E20 Series

E20 Series
(IEC model shown)

UNI-DIRECTIONAL, BI-DIRECTIONAL, MODBUS, & BACNET

DESCRIPTION

Enercept FLEX E20 Series power and energy meters provide a unique solution for measuring energy data. Designed with the user in mind, the E20 Series offers maximum application flexibility for retrofit applications. The E20 Series is compatible with split-core, solid-core and Veris U018 Series rope-style Rogowski current transducers (CT) from five to 5000 amperes, often allowing installers to utilize existing CTs with the meter. Adding to its versatility, the E20 has a wide input range of 90 to 480 Vac, alleviating the need to keep multiple models in stock. The meter's small form factor enables installation in existing panels with limited space, and does not require external mounting or the expense of extra enclosures or conduit runs. Communicating models support auto detection of baud rate, parity, and protocol for Modbus® RTU and BACnet® MS/TP.

FEATURES

- High reliability with ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.2S
- Modbus and BACnet protocols along with uni-directional and bi-directional feature sets in one unit....simplifies ordering and stocking options
- Compatible with CTs from 5 A to 5000 A...wide range of service types
- 90 to 480 Vac...application versatility with fewer models to stock
- DIN rail or screw mount options (with included mounting bracket)... easy installation
- Native Modbus and BACnet MS/TP support (no gateway) with serial rates up to 115.2 kbaud
- Flexible CT configuration for use in 1ph, 2ph, and 3ph applications

APPLICATIONS

- Energy monitoring (BAS)
- Renewable energy
- Energy management
- Commercial submetering
- Industrial monitoring
- Cost allocation

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	Min. 90 VL-N (156 VL-L) for stated accuracy; UL max.: 480 VL-L (277 VL-N); CE max.: 300 VL-N
Impedance	2.5 MΩL-N / 5 MΩL-L
Frequency Range	45 to 65 Hz
INPUT CURRENT CHARACTERISTICS	
Measurement Input Range	0 to 0.333 Vac (+20% over-range)
Impedance	50 ms at 120 Vac
CONTROL POWER	
AC	4 VA max.; 90 V min. UL max.: 480 VL-L (277 VL-N) CE max.: 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 to 1.5 mm2)
Optional Bracket: Rail Mounted	T35 (35 mm) DIN rail per EN50022
Optional Bracket: Wall Mounted	Two #10 or M5 screws, 2.953" (75 mm) center-to-center
ENVIRONMENTAL CONDITIONS	
Operating Temp.1	-30 to 70 °C (-22 to 158 °F)
Storage Temp.	-40 to 85 °C (-40 to 185 °F)
Humidity Range	<95% RH (non-condensing)
Altitude of Operation	3 km max.
Pollution Degree	2
METERING CATEGORY	
UL	CAT III; for distribution systems up to 277 VL-N / 480 VacL-L
CE2	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	UL 61010-1
Europe (CE)	EN 61010-1
WARRANTY	
Limited Warranty	5 years

1. The Enercept FLEX E20 is limited to an operating temperature of 55 °C (131 °F) when used with a U018 Rogowski rope-style CT.
2. The CE mark indicates RoHS2 compliance. Please refer to the CE Declaration of Conformity for additional details.

ORDERING INFORMATION

	E23Cx
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	●
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	●
OUTPUTS	
RS-485 Serial (Modbus RTU Protocol)	●
RS-485 Serial (BACnet MS/TP Protocol)	●

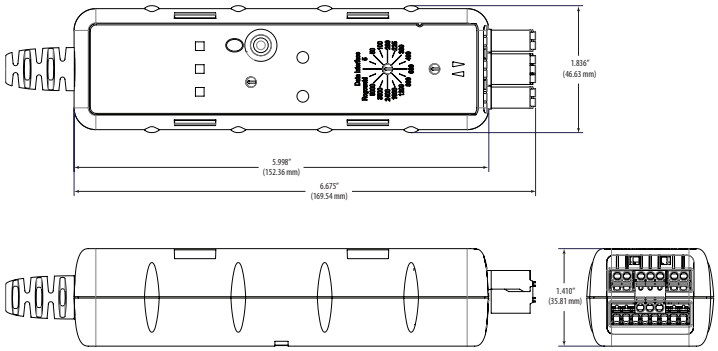
ORDERING MATRIX

Data Set	I/O	System Types & Wires
E ☐	☐	☐
23 = Uni/Bi Dir (FDS)	**C** *= RS-485 MB/BAC*	*5 = 1, 2, or 3ph (A-B-C-N) IEC International* *6 = 1, 2, or 3ph (A-B-C-N) ANSI North & South America*

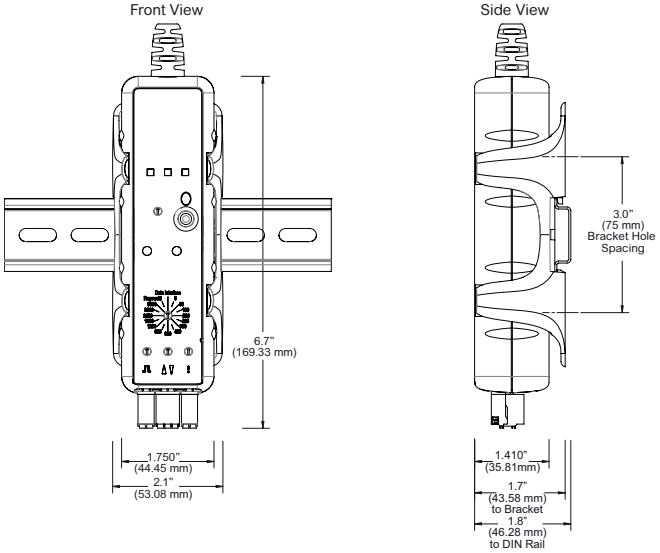
Example:

E | 23 | C | 6

DIMENSIONAL DRAWING



DIMENSIONS, MOUNTED



ACCESSORIES

Fuse Kits with hi-interrupt capability AC
Fuses (AH02, AH03, AH04)
Rope-style Rogowski CTs (U018)
Split-core and solid-core CTs (H681x, E682x)
DIN Rail (AV01), DIN Rail Stop Clips (AV02)
Modbus TCP Gateway (U013-0012)
BACnet IP Router (U013-0013)


U013-0012


U013-0013

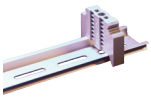

AH04


E681x


E682x


U018


H681x


AV01/AV02