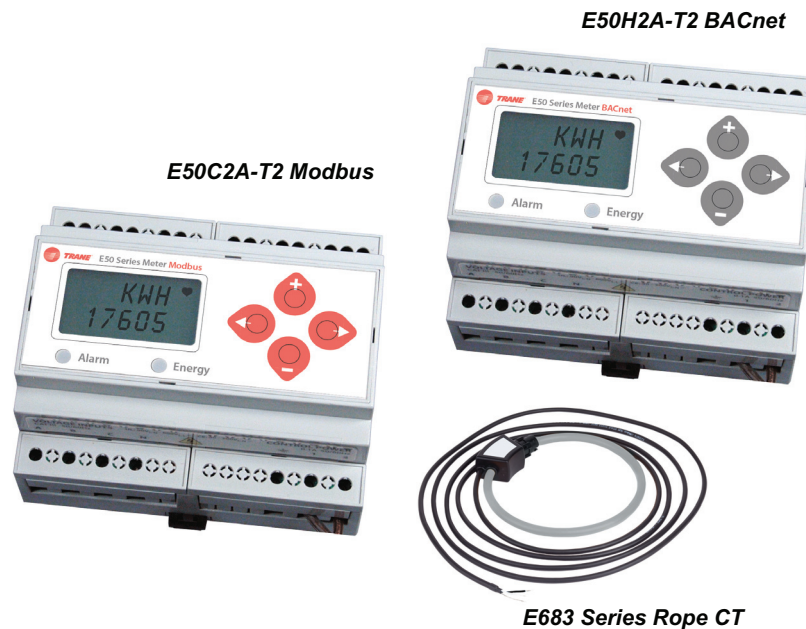




## Product Data

# E50 Series Compact Power and Energy Meters

For Use Only with E683 Series Rope Style CTs  
Data Sheet



### Ordering Numbers:

X13690277001

X13690276001

### Description:

E50C2A-T2 Modbus

E50H2A-T2 BACnet

### SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.



## Trademarks

All trademarks referenced in this document are the trademarks of their respective owners.

## Overview

The E50 Series DIN Rail Meter combines exceptional metering performance with a built-in integrator and power supply that delivers a cost-effective, easily installed solution for power monitoring applications. Multiple communication protocol options offer additional flexibility for easy system integration.

## Features



- Integrator and power supply for the CTs are built into the meter resulting in faster installation and reduced costs.
- Designed to work exclusively with E683 Series rope CTs, which offers 1% accuracy from 50 A to 5000 A monitoring a wide range of loads with breakers from 400 A to 5000 A.
- Versatile Rope CTs allow convenient installation in tight spaces.
- Used in applications such as energy monitoring, building automation systems (BAS), energy management, commercial sub-metering, industrial monitoring, and cost allocation.
- ANSI C12.20 0.5% accuracy and IEC 62053-22 Class 0.5S – great for cost allocation.
- DIN rail or screw mounting option for easy installation.
- Real energy output and phase loss alarm output on E50C2A-T2 model (one device serves multiple applications).
- Adding to its versatility the E50 models have a wide input range between 90-600 Vac, which alleviates the need to keep multiple models in stock.
- System integration via Modbus (E50C2A-T2), BACnet® MS/TP (E50H2A-T2); compatible with existing systems.
- Native BACnet MS/TP support (no gateway) with serial rates up to 115.2 kbps (E50H2A-T2).

## Specifications

Certifications	
Agency Approvals:	UL508, EN61010, California CSI Solar, ANSI C12.20
Accuracy	
Real Power and Energy:	0.5% (ANSI C12.20, IEC 62053-22 Class 0.5S)
Inputs	
Control Power, AC:	<ul style="list-style-type: none"> <li>• 50/60 Hz; 5 VA max.; 90 V min.</li> <li>• UL Maximums: 600 VL-L (347 VL-N)</li> </ul>
Control Power, DC:	<ul style="list-style-type: none"> <li>• 3W maximum</li> <li>• U.L. and CE: 125 to 300 Vdc (external dc current limiting required)</li> </ul>
Voltage Input	<ul style="list-style-type: none"> <li>• U.L.: 90 VL-N to 600 VL-L</li> <li>• CE: 90 VL-N to 300 VL-N</li> </ul>
Current Input Scaling Input Range:	<ul style="list-style-type: none"> <li>• 50 to 5000 A</li> <li>• E683 series rope style CTs only (CT must be rated for connection to Class 1 voltage inputs)</li> </ul>
Pulse Inputs (E50H2A-T2):	Contact inputs to pulse accumulators (10 kΩ Vac/dc to 4 to 10 Vdc)
Outputs	
Pulse Outputs (E50C2A-T2):	<ul style="list-style-type: none"> <li>• Real Energy Pulse: N.O. static; 30 Vac/dc, 100 mA max. (AC: 50/60Hz)</li> <li>• Alarm contacts: N.C. static; 30 Vac/dc, 100 mA max. (AC: 50/60Hz)</li> </ul>
E50C2A-T2:	RS-485 2-wire Modbus RTU (1200 baud to 38.4 kbps)
E50H2A-T2:	RS-485 2-wire BACnet MS/TP (9600 baud to 115.2 kbps)

<b>Mechanical</b>	
Mounting:	DIN Rail or 3-point screw mount
<b>Environmental</b>	
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 non-condensing; indoor use only
<b>Warranty</b>	
Limited Warranty:	5 Years

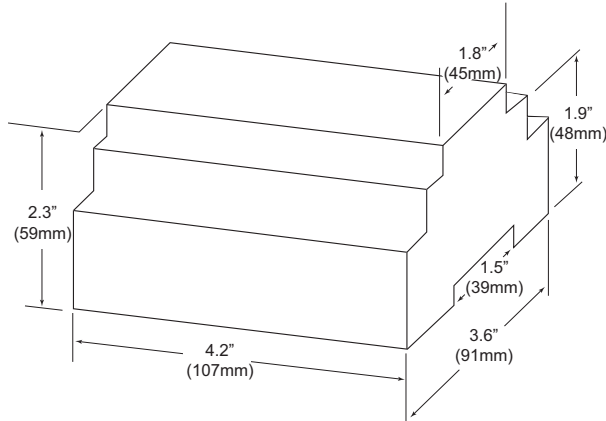
## Ordering Information

Descriptions and Models	E50C2A-T2	E50H2A-T2
<b>Measurement Capability - Full Data Set</b>		
Power (3-Phase Total and Per Phase): Real (kW) Reactive (kVAR), and Apparent (kVA)	X	X
Power Factor: 3-Phase Average and Per Phase	X	X
Present Power Demand: Real (kW), Reactive (kVAR), and Apparent (kVA)	X	X
Peak Power Demand: Real (kW), Reactive (kVAR) and Apparent (kVA)	X	X
Current (3-Phase Average and Per Phase)	X	X
Voltage: Line-Line and Line-Neutral (3-Phase Average and Per Phase)	X	X
Frequency	X	X
ANSI C12.20 0.5% Accuracy, IEC 62053-22 Class 0.5S	X	X
Accumulated Net Energy: Real (kWh), Reactive (kVARh), and Apparent (kVAh)	X	X
Accumulated Real Energy by Phase (kWh)	X	X
Demand Interval Configuration: Fixed or Rolling Block	X	X
Demand Interval Configuration: External Sync to Comm	X	X
<b>Outputs</b>		
Alarm Output (N.C.)	X	X
1 Pulse Output (N.O.)	X	
RS-485 Serial (Modbus RTU Protocol)	X	
RS-485 Serial (BACnet MS/TP Protocol)		X
<b>Inputs</b>		
1 Pulse Contact Accumulator Input		X
<b>CE Mark</b>		
The CE mark indicates RoHS2 compliance. Refer to the CE Declaration of Conformity for additional details.		
 		

# Required CTs

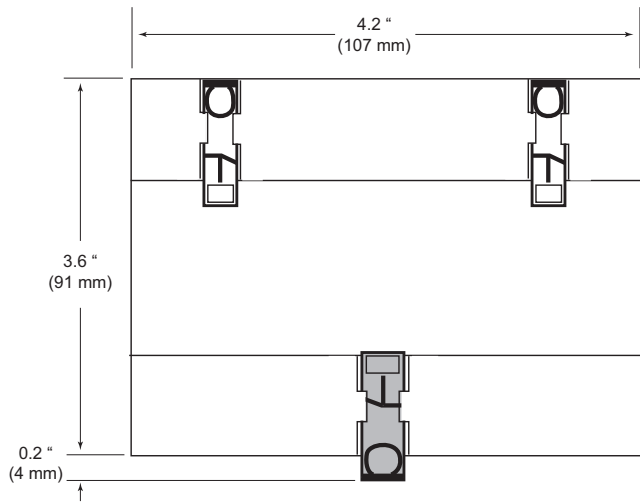
Trane Part Number	Model	Description
N/A - Veris only	E683C502	Rogowski CT, 250 mm (9 in.), 600 V, 5 kA, U018 equivalent
X13550945001	E683D502	Rogowski CT, 300 mm (12 in.), 600 V, 5 kA, U018 equivalent
X13550945002	E683G502	Rogowski CT, 460 mm (18 in.), 600 V, 5 kA, U018 equivalent
N/A - Veris only	E683J502	Rogowski CT, 600 mm (24 in.), 600 V, 5 kA, U018 equivalent
X13550945003	E683L502	Rogowski CT, 900 mm (35 in.), 600 V, 5 kA, U018 equivalent

## Dimensions

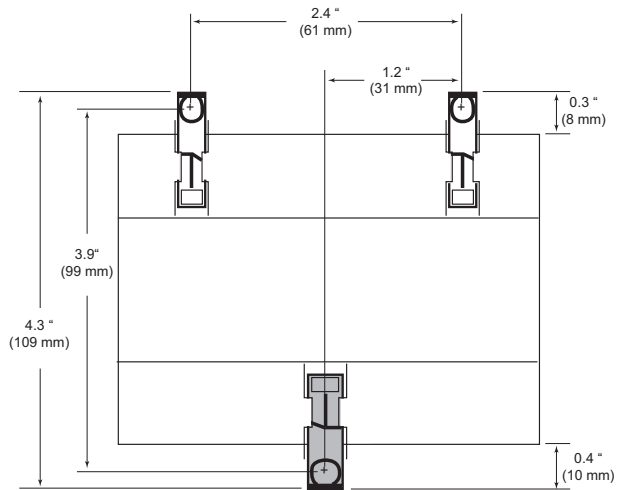


## Mounting Diagrams

**DIN Mount Configuration**



**Screw Mount Configuration**



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