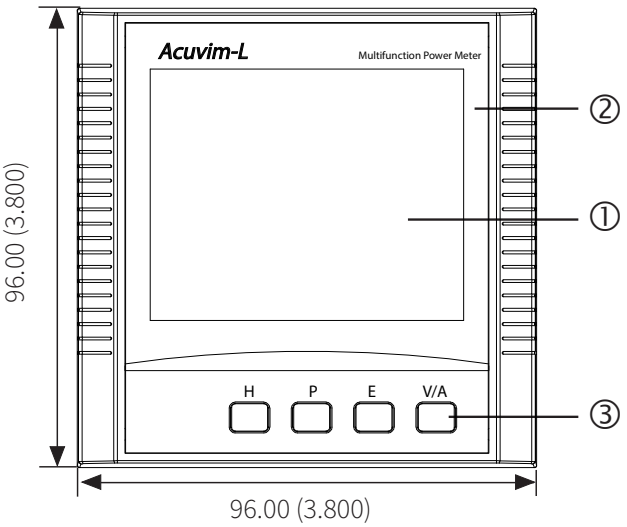
Acuvim-L Series
Quick Setup Guide

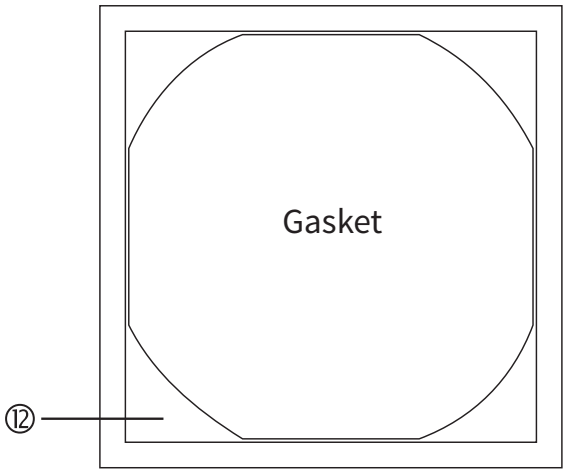
- Appearance and Dimension
- Installation Method
- Terminals
- Wiring Diagram
- Settings Mode
- Communication
- I/O Options
- Time of Use
- DIN Rail Installation
- Specification

Appearance and Dimension

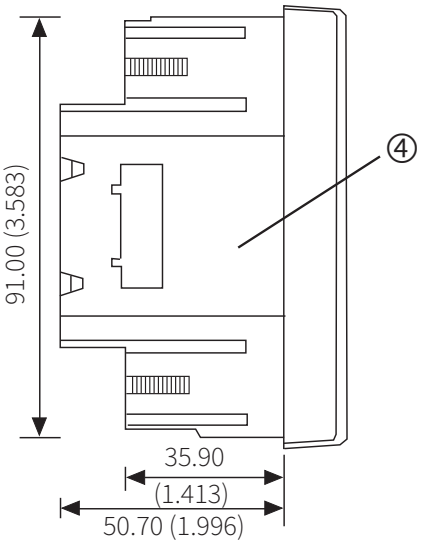
Units: mm(inches)



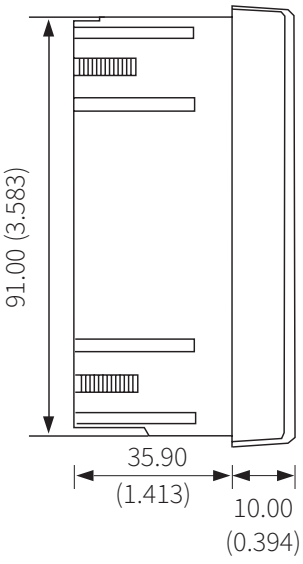
Front View of the Display Meter and Remote Display Unit



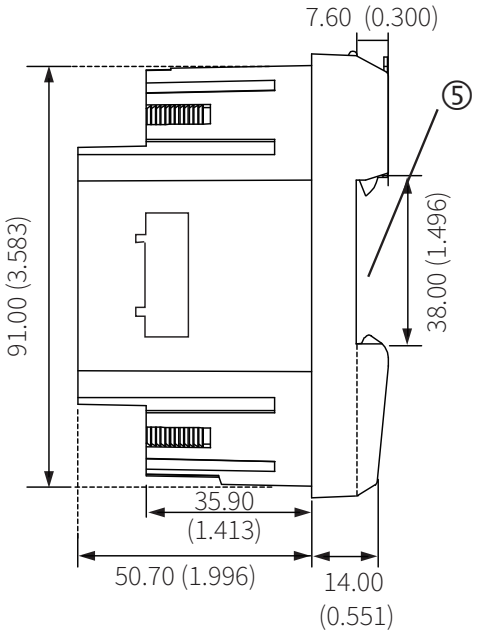
Gasket



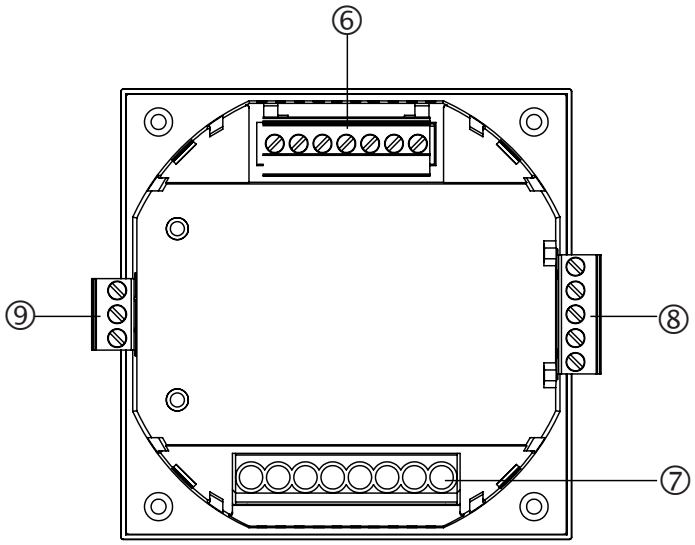
Side View of the Display Meter



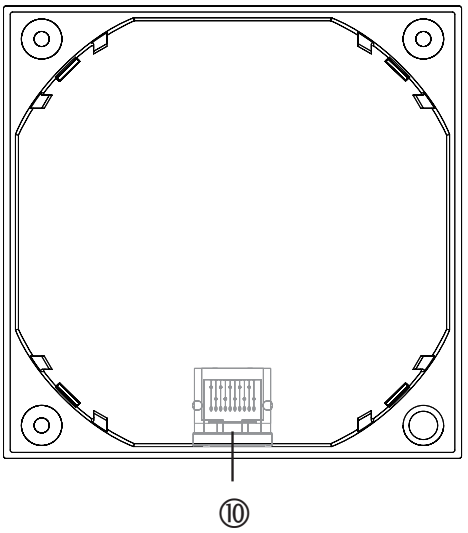
Side View of the Remote Display Unit



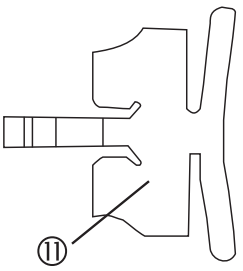
Side View of the DIN rail Meter



Rear View



Rear View of the Remote Display Unit



Installation Clip

Part Name	Description
① LCD Display	Large bright white backlight LCD display.
② Front Casing	Visible portion (for display and control) after mounting onto a panel.
③ Key	Four keys are used to select display and set.
④ Enclosure	The Acuvim-L series meter enclosures is made of high strength anti-combustible engineering plastic.
⑤ DIN rail	Used for Installation 35mm rail of the DIN rail Meter.
⑥ Voltage Input Terminals	Used for voltage input.
⑦ Current Input Terminals	Used for current input.
⑧ Power Supply Terminals	Used for aux. power supply input.
⑨ Communication Terminals	Communication output.
⑩ Interface	Used for link the remote display unit and the DIN rail meter.
⑪ Installation Clip	Used for fixing the meter to the panel.
⑫ Gasket	Insert the gasket in between the meter and the cutout to cover up gaps from the round hole.

Installation Method

Environment

Make sure meter is installed in a dry and dust free environment. Avoid placing meter near to heat, radiation and strong electrical interference sources. Meter's working temperature range is from -25°C to 70°C.

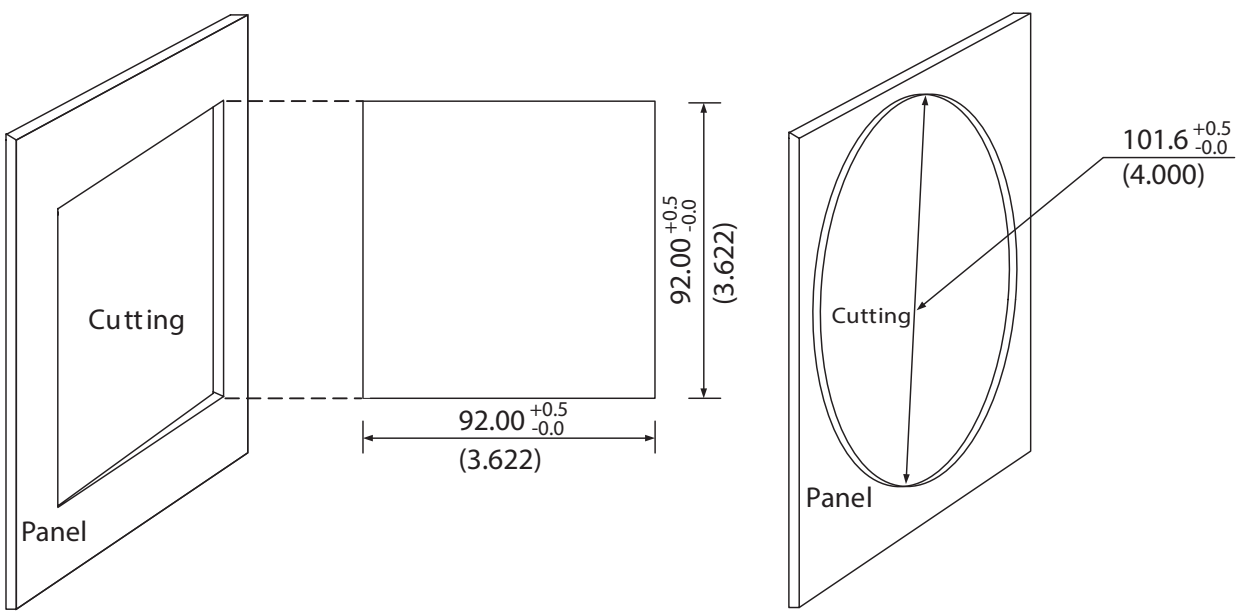
Meter can be installed into an ANSI C39.1 (4'' round) or an IEC 92mm DIN(square) form.

Installation Steps

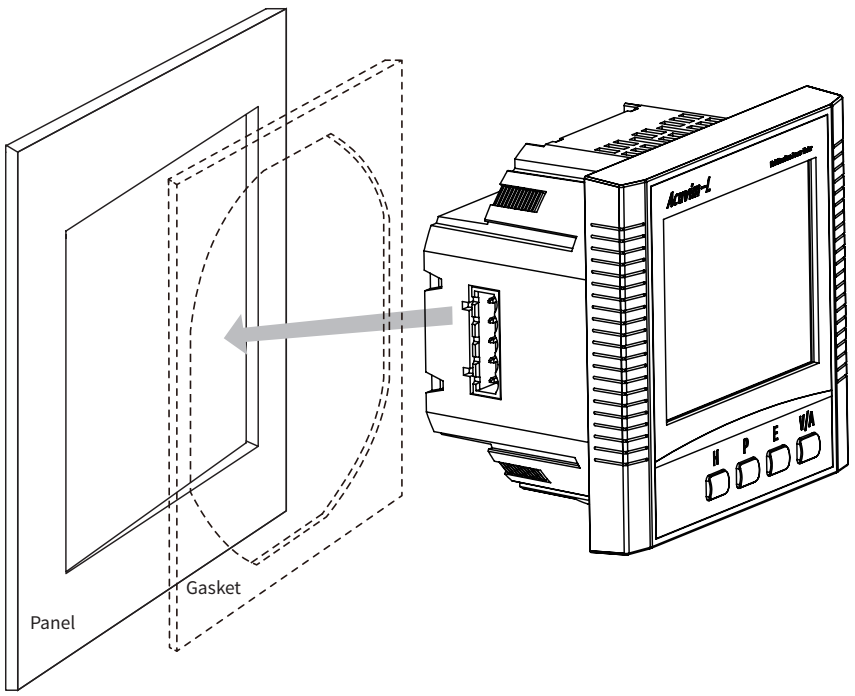
1. Meter Installation

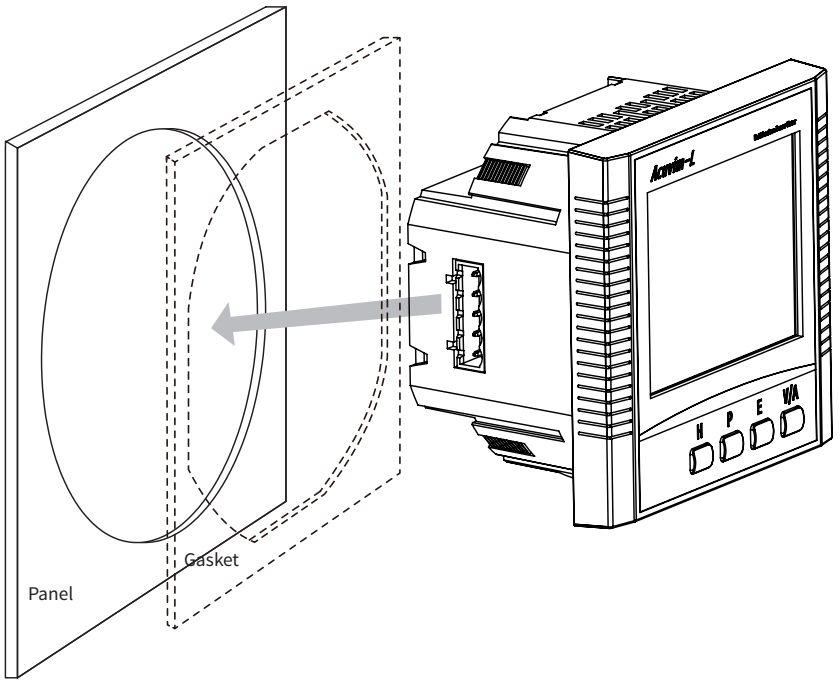
(1) Cut a square or a round hole on the panel.

Units: mm(inches)

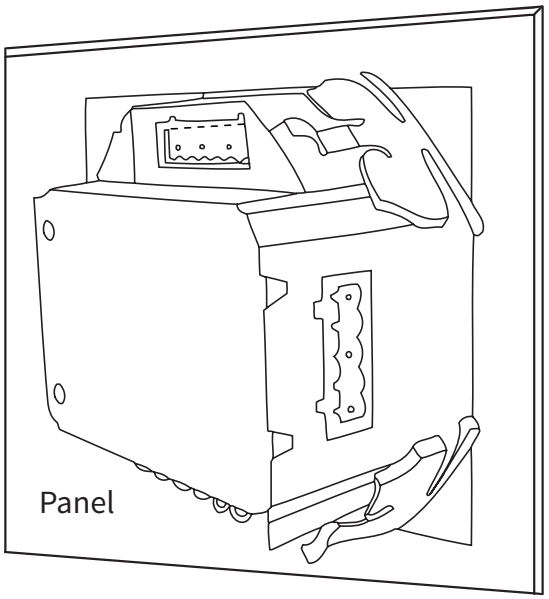


(2) Remove installation clips from the meter and insert the meter into the square or round hole from the front side.





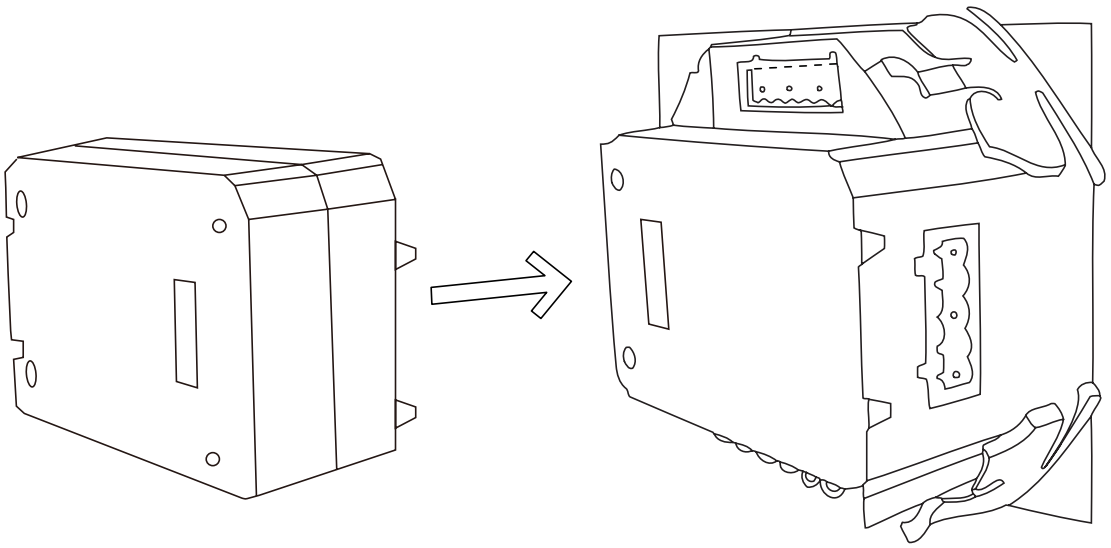
(3) Install the clips to the meter from backside and push the clips tightly so that the meter is fixed on the panel.



2. Extend module Installation

(1) The extend module could be installed from the bottom of the meter.

(2) The extend module is fixed on the meter by the screw.

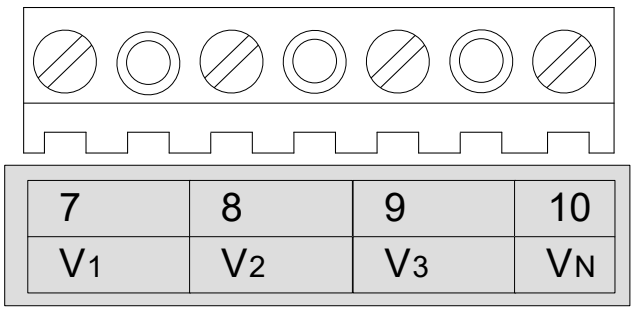


Note: The display meter and the remote display unit have the same installation method. The DIN rail meter have a quite other installation method, it must be installed on the 35mm rail. You can references the others DIN rail meters for the details installation method.

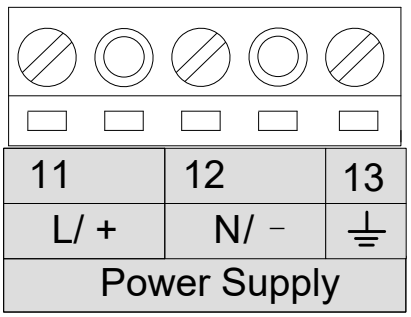
Terminals

Terminal strips

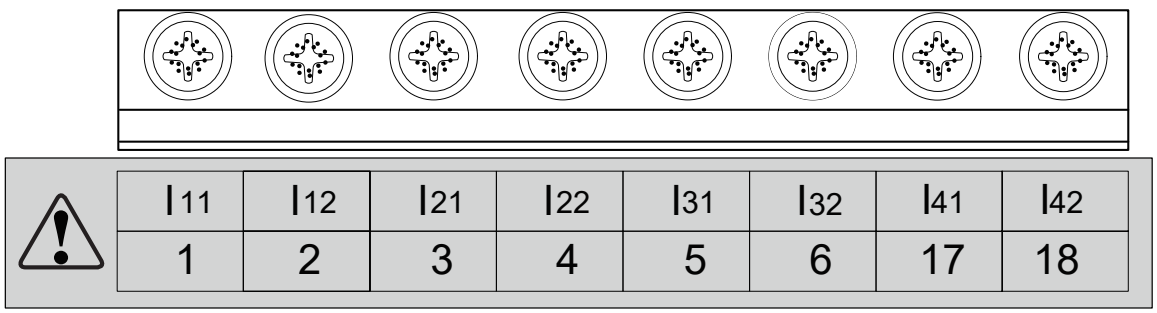
Voltage Input



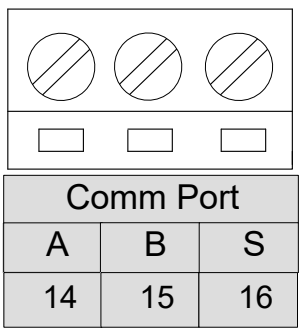
Power Supply

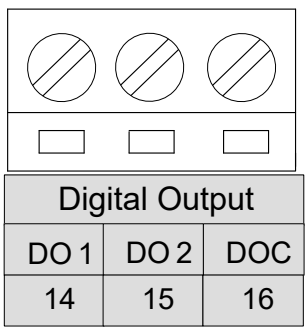


Current Input



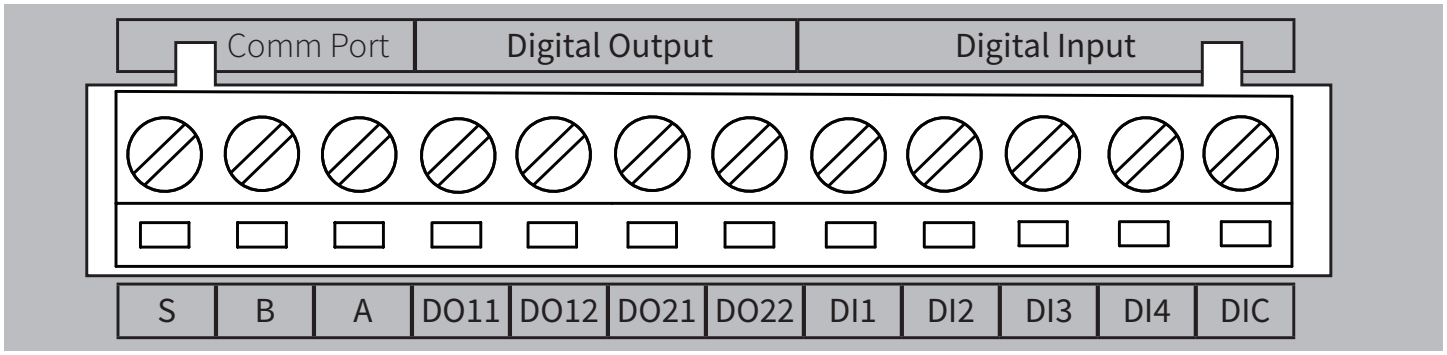
Communication and Digital Output





Note: Model Acuvim-AL has no digital output and communication terminal strips, Model Acuvim-BL/CL/DL/EL/KL share the same strips. When the Acuvim-BL is selected, the strips is used as DO. When Acuvim-CL/DL/EL/KL would be selected, the strips are used for communication.

Extend module



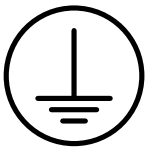
The meter has 2 current input options available for different applications.

1. Standard: 5Aac

2. Optional: 1Aac

Ground Terminal Connection

Before setting up the meter's wiring, please connect the meter's ground terminal and the switch gear's ground terminal together.



Auxiliary Power

The meter has 2 auxiliary power supply options available for different applications (aux. power supply terminals are 11, 12, 13).

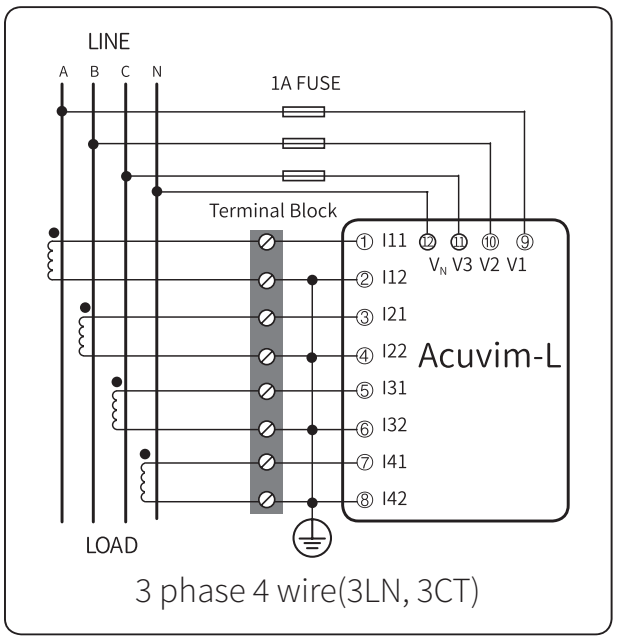
1. Universal (standard): 100~415Vac, 50/60Hz; 100~300Vdc

2. Low Voltage DC Power: 20~60Vdc

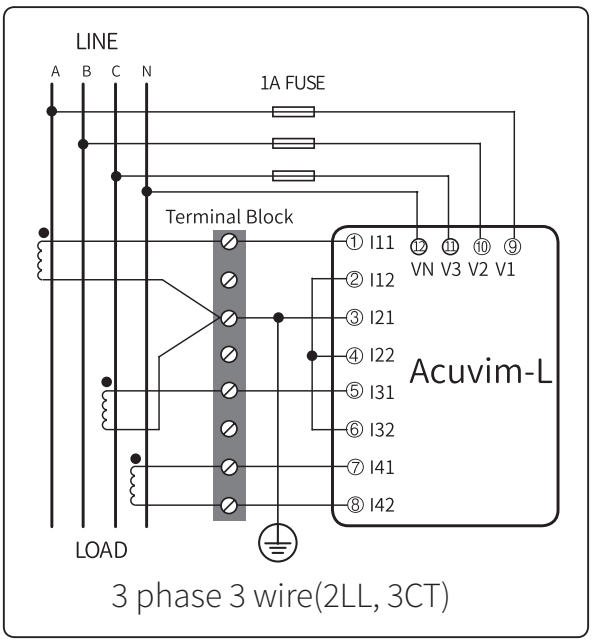
Please make sure the right type before powering up the meter.

Wiring Diagram

The following shows two typical wiring input configurations:



3 phase 4 wire(3LN, 3CT)



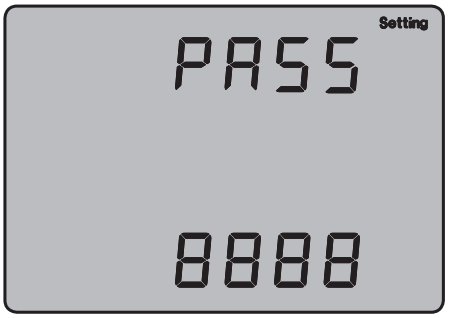
3 phase 3 wire(2LL, 3CT)

Please refer to Acuvim-L user's manual section 2.3 for other wiring configuration details.

Settings Mode

Meter Settings

Press V/A and H together to enter the meter setting screen. Press “H” to move the flashing cursor to the right, press “P” to decrease the number by 1 once a time, press “E” to increase the number by 1 once a time, press “V/A” to accept the change and move to the next screen. Before accessing the parameter setting mode, a four digit password is required every time. The default password is 0000. The below fig would show the pass page.



In the basic parameter setting mode, by setting the correct meter address, communication baud rate and parity (Acuvim-CL/DL/EL/KL only), we can engage in normal communication. The connection mode by setting the voltage, current connection mode, the voltage transformation ratio PT1, PT2, the voltage transformation ratio CT1, CT2 in order to achieve accurate measurement of the basic amount. Please refer to the specific setting **"Acuvim-L User's Manual".**

Communication

The meter has a standard RS485 communication port when the meter type is Acuvim-CL/DL/EL/KL. The meter supports dual communication which means the RS485 serial communication can be used together withother RS-485 in extend module when the Acuvim-CL/DL/EL selected.

Serial communication terminals are A, B, S (14, 15, 16). A is differential signal+, B is differential signal – and S is shield. Up to 32 devices can be connectedon a RS485 bus. The overall length of the bus cannot exceed 1200m (4000ft). When multiple meters are connected serially on the same RS485 bus, each meter shall have a different device address. Enter basic parameter setting page to set the device address. This address can be any integer between 1 and 247.

Baud rate can be selected from one of the six values: 1200, 2400, 4800, 9600, 19200 and 38400 bps. Parity needs to set one of the followings: Odd, Even, None1 (stop bit 1), None2 (stop bit 2).

I/O Options (if equipped)

Two types of IO modules with different IO combinations are available.

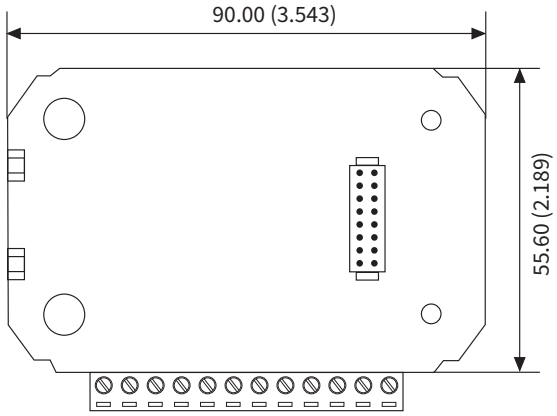
IO parameters can be set or viewed either from the meter front or through communication using utility software. Please refer to Acuvim-L user's manual for operation details.

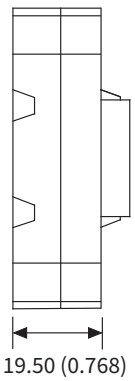
Digital Input (DI)

DI is a dry point, no external power supply. DI can be used as pulse counter, to monitor switch status or to monitor sequence of events.

Digital Output(DO)

Two modes available: alarm output, energy pulse output. two modes could be used independently in one module. The alarming mode and energy pulse mode can be set from the utility software or from the meter front software.





Unit: mm (inches)

Time of Use (Acuvim-EL only)

Acuvim-EL has time of use (TOU) function and can be set via meter's utility software through communication. User can assign up to 4 different tariffs (sharp, peak, valley and normal), 12 TOU seasons, 14 TOU schedules and 14 TOU segments according to billing requirements. The meter will calculate and accumulate energy to different tariffs according to the meter's internal clock timing and TOU settings. Please refer to Acuvim-L user's manual for more details.

DIN Rail Installation

Except the LCD display and the front panel control keys, the meter with DIN rail mount option includes the same functions as the panel mount version. The default device address, the default baud rate and the default check of the DIN rail meter are 1, 9600 and NON1. Those default values will always be used for the first minute after the meter is powered on. The device address, the baud rate and the default check of the meter will change to the user defined values after the first minute.

Specification

Voltage Input	
Nominal Full Scale	400LN/690LL Vac RMS (3-phase) 400LN Vac RMS (single-phase) With 20% overage (3LN or 2LN wiring) Installation Category III, Pollution Degree 2
Metering Frequency	45~65Hz
Overload	2 times(continuously); 2500Vac per second (no recurrence)
Voltage range through PT	1000KV highest at primary side
PT burden	<0.2VA
Measuring	True-Rms

Current Inputs	
Current rating	5Amp AC (1Amp AC Optional)
Current range	50000A highest at primary side
Overload	10A
CT	Burden
Measuring	True-Rms

Power Supply	
Power supply	100~415Vac, 50/60Hz; 100~300Vdc
Power consumption	3W@230Vac
Withstand	3250Vac, 50/60Hz 1min
Altitude	2000m

24DC Auxiliary Power Supply	
Operating Range	24Vdc
Nominal consumption	1W
Isolation voltage	1000V

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Document#1030E3301 Revision Date: Nov., 2015