

# Enhanced Power and Energy Meter, Built-in Integrator and Power Supply

Versatile Monitoring Solution When Used With U018 Rope Style CTs (sold separately)



E50xxxA/E51xxxA

U018 Series  
(sold separately)



## DESCRIPTION

The E5xxxA Series DIN Rail Meter combines exceptional metering performance with a built-in integrator and power supply to deliver a cost-effective, easily installed solution for power monitoring applications. Multiple communication protocol options offer added flexibility for system integration.

E5xxxA devices work exclusively with Veris U018 series rope CTs for fast connection. The rope style CTs allow convenient installation in tight spaces.

The data logging capability (E5xC3A and E5xx5A) protects data in the event of a power failure. Different devices in the series offer serial communication, pulse output, and phase alarms to suit a wide variety of applications.

The E51xxA models add a bi-directional monitoring feature designed expressly for renewable energy applications, allowing measurement of power imported from the utility grid as well as power exported from the renewable energy source.

## APPLICATIONS

- Energy monitoring in building automation systems
- Renewable energy
- Energy management
- Commercial submetering
- Industrial monitoring
- Cost allocation

## SPECIFICATIONS



<b>Inputs:</b>	
<b>Control Power, AC</b>	50/60 Hz; 5VA max.; 90V min.; UL Maximums: 600V <sub>L-L</sub> (347V <sub>L-N</sub> ); CE Maximums: 300V <sub>L-N</sub>
<b>Control Power, DC</b>	3W max.; UL and CE: 125 to 300VDC (external DC current limiting required)
<b>Voltage Input</b>	UL: 90V <sub>L-N</sub> to 600V <sub>L-L</sub> ; CE: 90V <sub>L-N</sub> to 300V <sub>L-N</sub>
<b>Current Input</b>	
<b>Scaling</b>	20A to 5000A
<b>Input Range</b>	U018 series rope style CTs only (CTs must be rated for connection to Class 1 voltage inputs)
<b>Pulse Inputs (E5xHxA and E50FxA only)</b>	Contact inputs to pulse accumulators (one set with E5xH2A and E50F2A; two sets with E5xH5A and E51F5A)
<b>Accuracy:</b>	
<b>Real Power and Energy</b>	E50xxA: 0.5% (ANSI C12.20, IEC 62053-22 Class 0.5S); E51xxA: 0.2% (ANSI C12.20, IEC 62053-22 Class 0.2S)
<b>Outputs:</b>	
<b>All Models (except E5xHxA and E50FxA)</b>	Real Energy Pulse: N.O. static; Alarm contacts: N.C. static
<b>E50BxA</b>	Reactive energy pulse 30VAC/DC
<b>E5xCxA</b>	RS-485 2-wire Modbus RTU (1200 baud to 38.4 kbaud)
<b>E5xHxA</b>	RS-485 2-wire BACnet MS/TP (9600 baud to 115.2 kbaud)
<b>E50FxA</b>	2-wire LON FT
<b>Mechanical:</b>	
<b>Mounting</b>	DIN Rail or 3-point screw mount
<b>Environmental:</b>	
<b>Operating Temperature Range</b>	-30° to 70°C (-22° to 158°F)
<b>Storage Temperature Range</b>	-40° to 85°C (-40° to 185°F)
<b>Humidity Range</b>	<95% RH noncondensing
<b>Agency Approvals</b>	UL508, EN61010, California CSI Solar, ANSI C12.20

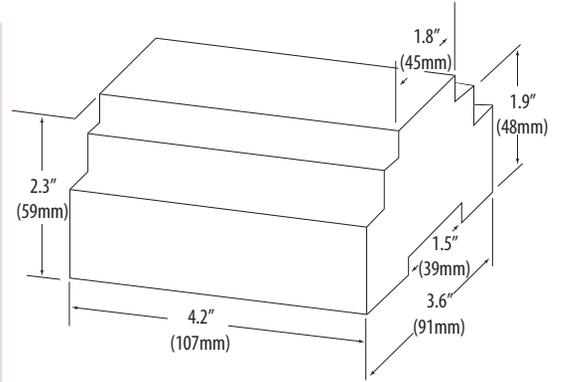
## FEATURES

- Integrator and power supply for the CTs are built into the meter...fewer devices to purchase and faster installation
- Revenue Grade measurements
- ANSI C12.20 0.5% accuracy, IEC 62053-22 Class 0.5S on E50xxA or ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.2S on E51xxA...great for cost allocation
- DIN rail or screw mounting options...easy installation
- Real energy output and phase loss alarm output on E50BxA and E5xCxA models...one device serves multiple applications
- 90-600VAC...application versatility with fewer models to stock
- Data logging capability (E5xC3A and E5xx5A)... ensures long term data retrieval and safeguards during power failures
- Designed to work exclusively with U018 Series rope CTs, 20 to 5000A range... easy connection
- User-enabled password protection...protect from tampering
- System integration via Modbus (E5xCxA), BACnet MS/TP (E5xHxA), or Lonmark-certified LON FT (E50FxA)...convenient compatibility with existing systems
- Native BACnet MS/TP support (no gateway) with serial rates up to 115.2 kbaud (E5xHxA)
- E51 models: Bi-directional metering (4-quadrant), an essential solution for solar and other renewable energy applications, measures Import, Export and net energy transfer
- CSI approved...eases submission process for California Solar Initiative
- E51CxA includes SunSpec compliant common and meter register blocks

ORDERING INFORMATION

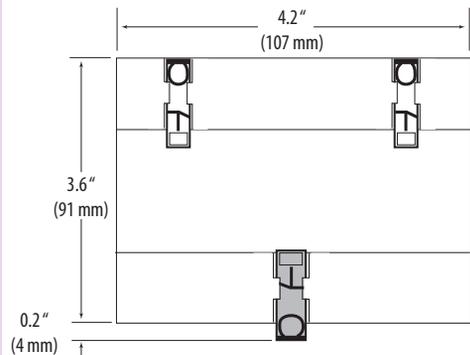


DIMENSIONAL DRAWING

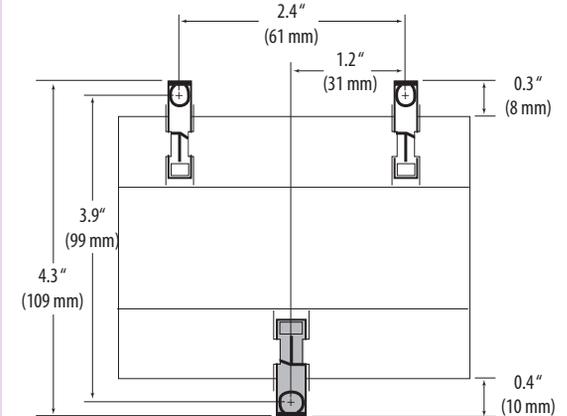


MOUNTING DIAGRAMS

DIN Mount Configuration



Screw Mount Configuration



	ES0B1A	ES0C2A	ES0C3A	ES0F2A	ES0F5A	ES0H2A	ES0H5A	ES1C2A	ES1C3A	ES1H2A	ES1H5A
<b>MEASUREMENT CAPABILITY - FULL DATA SET</b>											
Bi-directional Energy Measurements											
Power (3-phase total and per phase): Real (kW) Reactive (kVAR), and Apparent (kVA)	•	•	•	•	•	•	•	•	•	•	•
Power Factor: 3-phase average and per phase	•	•	•	•	•	•	•	•	•	•	•
Present Power Demand: Real (kW), Reactive (kVAR), and Apparent (kVA)	•	•	•	•	•	•	•	•	•	•	•
Import and Export totals of Present Power Demand: Real (kW), Reactive (kVAR), and Apparent (kVA)								•	•	•	•
Peak Power Demand: Real (kW), Reactive (kVAR), and Apparent (kVA)	•	•	•	•	•	•	•	•	•	•	•
Current (3-phase average and per phase)	•	•	•	•	•	•	•	•	•	•	•
Voltage: Line-Line and Line-Neutral (3-phase average and per phase)	•	•	•	•	•	•	•	•	•	•	•
Frequency	•	•	•	•	•	•	•	•	•	•	•
ANSI C12.20 0.5% accuracy, IEC 62053-22 Class 0.5S	•	•	•	•	•	•	•	•	•	•	•
ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.2S								•	•	•	•
Accumulated Net Energy: Real (kWh), Reactive (kVARh), and Apparent (kVAh)	•	•	•	•	•	•	•	•	•	•	•
Accumulated Real Energy by phase (kWh)	•	•	•	•	•	•	•	•	•	•	•
Import and Export Accumulators of Real and Apparent Energy								•	•	•	•
Reactive Energy Accumulators by Quadrant (3-phase total and per phase)								•	•	•	•
Demand Interval Configuration: Fixed or Rolling Block	•	•	•	•	•	•	•	•	•	•	•
Demand Interval Configuration: External Sync to Comms		•	•	•	•	•	•	•	•	•	•
<b>DATA LOGGING:</b>											
Data Logging: 10 16-Bit Configurable (can include Date/Time) Data Buffers			•							•	
Data Logging: 3 Timestamped 32-Bit Configurable Data Buffers					•		•				•
Store up to 60 days of readings at 15-minute intervals			•		•		•			•	•
<b>OUTPUTS:</b>											
Alarm Output (N.C.)	•	•	•	•		•		•	•	•	
1 Pulse Output (N.O.)		•	•					•	•		
2 Pulse Outputs (N.O.)	•										
RS-485 Serial (Modbus RTU Protocol)		•	•					•	•		
RS-485 Serial (BACnet MS/TP Protocol)						•	•			•	•
LON FT Serial (LonTalk Protocol)				•	•						
<b>INPUTS:</b>											
2 Pulse Contact Accumulator Inputs					•		•				•
1 Pulse Contact Accumulator Input				•		•					•

REQUIRED CTs

MODEL	DESCRIPTION
U018-0001	CT, Rope, 12 in, 5000A
U018-0002	CT, Rope, 18 in, 5000A
U018-0003	CT, Rope, 24 in, 5000A
U018-0004	CT, Rope, 36 in, 5000A

ACCESSORIES

- NEMA 4X enclosure (AE012)
- Fuse Kits with hi-interrupt capability AC Fuses (AH02, AH03, AH04)
- DIN Rail (AV01), DIN Rail Stop Clips (AV02)
- Modbus TCP Gateway (U013-0012)
- BACnet IP Router (U013-0013)

