

Enhanced Power and Energy Meter



Versatile Energy Monitoring Solution

DESCRIPTION

The E5x Series DIN Rail Meter combines exceptional performance and easy installation to deliver a cost-effective solution for power monitoring applications. The E5x can be installed on standard DIN rail or surface mounted as needed. The Modbus, LON, and BACnet output models offer added flexibility for system integration. The data logging capability (E5xC3 and E5x5) protects data in the event of a power failure. Combinations of serial communication, pulse output, and phase alarms are provided to suit a wide variety of applications.

Additional pulse inputs on E5xHx and E5xFx provide an easy way to incorporate simple flow sensors to track gas, water, steam, or other energy forms using a BACnet or LON system.

The E51 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 (e.g. solar panels). In this way, a facility administrator can track all energy data, ensuring accuracy in billing and crediting. They are also useful for monitoring loads that use regenerative braking.

APPLICATIONS

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

SPECIFICATIONS



<i>Inputs:</i>	
Control Power, AC	50/60 Hz; 5VA max.; 90V min.; UL Maximums: 600V _{L-L} (347V _{L-N}); CE Maximums: 300V _{L-N} (520V _{L-L})
Control Power, DC	3W max.; UL and CE: 125 to 300VDC (external DC current limiting required)
Voltage Input	UL: 90V _{L-N} to 600V _{L-L} ; CE: 90V _{L-N} to 300V _{L-L}
Current Input	
Scaling	5A to 32,000A
Input Range	0 to 0.333V or 0 to 1V (selectable)
Pulse Inputs (E5xHx and E51Fx only)	Contact inputs to pulse accumulators (one set with E5xH2 and E50F2; two sets with E5xH5 and E51F5)
<i>Accuracy:</i>	
Real Power and Energy	0.5% (ANSI C12.20, IEC 62053-22 Class 0.5S)
<i>Outputs:</i>	
All Models (except E5xHx and E51Fx)	Real Energy Pulse: N.O. static; Alarm contacts: N.C. static
E50Bx	Reactive energy pulse 30VAC/DC
E5xCx	RS-485 2-wire Modbus RTU (1200 baud to 38.4 kbaud)
E5xHx	RS-485 2-wire BACnet MS/TP (9600 baud to 115.2 kbaud)
E51Fx	2-wire LON FT
<i>Mechanical:</i>	
Mounting	DIN Rail or 3-point screw mount
<i>Environmental:</i>	
Operating Temperature Range	-30° to 70°C (-22° to 158°F)
Storage Temperature Range	-40° to 85°C (-40° to 185°F)
Humidity Range	<95% RH noncondensing
Safety	UL508, EN61010

California CSI Solar, ANSI C12.20

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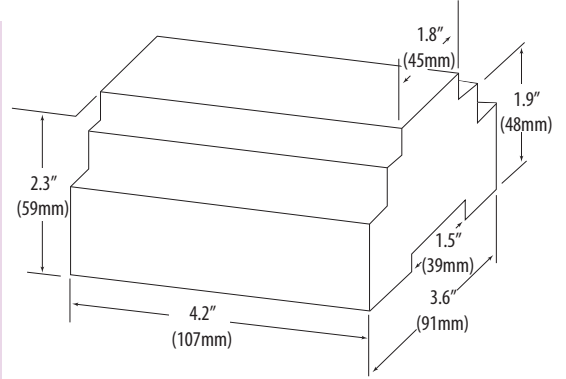
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ORDERING INFORMATION

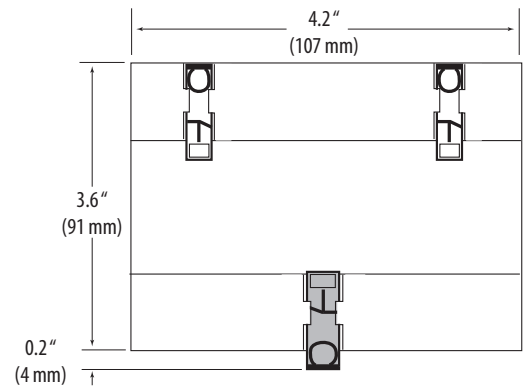


DIMENSIONAL DRAWING

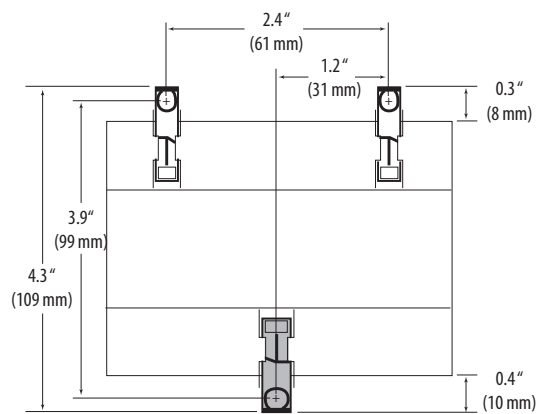


MOUNTING DIAGRAMS

DIN Mount Configuration



Wall Mount Configuration



	E50B1	E50C2	E50C3	E50H2	E50H5	E51C2	E51C3	E51H2	E51H5	E51F2	E51F5
MEASUREMENT CAPABILITY - FULL DATA SET											
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	●	●	●	●	●	●	●	●	●	●	●
Accumulated Net Energy: Real (kWh), Reactive (kVARh), and Apparent (kVAh)	●	●	●	●	●	●	●	●	●	●	●
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		●	●	●	●	●	●	●	●	●	●
DATA LOGGING:											
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			●		●		●		●		●
OUTPUTS:											
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)										●	●
INPUTS:											
2 Pulse Contact Accumulator Inputs					●				●		●
1 Pulse Contact Accumulator Input				●				●		●	

ACCESSORIES

- NEMA4 enclosure (AE010) and locking mechanism (AE011)
- Fuse Kits with hi-interrupt capability AC Fuses (AH02, AH03, AH04)
- Split-core and solid-core CTs (H681x, SCT)
- Replacement mounting clips (AE004)
- DIN Rail (AV01), DIN Rail Stop Clips (AV02)
- Modbus TCP Gateway (U013-0012)
- BACnet IP Router (U013-0013)



U013-0012



U013-0013



AH04



AV01/AV02

(clip styles may vary)