



# 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



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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 MS/TP or Modbus RTU) 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

<b>Service type</b>	Single phase, split phase, three phase-four wire (WYE), three phase-three wire (Delta)
<b>Power</b>	Self powered from Vin1 L1 and L2, 80-600 VAC RMS CAT III 50/60 Hz, 5W max
<b>AC protection</b>	0.5A fuse 200 kA interrupt capacity
<b>Voltage Inputs</b>	80-347 VAC line-to-neutral, 80-600 VAC line-to-line, CAT III Power Meter 12 & 48 have two sets voltage inputs
<b>Current Inputs</b>	3, 12, or 48 CT inputs Split/ solid core CT: Configurable up to 2 volts Rogowski coil: Patrol Flex
<b>Maximum current input</b>	150% of CT rating (mV CTs) to maintain accuracy. Measure up to 6,000 A with Patrol Flex Rogowski coils
<b>Measurement type</b>	True RMS up to 50 <sup>th</sup> Harmonic 60Hz One to three phase AC system
<b>Line frequency</b>	50/60 Hz Measurement taken L1-N.
<b>Waveform sampling</b>	12 kS/s
<b>Parameter update rate</b>	1 second
<b>Measurements</b>	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
<b>Accuracy</b>	0.2% ANSI C12.20-2015 Class 0.2
<b>Real-time clock backup</b>	5 year (by user replaceable coin battery)
<b>Display</b>	4-line 20 characters backlit LCD One green/red status LED
<b>Alarm replay output</b>	User configurable SPDT relay (30VDC/VAC,2Arms)
<b>Pulse inputs/output</b>	Two isolated 30Vdc input max. One isolated output with open collector 30Vdc max. Max pulse rate 20 Hz Min pulse width 20 ms.
<b>Web portal</b>	
<b>Web browser</b>	Support all major browsers
<b>Communications</b>	10/100 Mbps Ethernet, or Ethernet over USB. Ethernet over USB requires one USB 2.0 port and Ethernet over USB drivers.
<b>Security</b>	PIN protection

Specifications subject to change without notice.

## Communications

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

## Mechanical

<b>Wire connections</b>	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
<b>Mounting</b>	DIN rail or 4-point screw mount for 3/12 channel. 48 channel uses 5 point mounting holes only.
<b>Temperature</b>	Operating -4° to 140°F (-20° to 60°C) Storage -22° to 176°F(-30° to 80°C)
<b>Humidity</b>	5% to 95% non-condensing
<b>Enclosure</b>	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)
<b>Main enclosure IP20</b>	High voltage area IP40
<b>Enclosure dimensions</b>	(3 & 12 Load) (L) 7" x (W) 6.8" x (H) 3.8" (48 Load) (L) 17.2" x (W) 10.8" x (H) 4.4"

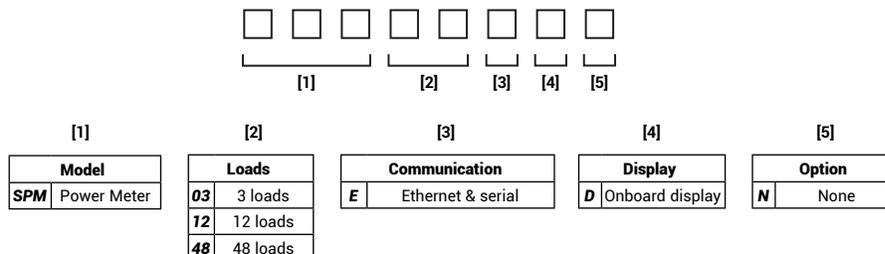
## Certifications

<b>UL listed</b>	Applies to indoor enclosure, Conforms to UL Std 61010-1 3rd Edition, Certified to CSA Std C22.2 No. 61010-1 3rd Edition
<b>CE</b>	LVD (EN61010-1), EMC (EN61326-1), RoHS
<b>FCC</b>	FCC Part 15 class B
<b>BACnet</b>	Device profile B-ASC Protocol-Rev 14 NIST traceable calibration

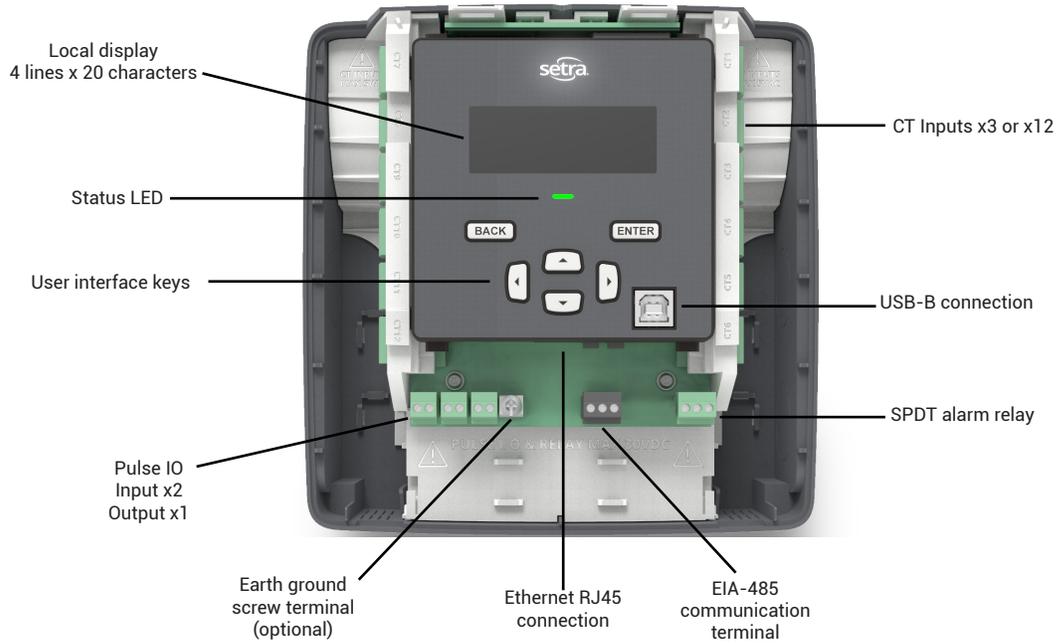
# Ordering information

Example part number: SPM12EDN

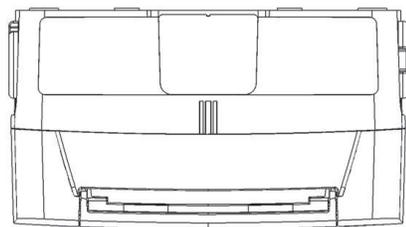
Power Meter, 12 loads, Ethernet & serial communication ports, with onboard display and no option.



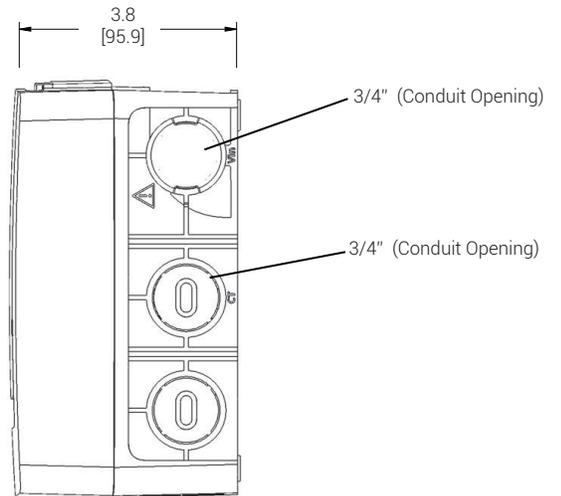
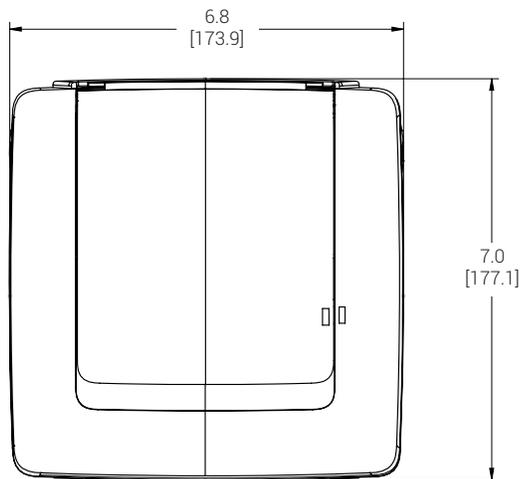
12-load meter shown below



Dimensions

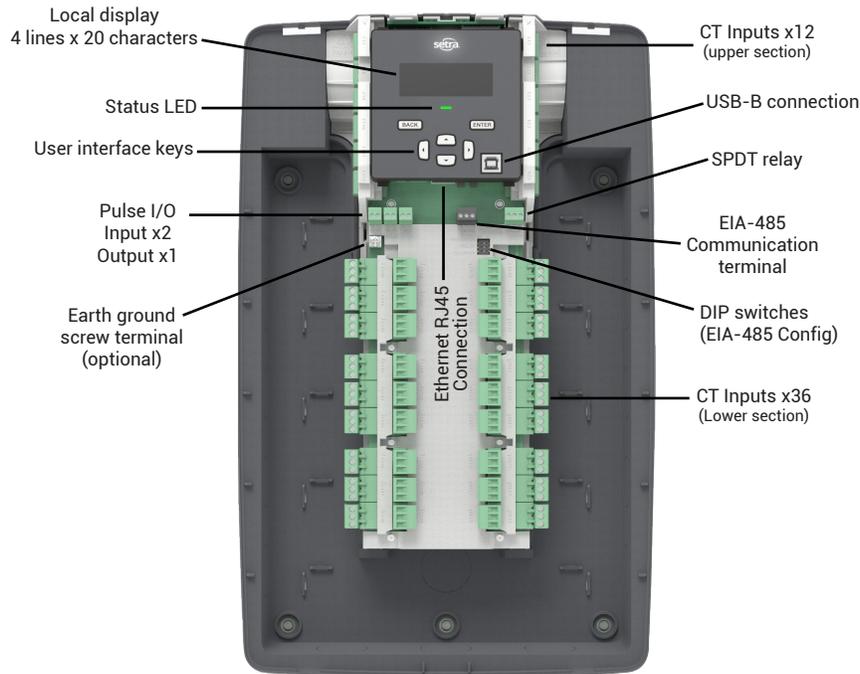


in.  
[mm]



3 and 12-Load meter

### 48-Load Meter



### Dimensions

