E34X SERIES

Add Up to 28 3-Phase Meters by Installing One Device

E34A

E34E

The E34x Series Multi-Circuit Meters make it easy to add many revenue grade metering points without having to purchase, mount, wire and commission individual energy meters. Simply add a single device with common voltage inputs and communication interface that can measure the current, voltage, power and energy consumption of up to (14) 3-phase circuits with a single board or up to (28) 3-phase circuits with a 2-board configuration. Save on the cost of both equipment and installation.

To aid in commissioning, a configuration software tool, an Ethernet discovery tool (for the E34E) and a Commissioning Guide are available at

Affordable metering points

Add many metering points with lower equipment and installation cost than traditional alternatives.

Revenue grade measurements

ANSI & IEC Class 0.5% provides the accuracy needed for tenant billing applications.

Common CTs, 1/3V outputs

Eliminates need for shorting blocks and allows long CT lead extensions without compromising accuracy. Choose from a range of CT styles & sizes.

The protocol you need

Modbus RTU standard on all models. E34E models add BACnet MS/TP and Modbus TCP, BACnet IP (with BBMD support) and SNMP via Ethernet.

Configure the meters you want

Choose 4, 8, 14 or 28 3-phase meters. User-configurable to any combination of 1-, 2-, 3-phase meters. Reconfigure channels as needed to monitor neutral current.

APPLICATIONS

- Commercial and residential sub-tenant billing
- Load-based cost allocation
- Load balancing
- Demand/response
- Overload protection
- Energy management

SPECIFICATIONS

VOLTAGE INPUTS	
Measurement Voltage	90 to 300 Vac line-to-neutral, 50/60 Hz
Control Power	E34A: 90 to 277 Vac line-to-neutral, 50/60 Hz, 8 VA E34E: 100 to 277 Vac line-to-neutral, 50/60 Hz, 15 VA
ACCURACY	
Power/Energy	IEC 62053-21 Class 0.5, ANSI C12.20 class 0.5
Voltage	±0.5% of reading 90 to 277 V line-to-neutral
Current	±0.5% of reading from 2% to 100% of full-scale
OPERATION	
Sampling Frequency	2560 Hz
Update Rate	2 seconds (both panels)
Overload Capability	22 kAIC
E34A SERIAL COMMUNICATION	
Physical Interface	DIP switch-selectable 2-wire or 4-wire, RS-485
Protocols Supported	Modbus RTU
Address	DIP switch-selectable address 1 to 247 (in pairs of 2)*
Baud Rate	DIP switch-selectable 9600, 19200, 38400
Parity	DIP switch-selectable NONE, ODD, EVEN
E34E SERIAL COMMUNICATION	
Physical Interface	2-wire RS-485
Protocols Supported	Modbus RTU or BACnet MSTP
Address Range	1 to 247 for Modbus RTU; 0-127 for BACnet MS/TP
Baud Rate	9600, 19200, 38400
Parity	Modbus RTU: NONE, ODD, EVEN BACnet MS/TP: NONE (fixed)
E34E ETHERNET COMMUNICATION	
Physical Interface	RJ45 connector with 10/100 Mbit Ethernet
Protocols Supported	Modbus TCP, BACnet IP, SNMP V2c
TERMINAL BLOCK TORQUE	
Removable Connectors	4.4 to 5.3 in-lb (0.5 to 0.6 N-m)
OPERATING CONDITIONS	
Operating Temp. Range	0 to 60 °C (32 to 140 °F) (<95% RH non-condensing)*
Storage Temp. Range	-40 to 70 °C (-40 to 158 °F)
Altitude of Operation	3000 m
Mounting Location	Indoor use, dry location
WARRANTY	
Limited Warranty	5 years
COMPLIANCE INFORMATION	
Agency Approvals	UL508 open type device, IEC/EN61010-1
Installation Category	Cat III, pollution degree 2

CE* c UL us LISTED BTL (E34E only)

*The CE mark indicates RoHS2 compliance. Please refer to the CE Declaration of Conformity for additional details.

MEASUREMENTS

Real Time Measurements	Current: multi-phase average and per phase
	Current phase angle per branch
	Real power (kW): multi-phase total and per phase
	Apparent power (kVA): multi-phase total and per phase
	Power factor: multi-phase average and per phase
Demand Measurements	Current present demand: multi-phase average and per phase
	Real power (kW) present demand: multi-phase average and per phase
Historic Maximums	Maximum instantaneous current: multi-phase average and per phase
	Maximum current demand: multi-phase average and per phase
	Maximum real power demand: multi-phase total and per phase
Accumulated Energy	Energy (kWh): multi-phase total and per phase
Energy Snapshots	Energy (kWh): multi-phase total and per phase
MODBUS ALARMS	
Alarms	Voltage over/under
	Branch current over/under
	Mains current over/under

NUMBER OF METERS SUPPORTED

E34A MODBUS RTU ONLY	E34E INTEGRATED ETHERNET	NUMBER OF METERS			
		3-PHASE WITHOUT NEUTRAL	3-PHASE WITH NEUTRAL	2-PHASE	1-PHASE
E34A04	E34E04	4	3	6	12
E34A08	E34E08	8	6	12	24
E34A14	E34E14	14	10	21	42
E34A28	E34E28	28	21	42	84

ORDERING INFORMATION

Communication Option

E34 [ ]

A = Modbus RTU Only
E = Integrated Ethernet with Modbus, BACnet & SNMP

Number of 3-Phase Meters

[ ]

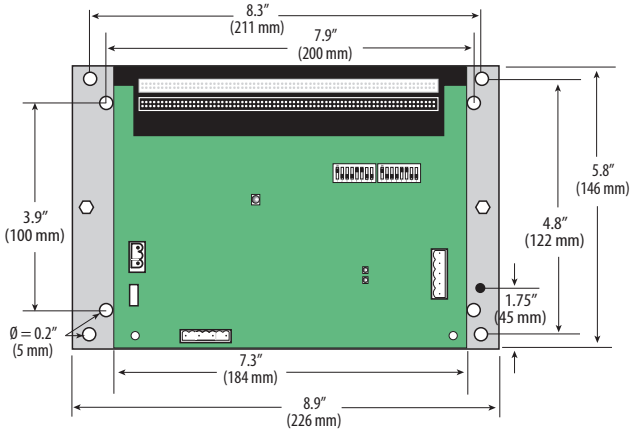
04 = 4 (3-phase) meters
08 = 8 (3-phase) meters
14 = 14 (3-phase) meters
28 = 28 (3-phase) meters

Example: E34 [A] [14]

Note: CTs must be ordered separately. Use 0 to 0.333 V CTs rated for use with Class 1 voltage inputs.

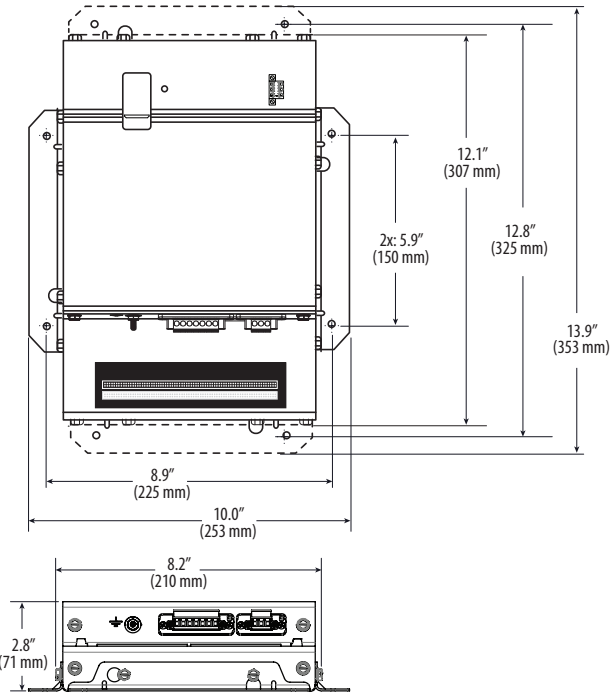
E34A BASE BOARD

Dimensional Drawing



E34E MAIN UNIT

Dimensional Drawing



28-METER CT ADAPTER ASSEMBLY

Dimensional Drawing