

E2X FLEX SERIES

Uni-directional, Bi-directional, Modbus, & BACnet



IEC model shown

Enercept FLEX E2x Series power and energy meters provide a unique solution for measuring energy data. Designed with the user in mind, the E2x Series offers maximum application flexibility for retrofit applications.

The Enercept FLEX E2x Series is compatible with split-core, solid-core and Veris E683x Series rope-style Rogowski current transducers (CTs) from 5 to 5000 A, often allowing installers to utilize existing CTs with the meter. Adding to its versatility, the Enercept FLEX E2x Series 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.

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 62053-24 Class 1, 1% |
| INPUT VOLTAGE CHARACTERISTICS | |
| Measured AC Voltage | Min. 90 V _{L-N} (156 V _{L-L}) for stated accuracy; UL max.: 480 V _{L-L} (277 V _{L-N}); CE max.: 300 V _{L-N} |
| Impedance | 2.5 MΩ _{L-N} / 5 MΩ _{L-L} |
| Frequency Range | 45 to 65 Hz |
| INPUT VOLTAGE CHARACTERISTICS | |
| Measurement Range | 0 to 0.333 Vac (+20% over-range) |
| Impedance | 33 kΩ |
| CONTROL POWER | |
| AC | Drawn from phase A-B line-to-line voltage input 4 VA max.: 90V _{L-N} min. UL max.: 480 V _{L-L} (277 V _{L-N}) CE max.: 300V _{L-N} |

High reliability

ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.2S

Wide range of service types

Compatible with CTs from 5 to 5000 A

Easy ordering & stocking

Modbus and BACnet protocols along with uni-directional and bi-directional feature sets in one unit

90 to 480 Vac

Application versatility with fewer models to stock

Easy installation

DIN rail or screw mount options (with included mounting bracket)

Protocol support

Native Modbus and BACnet MS/TP support (no gateway) with serial rates up to 115.2 kbaud

APPLICATIONS

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

| 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 mm ²) |
| Optional Bracket: Rail Mounted | T35 (35 mm) DIN rail per EN 50022 |
| Optional Bracket: Wall Mounted | Two #10 or M5 screws, 2.953" (75 mm) center-to-center |
| ENVIRONMENTAL CONDITIONS | |
| Operating Temperature | -30 to 70 °C (-22 to 158 °F) |
| Storage Temperature | -40 to 85 °C (-40 to 185 °F) |
| Humidity Range | <95% RH (non-condensing) |
| Altitude of Operation | 3 km max. |
| Pollution Degree | 2 |
| Mounting Location | Not suitable for wet locations. For indoor use only. |



SPECIFICATIONS (CONT.)

METERING CATEGORY

| | |
|----------------------------------|---|
| UL | CAT III; for distribution systems up to 277 V _{L-N} / 480 Vac _{L-L} |
| CE | CAT III; for distribution systems up to 300 V _{L-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) |

WARRANTY

| | |
|------------------|---------|
| Limited Warranty | 5 years |
|------------------|---------|

AGENCY APPROVALS

| | |
|---------------|--|
| US and Canada | UL 61010-1, UL 2808 and CSA C22.2 NO. 61010-1-12 |
| Europe | EN 61010-1, UKCA (UK) |

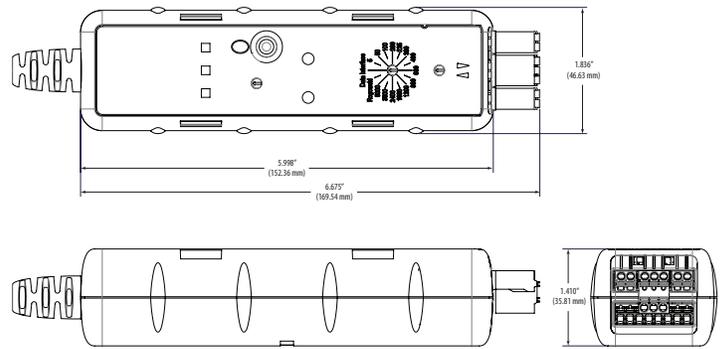


- * The meters were tested compliant to the norms:
- ANSI C12.20, Class 0.2, from 1% to 100% rated current
- IEC 62053-22, Class 0.2S, from 1% to 100% rated current
- IEC 62053-22, Class 0.5S for Rogowski coils, from 1% to 100% rated current
- IEC 62053-24 Class 1, from 1% to 100% rated current

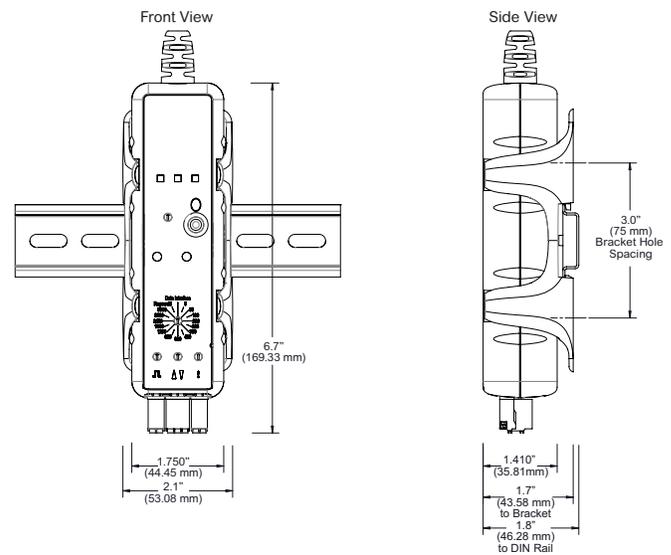
ORDERING INFORMATION

| | 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) | • |

DIMENSIONAL DRAWING



DIMENSIONS, MOUNTED



ORDERING INFORMATION

| | | |
|-----------------------|-------------------|---|
| Data Set | I/O | System Types & Wires |
| E | C | 5 |
| 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

