

Power Meter

Networked Multi-Load Power Meter

Features

- Monitor 3, 12, or 48 loads on any combination of single and/or three phase systems
- Monitor voltage, current, power, energy, and many other parameters
- Rotatable display to simplify installation
- Line-powered, 80-600V phase-to-phase power supply with 200kAIC internal fuse
- ANSI C12.20-2015 Class 0.2 revenue-grade metering
- UL 94-V0 rated enclosure
- Can be used on both BACnet and Modbus protocols and features 2 pulse inputs one pulse output ports, plus serial and Ethernet
- Use both conventional and Rogowski coil CTs interchangeably
- 4-line Display shows real-time information about meter configuration and data
- CT polarity correction ensures proper CT installation
- UL listed
- CE & RoHS compliant
- Floating point, IEEE-754 data format allows for bidirectional monitoring

Applications

- Data centers
- Tenant submetering
- Bi-directional metering
- Real-time power metering in commercial, retail, and industrial

RoHS

Patent pending

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The Power Meter from Setra is a networked revenue grade power meter built on a versatile and powerful platform designed to meet the high demands for any submetering application. Available in a 3, 12 or 48 load configurations, the meter enclosure & intuitive web portal interface significantly reduce installation time and cost per metering point. The Power Meter 12 & 48 load meters come standard with dual voltage inputs, and all versions are field configurable for use of standard or Rogowski style current transformers, enabling safe and accurate measurement of both low and high amperage services.

Easy installation and configuration

Every Power Meter was painstakingly designed to simplify the installation process on the job site or at the office. The enclosure of the power meter is its own NEMA 1 rated electrical enclosure, eliminating the need to purchase an electrical panel for the job, saving both time and money. The field rotatable display allows the installer to put the conduit holes exactly where they need to be for any mounting configuration, even in the tightest locations in the electrical room. Setra's on-board web portal interface allows for safe pre-configuration of all parameters before, during, or after the meter has been installed. The web portal not only gives the user the ability to pre-configure the meter, but also offers the ability to access powerful analytics and installation tools directly through the USB or communication connection.

Field selectable communication (5 in1)

Each Power Meter comes standard with field selectable BACnet and Modbus communication protocols. The communications interface is through either an EIA-485 serial connection (BACnet/IP, BACnet/IPv6, Modbus TCP, or REST API) or over Ethernet (BACnet/IP or Modbus TCP). Along with these advanced network communication protocols, the Power Meter offers one configurable pulse output and two configurable pulse inputs, enabling more data collection at the meter.

Multi-load monitoring & data logging

Multi-load monitoring provides the granularity needed to drive energy savings and manage usage at a load level. Leveraging the dual-voltage inputs on the 12 & 48 models the user can measure any combination of single, dual or three phase service up to the amount of CT inputs on the meter. Every version of the Power Meter comes standard with data logging capabilities, allowing the user to gain access to the data for up to 62 days, using the web portal software.

Safe access without PPE

All aspects of the Power Meter enclosure and interface were designed to protect the user from harm. Setra's NFPA70E compliant USB interface allows the user to safely make configuration changes or access data without having to wear PPE or shut down the service to panel. All Power Meters come standard with a 200 KAIC fuse, making it one of the highest rated devices on an electrical system and exceeding most requirements to make it the safest meter on the market.

Specifications

General

Service type	Single phase, split phase, three phase-four wire (WYE), three phase-three wire (Delta)
Power	Self powered from Vin1 L1 and L2, 80-600 VAC RMS CAT III 50/60 Hz, 5W max
AC protection	0.5A fuse 200 kA interrupt capacity
Voltage Inputs	80-347 VAC line-to-neutral, 80-600 VAC line-to-line, CAT III Power Meter 12 & 48 have two sets voltage inputs
Current Inputs	3, 12, or 48 CT inputs Split/ solid core CT: Configurable up to 2 volts Rogowski coil: Patrol Flex
Maximum current input	150% of CT rating (mV CTs) to maintain accuracy. Measure up to 6,000 A with Patrol Flex Rogowski coils
Measurement type	True RMS up to 50th Harmonic 60Hz One to three phase AC system
Line frequency	50/60 Hz Measurement taken L1-N.
Waveform sampling	12 kS/s
Parameter update rate	1 second
Measurements	Volts, Amps, kW, kVAR, kVA, aPF, dPF, kW peak demand, Import (Received) kWh, Export (Delivered) kWh, Net kWh, Import (Received) kVAh, Export (Delivered)kVAh, Net kVAh, Import (Received) kVARh, Export (Delivered) kVARh, Net kVARh, THD, Phase angle, Frequency. All parameters for each phase and element load total
Accuracy	0.2% ANSI C12.20-2015 Class 0.2
Real-time clock backup	5 year (by user replaceable coin battery)
Display	4-line 20 characters backlit LCD One green/red status LED
Alarm replay output	User configurable SPDT relay (30VDC/VAC,2Arms)
Pulse inputs/output	Two isolated 30Vdc input max. One isolated output with open collector 30Vdc max. Max pulse rate 20 Hz Min pulse width 20 ms.

Web portal

Web browser	Support all major browsers
Communications	10/100 Mbps Ethernet (IPv4 and IPv6), or Ethernet over USB. Ethernet over USB requires one USB 2.0 port and Ethernet over USB drivers.
Security	PIN protection

Specifications subject to change without notice.

Communications

Hardware	Isolated EIA-485, Ethernet, and USB
Supported protocols	Modbus RTU, Modbus TCP, BACnet MS/TP, BACnet/IP, BACnet/IPv6, REST API
Max. communication length	1,000m for EIA-485, 100m for Ethernet
Communication rate (baud)	9600, 19200, 38400 (default), 57600, 76800
Modbus RTU data bits	8
Modbus RTU parity	None
Modbus RTU stop bits	1

Mechanical

Wire connections		12-28 AWG 600 VAC voltage input screw terminals, 12-24 AWG 600 VAC CT input screw terminals, 14-20 AWG 300V I/O screw terminals, voltage connection must be #14 AWG or larger wires & 600 VAC rated to meet safety requirement
Mounting		DIN rail or 4-point screw mount for 3/12 channel. 48 channel uses 5 point mounting holes only.
Temperature		Operating -4° to 140°F (-20° to 60°C) Storage -22° to 176°F(-30° to 80°C)
Humidity		5% to 95% non-condensing
Enclosure		ABS/Polycarbonate, 94-V0 flammability rating Connections: 3/4" EMT conduit ports for power. 3/4" EMT knock-outs for load lines (3/12 load) 1.0" knock-outs for load lines (48 load)
Main enclosure IP20		High voltage area IP40
Enclosure dimensions	(3 & 12 Load) (48 Load)	(L) 7" x (W) 6.8" x (H) 3.8" (L) 17.2" x (W) 10.8" x (H) 4.4"

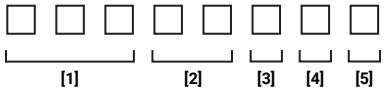
Certifications

UL listed	Applies to indoor enclosure, Conforms to UL Std 61010-1 3rd Edition, Certified to CSA Std C22.2 No. 61010-1 3rd Edition
CE	LVD (EN61010-1), EMCD (EN61326-1), RoHS
FCC	FCC Part 15 class B

Ordering information

Example part number: SPM12EDN

Power Meter, 12 loads, Ethernet & serial communication ports, with onboard display and no option.



[1]

Model	
SPM	Power Meter

[2]

Loads	
03	3 loads
12	12 loads
48	48 loads

[3]

Communication	
E	Ethernet & serial

[4]

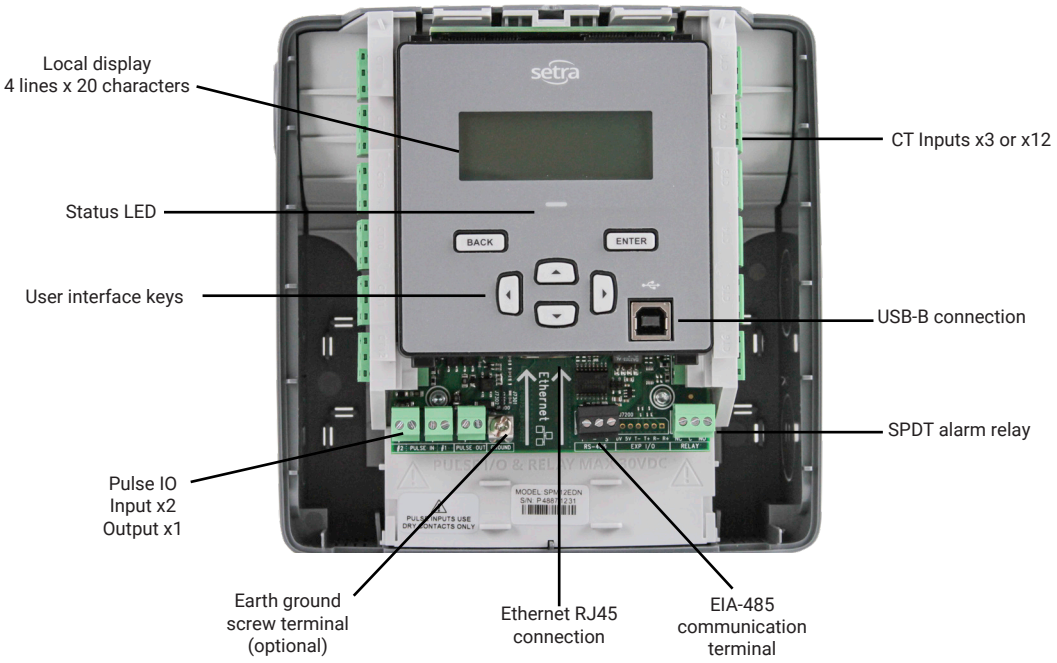
Display	
D	Onboard display

[5]

Option	
N	None

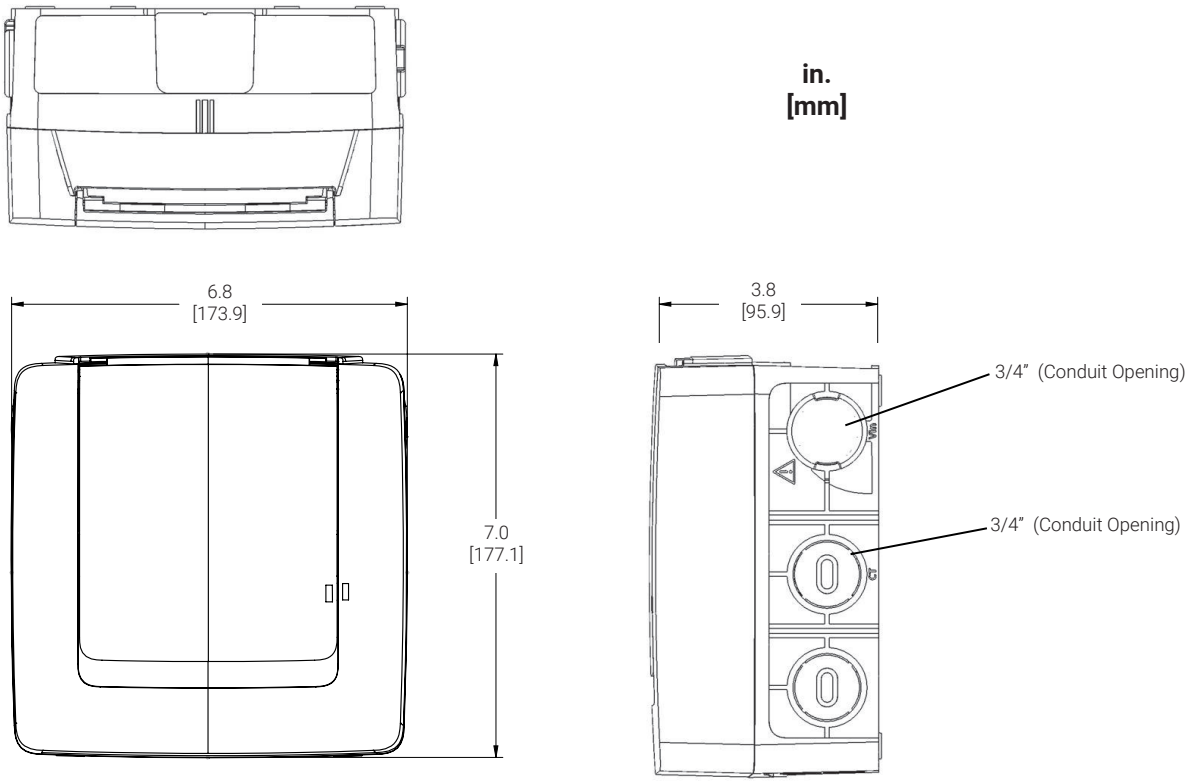
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12-load meter shown below



Dimensions

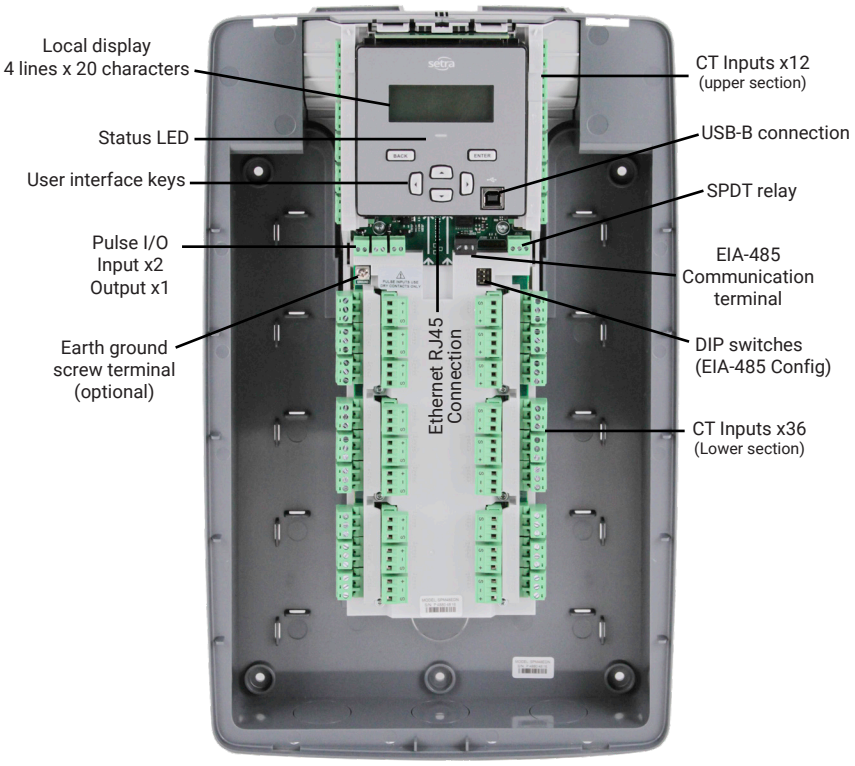
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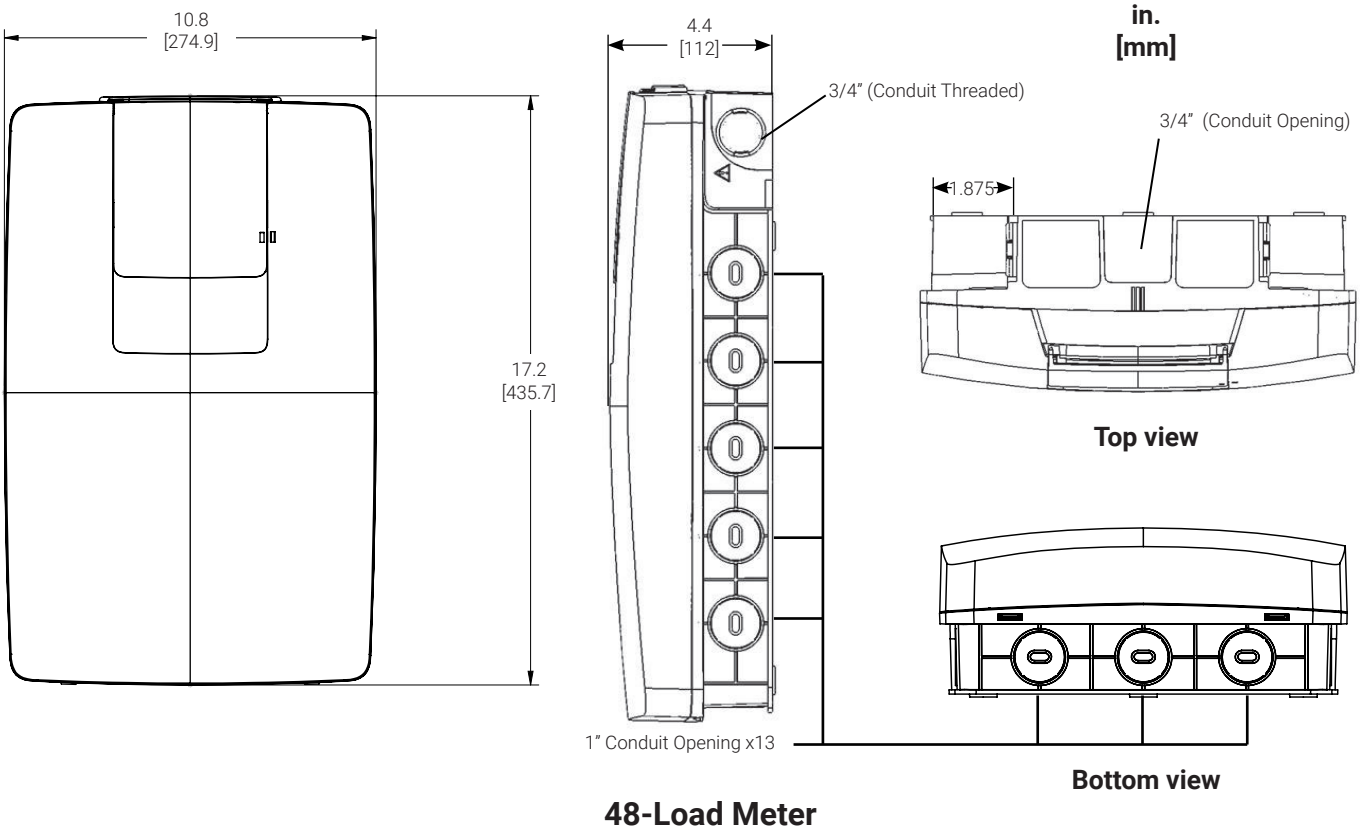
3 and 12-Load meter

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48-Load Meter



Dimensions



48-Load Meter

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