

# **AcuDC-260 Series**

## **Advanced DC Power and Energy Meter**

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Model
AcuDC-261-1000V-600A-P2-MID
AcuDC-261-1000V-400A-P2-MID
AcuDC-262-1000V-A1-P2 (-100-100mV shunt)
AcuDC-262-1000V-A2-P2 (4-20mA Hall effect sensor)
AcuDC-262-1000V-A3-P2 (-5 to 5V Hall effect sensor)

## Safety Notice

Please read this document carefully before installing, operating, or maintaining the AcuDC-260 Meter.

If the equipment is used in a manner not specified by Accuenergy, the protection provided by the equipment may be impaired. The AcuDC-260 Meter is intended for use in secondary circuits only and must be installed in systems that provide double or reinforced insulation from the power supply. Except for the operating interface, all other parts of the AcuDC-260 Meter shall be installed inside a closed and properly rated enclosure of the terminal equipment.

Before performing any maintenance or repair, the equipment must be de-energized and properly grounded. All maintenance work shall be carried out only by qualified and competent personnel who have received appropriate training and have experience working with high-voltage and high-current equipment.





Accuenergy shall not be held responsible or liable for any damage or injury resulting from improper installation, operation, or use of the meter.

**NOTE:** No routine preventive maintenance or inspection is required for normal operation. Any repair or servicing must be performed by the manufacturer or authorized service personnel.

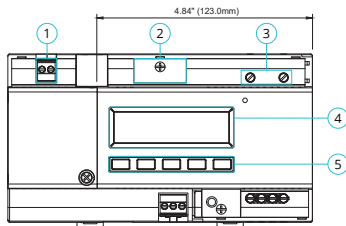
**DISCONNECT DEVICE REQUIREMENT:** The following component is considered the equipment disconnect device.

**A SWITCH OR CIRCUIT-BREAKER SHALL BE INCLUDED IN THE INSTALLATION. THE SWITCH SHALL BE IN CLOSE PROXIMITY TO THE EQUIPMENT AND WITHIN EASY REACH OF THE OPERATOR. THE SWITCH SHALL BE MARKED AS THE DISCONNECTING DEVICE FOR THE EQUIPMENT.**

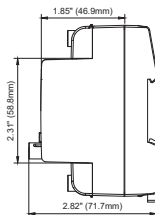
The following symbols can be found either in this document or on the product.

	<b>ELECTRIC HAZARD:</b> Indicates information about procedures which must be followed to reduce the risk of electric shock and danger to personal health.
	<b>WARNING ALERT:</b> Indicates a hazardous circumstance which may result in severe injury or death.
	<b>Double Insulation:</b> Indicates the equipment is protected by double or reinforced insulation (Class II construction) and does not require a protective earth connection.
	<b>Recycling</b>

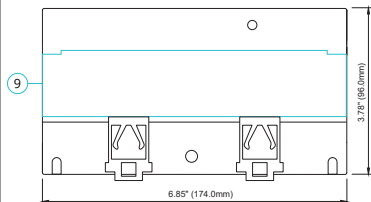
# Appearance and Dimension



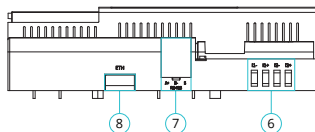
Front View



Side View



Rear View



Bottom View

Part Name	Description
1) Power Supply Terminal	12-48V Class 1 control power input.
2) Metrology Seal	Anti-tampering design with metrology seal.
3) Voltage Input Terminal	Single voltage input terminal.
4) LCD screen	Backlight screen.
5) Navigation Key	Five keys to navigate the display screen and configuration settings.
6) Current Input Terminals	Two current input terminals.
7) RS485 Terminal	The RS485 communication port on the AcuDC-260.
8) Ethernet Port	Single RJ45 Ethernet communication port.
9) DIN Rail Mount	Used for installation onto a 35mm DIN rail.

## Operating Environment

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

- Ensure the AcuDC-260 meter is installed in a dry and dust-free environment.
- Avoid placing the meter near heat, radiation and strong electrical interference sources.
- Operate the meter's temperature between  $-25^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$  to  $158^{\circ}\text{F}$ ).



Do not exceed the maximum rated input voltage of the meter or to any other connected devices.

Do not perform high-voltage insulation resistance testing to any terminal.

## Terminals

Power Supply	12-48V class 1 power supply shall be used for the meter. The maximum current consumption is 0.25A @ 12Vdc.
Voltage Input	Support voltage signals up to 1000 Vdc OVCII. A fuse (typical 1A/1500Vdc) should be used in the voltage input loop.
Current Input	AcuDC-260 series meter supports up to two current input channels.
Communication	Includes RS485 terminals denoted as A+ (Positive differential terminal.), B- (Negative differential terminal) and S (Shield connection).

## Installation Method

### Before Installation

Use a dry, clean cloth to remove dust from the surface of the AcuDC-260 meter.

The installation must be performed by qualified, competent, and accredited professionals who have received formal training and have experience working with high-voltage and high-current devices. Appropriate personal protective equipment (PPE), such as gloves, safety glasses, and arc-flash protective clothing,

is mandatory to ensure safe installation.

Caution must be exercised before working on voltage and current input channels.

- Do not apply input voltage above the rated maximum limit of the meter. Before energizing the meter, refer to the meter label and specifications.
- Do not perform high-voltage tests or insulation tests on the output, input, or communication terminals.
- Use a dry cloth to clean the meter if necessary.

Before installation, ensure that the application meets the requirements specified in the product specifications, including:

- Power supply
- Voltage and current signal ranges
- Overvoltage category
- Pollution degree
- Altitude
- Temperature
- Humidity

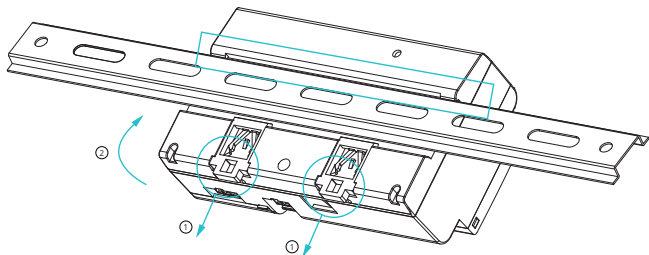
An unsuitable installation environment may affect measurement accuracy and system performance, cause hardware damage, or result in safety hazards.



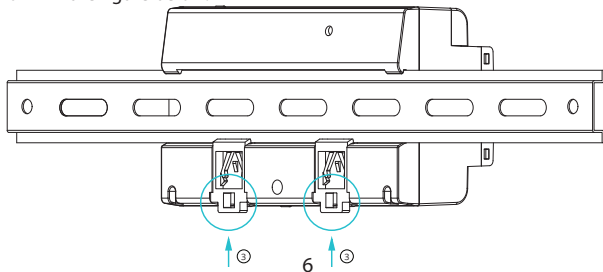
The device shall be installed within a NRTL certified enclosure to provide suitable protection.

## DIN Rail Installation

AcuDC-260 series are designed to be installed on a standard 35mm rail.

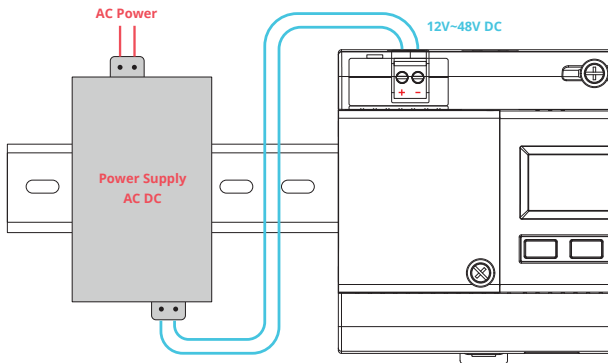


1. From the back of the AcuDC-260 Series, simultaneously pull down the two clip locks in unison, as shown in ① of the figure above.
2. Position the back of the AcuDC-260 so it is facing the DIN rail. Place the AcuDC-260 two upper mounting brackets over the DIN rail groove. Fit the AcuDC-260 onto the bottom mounting bracket as illustrated in ② of figure above.
3. Push the two clips ③ back up to securely lock the AcuDC-260 onto the DIN rail as shown in the figure below.



## Power Supply Wiring

To connect the auxiliary power adapter to the DC power port, ensure that a 12-48V Class 1 power supply (sold separately) is used for the meter. The maximum current consumption is 0.25A at 12VDC.



## Voltage and Current Input Wiring

The AcuDC-260 meter supports one voltage input channel and two current input channels.

To connect the voltage input terminal, ensure that the input range of 0 to 1,000VDC OVCII is used for the meter, and a 1A/1500VDC fuse is used in the voltage input loop.

To connect the voltage input and current input terminals:

1. Use a 3 x 0.5 mm (DIN 5264) screwdriver to loosen the terminal screw from the meter.



2. Insert the copper wire into the terminal. Fasten the screw to secure the wire.  
Copper wires/cable with the following specifications shall be used for wiring.

Terminal Name	Functions	Terminal Type	Wire Range	Terminal Cross Section	Screw torque	Temperature rating
+, -	DC Power Port	Plated Welding Type	22AWG~18AWG	2.5mm <sup>2</sup>	0.5N.m	105°C (221°F)
V+, V-, I1+, I1-, I2+, I2-	Voltage / Current Input Port	Plated Welding Type	22AWG~18AWG	2.5mm <sup>2</sup>	0.5N.m	105°C (221°F)
RS485 A+, B-, S	RS485 Communication Port	Plated Welding Type	22AWG~18AWG	2.5mm <sup>2</sup>	0.4N.m	105°C (221°F)
ETH	Ethernet Communication Port	Standard 10/100 Mbit/s Cable			Not Defined	105°C (221°F)

The meter supports either shunt input or Hall effect sensor input, depending on the selected models.

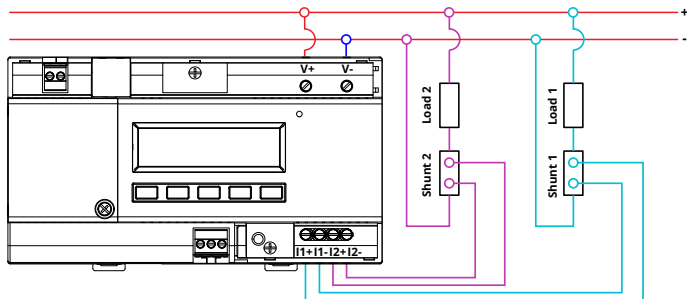
**NOTE:** For shunt-based current measurement, the load must be connected upstream so the shunt is installed in series with the load current path. The V+, V-, I+, and I- terminals are measurement inputs only; connecting the load to these terminals or placing the load downstream of the shunt may result in a short circuit and can cause incorrect measurements or equipment damage.

### Shunt Current Input

The following models is wired with DC shunts according to the diagram below. Refer to Current Input Wiring section for detailed wiring instructions. Both

AcuDC-261 and AcuDC-262 support shunt models, the detail model information is shown below.

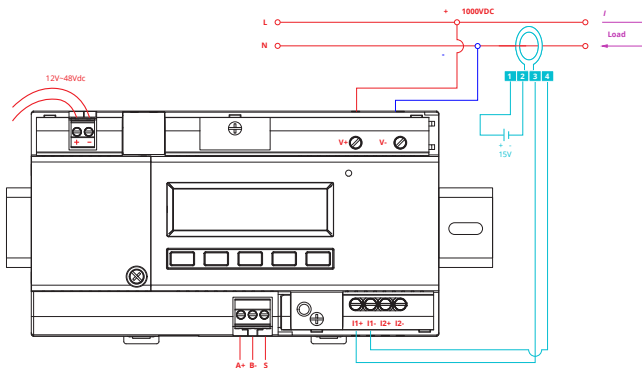
Model
AcuDC-261-1000V-600A-P2-MID
AcuDC-261-1000V-400A-P2-MID
AcuDC-262-1000V-A1-P2 (0-100mV shunt)



## Hall Effect Sensor Current Input

The following models is wired with Hall effect sensors according to the diagram below. Refer to Current Input Wiring section for detailed wiring instructions. Only AcuDC-262 supports Hall sensor models.

Model
AcuDC-262-1000V-A2-P2 (mA Hall)
AcuDC-262-1000V-A3-P2 (5V Hall)



## Navigation Keys

AcuDC-260 is designed with five navigation keys for easy access to the **Settings** screen.

Users can press the **Left** and **Right** keys simultaneously to return to the Home screen.

To input numbers, use the **Up/Down** keys to cycle through the digits (0-9), then press the **Left/Right** key to move between digit positions.

To choose from the available predefined options, use the **Up/Down** keys to scroll through each selection.



## Meter Settings

To access Settings, from the **Home** screen use the **Left/Right** key to select the **SET** icon (AcuDC-262) or **Setting** text (AcuDC-261), and then press **Enter**.

### AcuDC-261

Reading  
Setting  
Info

SN	Display	Description
1	Reading	Voltage Current Power Energy
2	Setting	Communication Parameters Backlight Parameters
3	Info	Model Number and Serial Number (SN) Boot Version, Firmware Version, and Checksum MAC Address Cable Loss Public Key

### AcuDC-262



The user will immediately be prompted to input a four-digit password to access the settings screen. Refer to the Navigation Key section on how to input the password.

Press **Enter** to submit the correct password to access the **Settings** screen. By default, the password is 0000.

There is a total of 34 screens (P01 to P34) under **Settings**, use the **Left/Right** keys to navigate between submenus.

## AcuDC-260 CT Settings

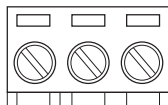
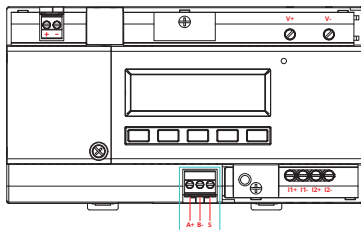
The CT ratio for the AcuDC-261 is fixed. For the AcuDC-262, the CT ratio can be configured by using the **Left/Right** keys to navigate to the **P09** to **P12** screens.

Press **Enter** to edit the CT configuration, use the navigation keys to adjust the settings.

Press **Enter** to accept the changes.

Settings	Description	Default Values
P09 CT11	Primary side CT1 ratio.	400 A
P10 CT12	Secondary side CT1 ratio.	25 mV
P11 CT21	Primary side CT2 ratio.	400 A
P12 CT22	Secondary side CT2 ratio.	25 mV

## RS485 Communication



Comm Port

A+

B-

S

<b>A+</b>	Positive Differential
<b>B-</b>	Negative Differential
<b>S</b>	Shield Connection

The AcuDC-260 supports RS485 communication with terminals labeled A+ (positive differential), B- (negative differential), and S (shield). The maximum cable length is 1200 m; however, shorter distances are recommended when multiple devices are connected or when operating at higher baud rates. If the master device uses RS232 communication, an RS232-to-RS485 converter is required.

To improve communication reliability, use a high-quality shielded twisted-pair cable (AWG22), connect the shield to ground at one end only to ensure single-point grounding, avoid “T” connections, keep communication cables away from sources of electrical noise, and install a termination resistor (120–300  $\Omega$ , 0.25 W) at the last device in daisy-chain configurations.

Setting	Options	Default Value
Baud Rate	2400, 4800, 9600, 19200, 38400, 57600, 76800, 115200	19,200 bits/second
Parity	None1, None2, Odd, or Even	None1
Slave ID	1 to 247	1

## Ethernet Communication

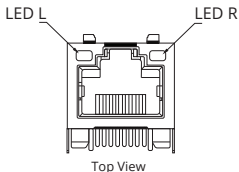
The AcuDC-260 features a single RJ45 connector for Ethernet network access. A CAT 5 cable is recommended for optimal performance. The connector meets the mechanical and electrical requirements of IEC 603-7. Two status LEDs provide network status information: LED\_L (Yellow) indicates transmission speed, lighting when operating at 100 Mbps and remaining off at 10 Mbps; LED\_R (Green) indicates link and activity status, remaining on when a connection is established and blinking during data transmission.

For the AcuDC-261, to set the network setting, use the **Left/Right** keys to select **Setting**, then press **Enter**.

For the AcuDC-262, to access **Network Settings**, use the **Left/Right** keys on the **Home** screen to select the **NET** icon, then press **Enter**.

The user will then be prompted to enter a four-digit password to access the settings screen. Refer to the **Meter Setting** section for instructions on how to enter the password.

Network	Default Value
P01 DHCP	MANUAL
P02 IP Address	192.168.001.254
P03 Subnet Mask	255.255.255.000
P04 Gateway	192.168.001.001
P05 DNS 1	008.008.008.008
P06 DNS 2	008.008.004.004
P07 Reset Network	No



Top View

<b>LED_L (Yellow)</b>	Indicates transmission speed, lighting on for 100Mbps and off for 10Mbps.
<b>LED_R (Green)</b>	Indicates activity status, staying on when connection is established and blinking during data transmission.

## Cable Loss Compensation

Cable resistance can distort current and voltage readings, resulting in inaccuracies in power and energy measurements. Cable loss compensation addresses this issue by accounting for losses over long cable runs, ensuring accurate and reliable readings. This is especially important when the meter is installed far from the load, such as in industrial facilities or EV charging stations, where accurate billing, improved energy efficiency, and cost savings are required. The cable resistance compensation range is configurable from **0  $\Omega$  to 999.999  $\Omega$** , allowing precise adjustment for different installation scenarios.

To configure cable loss compensation, first power on the device and remain on the **Home page**. Press the **Left/Right** keys to navigate to **Set**, then press **Enter**. Within the **Set** page, use the **Left/Right** keys to access the cable loss compensation page (**P29**). On this page, press **Enter**, then use the **Left/Right** keys to enable the function. Next, navigate to **P30** and **P31**, which are used to configure the cable loss resistance. Use the **Left/Right** or **Up/Down** keys to adjust the value and press **OK** to confirm the setting.

<b>Inputs</b>	
<b>CURRENT INPUTS</b>	
Current Input Type	AcuDC-261: 400A, 600A AcuDC-262: A1: Input range -100~100mV A2: Input range 4~20mA A3: Input range -5~5V
Withstand	30 x I <sub>max</sub> for 0.5 second
I <sub>st</sub>	AcuDC-261: 0.32A, 0.4A AcuDC-262: A1/A2/A3: I <sub>rated</sub> * 0.1%
Accuracy	0.2%
<b>VOLTAGE INPUTS</b>	
Metering Range	0-1000V
Withstand	5.0kVRMS Isolation for 1 Minute
Pickup Voltage	10V
Accuracy	0.1% (60V~1000V)
<b>ENERGY ACCURACY</b>	
Energy	IEC 62053-41 Class O.5
Charge	0.5%
<b>DC CONTROL POWER</b>	
Operating Range	12V~48V
Burden	<3W



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