AcuRev 1310

DIN Rail Power and Energy Meter
Datasheet









DESCRIPTION

The AcuRev 1310 DIN Rail meter is engineered for high performance and easy integration into industrial or commercial facilities. Designed for cost-effective power and energy monitoring, it features a built-in LCD to simplify setup and provide quick access to metered data. Modbus-RTU and pulse output communications allow for seamless integration with data acquisition systems.

FEATURES

+ Utility Revenue Grade Accuracy: IEC 62053-22 0.5s Class / ANSI C12.20 0.5 Class
+ Integrated DIN rail channel for easy installation on standard, TS35 (35mm) DIN rail
+ 10-690Vac direct voltage input accommodates all voltage rating systems with a single model
+ 4 channels of current input to capture neutral current measurements available in AcuRev 1314 model
+ Available compatibility with multiple CT output options including 5A, mA, RCT (Rogowski), or 333mV
+ Built-in RS-485 port with field-configurable Modbus RTU or BACnet MS/TP protocols for integration into most serial systems
+ Certified for revenue applications, the AcuRev 1312's tamper proof design is Measurement Canada approved.

KEY FEATURES

Revenue Grade Certification

+ Meeting ANSI C12.20 Class 0.5 & IEC 62053-22 Class 0.5s accuracy standards, the AcuRev 1310 delivers revenue grade, high-precision data collection in building management systems and other metering applications. RMS measurements of voltage, current, power, frequency, and power factor are collected in real time.

Measurement Canada Approved

+ The AcuRev 1312 meets stringent Measurement Canada requirements and its tamper-proof design is ideal for revenue applications.

BTL Listed

+ The AcuRev 1310 is BTL Listed for Smart Sensor (B-SS) by the BACnet Testing Laboratory to ensure standard compliance, reliability, and interoperability in multi-vendor building automation and control systems.

Universal Rating

+ Compatible with most voltage services without the need for a potential transformer (PT), the AcuRev 1310 can monitor a variety of electrical systems including three-phase three-wire, three-phase four-wire, single-phase, and more. Its four current input channels include neutral current measurement while Auto Phase-Check verifies installation integrity.

SunSpec Compliance

+ To save installation time and cost within solar PV or energy storage applications, the AcuRev 1310 Modbus register list includes standard SunSpec registers to help ensure easy integration and plug-and-play system interoperability.



APPLICATIONS

+ Energy Management Systems
+ Large Commercial Complexes
+ Industrial Environments
+ Hospitality & Hotels
+ Multi-Tenant Commercial or Residential
+ Schools & Universities
+ Smart Distribution Cabinets

SPECIFICATIONS

Metering

PARAMETERS	ACCURACY	RESOLUTION	RANGE
Active Energy	0.5%	1Wh	0-999999999
Reactive Energy	0.5%	1varh	0-999999999
Apparent Energy	0.5%	1VAh	0-999999999
Voltage	0.5%	0.1	10V-1000KV
Current	0.5%	0.001A	10mA-50000A
Active Power	0.5%	1W	-99-99MW
Reactive Power	0.5%	1var	-99-99Mvar
Apparent Power	0.5%	1VA	99-99MVA
Power Factor	0.5%	0.001	-1.000-1.000
Frequency	0.2%	0.01Hz	45-65Hz
Power Demand	0.5%	1W/var/VA	99MW/Mvar/MVA
Current Demand	0.5%	0.001A	10mA-5000A

Input

CURRENT INPUTS *(EACH CHANNEL)*

Nominal Current Options	5A/1A
Pickup Current	10mA
Accuracy	0.50%

VOLTAGE INPUTS *(EACH CHANNEL)*

Nominal Full Scale	400Vac L-N, 690Vac L-L
Input Impedance	2MΩ/Phase
Metering Frequency	50/60Hz
Accuracy	0.5% Full Scale

ENERGY ACCURACY

Active	Class 0.5s (According to IEC 62053-22) Class 0.5 (According to ANSI C12.20)
Reactive	Class 2 (According to IEC 62053-23)

Communications

RS-485

2-Wire Shielded Twisted Pair Connection
1200 to 34800bps

PROTOCOLS

Modbus-RTU
BACnet-MS/TP

INFRARED COMMUNICATION

Non-contact infrared

INFRARED BAUD RATE

1200ms

I/O Options

PULSE OUTPUT

Isolation Voltage	2500Vac
Load Voltage	0~250Vac
Load Current	100mA (max)

RELAY OUTPUT *(RO)*

Load Voltage Range	250Vac, 30Vdc
Load Current	5A (Resistant Load)
Opening Time	10ms
Isolation Voltage	2000Vac for 1 minute
Mechanical Life	20 million times
Electrical Life	>50,000 times (5A, 250Vac, Resistant Load)

Control Power

AC/DC Control Power

Operating Range	100~415Vac, 50/60Hz, 100~300Vdc
Power Consumption	<2W

Operating Environment

Operating Temperature	-25°C to 70°C -13°F to 158°F
Storage Temperature	-40°C to 85°C -40°F to 176°F
Relative Humidity	5% to 95% Non-Condensing

Standard Compliance & Certifications

Measurement Standard	IEC 62053-22 0.5s class, ANSI C12.20 0.5 class
Environmental Standard	CE, RoHS
Safety Standard	IEC 61010-1, UL 61010-1
BTL	BTL Listed for B-SS
Certifications	Measurement Canada Approved (AcuRev 1312)

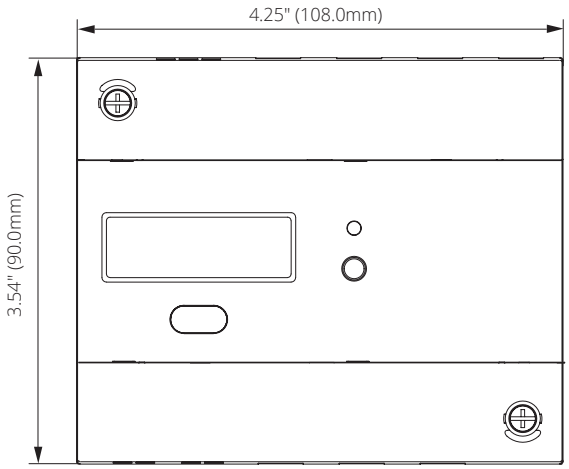
FUNCTION LIST

● Function; ⊙ Option; Blank NA

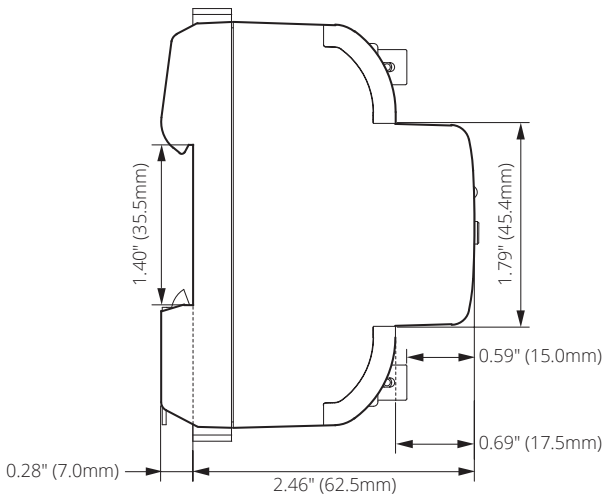
	Function	1312	1313	1314
Feature	Bi-Directional Energy Measurement		●	●
	Active Energy	●	●	●
	Reactive Energy	●	●	●
	Apparent Energy	●	●	●
	Time-of-Use	●	●	●
	Power Demand	●	●	●
	Peak Power Demand	●	●	●
	Predictive Demand	●	●	●
	Current Demand	●	●	●
	Peak Current Demand	●	●	●
	Voltage	●	●	●
	Current	●	●	●
	Neutral Current	Calculated	Calculated	●
	Residual Current			Calculated
	Active Power	●	●	●
	Reactive Power	●	●	●
	Apparent Power	●	●	●
	Power Factor	●	●	●
	Frequency	●	●	●
	Clock	●	●	●
	Running Time	●	●	●
	Energy Pulse Output	●	●	●
	Relay Output (Alarm or Control)	●	●	●
	RS485 Modbus-RTU	●	●	●
	RS485 BACnet-MSTP	●	●	●
	Wiring Check	●	●	●
	Temperature (Internal)	●	●	●
	SunSpec	●	●	●
	Measurement Canada Approved	●		
	Current Transformer (CT) Input	**5A / 1A**: Field-Configurable CT Input **333mV**: CT Input **RCT**: Flexible Rogowski Coil CT Input **80/100/200mA**: Field-Configurable CT Input		
	I/O Options:	One relay output for alarm and remote control		

DIMENSIONS

Front View



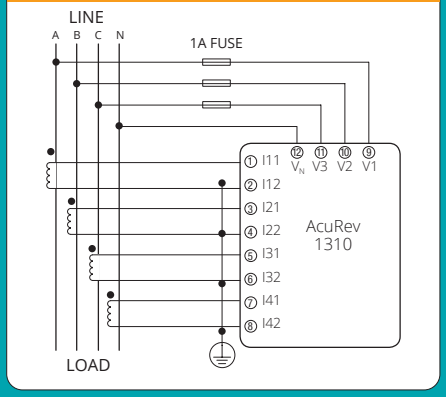
Side View



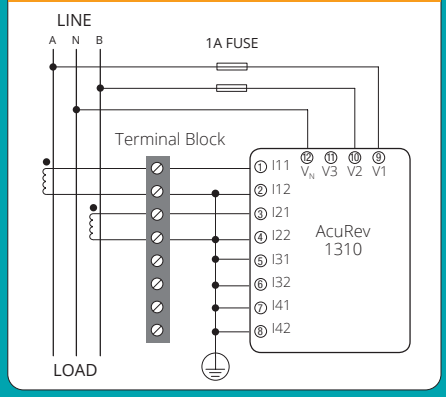
WIRING DIAGRAMS

Typical wiring for 5A/1A Current Input

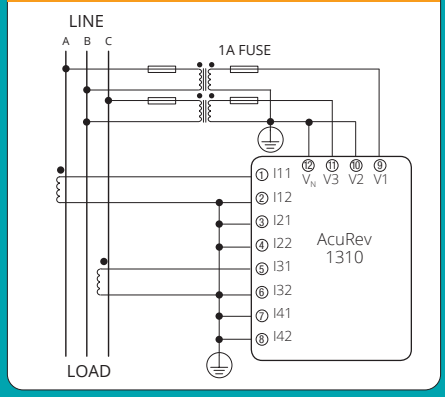
3LN, 3CT*



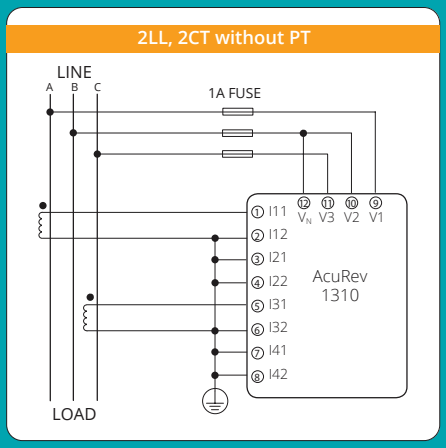
1LL, 2CT



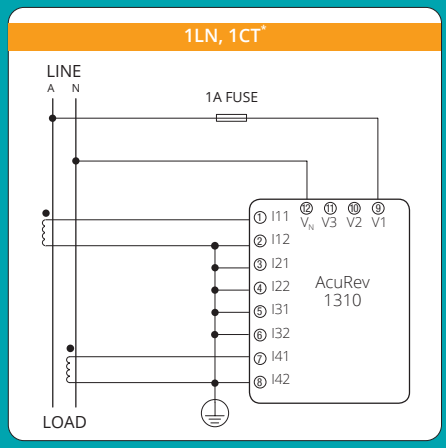
2LL, 2CT with PT



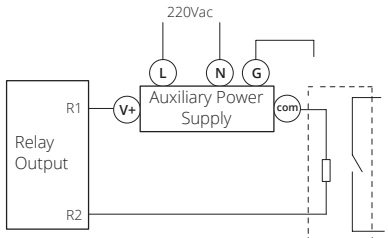
2LL, 2CT without PT



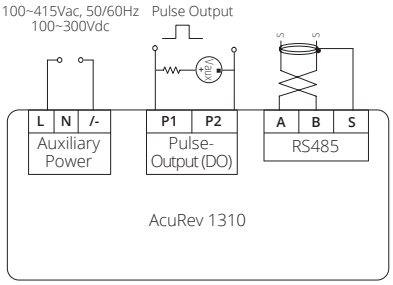
1LN, 1CT*



Relay Output

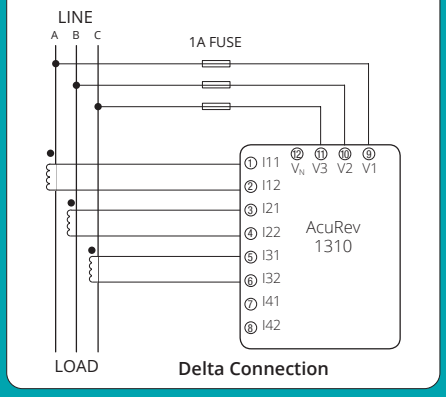


Auxiliary Power + Pulse + RS485

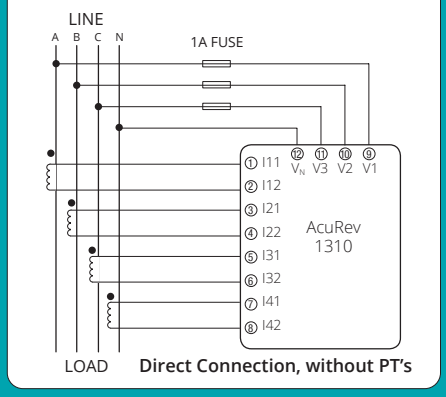


Typical Wiring for RCT/mV/mA Current Input

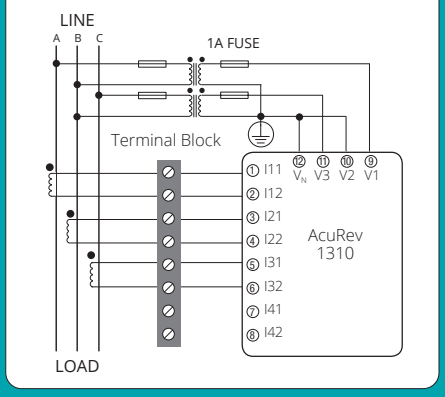
3LN, 3CT



3LN, 3CT*

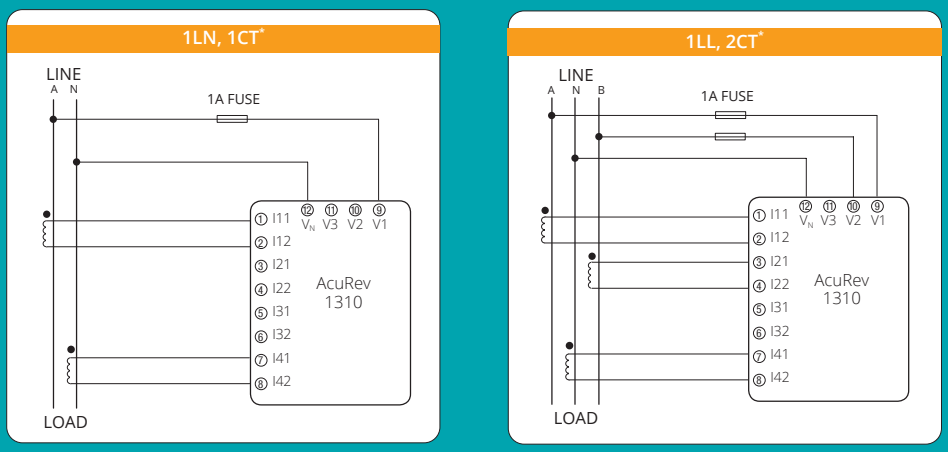


2LL, 3CT



**Neutral CT is optional*

Typical Wiring for RCT/mV/mA Current Input



**Neutral CT is optional*

ACCESSORIES

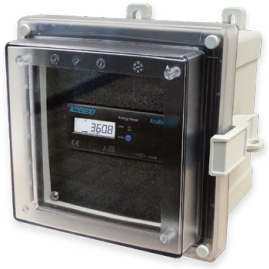
USB RS485 Converter

This professional-grade, plug-and-play USB to Serial RS485 Converter is compliant with both USB 1.1 and 2.0 standards and is designed to provide a convenient, reliable USB connection to the AcuRev 1310 Series meters and other serial devices. It requires no external power supply and provides both surge and static electricity protection.



NEMA4X Wall-Mount Enclosure

The AcuRev 1310 enclosure offers a mounting option for AcuRev 1310 Series energy meters that helps protect from tampering and the elements. The enclosure is NEMA4X rated to ensure durability and is equipped with DIN rail mounting hardware for easy meter installation.



ORDERING INFORMATION

Meter Model	Current Input	I/O
AcuRev 1313	**333**: 333mV Input CT	**X0**: Base Model (No Relay Output)
AcuRev 1314	**RCT**: AcuCT Flex Series Rogowski Coil Input	**X1**: 1 Relay Output
	mA: 80mA/100mA/200mA	
	5A: 5A/1A	

Ordering Examples:	AcuRev 1313-RCT-X0
	AcuRev 1314-333-X1

Note: AcuRev 1314 does not support Rogowski coil input for neutral current. Consult Mod-Tronic Engineering Support for correct configuration.

Measurement Canada Ordering Information

Meter Model	Current Input	I/O	Measurement Canada Application
AcuRev 1312	**mA**: 80mA/100mA	**X0**: Base Model (No Relay Output)	**MC:** Measurement Canada approved
	5A: 5A/1A	**X1**: 1 Relay Output	

Ordering Examples:	AcuRev 1312-mA-X0-MC
	AcuRev 1312-5A-X1-MC

California Type Evaluation Program (CTEP) Ordering Information

Meter Model	Current Input	I/O	California Type Evaluation Program Class
AcuRev 1312	**mA**: 80mA	**X0**: Base Model (No Relay Output)	**C200**
			C400

Ordering Examples:	AcuRev 1312-mA-X0-C200
	AcuRev 1312-mA-X0-C400

Accessories *(Optional)*	
USB-RS485:	RS485 to USB converter for connecting meter with computer, maximum distance 1200 meters.
AcuRev 1310-ENC:	NEMA 4X Enclosure

Ordering Example:	USB-RS485

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Specs Subject To Change Without Notice.

ACCUENERGY

ISO 9001, 14001 & 45001 Certified

ISO 27001 & 50001 Certified

BBB ACCREDITED BUSINESS