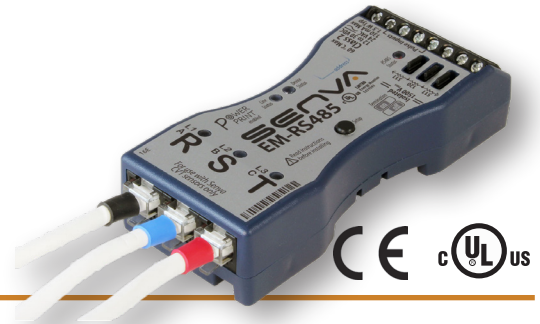


EM-RS485 Series Energy Meters

BACnet & Modbus
Flexible Split-core Rogowski CVT™ Sensors
Monitor loads from 30-6000A & 90-600V



DESCRIPTION

The EM Series is the safest and fastest meter to install on the market. Unique design makes the meter entirely low-voltage. Ideal for retrofits as the high voltage components are embedded in the Current/Voltage Transducer™ (CVT™). Experience high accuracy data rich power metering in a compact easy to use package. Meter recognizes CVTs automatically eliminating time consuming scaling.

Each CVT™ uses digital communication with the meter for superior noise immunity. The CVTs™ are individually calibrated and can be mixed or matched as independent meter channels--1% total accuracy! Features both Modbus and self configuring plug and play BACnet MS/TP for seamless integration.

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



7 year limited warranty

FEATURES

Intelligent Meter Technology

- EM Series meters auto-detect and self configure for electrical service, CVT™ size, communication protocol (BACnet/Modbus), baud rate and more for simple and efficient installation
- Calibration is at the CVT™ level so any CVT™ from the product family will maintain its accuracy with any EM Series meter
- Functions as three independent voltage/current power meters in one--mix and match CVT sizes for multiple loads.
- 2 pulse inputs for summing multiple meters on the EM-PULSE or for general (configurable) pulse counting on the EM-RS485 (from any pulse meter - water, gas, steam, etc.)
- 2 pulse outputs on the EM-PULSE for separately tracking positive and negative energy usage, additional power metrics or power quality alarms

Ultimate Flexibility

- One universal meter supports all CVT™ options in the product family
- Flexible Mounting Options
 - Supports mounting on either horizontal or vertical PR30 (TS 35/F6) DIN rail
 - Snap-in mounting ears allow screwing to any suitable surface
 - Integrated rare earth magnets secure the EM meter to any ferrous enclosure or surface.



Split-core Rogowski CVT™

- Easiest in the industry to install
- Senses both voltage & current
- High accuracy...digitally calibrated; interchangeable
- Available in multiple sizes & ratings to meet any project requirements

Quick Start Auto-detection

- Meter base recognizes the CVT™ sensors and scales itself accordingly
- No manual configuration necessary

Compact Size

- Most compact meter ever - fits in the palm of your hand!

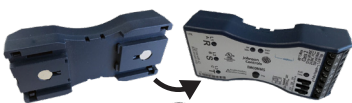
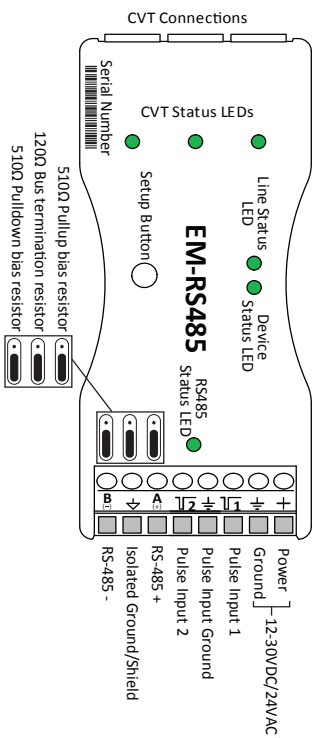
ORDERING

EM-RS485

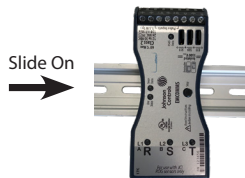
RS485 = Modbus & BACnet

CVT Current/voltage transducers

See page 32



Magnetic mount--no



DIN Rail



DIN Rail



Snap-in mounting

SPECIFICATIONS

Power Supply Input	12-30VDC/24VAC ⁽¹⁾ , 100mA max.
Output	RS-485 2-wire, BACnet MS/TP, Modbus RTU
Baud Rates	9600, 19200, 38400, 57600, 76800, 115200
RS-485 Loading	1/4 unit
Wiring Requirements	Conductor gauge 14-26 AWG
Terminal torque rating	0.5 min, 0.6 max
Dual Inputs	3.5 +/- 0.5 VDC, short circuit current is 10mA max
Pulse Rate	50 Hz (default), configurable up to 500 Hz
Pulse active	<100 ohms
Pulse Undefined	100-1000 ohms
Pulse Idle	>1000 ohms
Configurations	1Ph, 2Ph, 3Ph Wye (4-Wire), 3Ph Delta (3-Wire)
Service Types	Voltages 90VL-N through 600VL-L
Frequency	45-65 Hz
Meter Accuracy	0.2% (ANSI C12.20 Class 0.2 standards)
System Accuracy	1% for V, A, kW, kVAR, kVA
Operating Environment	Temperature 32 to 140F (0 to 60C)
Humidity	0-95% non-condensing
Meter Enclosure	Material Polycarbonate/ABS
Dimensions	4.1" h x 1.8" w x 0.9" d
Agency	UL Listed, File E501430, CE, RoHS
Compliance	USA Meets ANSI C12.20 Class 0.2 Standards
State	Meets WA State Clean Building bill

(1) One side of transformer secondary is connected to signal common. Dedicated transformer is recommended.

TYPICAL OUTPUT POINTS (SEE PROTOCAOL GUIDES FOR COMPREHENSIVE POINTS LIST)

- 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)
- Current (3-Phase Average and Per Phase)
- Voltage: Line-Line and Line-Neutral (3-Phase Average and Per Phase)
- Frequency
- Accumulated Net Energy: Real (kWh), Reactive (kVARh), and Apparent (kVAh)*
- Accumulated Real Energy per Phase: Real (kWh), Reactive (kVARh), and Apparent (kVAh)
- Import and Export Accumulators of Real and Apparent Energy
- Reactive Energy Accumulators (3-Phase Total and Per Phase)
- Demand Interval Configuration Fixed or Rolling Block
- Demand Interval Configuration: External Sync to Comms (Time Inputs or Protocol)

Warning: Refer to installation instructions that accompany product and heed all safety instructions.

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