AcuPanel 9104X

Pre-Wired Power & Energy Control Panel Datasheet

ACCUENERGY

DESCRIPTION

The AcuPanel 9104X is a convenient, pre-configured meter enclosure that delivers streamlined meter deployment in OEM or retrofit projects. It is ideal for when installation inside an electrical distribution panel is unavailable, in harsh environments to safeguard instrumentation against the elements, or to limit the time and complexity of installation. Each AcuPanel undergoes rigorous quality testing to ensure years of dependable service.

FEATURES

+ NEMA 4X rated polycarbonate enclosure suitable for both indoor and outdoor use.

+ The lockable, plug-and-play housing provides protection against unwanted tampering and the elements.

+ Clean, factory pre-wiring for fast, reliable installation. All necessary fuses, shorting blocks, & terminal blocks are pre-installed and labeled.

+ Self-powered panel does not require a separate power supply.

+ Wires can be run through pluggable, pre-cut holes.

+ Simple grounding is included inside each enclosure.

+ No control transformer needed.

+ Compatible with the Acuvim II Series and Acuvim L Series meters.

KEY FEATURES

Revenue Grade Metering

+ Comes with Acuvim II or Acuvim L meters.
+ Acuvim L compliant with ANSI C12.20 class 0.2 & IEC62053-22 class 0.2s.
+ Acuvim II compliant with ANSI C12.20 class 0.1 & IEC 62053-22 class 0.1s.

Basic Power Quality Monitoring

+ Acuvim II comes with IEC 61000-4-30 Class S compliant power quality event measurements.
+ Measures 2nd to 63rd harmonics.
+ IEC 61000-4-30 Class S compliant waveform capture for voltage sag, voltage swell, voltage interrupt, and current swell.

NEMA 4X Rated Enclosure

+ Built with NEMA 4X rated polycarbonate enclosure.
+ Offering protection against dust, water, extreme temperature, and harsh environmental conditions.
+ Suitable for both indoor and outdoor uses.
+ Superior protection to metering equipment.

UL Certified

+ UL Listed certifies that the AcuPanel 9104X control panel has been rigorously tested and meets UL safety standards for its intended use and environment.
+ UL 508A Certified confirms the panel is properly designed and assembled using UL-approved components to minimize electrical hazards.
+ Every AcuPanel 9104X unit is tested to ensure dependable long-term performance.

Self-Powered Design

+ No separate power source required for AcuPanel 9104X control panel.
+ Supports direct line-to-line connection for simplified wiring.
+ Reduces installation time for faster deployment.
+ Ideal for OEM projects that requires efficient, quick setup.

Custom OEM Solutions

+ Display your logo with personalized branding.
+ Integrate custom OEM components like gateways, cellular modems, or power supplies.
+ Adjust panel dimensions to meet specific space or equipment needs.
+ Consult our energy metering specialists for a customized panel solution tailored to your unique application.

Pre-Wired & Pre-Configured

+ All components are pre-wired and pre-configured.
+ Colour-coded and clearly labelled for easy identification and installation.
+ Minimizes wiring errors and simplifies future maintenance.
+ Speeds up installation and deployment while ensuring long-term reliability.

Secure Design

+ Featuring a lockable enclosure to prevent unauthorized access.
+ Protected with metrology seals against tampering.
+ Ensures data integrity and extend the lifespan of critical metering devices.

APPLICATIONS

+ Submetering
+ Energy Storage, Microgrids, and VPPs
+ Power Generation
+ SCADA Systems
+ Building Automation and IoT

+ PDUs and Data Centers
+ Energy Management Systems
+ Substation and Distribution Systems
+ Transformer Monitoring
+ Measurement & Verification

ACUPANEL SPECIFICATIONS

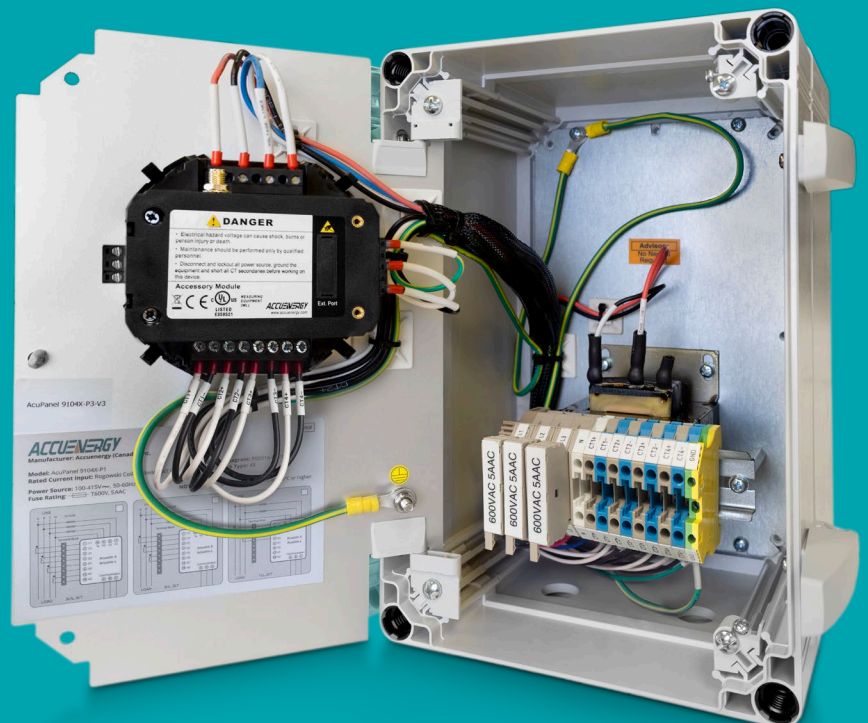**AcuPanel 9104X**

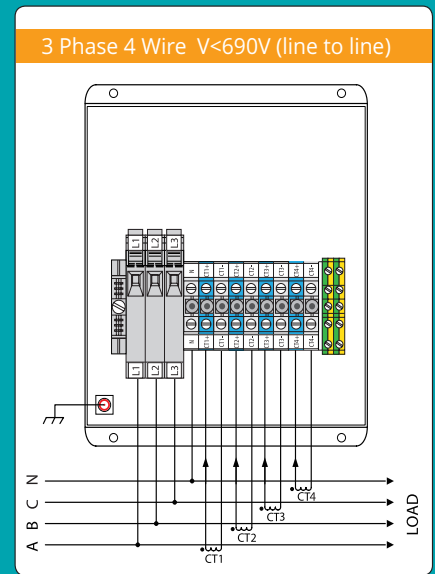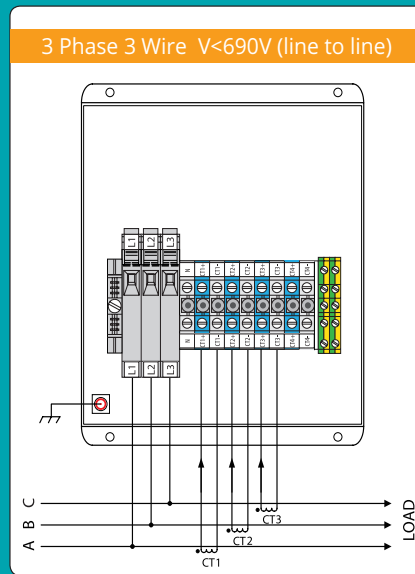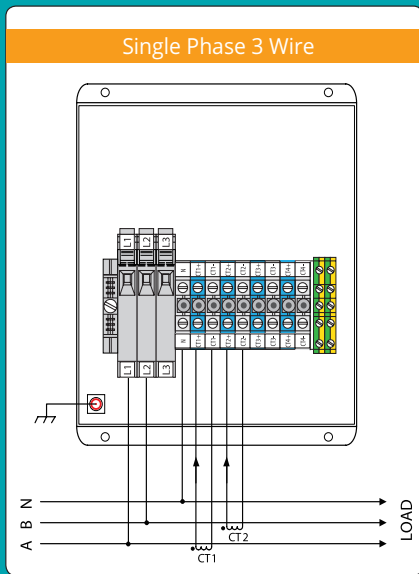| Compatible Meters	Acuvim II	Acuvim L

Application	Indoor or outdoor installations that require exceptional environmental protection and weather resistance
Safety Certifications	UL508A, UL61010-1
NEMA Rating	NEMA 4X
Material	Polycarbonate
Anti-Corosive	•
Dust Proof	•
Suitable for Indoor Use	•
Suitable for Outdoor Use	•
Pre-Wired	•

EACH STANDARD, PRE-WIRED ENCLOSURE INCLUDES:

+ Terminal blocks for current transformer input

+ Shorting blocks for current transformers

+ Terminal blocks for voltage inputs

+ Three industrial-grade fuses

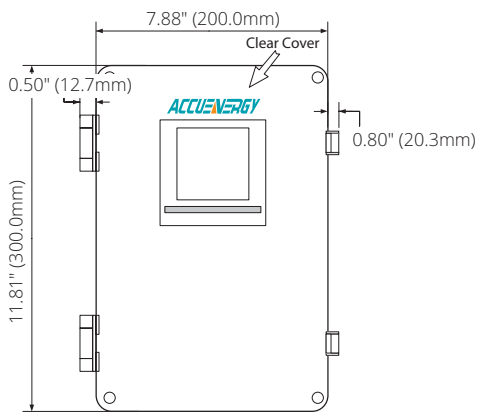## WIRING DIAGRAMS
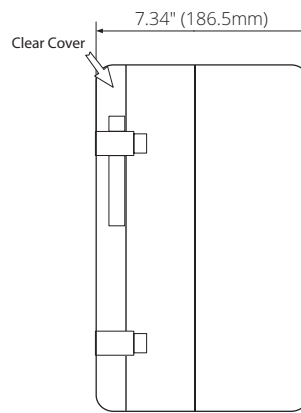
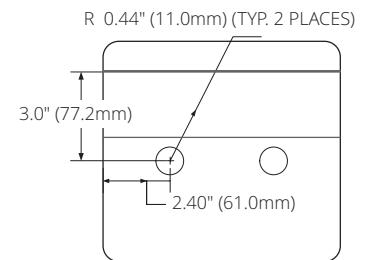| Single Phase 3 Wire	3 Phase 3 Wire V<690V (line to line)	3 Phase 4 Wire V<690V (line to line)

DIMENSIONS

AcuPanel 9104X Waterproof Polycarbonate Panel

Front View

Side View

Bottom View

ACCESSORIES & COMPONENTS

AcuPanel 9104X Opaque Cover

The opaque cover is designed to protect the meter screen from potential damage caused by prolonged exposure to direct sunlight. By effectively shielding the screen, it helps prevent the LCD display from fading, discolouring, or deteriorating over time, ensuring that the meter maintains its visibility and functionality even in the long run.

AC Current Transformers

Our high-accuracy industrial split-core and flexible current transformers deliver top-tier specifications and outstanding performance in the industry.

Test Lead & Voltage Clip

The testing leads are equipped with two banana connectors to ensure a firm connection. The voltage clip is housed in an EPR-insulated casing, providing CAT IV safety certification and a durable alligator clamp for dependable installation.

SOFTWARE INTEGRATION

AcuCloud

Cloud-based energy management platform allows for seamless access to data from Accuenergy meters or other power meters. Equipped with advanced tools to facilitate energy data management by enabling real time data retrieval, comprehensive analysis, and easy integration with external systems for importing and exporting data.

ORDERING INFORMATION
Pre-Wired Control Panel with Acuvim II

+	Pre-Wired Panel	-	Meter Model	-	Current Input	-	Power Supply	-	Communication Module Option*	2nd I/O Option*	-	3rd I/O Option*	-	Opaque Cover
	AcuPanel 9104X: NEMA 4X Indoor / Outdoor Waterproof Polycarbonate Panel		**IIR:** Acuvim II with Data Logging		**5A:** 5A or 1A (Input Field Selectable)		**P1V3:** 100~ 415Vac, 50/60Hz, 100-300Vdc		**0:** None	**0:** None		**0:** None		**OPAQUE**
			IIW: IIR + Waveform Capture and PQ Event Logging		**mV:** 333mV Input and Rogowski Coil (Input Field Selectable)		**P2V3:** 20-60Vdc		**WEB2:** Modbus-TCP/IP, BACnet-IP, SNMP V3, DNP 3.0 V2, IEC 61850 2nd Edition, SMTP, NTP, HTTP post, HTTPs post, FTP post, sFTP server, HTTPs webserver, dual RJ45, WiFi	**IO1:** 6DI, 2RO, 1 DI Power Supply		**IO1:** 6DI, 2RO, 1 DI Power Supply		
					mA: 80mA / 100mA / 200mA (Input Field Selectable)		**P3V3:** 480Vac		**WEB2-D:** Modbus-TCP/IP, BACnet-IP, SNMP V3, DNP 3.0 V2, IEC 61850 2nd Edition, SMTP, NTP, HTTP post, HTTPs post, FTP post, sFTP server, HTTPs webserver, dual RJ45, Ethernet Port	**IO2:** 4DI, 2AO, 2DO		**IO2:** 4DI, 2AO, 2DO		
							P4V3: 600Vac		**PROFI:** PROFIBUS-DP	**IO3:** 4DI, 2RO, 2AI		**IO3:** 4DI, 2RO, 2AI		
									RS485: Second RS485 Port					
									IO1: 6DI, 2RO, 1 DI Power Supply					
									IO2: 4DI, 2AO, 2DO					
									IO3: 4DI, 2RO, 2AI					

Ordering Example:	AcuPanel 9104X-IIR-5A-P1V3-WEB2-IO1-IO3
	AcuPanel 9104X-IIR-MV-P1V3-WEB2-OPAQUE

Pre-Wired Control Panel with Acuvim L

+	Pre-Wired Panel	-	Meter Model	-	Current Input	-	Power Supply	-	Communication Module Option*	2nd I/O Option*	-	3rd I/O Option*	-	Opaque Cover
	AcuPanel 9104X: NEMA 4X Indoor / Outdoor Waterproof Polycarbonate Panel		**CL:** General Meter		**5A:** 5A or 1A (Input Field Selectable)		**P1V4:** 100-415Vac, 50-60Hz 100-300Vdc		**0:** None	**0:** None		**0:** None		**OPAQUE**
			EL: CL + TOU and PQ parameters		**mV:** 333mV Input and Rogowski Coil (Input Field Selectable)		**P2V4:** 20-60Vdc		**WEB2:** Modbus-TCP/IP, BACnet-IP, SNMP V3, DNP 3.0 V2, IEC 61850 2nd Edition, SMTP, NTP, HTTP post, HTTPs post, FTP post, sFTP server, HTTPs webserver, dual RJ45, WiFi, Dual Ethernet Port	**IO1:** 6DI, 2RO, 1 DI Power Supply		**IO1:** 6DI, 2RO, 1 DI Power Supply		
							P3V4: 480Vac		**WEB2-D:** Modbus-TCP/IP, BACnet-IP, SNMP V3, DNP 3.0 V2, IEC 61850 2nd Edition, SMTP, NTP, HTTP post, HTTPs post, FTP post, sFTP server, HTTPs webserver, dual RJ45, Ethernet Port	**IO2:** 4DI, 2AO, 2DO		**IO2:** 4DI, 2AO, 2DO		
							P4V4: 600Vac		**PROFI:** PROFIBUS-DP	**IO3:** 4DI, 2RO, 2AI		**IO3:** 4DI, 2RO, 2AI		
									RS485: Second RS485 Port					
									IO1: 6DI, 2RO, 1 DI Power Supply					
									IO2: 4DI, 2AO, 2DO					
									IO3: 4DI, 2RO, 2AI					

Ordering Example:	AcuPanel 9104X-EL-5A-P1V4-WEB2-IO1-IO3
	AcuPanel 9104X-CL-MV-P2V4-WEB2-OPAQUE

*No more than 2 of the same I/O modules may be attached to the meter (example: Two AXM-IO2).

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