Product Data

Enercept FLEX© Compact Power and Energy Meter

Uni-directional, Bi-directional for BACnet® and Modbus®
Data Sheet

Ordering Number:
X13690278001

⚠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.

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Overview

The Trane Enercept FLEX Series power and energy meters provide a unique solution for measuring energy data. Designed with the user in mind, the Enercept FLEX offers maximum application flexibility for retrofit applications.
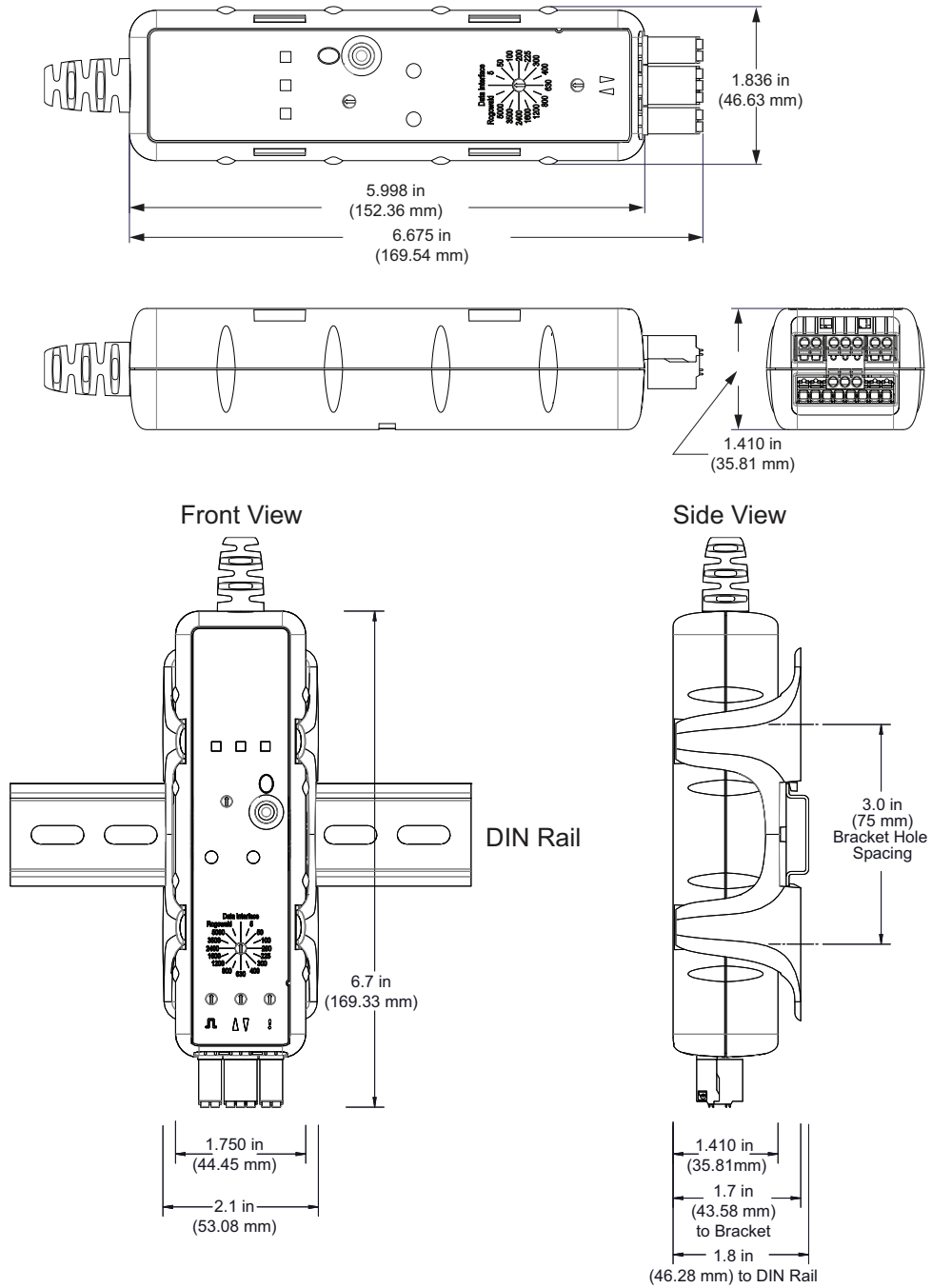
Features

- Used in applications such as, energy monitoring (BAS), renewable energy, energy management, commercial sub-metering, industrial monitoring, and cost allocation.
- High reliability with ANSI C12.20 0.2% accuracy, IEC 62053-22, Class 0.2S.
- BACnet and Modbus protocols, along with uni-directional and bi-directional feature sets in one unit, simplifying ordering and stocking options.
- The Enercept FLEX is compatible with split-core, solid-core, and the VerisTM E683 Series rope-style Rogowski current transducers (CTs) that range from 5A to 5000A. This compatibility often allows installers to utilize existing CTs with the meter.
- Adding to its versatility, the Enercept FLEX has a wide input range of 90 Vac to 480 Vac, which alleviates the need to keep multiple models in stock.
- The small size meter enables installation in existing panels with limited space, and does not require external mounting or the expense of extra enclosures or conduit runs.
- DIN rail or screw mount options (with included mounting bracket) for easy installation.
- Communicating models support auto detection of baud rate, parity, and protocol for both BACnet MS/TP and Modbus RTU.
- Native Modbus and BACnet MS/TP support (no gateway) with serial rates up to 115.2 Kbps.
- Flexible CT configuration for use in 1-phase, 2-phase, or 3-phase applications.

Specifications

Measurement Accuracy	
Real Power & Energy, 1/3 Volt Current Input Mode:	IEC 62053-22, Class 0.2S, ANSI C12.20 0.2%
Real Power & Energy, Rogowski Current Input Mode:	IEC 62053-22, Class 0.5S, ANSI C12.20 0.5%
Reactive Power & Energy:	IEC 62053-23, Class 2, 2%
Input Voltage Characteristics	
Measured AC Voltage:	• Minimum: 90 VL-N (156 VL-L) for stated accuracy • U.L. Maximum.: 480 VL-L (277 VL-N); CE max.: 300 VL-N
Impedance:	2.5 MΩL-N / 5 MΩL-L
Frequency Range:	45 Hz to 65 Hz
Input Current Characteristics	
Measurement Input Range:	0 Vac to 0.333 Vac (+20% over-range)
Impedance:	50 ms at 120 Vac
Control Power	
AC:	• 4 VA Maximum; 90 V min. • UL Maximum: 480 VL-L (277 VL-N) • CE Maximum: 300 VL-N
Ride-through Time:	50 ms at 120 Vac
Mechanical Characteristics	
Ingress Protection (IEC 60529):	IP20
Plug Wire Size (I/O, Communications, CT):	24 to 16 AWG (0.2 mm^2 to 1.5 mm^2)
Optional Bracket: Rail Mounted:	T35 (35 mm) DIN rail per EN50022
Optional Bracket: Wall Mounted:	Two (2) #10 or M5 screws, 2.953 in (75 mm), center-to-center
Environmental Conditions	
Operating Temp.:	-30°C to 70°C (-22°F to 158°F) **Note:** The Enercept© FLEX is limited to an operating temperature of 55 °C (131 °F) when used with a E683 Rogowski rope-style CT.
Storage Temp.:	-40°C to 85°C (-40°F to 185°F)
Humidity Range:	<95% RH (non-condensing)
Altitude of Operation:	3 km maximum
Pollution Degree:	2
Metering Category	
U.L.:	CAT III; for distribution systems up to 277 VL-N/480 VacL-L
CE2: **Note:** The CE mark indicates RoHS2 compliance. Refer to the Declaration of Conformity for more details.	CAT III; for distribution systems up to 300 VL-N
Dielectric Withstand:	Per UL 61010-1, EN 61010-1
Conducted and Radiated Emissions:	• FCC Part 15, Class A, EN 61000-6-4 • EN 61326-1, Class A (industrial)
Conducted and Radiated Immunity:	EN 61000-6-2, EN 61326-1 (industrial)
Agency Approvals	
US and Canada:	U.L. 61010-1
Europe (CE):	EN 61010-1
Warranty	
Limited Warranty:	5 Years

Dimensions

Front View

Side View

DIN Rail

1.836 in
(46.63 mm)

5.998 in
(152.36 mm)

6.675 in
(169.54 mm)

1.410 in
(35.81 mm)

3.0 in
(75 mm)
Bracket Hole
Spacing

6.7 in
(169.33 mm)

1.750 in
(44.45 mm)

2.1 in
(53.08 mm)

1.410 in
(35.81mm)

1.7 in
(43.58 mm)
to Bracket

1.8 in
(46.28 mm) to DIN Rail

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