

# スマートター

## SPECIFICATIONS

Parameters	Accuracy	METERING		
		Resolution	Range	
Voltage	0.2%	0.1V	10V~1000kV	
Current	0.2%	0.1mA	5mA~50000A	
Power	0.2%	1W	-9999MW~9999MW	
Reactive Power	0.2%	1var	-9999Mvar~9999Mvar	
Apparent Power	0.2%	1VA	0~9999MVA	
Power Demand	0.2%	1W	-9999MW~9999MW	
Reactive Power Demand	0.2%	1var	-9999Mvar~9999Mvar	
Apparent Power Demand	0.2%	1VA	0~9999MVA	
Power Factor	0.2%	0.001	-1.000~1.000	
Frequency	0.02%	0.01Hz	45.00~65.00Hz (50 or 60Hz type) 300.00Hz~500.00Hz (400Hz type)	
Energy	Primary	0.2%	0.1kWh	0~99999999.9kWh
	Secondary	0.2%	0.001kWh	0~999999.999kWh
Reactive Energy	Primary	0.2%	0.1kvarh	0~99999999.9kvarh
	Secondary	0.2%	0.001kvarh	0~999999.999kvarh
Apparent Energy	Primary	0.2%	0.1kVAh	0~99999999.9kVAh
	Secondary	0.2%	0.001kVAh	0~999999.999kVAh
Harmonics	1.0%	0.1%		
Phase Angle	2.0%	0.1°	0.0°~359.9°	
Unbalance Factor	2.0%	0.1%	0.0%~100.0%	
Running Time		0.01h	0~9999999.99h	



INPUT	
<b>Current Inputs (Each Channel)</b>	
Nominal Current	① 5A, ② 1A, ③ 1A(333mV), ④ 1A(100mV Rope-CT), ⑤ 1A(80mA/100mA/200mA)
Metering Range	① 0~10A, ② 0~2A, ③ 0~1.2A, ④ 0~1.2A, ⑤ 0~1.2A
Pickup Current	① 5mA, ② 1mA, ③ 5mA, ④ 5mA, ⑤ 5mA,
Withstand	20Arms Continuous, 0.1% of Nominal 100Arms for 1 second, Non-Recurring
Burden	0.05VA (Typical) @ 5Arms
Accuracy	0.2% Full Scale
<b>Voltage Inputs (Each Channel)</b>	
Nominal Full Scale	400Vac L-N, 690Vac L-L (+20%)
Withstand	1500Vac Continuous 2500Vac, 50/60Hz for 1 Minute
Input Impedance	2Mohm per Phase
Metering Frequency	45Hz~65Hz, 300Hz ~ 500Hz
Pickup Voltage	10Vac
Accuracy	0.2% Full Scale
<b>Energy Accuracy</b>	
Active	Class 0.2s (According to IEC 62053-22) Class 0.2s (According to ANSI C12.20)
Reactive	Class 2 (According to IEC 62053-23)
<b>Harmonic Resolution</b>	
Metered Value	63 <sup>rd</sup> Harmonic (50Hz or 60Hz type) 15 <sup>th</sup> Harmonic (400Hz type)

COMMUNICATION	
<b>RS-485 (Standard)</b>	
MODBUS® RTU	
2 Wire Shielded Twisted Pair Cable Connection	
Baud Rate:1200~38400 bps	
<b>The Second RS-485 Port (Optional)</b>	
(The Same as RS-485 Standard Contents)	
Baud Rate: 4800~38400 bps	
<b>Ethernet (Optional)</b>	
10M/100M BaseT	
MODBUS® TCP/IP	
DNP 3.0 Over IP Level 2	
IEC 61850 2nd Edition	
SNMP V3	
BACnet-IP	
HTTP/HTTps Webserver	
HTTP/HTTps, FTP data post	
SMTP	
NTP	
<b>PROFIBUS (Optional)</b>	
PROFIBUS-DP/V0 Protocol	
Work as PROFIBUS Slave, Baud Rate Adaptive, up to 12M	
Model 1 : Input Bytes:32,Output Bytes:32	
Model 2: Input Bytes :64,Output Bytes:2	
PROFIBUS Standard According to EN 50170 Vol.2	
<b>BACnet(Optional)</b>	
BACnet IP, BACnet MS/TP	

STANDARD COMPLIANCE	
Measurement Standard	IEC 62053-22; ANSI C12.20
Environmental Standard	IEC 60068-2
Safety Standard	IEC 61010-1, UL 61010-1, IEC 61557-12
EMC Standard	IEC 61000-4/-2-3-4-5-6-8-11, CISPR 22, IEC 61000-3-2, IEC 61000-6-2/4
Outlines Standard	DIN 43700, ANSI C39.1

I/O OPTION	
<b>Digital Input</b>	
Input Voltage Range	20~160 Vac/dc
Input Current (Max)	2mA
Start Voltage	15V
Stop Voltage	5V
Pulse Frequency (Max)	100Hz, 50% Duty Ratio (5ms ON and 5ms OFF)
SOE Resolution	2ms
<b>Digital Output (DO) (Photo-MOS)</b>	
Voltage Range	0~250Vac/dc
Load Current	100mA (Max)
Output Frequency	25Hz, 50% Duty Ratio (20ms ON, 20ms OFF)
Isolation Voltage	2500Vac
<b>Relay Output (RO)</b>	
Switching Voltage (Max)	250Vac, 30Vdc
Load Current	5A(R), 2A(L)
Set Time	10ms (Max)
Contact Resistance	30mΩ (Max)
Isolation Voltage	2500Vac
Mechanical Life	1.5x10 <sup>7</sup>

<b>Analog Output (AO)</b>	
Output Range	0~5V/1~5V, 0~20mA/4~20mA (Optional)
Accuracy	0.5%
Temperature Drift	50ppm/°C Typical
Isolation Voltage	500Vdc
Open Circuit Voltage	15V

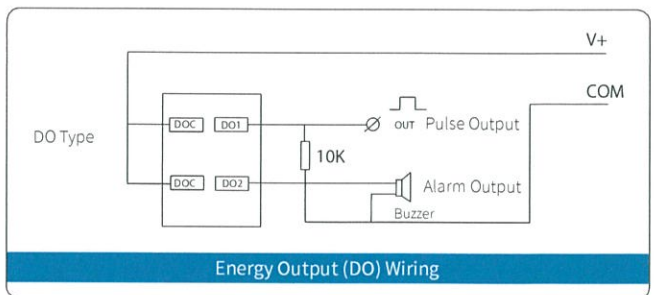
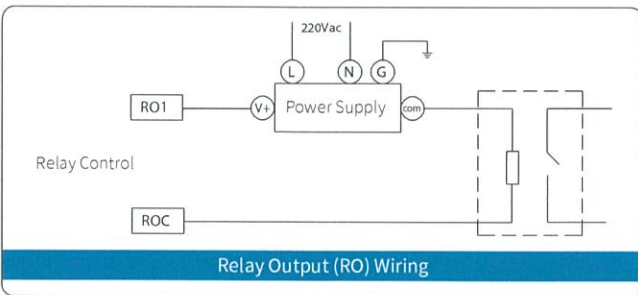
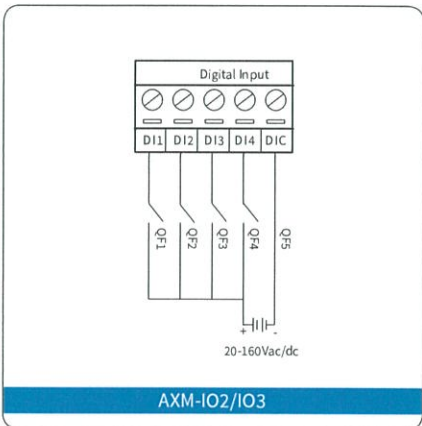
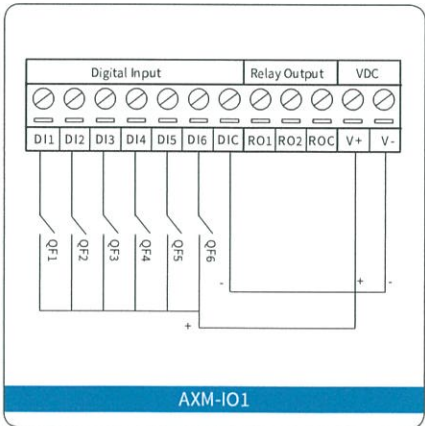
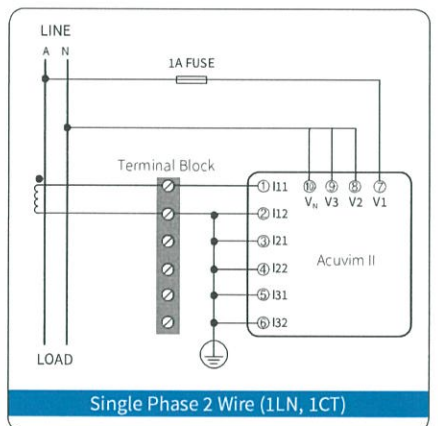
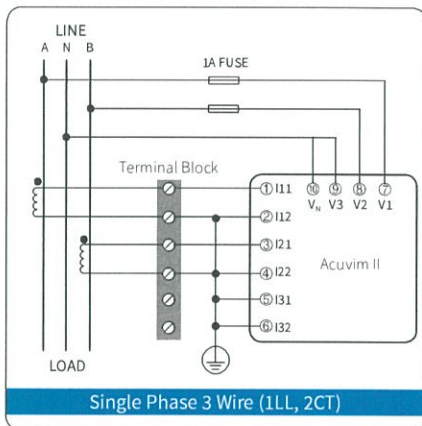
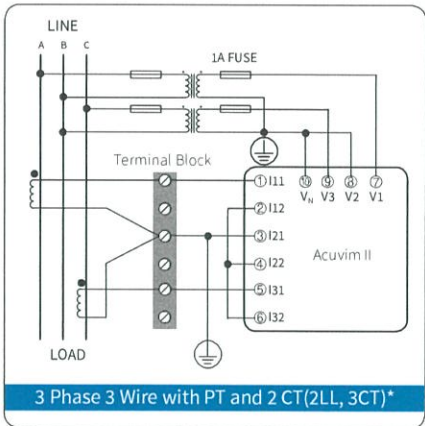
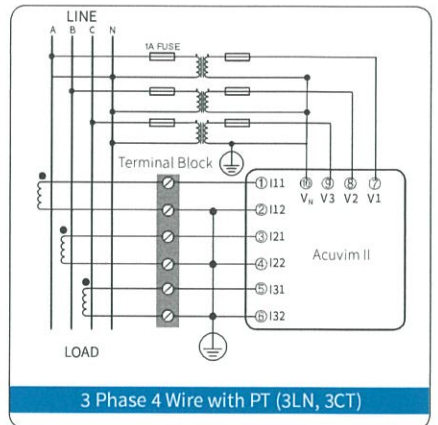
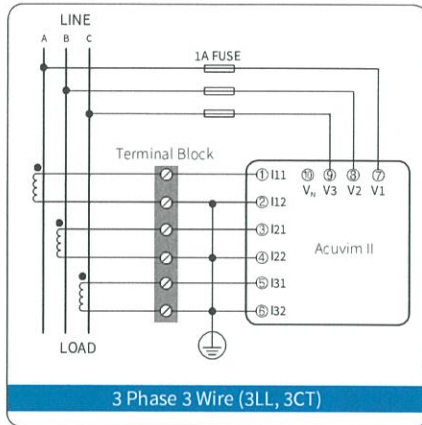
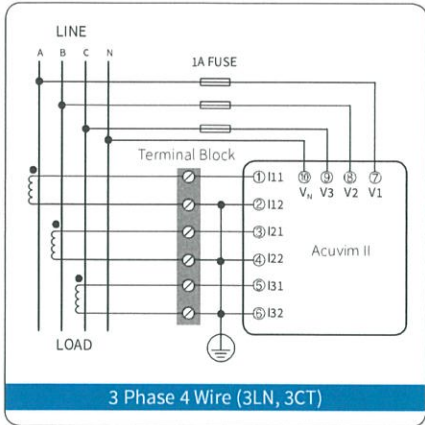
<b>Analog Input (AI)</b>	
Input Range	0~5V/1~5V, 0~20mA/4~20mA (Optional)
Accuracy	0.2%
Temperature Drift	50ppm/°C Typical
Isolation Voltage	500Vdc

<b>Power Supply for DI (24Vdc)</b>	
Output Voltage	24Vdc
Output Current	42mA
Load (Max)	21 DIs

CONTROL POWER	
Universal	AC or DC
<b>AC/DC Control Power</b>	
Operating Range	100~415Vac, 50/60Hz; 100~300Vdc
Burden	5W
Frequency	50/60Hz
Withstand	3250Vac, 50/60Hz for 1 minute
Installation Category III (Distribution)	
<b>Low Voltage DC Control Power (Optional)</b>	
Operating Range	20~60Vdc
Burden	5W

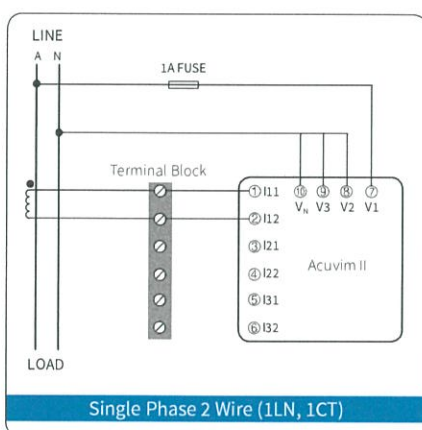
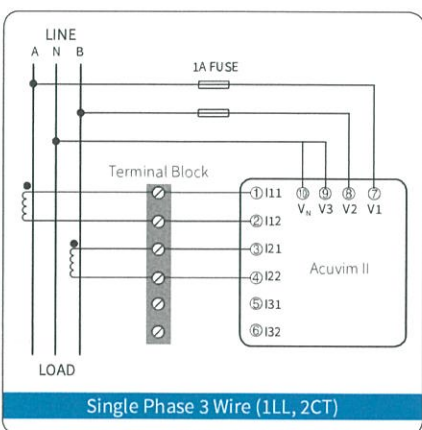
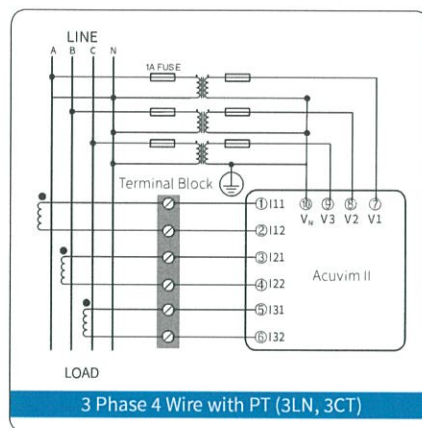
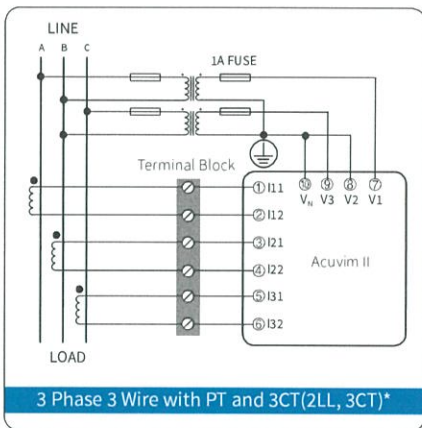
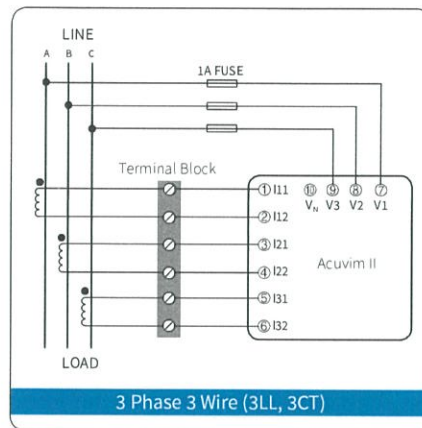
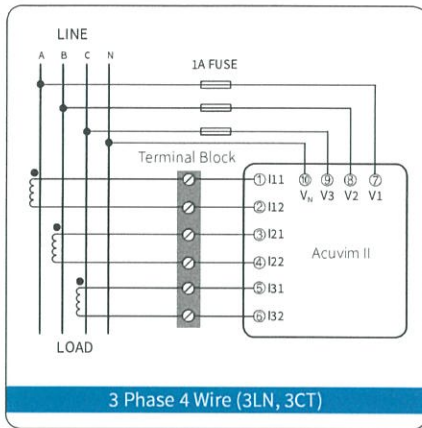
OPERATING ENVIRONMENT	
Operation Temperature	- 25°C to 70°C
Storage Temperature	- 40°C to 85°C
Relative Humidity	5% to 95% Non-Condensing

# TYPICAL WIRING WITH 5A/1A CTs

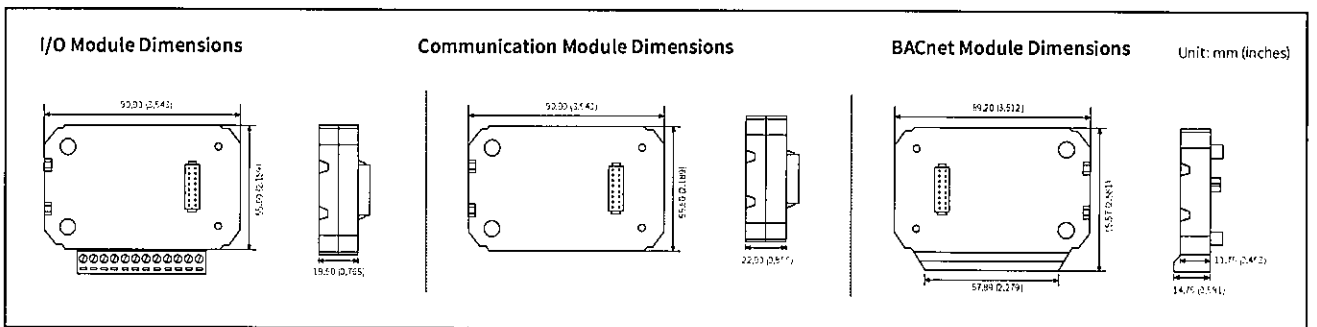
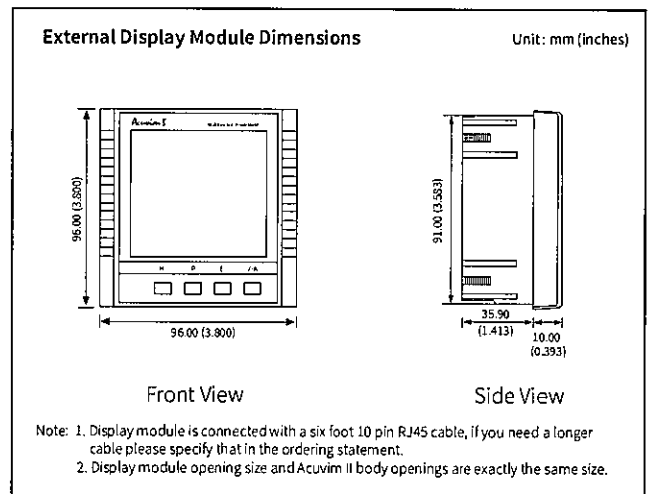
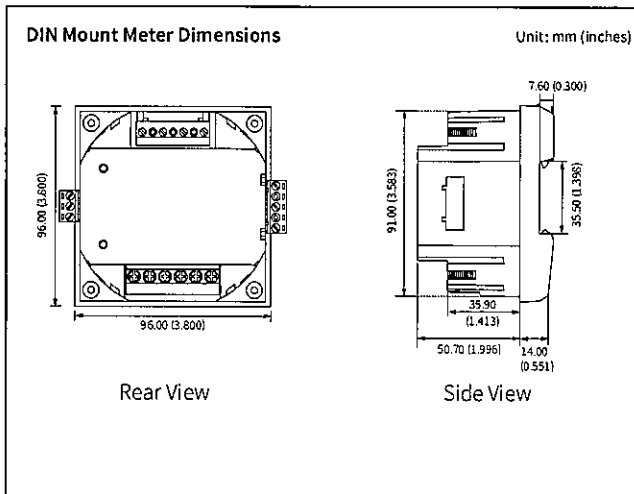
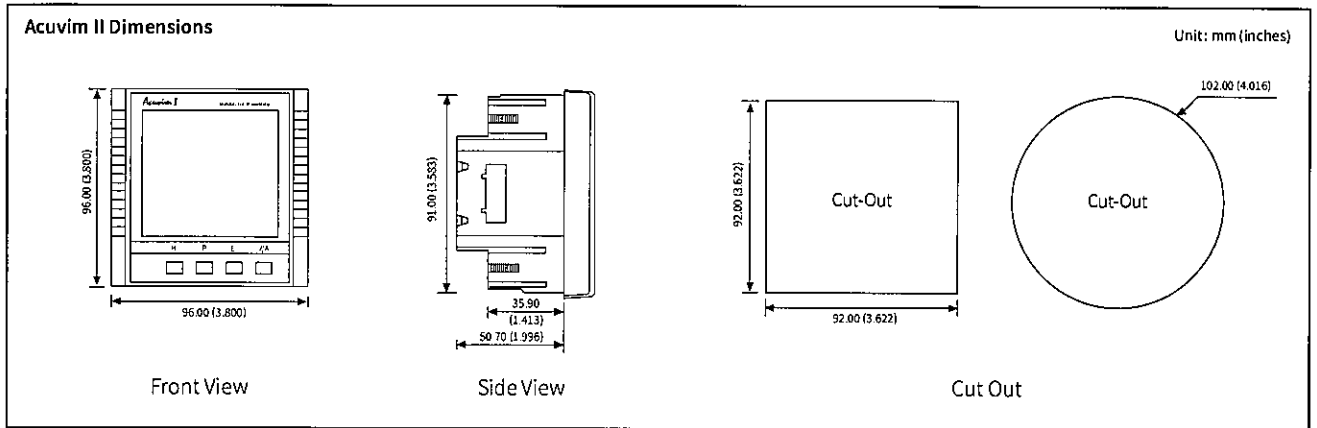


\*Note: 2CT configuration is optional only in 3 Phase 3 Wire system.

# TYPICAL WIRING RCT/mV/mA CURRENT INPUT



# DIMENSIONS



# AcuPanel 9100 Series

All-in-one Plug n' play Pre-Wired Panel Enclosure



FEATURES

- Factory Pre-wired and Configured
- Perfect Retrofit Solution
- Save Premium Installation Time
- Avoid All Wiring and Installation Errors



ISO9001 Certified



## DESCRIPTION

Accuenergy's AcuPanel 9100 series pre-wired panel enclosure provides a complete plug n' play energy metering solution. Designed for Acuvim II and Acuvim-L series multifunction power and energy meters, AcuPanel eliminates both time-consuming and costly design and installation. With simple mounting and wiring, you will have a complete metering solution right next to your switchgear.

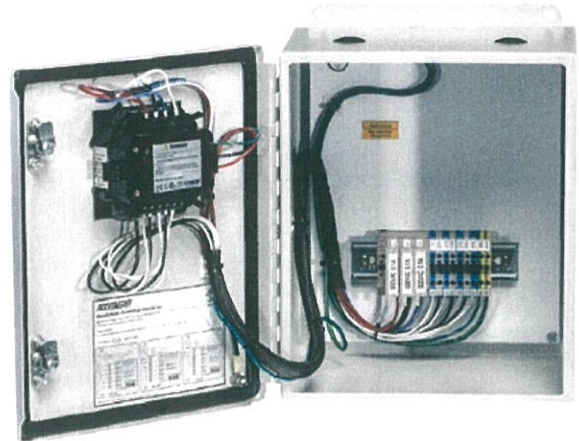
AcuPanel provides a perfect solution for retrofit projects where metering space is not pre-designed in electrical distribution panel. The factory pre-wired meter and enclosure will greatly save the cost for parts and labor with minimized installation time. Moreover, frustrating wiring errors which lead to serious false data will be eliminated to create a seamless process from installation to power and energy monitoring.

The factory pre-wired meter enclosure comes in two options: NEMA4 (Indoor) steel enclosure and waterproof plastic NEMA 4X (Outdoor). These two options ensure the viable solutions for all installing environment.

Standard pre-wired enclosure includes:

- Terminal blocks for current transformer input
- Shorting block for current transformer
- Terminals blocks for voltage input
- 3 Industrial-grade fuses

Inside the locking door of the AcuPanel are factory-assembled fuses and terminal blocks clearly labeled for a quick and effortless connection. At the bottom of the AcuPanel sits two pluggable pre-cut holes that allow for wires to be fed through the panel to the circuit blocks without any additional modifications being needed.

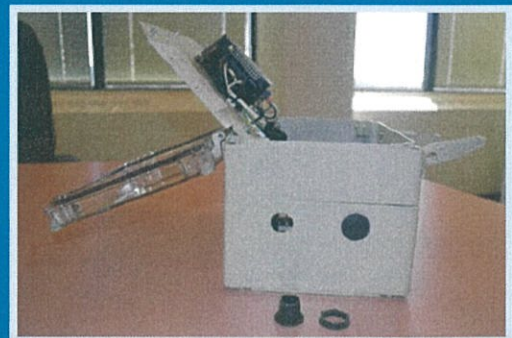
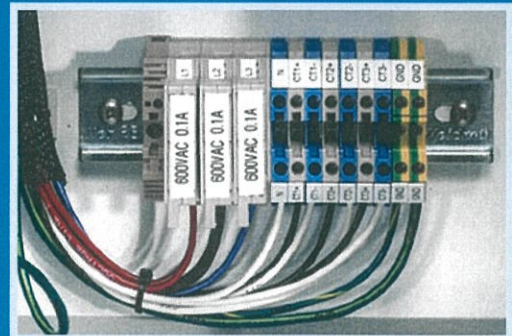


### FEATURES

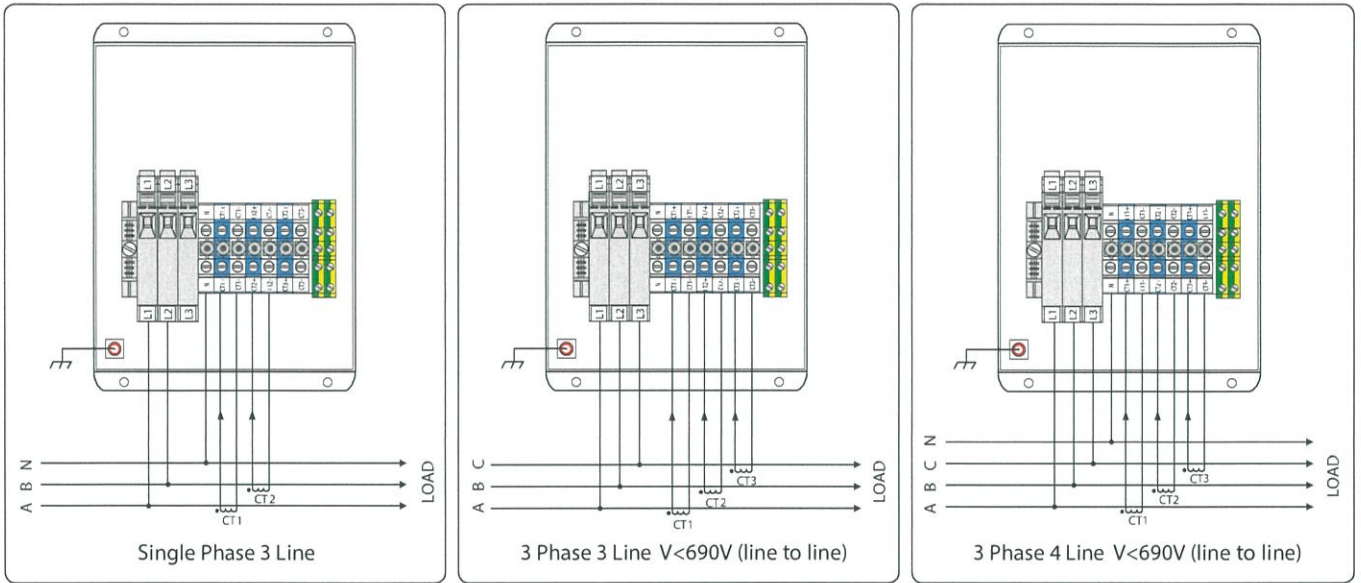
- NEMA 4 or NEMA 4X rating
- Pre-wired meter
- Pre-mounted and wired parts including fuses, shorting and terminal blocks
- Pluggable pre-cut holes for wires to be fed through
- Simple grounding inside enclosure
- No control transformer needed

### BENEFITS

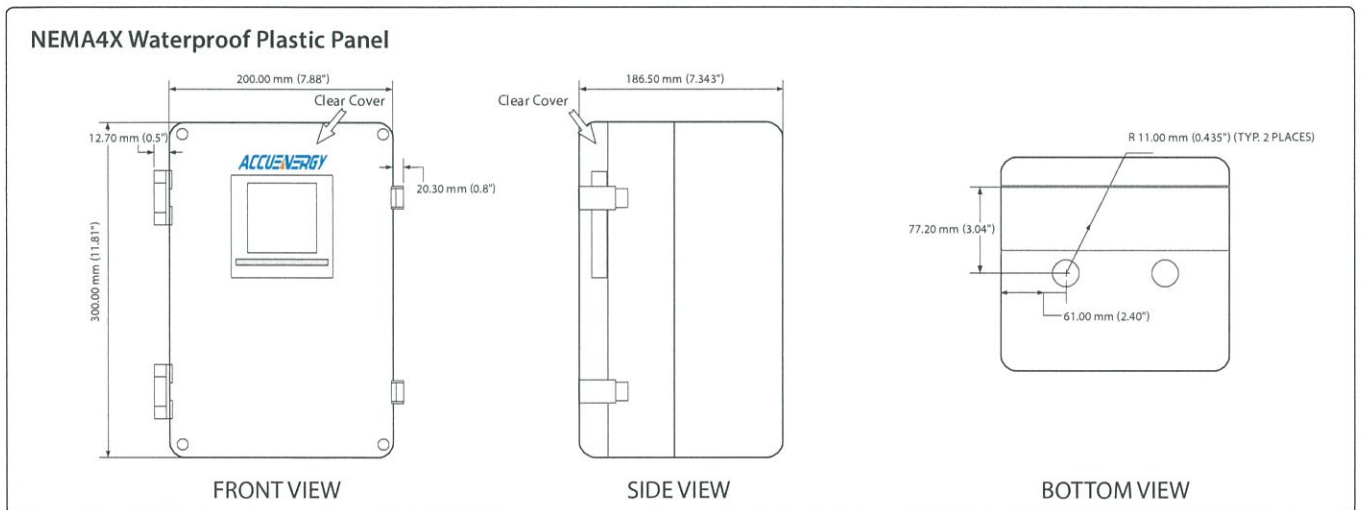
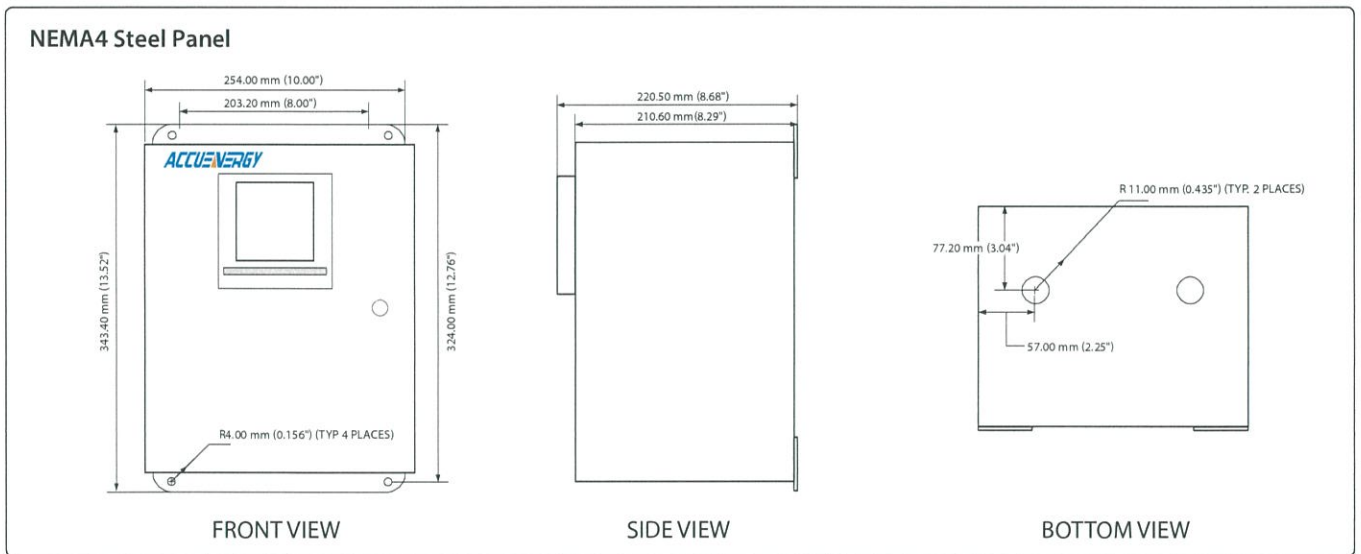
- Saves cost on installation and parts
- Save premium time
- Avoids frustrating wiring mistakes
- Clear easy-to-read labels
- Plug n' play usability



## WIRING DIAGRAMS



## DIMENSIONS





## ORDERING INFORMATION

### Acuvim II Pre-Wired Panel

	Pre-Wired Panel	Model	Current Input	Power Supply	1st I/O Option*	2nd I/O Option*	3rd I/O Option*
Ordering Number	-	-	-	-	-	-	-
Ordering Example	AcuPanel9104X	IIR	5A	P1	WEB-PUSH	IO1	IO3
	<b>AcuPanel9104:</b> NEMA4 or NEMA3 Indoor Steel Panel	<b>II:</b> Revenue Grade Multifunction Power Meter	<b>5A:</b> 5A or 1A Nominal Current Input	<b>P1:</b> 100-415Vac, 100-300Vdc	<b>0:</b> None	<b>0:</b> None	<b>0:</b> None
	<b>AcuPanel9104X:</b> NEMA4X Indoor and Outdoor Waterproof Polycarbonate Panel	<b>IIR:</b> Acuvim II with 4MB of Datalogging Memory	<b>RCT:</b> Rogowski Coil CT Input	<b>P2:</b> 20-60Vdc	<b>WEB-PUSH:</b> Modbus-TCP/IP, HTTPs Webserver, HTTP/HTTPs Post, FTP Post, SMTP, SNTP	<b>IO1:</b> 6DI, 2RO, 1 DI Power Supply	<b>IO1:</b> 6DI, 2RO, 1 DI Power Supply
		<b>IIE:</b> Acuvim IIR with 4 tariff TOU	<b>333mV:</b> 333mV Nominal CT Input	<b>P3:</b> 480 Vac	<b>WIFI:</b> All functions from WEB-PUSH plus additional WiFi communication channel	<b>IO2:</b> 4DI, 2AO, 2 DO	<b>IO2:</b> 4DI, 2AO, 2 DO
		<b>IIW:</b> 8MB of Memory and Waveform Recorder	<b>mA:</b> 80mA, 100mA or 200mA Nominal CT Input	<b>P4:</b> 600Vac	<b>PROFI:</b> Profibus-DP	<b>IO3:</b> 4DI, 2RO, 2AI	<b>IO3:</b> 4DI, 2RO, 2AI
					<b>BIP:</b> BACnet IP (Ethernet)		
					<b>BMS:</b> BACnet MS/TP (Serial)		
					<b>RS485:</b> Second RS485 Port		
					<b>IO1:</b> 6DI, 2RO, 1 DI Power Supply		
					<b>IO2:</b> 4DI, 2AO, 2DO		
					<b>IO3:</b> 4DI, 2RO, 2AI		

\*Note: No more than 2 of the same I/O modules may be attached to the meter (example: Two AXM-IO2).  
The same two IO modules must be a different component number.

### Acuvim-L Pre-Wired Panel

	Pre-Wired Panel	Model	Current Input	Power Supply	1st I/O Option*
Ordering Number	-	-	-	-	-
Ordering Example	AcuPanel9104	EL	5A	P2	X4
	<b>AcuPanel9104:</b> NEMA4 or NEMA3 Indoor Steel Panel	<b>AL:</b> Digital Panel Meter	<b>5A:</b> 5A or 1A Nominal Current Input	<b>P1:</b> 100-415Vac, 100-300Vdc	<b>0:</b> None
	<b>AcuPanel9104X:</b> NEMA4X Indoor and Outdoor Waterproof Polycarbonate Panel	<b>BL:</b> AL + 2 Digital Output (Pulse/Alarm)	<b>333mV:</b> 333mV Nominal CT Input	<b>P2:</b> 20-60Vdc	<b>X1:</b> 4DI + 2DO
		<b>CL:</b> AL + Modbus-RTU		<b>P3:</b> 480 Vac	<b>X2:</b> 4DI + 2DO + second RS485
		<b>DL:</b> CL + IO Option		<b>P4:</b> 600Vac	<b>X3:</b> Profibus-DP
		<b>EL:</b> DL + TOU			<b>X4:</b> 4DI + 2DO + Profibus-DP
		<b>KL:</b> kW & kWh Meter			

\*Note: Extended Modules only supported by the DL and EL Model.



**Accuenergy Corp.**  
Los Angeles-Toronto-Beijing  
North America Toll Free: 1-877-721-8908  
Web: [www.accuenergy.com](http://www.accuenergy.com)  
Email: [marketing@accuenergy.com](mailto:marketing@accuenergy.com)

Revision Date: Sep., 2017  
Document #0001E1102



トランスフォーマー

# AcuSplitCT Series 600/800/1000/1200/1500A Split Core Current Transformer

The Accuenergy split core CTs are compact and low-cost current transformers with high accuracy. The Split Core CTs are ideal for quick and easy installation without disconnecting cables during installation. The internal precision burden resistor across the secondary winding of the CT provides a safe low voltage output and permits safe opening of the secondary.

## FEATURES

- Clamp-on design, easy installations
- 333mV output, safe installations
- Most cost-effective

## SPECIFICATIONS

Rated Primary Current	600A, 800A, 1000A, 1200A, 1500A
Rated Secondary Current	333mV
Linearity Accuracy	0.5% (at 10%-130%)
Leads	8'(2.5m), twisted pair, 22AWG
Window Size	2 inches
Insulation Voltage	600Vac, Category III
Frequency range	50/60Hz
Withstand Voltage	3,000Vac
Standard	IEC 60044-1
Certification	UR, CE approved & RoHS compliant
Construction	Epoxy encapsulated housing

## ORDERING INFORMATION

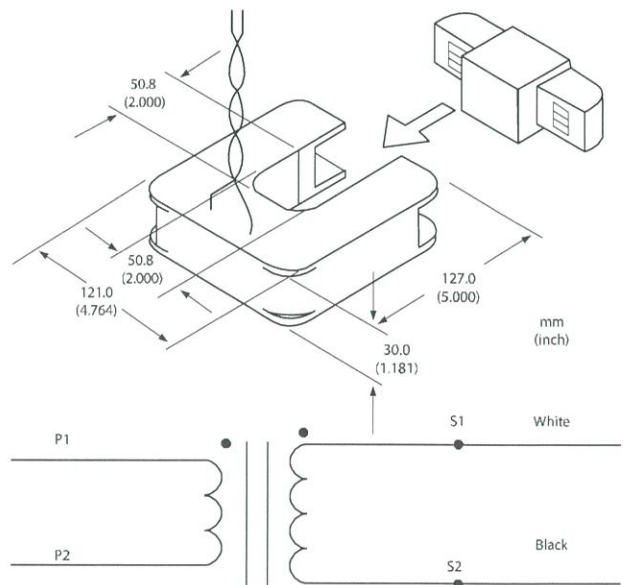
Ordering Number	Rated Input	Output
AcuCT- 200 -		: 333
Ordering Example: AcuCT- 200 -	800	: 333
	600: 600A	
	800: 800A	
	1000: 1000A	
	1200: 1200A	
	1500: 1500A	



**Accuenergy Corp.**  
 Los Angeles-Toronto-Beijing  
 North America Toll Free: 1-877-721-8908  
 Web: [www.accuenergy.com](http://www.accuenergy.com)  
 Email: [marketing@accuenergy.com](mailto:marketing@accuenergy.com)



## DIMENSIONS



**ACCUENERGY**  
 Your Power and Automation Partner

トランスフォーマー

# AcuSplitCT Series 400/600/1000/1500/2000/3000/5000A Split Core Current Transformer

The Accuenergy split core CTs are compact and low-cost current transformers with high accuracy. The Split Core CTs are ideal for quick and easy installation without disconnecting cables during installation. The internal precision burden resistor across the secondary winding of the CT provides a safe low voltage output and permits safe opening of the secondary.

## FEATURES

- Clamp-on design, easy installations
- 333mV output, safe installations
- Most cost-effective

## SPECIFICATIONS

Rated Primary Current	400A, 600A, 1000A, 1500A, 2000A, 3000A, 5000A
Rated Secondary Current	333mV
Linearity Accuracy	0.5% (at 10%-130%)
Leads	8'(2.5m), twisted pair, 22AWG
Window Size	3 inch by 5 inch
Insulation Voltage	600Vac, Category III
Frequency range	50/60Hz
Withstand Voltage	3,000Vac
Standard	IEC 60044-1
Certification	UL, CE approved & RoHS compliant
Construction	Epoxy encapsulated housing

## ORDERING INFORMATION

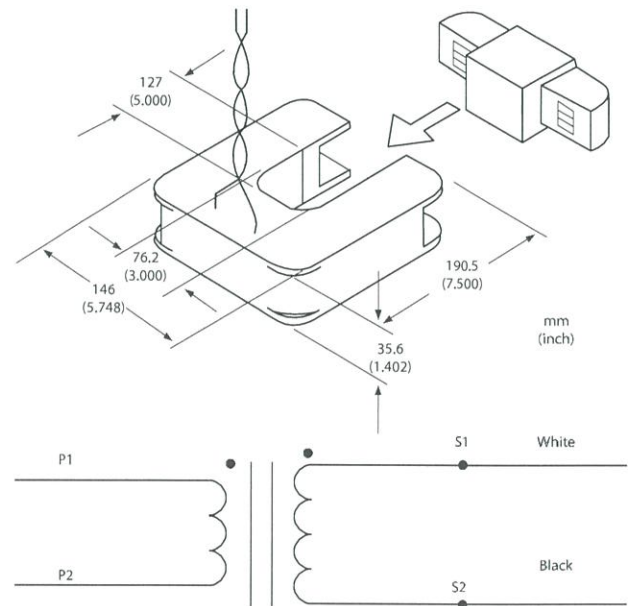
Ordering Number	Rated Input	Output
AcuCT- 3050 -		: 333
Ordering Example: AcuCT- 3050 -	1000	: 333
	400: 400A	
	600: 600A	
	1000: 1000A	
	1500: 1500A	
	2000: 2000A	
	3000: 3000A	
	5000: 5000A	



**Accuenergy Corp.**  
 Los Angeles-Toronto-Beijing  
 North America Toll Free: 1-877-721-8908  
 Web: [www.accuenergy.com](http://www.accuenergy.com)  
 Email: [marketing@accuenergy.com](mailto:marketing@accuenergy.com)



## DIMENSIONS



**ACCUENERGY**  
 Your Power and Automation Partner

トランスフォーマ-マ-3

# AcuSplitCT Series 3135R Split Core Current Transformers

The Accuenergy split core CTs are compact and low-cost current transformers with high accuracy. The CTs are ideal for quick and easy installation without disconnecting cables during installation. Multiple installation mechanisms provide stable and durable current measurement.

## FEATURES

- Multiple output including 5A, 1A, 80mA, 100mA, 200mA, 333mV
- Simple hinged installation
- Can be installed on cable, bus and panel
- Standard Window size from 0.75 to 5 by 7 inch
- Listed to UL2808, 61010-1 and CSA 22.2

## SPECIFICATIONS

Rated Primary Current	Up to 1500A
Rated Output	5A, 1A, 80mA, 100mA, 200mA, 333mV
Withstand Voltage	5,000Vac
Operating Amb. Temperature	-15°C to 65°C
Accuracy	IEC 60044-1 0.5s class
Lead	8 ft(2.5m) UL 1015 22AWG
Construction	UL enclosure rated to 135°C
Certifications	UL listed UL2808, 61010-1 and CSA 22.2

## ORDERING INFORMATION

	Rated Input	Rated Output
Ordering Number	AcuCT-3135R -	-
Ordering Example	AcuCT-3135R - 600	333mV
	600: 600A	1A
	800: 800A	5A
	1000: 1000A	333mV
	1200: 1200A	80mA
	1500: 1500A	100mA
		200mA

Note: For any other size and ratio, please contact Accuenergy Corp.

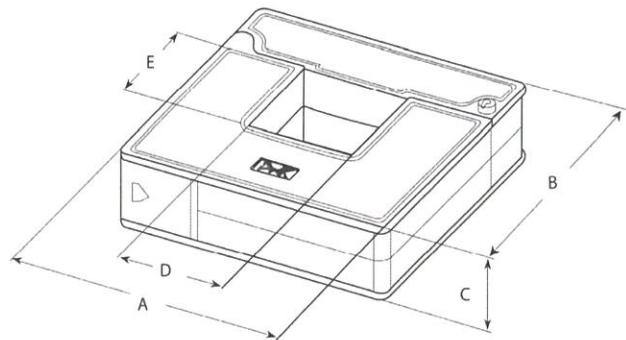


**Accuenergy Corp.**

Los Angeles-Toronto-Beijing  
North America Toll Free: 1-877-721-8908  
Web: [www.accuenergy.com](http://www.accuenergy.com)  
Email: [marketing@accuenergy.com](mailto:marketing@accuenergy.com)



## DIMENSIONS



## SIZE CHART

Dimensions (inch/mm)				
A	B	C	D	E
7/144.0	6.1/154.0	1.25/32.0	3.1/80.0	3.5/90.0

**ACCUEENERGY**  
MAKE ENERGY USAGE SMARTER