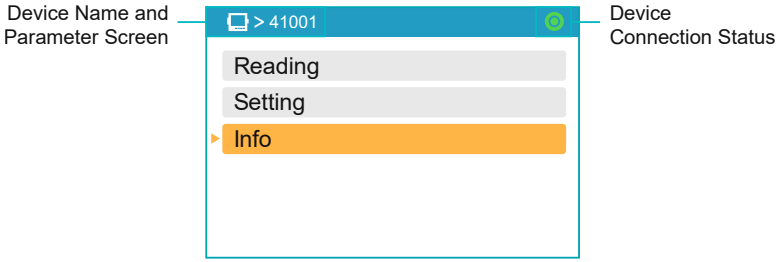


Figure 2-12 Connected Meter Interface

1. Press **UP** or **DOWN** to navigate between menu items.
2. Press **OK** to enter Reading, Setting, or Info.
3. Press **LEFT** and **RIGHT** simultaneously to return to the Device List interface.

2.5.1 Reading Interface

The **Reading** menu provides access to measurement and status screens.

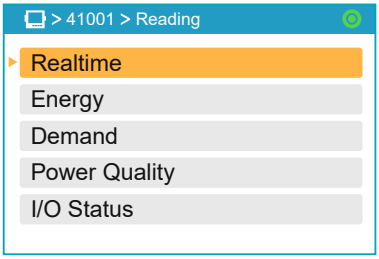


Figure 2-13 Reading Interface

1. Press **UP** or **DOWN** to navigate between submenus.
2. Press **OK** to enter **Realtime, Energy, Demand, Power Quality,** or **I/O Status.**
3. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

INFO

Acuvim II does not support the **I/O Status** menu.

2.5.1.1 Realtime Interface

After entering **Realtime:**

1. Press **LEFT** or **RIGHT** to switch between parameter screens.
2. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

For AcuRev 4100 Series

1. Press **UP** or **DOWN** to switch between **System, User Channel,** and **Input Channel.**



Figure 2-14 AcuRev 4100 Real-Time Interface

Enabled Independent Input Channel of AcuRev 1320 and Acuvim II

1. Press **UP** or **DOWN** to switch between **System** and **Summation.**

> **INFO**
>
> The **Summation** screen is displayed on the device only when **Independent Input Channel** is enabled on the AcuRev 1320 and Acuvim II.
>
> Refer to the user manual of the respective meter for more information.

1320 > Summation1

	P(kW)	Q(kvar)	S(kVA)
IC1	125.40	45.20	133.80
IC2	118.70	42.30	125.20
IC3	121.10	43.90	129.70
IC4	119.60	41.80	126.20
SUM	484.80	173.20	515.90

1320 > Summation1

	PF	Load
IC1	0.94	R
IC2	0.95	R
IC3	0.93	R
IC4	0.95	R
SUM	0.94	R

1320 > System

0.00Hz	V_LL(V)	Angle(°)
A	60.00	0.00
B	60.00	-120.00
C	60.00	120.00
Avg	60.00	-

Figure 2-15 AcuRev 1320 Real-Time Interface

> **INFO**
>
> Each screen displays fixed parameters.
>
> Values are shown based on wiring mode.
>
> Unavailable values are displayed with hyphen (**–**).
>
> Rows with all **–** are hidden, as are screens containing unavailable value.

> **INFO**
>
> **---** indicates a data acquisition failure.
>
> **INF** indicates the value exceeds the available display width.
>
> Maximum 7 digits can be displayed which includes integer, decimal, dot, and sign.

> **INFO**
>
> The display style and key operations of **Energy, Demand,** and **Power Quality** are similar to **Realtime.**
>
> It will not be listed one by one hereafter.

2.5.1.2 I/O Status Interface

The **I/O Status** screens display the **DI, DO,** and **RO** states.

1. Press **LEFT** or **RIGHT** to switch between **DI, DO, RO** screens.

2. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

The **RO** page requires password authentication. After authentication:

1. Press **LEFT** or **RIGHT** to switch **RO** channels.
2. Press **OK** to toggle the I/O state.
3. Press **LEFT** and **RIGHT** simultaneously to exit.

INFO AcuRev 1320 Series does not support **RO** interface.

INFO Password authentication is required before changing the state of relay output.

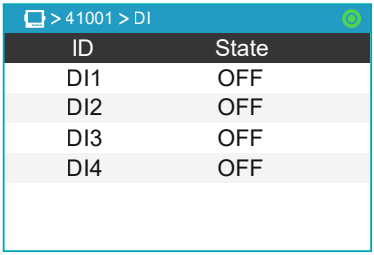


Figure 2-16 AcuRev 4100 DI Screen

2.5.2 Setting Interface

After entering **Setting,** password authentication is required.

After authentication:

1. Press **UP** or **DOWN** to navigate between menus.
2. Press **OK** to view options.
3. Press **LEFT** and **RIGHT** simultaneously to return.

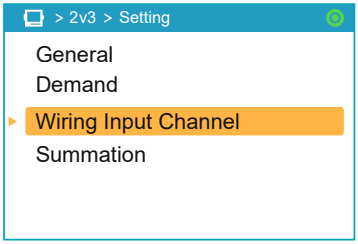


Figure 2-17 Acuvim II Settings Interface

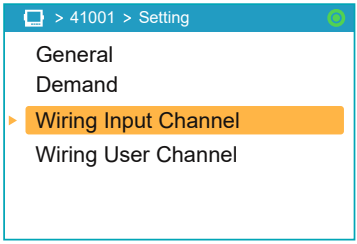


Figure 2-18 AcuRev 4100 Settings Interface

2.5.2.1 Wiring Input Channel Interface

After entering **Wiring Input Channel.**

1. Press **LEFT** or **RIGHT** to switch between Input Channel 1–24.
2. Press **UP** or **DOWN** to move the cursor between parameters.
3. Press **OK** to enter edit mode.
4. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

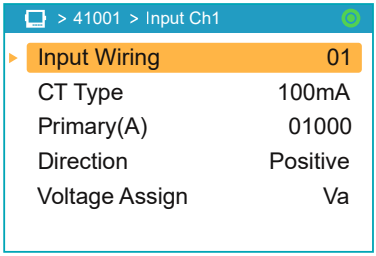


Figure 2-19 AcuRev 4100 Input Channel 01 Interface

In parameter editing mode:

1. Press **OK** to save parameters.
2. Press **LEFT** and **RIGHT** simultaneously to exit editing mode.
3. For numeric parameters, press **LEFT** or **RIGHT** to switch between digits and **UP** or **DOWN** to adjust its value.
4. For enumerated parameters, press **UP** or **DOWN** to change options.

2.5.2.2 Wiring User Channel Interface

After entering Wiring User Channel:

1. Press **LEFT** or **RIGHT** to switch between User Channel 1–12.
2. Press **UP** or **DOWN** to navigate between parameters.
3. Press **OK** to enter edit mode.
4. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

In parameter editing mode:

1. Press **OK** to save parameters.
2. Press **LEFT** and **RIGHT** simultaneously to exit editing mode.
3. Press **UP** or **DOWN** to select the channel number for each phase.

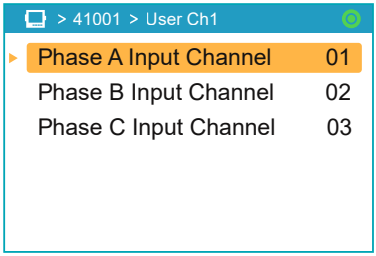


Figure 2-20 AcuRev 4100 User Channel 01 Interface

2.5.2.3 Summation Interface

After entering Summation:

1. Press **LEFT** or **RIGHT** to switch between **Summation 1** and **2.**
2. Press **UP** or **DOWN** to move the cursor between **Input Channel 1 – 4.**
3. Press **OK** to enter edit mode.
4. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

In parameter editing mode:

1. Press **OK** to save parameters.
2. Press **LEFT** and **RIGHT** simultaneously to exit editing mode.
3. Press **UP** or **DOWN** to toggle selection.

ON indicates selected while **OFF** indicates not selected.

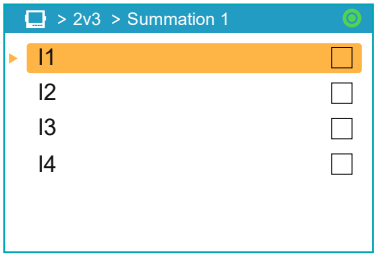


Figure 2-21 Acuvim II Summation Interface

2.5.3 Info Interface

The **Info** screen displays read-only device information.

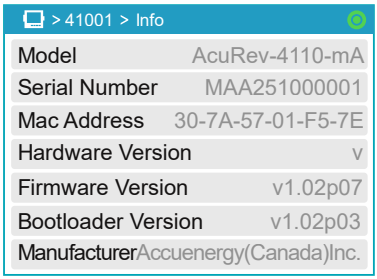


Figure 2-22 AcuRev 4100 Info Interface

1. Press **LEFT** and **RIGHT** simultaneously to return to the previous interface.

Chapter 3: Device Configuration

AcuHMI-1-4 configuration is divided into local configuration and meter-slave configuration.

Settings can be modified through the HMI keys or the Acuview 2 software.

Download the Acuview 2 software at www.accuenergy.com/acuview-2-software.

3.1 Local Configuration

3.1.1 Modbus Communication Parameters

Table 3-1 Configuration Ranges and Factory Defaults

Parameter	Range / Options	Default
AC-HMI Modbus Address	1 – 247	1
RS485 Mode	Master / Slave	Master
RS485 Baud Rate	9600 / 19200 / 38400 / 57600 / 115200	19200
RS485 Parity	Even / Odd / None2 / None1	None 1
Modbus TCP Port	1 – 65535	502
Modbus Master TCP	Enable / Disable	Enable
Modbus Slave TCP	Enable / Disable	Enable
Modbus Passthrough TCP	Enable / Disable	Enable

3.1.2 Ethernet Parameters

Table 3-2 Network Configuration

Parameter	Description / Options	Default
Ethernet Mode	RSTP Enable Single ETH (No RSTP) Dual ETH (No RSTP)	RSTP Enable
DHCP Enable	Enable / Disable	Disabled
IP Address	IPv4 Address Manual when DHCP Disabled	192.168.1.254
Subnet Mask	IPv4 Format	255.255.255.0
Gateway	IPv4 Format	192.168.1.1
DNS1	Optional IPv4 Format	008.008.008.008
DNS2	Optional IPv4 Format	008.008.004.004

3.1.3 Other Parameters

Table 3-3 Device Management

Parameter	Description
LCD Backlight Time	LCD Backlight Auto-Off Time.
Change Password	Change Password. **Default: 0000**
Reset Factory	Clear All User Configuration and Restore Factory Defaults.
Reset Network	Reset Only Network Parameters including IP, DHCP, DNS. Meter Configuration Retained.

3.2 Connected-Meter Configuration

AcuHMI-1-4 supports up to eight connected meters. Each meter requires the following configuration:

Table 3-4 Device Configuration Options

Option	Description
Device Type	Firmware Supported Device List Selection such as AcuRev 1320, AcuRev 4100, Acuvim II. Determine Screen Layout, Parameters, and Register Mapping.
Device Slave ID	Actual Modbus Slave Address of Meter from 1 to 247. Accessed by AcuHMI-1-4 Using this Address.
Assigned ID (Passthrough ID)	Mapped Unit ID for Upstream host on Modbus TCP. Cannot Duplicate AcuHMI-1-4 Modbus Address.
Device Modbus Mode	Modbus RS485 Modbus TCP
Device Modbus Timeout	Independent Modbus Timeout per Meter in ms. **Default: 1000**
Device IP Address	Target IP Address of the Meter. Valid only in Modbus TCP mode.
Device Port	Target Port of the Meter. Valid only in Modbus TCP mode. **Default: 502**
Device Name	User-Defined Alias of up to 16 Characters. Used in Device List and Navigation Display.

INFO

All meters on the RS485 channel share the same baud rate and data format.

Slave IDs of different meters on the same channel must not conflict.

3.3 Connected-Meter Parameter Configuration

AcuHMI-1-4 allows modification of basic measurement parameters on connected meters.

Configuration items are organized into **General, Wiring,** and **Demand** screens depending on the meter model. Typical configurable items include:

- Nominal Frequency: 50 / 60 Hz
- Nominal Current
- Nominal Voltage
- PT / CT Ratio
- Wiring Mode
- Demand Method
  - Fixed Block
  - Sliding Block
- Demand Interval: 1–30 minutes
- Phase Order
  - ABC
  - ACB

INFO

Specific configuration items will match the parameter list of meter model.

Refer to the corresponding meter product user's manual for details.

3.4 Acuview 2 Configuration

3.4.1 Adding a Connection

To connect to an AcuHMI-1-4, open the **Add Connection** dialog from the **Connection** menu.

The menu has two selections:

- **Device List:** Displays previously added connections.
  Use the checkbox in the Select column to choose one or more entries, or use the **+** button to define a new connection.

- **Parameter Panel:** configures the parameters of the connection currently being added or edited.
  The parameter panel is organized into four groups:

Table 3-5 Parameter Specifications

Group	Field	Description	Default
Meter	Name	User-Defined Alias for Connection, as Shown on Tab Header.	-
	Model	Device Model. Select **AcuACHMI** when adding AcuHMI-1-4.	AcuACHMI
	Connect Way	Communication Protocol: **Modbus TCP** or **Modbus RTU.**	-
Connection	Timeout (ms)	Maximum Wait Time for Modbus Response.	2000
	Scan Rate (ms)	Polling interval for periodic reads.	2000
Modbus TCP	IP Address	IP address of AcuHMI-1-4 (valid when Connect Way is Modbus TCP).	192.168.1.254
	Slave Address	Modbus Unit ID of Target Device.	AC-HMI's Modbus Address
	Port Number	Modbus TCP Port.	502
Advanced	Tag	Reserved for Future Use.	-
	Notes	Free-text Notes for Connection.	-

Click **Save** to add the connection.

The connection then appears as a tab at the top of the main window in the format **Name: Serial Number (Model).**

INFO When **Connect Way** is set to **Modbus RTU,** the Modbus TCP group is replaced by an RS485 parameter group options which include COM port, baud rate, parity.

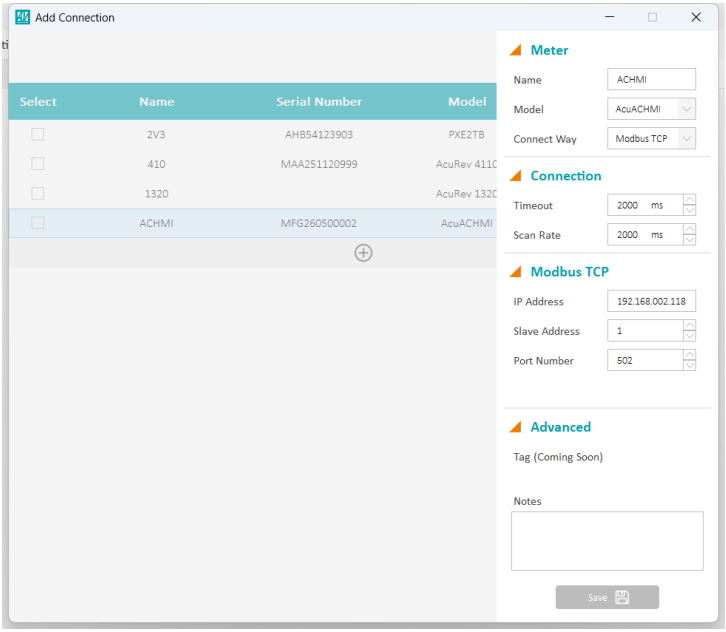


Figure 3-1 Acuview 2 Modbus TCP Configuration

3.4.2 Reading

The **Reading > Device Information** screen displays the read-only attributes of the connected AcuHMI-1-4.

Four action buttons are available at the top of the screen:

Table 3-6 Reading Specifications

Button	Function
Save To File	Export the device information to a file for record-keeping.
Reset Network	Reset only the network parameters such as IP, DHCP and DNS. All meter configuration is retained.
Factory Reset	Clear all user configuration and restore factory defaults.
Reboot Meter	Restart the AcuHMI-1-4.

WARNING

Factory Reset clears all configuratons, including the connected-meter list.

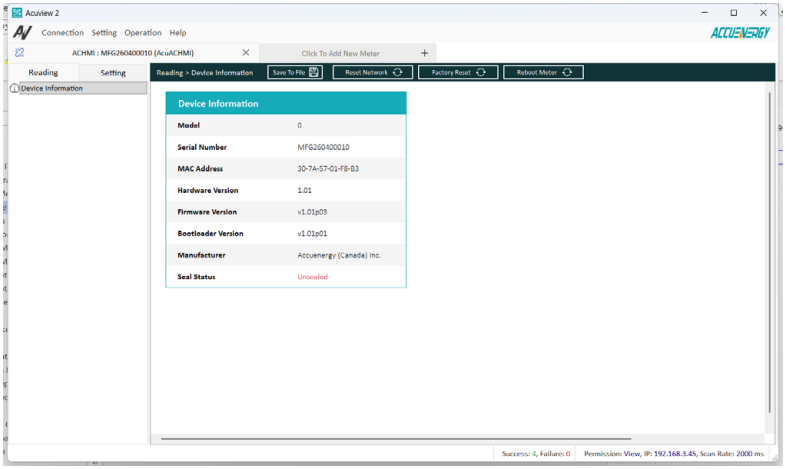


Figure 3-2 Device Information Screen

3.4.3 Setting

3.4.3.1 General Settings

The **Setting > General** screen contains two groups.

- HMI Device
- Device Info

The current password, if forgotten, can be modified in this screen.

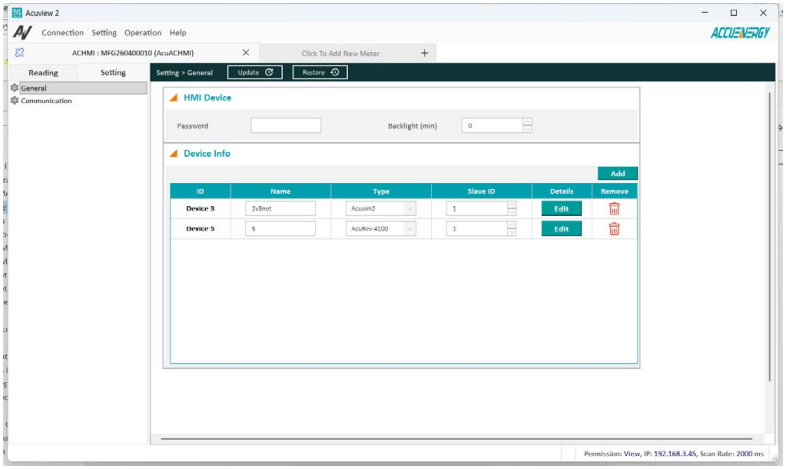


Figure 3-3 General Settings Screen

3.4.3.2 Communication Settings

The **Setting > Communication** screen contains three groups.

- RS485
- Ethernet
- Modbus

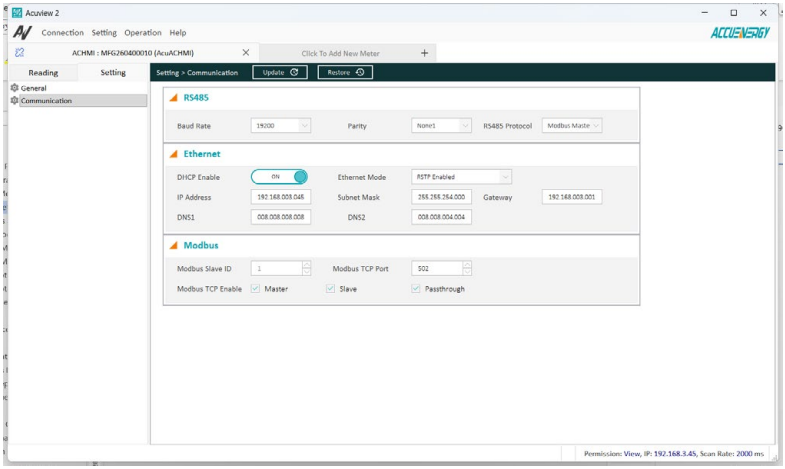


Figure 3-4 Communication Settings Screen

After making changes, click **Update** to write the values to the device, or **Restore** to reload the values from the device without saving.

> **INFO**
>
> Communication parameter changes, particularly IP address, baud rate, and Modbus address take effect after the device confirms the write.
>
> Reconnection from Acuview 2 may be required.

Chapter 4: Firmware Upgrade

AcuHMI-1-4 supports firmware upgrade through RS485 or Ethernet using the Acuview 2 software. For RS485 communication using Acuview 2, set the RS485 mode as **Slave** on the device.

INFO The upgrade must be performed by authorized personnel.

4.1 Preparation

1. Confirm the device is powered on and operating normally.
2. Prepare the new firmware file and the Acuview 2 software.
3. Confirm communication between the PC and AcuHMI-1-4 through RS485 or Ethernet.

4.2 Upgrade Procedure

1. In Acuview 2, select the AcuHMI-1-4 device and open the firmware upgrade screen.
2. Load the firmware file.
3. After CRC verification, begin the download.
4. Wait for the firmware transfer to be completed. Do not power off or disconnect communication during this process.
5. The device automatically restarts and loads the new firmware.
6. Verify the updated firmware version on the Info interface.

INFO Do not power off the device during the upgrade.

AcuHMI-1-4 uses dual-bank firmware architecture. If the upgrade is interrupted, the bootloader can recover and keep the device running on the previous firmware.

Chapter 5: Troubleshooting

This chapter lists common errors and recommended actions. If the issue persists after following steps, contact Accuenergy technical support.

5.1 Display Indicators

The following symbols may appear on data display screens to indicate abnormal conditions.

Table 5-1 Symbols and Fault Diagnosis

Display	Inference	Recommended Action
–	Parameter Unavailable Under Current Wiring Configuration.	Normal Behavior. Rows Filled with – are Automatically Hidden.
---	Data Acquisition Failed or No Response from Meter.	Verify Meter Power and Communication Cable Connections. Meter's Slave ID Matches the AC-HMI Configuration.
INF	Value Exceeds Display Width which is 7 Characters Maximum.	Verify Measured Value is Reasonable. If Genuinely Large Value, Read From Upstream Software for Full Precision.

5.2 Device Status Indicators

The status color in the **Device List** indicates the connectivity of each slave device.

Table 5-2 Status Colour Inference

Status Colour	Inference	Recommended Action
Green	Online and Communicating.	No Action Required.
Yellow	Querying Status. First Connection or Screen Switch.	Wait Few Seconds.
Red	Offline Status. Three Consecutive No-Responses.	Check Meter Power, Communication Cable, Baud Rate, IP Configuration, and Slave ID Setting.

5.3 Modbus Exception Codes

When the upstream host accesses meters through pass-through, or when the device returns Modbus exceptions, the following codes may appear:

Table 5-3 Exception Error Codes

Code	Name	Cause	Recommended Action
0x01	Illegal Function	Requested Function Code Not Supported.	Verify Request Validity.
0x02	Illegal Data Address	Requested Register Address Out of Range.	Refer Meter Modbus Register Map to Confirm Address Range.
0x03	Illegal Data Value	Written Value Is Outside Allowed Range.	Confirm Value Matches Parameter Definition.
0x0B	Gateway Target Device Failed to Respond	AC-HMI Received No Response from Meter Within Configured Timeout.	Check that Target Meter Status is Online. Device Slave ID or IP Address matches AcuHMI Configuration. Increase Device Modbus Timeout Duration if Too Short.

5.4 Common Issues

Table 5-4 General Troubleshooting Guide

Observed Error	Possible Cause	Recommended Action
No Display	Power Wiring Error. Supply Voltage Out of 12–36 VDC Range. Insufficient Supply Voltage.	Measure Voltage at Power Terminals with Multimeter. Check Polarity. Use Compliant 12–36 VDC Supply.
Offline Meter Status or Red in Colour	Communication Wiring issue. Meters not Powered. Incorrect Slave ID Configuration.	Check RS485 Polarity and Termination Resistor. Check Ethernet Cabling and Meter IP Configuration. Verify Device Slave ID.
Querying Meter status or Yellow in Colour	Mismatched Communication Parameters. Modbus Timeout Less. RS485 Bus Noise.	Verify Meter Baud Rate and Parity matches AC-HMI Configuration. Increase Device Modbus Timeout. Check RS485 Shielding and Grounding.
Unresponsive Keys	Communication In Progress. Key Physically Stuck.	Wait Several Seconds. Ensure No Mechanical Obstruction. If Unresponsive for Long Time, Power-Cycle Device.
Password Authentication Failure	Incorrect Password.	Re-enter The Password. If forgotten, Change the Password using Acuview 2.

Observed Error	Possible Cause	Recommended Action
Modbus TCP Pass-through Request Time Out (Exception 0x0B)	Target Meter Offline. Device Modbus Less. Downstream Queue Congested.	Confirm Target Meter Is Online. Increase The Timeout. Reduce Concurrent Request Rate.
Ethernet Connection Failure	IP Address Conflict. Cable Issue. DHCP Server Unavailable.	Check IP / Gateway Settings. Replace Cable. Switch To Static IP for Testing.
Firmware Upgrade Failure	Communication Interrupted During Upgrade. Corrupted Firmware File.	Dual-Bank Architecture Automatically Reverts to Original Firmware. Verify Communication Stability and Retry.

INFO

If the issue cannot be resolved using the above steps, record the specific error, device model, serial number, firmware version which is visible on the **Info** interface, when contacting Accuenergy technical support.

Support & Resource

Technical Support	www.accuenergy.com/technical-support
Website	www.accuenergy.com
Acuvim II User Manual	www.accuenergy.com/acuvim-ii-manual
AcuRev 1320 User Manual	www.accuenergy.com/acurev-1320-manual
AcuRev 4100 User Manual	www.accuenergy.com/acurev-4100-manual
Acuview 2 Software Download	www.accuenergy.com/acuview-2-software

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