

## MD Series Power Meters Revenue-grade, Single-Point Power Meter



### Description

Siemens MD series Power Meters are sub-metering power and energy metering devices designed to provide real-time, accurate electricity metering to enable proper control over energy costs. The meter can capture kWh/kW energy and demand data, as well as virtually all relevant energy parameters for diagnostics and monitoring on three-phase or single-phase circuit installations

Product Number Series	Protocol			Display
	P1-FLN	BACnet	Modbus	
MD-P1	•			
MD-P1D	•			•
MD-BMS		•	•	
MD-BMED		•	•	•

### Typical Specifications

#### Products

##### Digital Energy Meters

- A. Meter shall monitor voltage, current, power, energy, and many other electrical parameters on an electrical system, including but not limited to:
  - System and Phase measurements for: Amps, Volts, Frequency, kW, kWh, KVAR, kVARh, kVA, kVAh, dPF or aPF.
  - Net System true energy (kWh).
  - System True Power +/- (kW).
  - Meter shall be capable of measuring both positive and negative power to ascertain between power demand or power generation for demand response, smart grid and on-site generation applications.
  - System True Energy +/- (kWh).
  - Meter shall be capable of measuring both positive and negative energy to ascertain between energy consumption or energy generation for demand response, smart grid and on-site generation applications.
  - Peak Demand (adjustable window and min/max system power).
- B. Measured data updates shall occur every 1 second.
- C. Meter shall be configurable for operation on Single Phase (AN or AB), Split Phase (ABN), Delta (ABC), and Wye (ABCN) systems.
- D. Meter shall be available with either or both Serial RS-485 or Ethernet interface.
- E. Serial RS-485 communication shall support either user-selectable BACnet MS/TP (default) or Modbus RTU (option) protocol. Meter shall be a BACnet Testing Labs (BTL) certified smart sensor (B-SS). An optional model of the meter shall communicate with the Siemens APOGEE® BAS using Siemens P1-FLN protocol.
- F. Ethernet communicating model shall support BACnet IP (default) or Modbus TCP (option) protocols in addition to the meter's serial interface supporting BACnet MS/TP or Modbus RTU protocols.
- G. Meter shall have optional multi-line backlit LCD displaying measured parameters.
- H. Meter shall be Line-Powered from L1 Phase to L2 Phase. 80 to 600 Vac, CAT III, 50/60Hz, 70 mA max. No external power supplies shall be required to power the meter.
- I. Meter shall measure up to three voltage channels: 80 to 346 Vac Line to Neutral, 600 Vac Line-to-Line, or CAT III.

- J. Meter shall accept 0 to 0.333 Vac input from up to three current transducer types, 0 to 4000A:
- Hinged split-core current transformers
  - Split-core current transformers
  - Rogowski Coils
- K. Meter shall provide bi-color visual LED verification of correct CT phase wiring to meter.
- L. Current transducers shall be available from <50A to 4000A. Sensors shall be available in split-core configuration 50A to 1000A or Rogowski Coil for 5 to 4000A and interchangeable on the meter:
- Hinged split core current transformers with current ratings of 50 to 200A
  - Split-core current transformers with current ratings of 100 to 600A
  - Rogowski Coils for current measurement range to 4000A
- M. Meter shall be equipped with a USB port for meter powering and configuring the device.
- N. Meter shall include pulse output capability for sending kWh or other pulses to an external device. Open Collector. 5mA max current. 30V max voltage.
- O. Meter accuracy shall be ANSI C12.20-2010 Class 0.2 or better.
- P. Meter shall comply with the following safety specifications:
- UL/CUL listed.
  - Conforms to UL Std 61010-1.
  - Certified to CSA Std C22.2 No. 61010-1.
  - CE Low Voltage and EMC Directives.
- Q. Meter shall be capable of operating in ambient conditions ranging from 0°F to +140°F (-18°C to +60°C).
- R. Meter shall have dimensions not exceeding 9.5" × 3.3" × 1.6". It shall be capable of being mounted inside an electrical panel containing the circuits to be measured. Meter shall include DIN rail channel compatible with TS35/7 rail and angled mounting tabs for optional panel mount in an external enclosure.
- S. Meter enclosure shall consist of ABS Plastic with a 94-VO flammability rating.

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