## *EMX*

# *True RMS Advanced Energy Meter*

Revenue-grade metering (ANSI C12.20 Class 0.2 Standards)
Monitor loads from 0.25-6000A & 90-600V
Compatible with the **SenvaSync** app for quick and easy installation
**NEW!** EMX-IP for BACnet IP and Modbus TCP/IP
**UPCOMING!** EMX-L, EMX, for a simplified metering experience

### DESCRIPTION

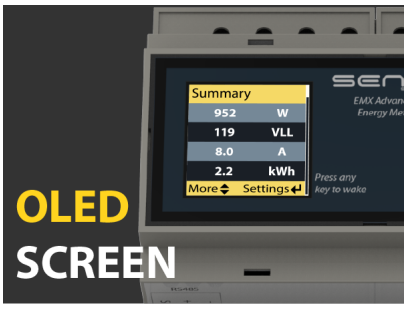
The EMX, Advanced Energy Meter, is the most user-friendly and quick installation True RMS energy meter on the market. With the SenvaSync app, setup is easier than ever and thanks to NFC - even with the device powered off. EMX is line-powered, so no additional power supply is needed. Equipped with your choice of RS-485 or IP, the EMX can connect to nearly any network. Pulse inputs allow the EMX Advanced to relay additional meters to its connected network. Ideal for retrofits, the EMX accepts any 0.333V CT or standard metering Rogowski coil with no need for time-consuming and bulky integrators. As the EMX is a True RMS meter, it can handle heavily distorted loads (harmonics) without losing any accuracy. The EMX truly is a perfect fit for any energy metering needs.

### APPLICATIONS

- Energy Management and Performance Contracting
- Monitoring for commercial tenants
- Activity-based costing in commercial and industrial facilities
- Real-time power monitoring
- Load shedding
- Audits/temporary monitoring
- Distributed generation
- Great for data center energy meter sensing


*All models are compatible with DIN rail mounting and the SenvaSync App*

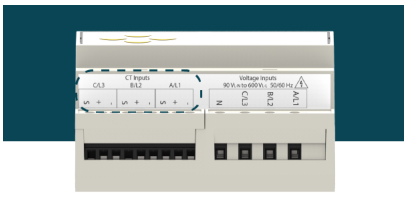

*EMX Lite (coming soon) and EMX-IP just released!*




*OLED (EMX and EMX-IP) screen for easy configuration*

*Optional NEMA 4X Enclosure with padlock*

*Works with any 0.333V CT or di-dt Rogowski coil*



**1-3 PHASE VOLTAGE 90-600V**

*Self-powered with 1 to 3 phase voltage, 90-600V*

## FEATURES

- Configuration App via NFC with **SenvaSync** (all models), available on iOS and Android
- Real-time logging data (EMX-L does not have logging)
- OLED screen with user interface that streamlines the setup process
- Self-powered with 1 to 3 phase voltage, 90-600V
- Modbus and BACnet
- 2 pulse inputs and 2 pulse outputs (EMX-IP does not have pulse outputs)
- Provides accurate RMS (Root Mean Square) metering of distorted loads
- One universal meter supports all metering CT options in the product family
- Supports mounting on PR30 (TS 35/F6) DIN rail
- Modus TCP/IP and BACnet IP!
- Same features as EMX except for RS-485 and pulse outputs
- A simplified EMX, same terminals and most of the features. Removes display, logging, and RTC.

## ORDERING

**Models**

All EMX models share features apart from what is seen in the feature matrix.

| | | Feature | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Display | Modbus RTU/ASCII | BACnet MS/TP | Modbus TCP/IP | BACnet IP | Logging | RTC | Pulse Outputs |
| Model | EMX | ✔ | ✔ | ✔ | ✘ | ✘ | ✔ | ✔ | ✔ |
| | EMX-L | ✘ | ✔ | ✔ | ✘ | ✘ | ✘ | ✘ | ✔ |
| | EMX-IP | ✔ | ✘ | ✘ | ✔ | ✔ | ✔ | ✔ | ✘ |

**Accessories**

**EMX Enclosure**

**Enclosure Options**

EMX-ENC = Enclosure WITH Padlock

**Rogowski Current Transducers**

*See Metering Series Rogowski CT's page to order*

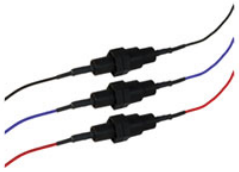
PART #: CT-F(XX)

**Split Core Current Transducers**

*See Metering Series Split-Core CT's page to order*

PART #: XH-SCT-(XXXX)

**Fuse Kit**



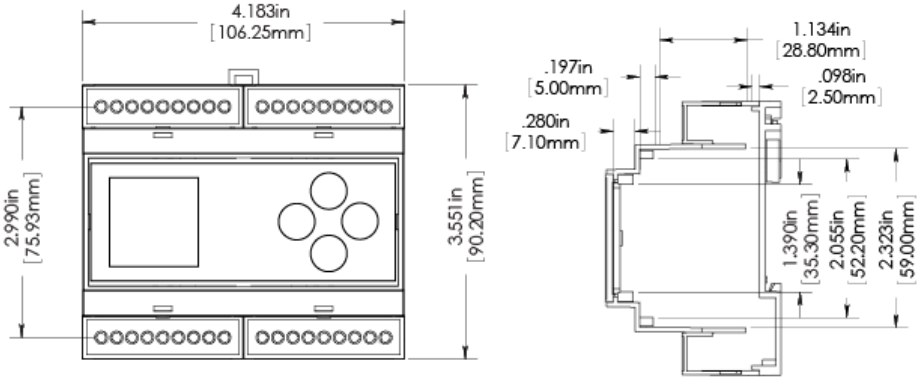
*Fuse Kit, 600V, 1/2A, 3 Phase*

PART #: CVT-FUSE-3PH

Rogowski CT:https://www.senvainc.com/en/products/energy-measurement/metering-series-rogowski-ct's
Split-Core Current Transducers: https://www.senvainc.com/en/products/energy-measurement/metering-series-split-core-ct's

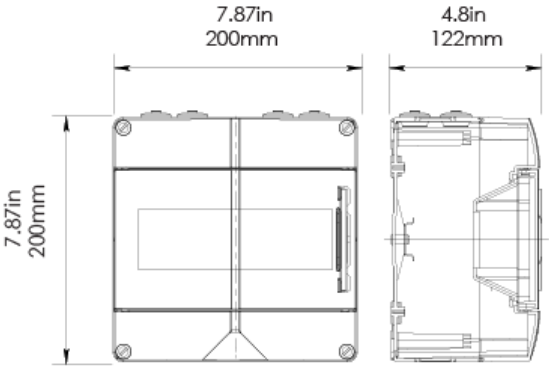
## DIMENSIONS

**EMX**




(Dimensions apply to all three EMX products)

**ENCLOSURE**




**Warning:** The datasheet is designed for reference only. Refer to installation instructions that accompany the product and heed all safety instructions. Product improvement is a continuing process at Senva. Changes may occur to products without prior notice.

## SPECIFICATIONS

| | | |
|---|---|---|
| Power supply Input | Line/High voltage | 90VLN-600VLL (+20%), 50/60Hz, 1-3 phase |
| | Power Consumption | 4W Typ. |
| | Frequency Range | 50/60 Hz |
| Communications - RS-485 (EMX and EMX-L Only) | Protocols | Modbus RTU, Modbus ASCII, BACnet MS/TP |
| | Baud Rates | 9600, 19200, 38400, 57600, 76800, 115200 |
| | RS-485 Loading | 1/4 unit |
| Communications - IP (EMX-IP Only) | Protocols | Modbus TCP/IP and BACnet IP |
| | Speeds Supported | 10M/100M Base-T |
| EMX Wiring Requirements | Conductor gauge | 24-14 AWG; Power terminals: 24-12 AWG |
| | Terminal torque rating | 0.37 ft-lb (0.50 N•m) |
| Pulse Output (EMX and EMX-L Only) | Dual Outputs | Import & Export Energy Outputs |
| | Type | Solid state dry contact |
| | Specifications | N.O and N.C. 300mA max, 40Vac/dc |
| | Pulse scaling | 0.01, 0.1, 1, 10, 100, 1k Wh/Pulse |
| | Duration | 10, 25, 50, 100, 250, 500 (ms) |
| Pulse Inputs | Input Rating (EMX and EMX-L) | 3.5 ± 0.5 VDC, short circuit current is 10mA max |
| | Input Rating (EMX-IP) | 7 ± 0.5 VDC, short circuit current is 10mA max |
| | Pulse Length | Accepts pulses >10ms, rejects pulses < 5ms |
| Service Types | Configurations | 1Ph, 2Ph, 3Ph Wye (4-Wire), 3Ph Delta (3-Wire) |
| | Voltages | 90VL-N through 600VL-L |
| | Frequency | 45-65 Hz |
| | Measurement | CAT III |
| EMX Performance | Meter Accuracy | 0.2% (ANSI C12.20 Class 0.2 standards) |
| | System Accuracy | 1% for V, A, kW, kVAR, kVA |
| Operating Environment | Operating Temperature | -22 to 158ºF (-30 to 70ºC) |
| | Storage Temperature | -40 to 158ºF (-40 to 70ºC) |
| | Humidity | 0-95% non-condensing |
| | Environmental Rating | IP20; Front display IP40 |
| EMX Meter Enclosure | Material | Polycarbonate/ABS |
| | Dimensions | 3.55”h x 4.18”w x 2.26”d |
| | DIN Rail Compatibility | PR30 (TS 35/F6) |
| Industrial Enclosure (Optional) | Environmental Rating | NEMA 4X/ IP65 |
| | Optional enclosure dimensions | 7.78”h x 7.78”w x 4.8”d |
| | Material | Polycarbonate |
| Compliance | Agency | UL Listed, cUL Listed, File E489498 |
| | Standards | RoHS, CE (requires metal enclosure) |

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