

Engineering Specifications
Veris E50H5
Compact Power and Energy Meter with BACnet Communication
And Data Logging Capability

1. The power meter shall be fully electronic with multi-line backlit LCD display showing measured parameters.
2. The power meter shall perform the following measurements:
 - a) Accumulated Real Energy (kWh) for each phase and total of all phases
 - b) Accumulated Reactive Energy (kVARh) and Apparent Energy (kVAh) totals for all phases
 - c) Net Present Demand for Real (kW), Reactive (kVAR) and Apparent (kVA) Power over a user-specified interval (block or sliding window)
 - d) Maximum (Peak) Real (kW), Reactive (kVAR) and Apparent (kVA) Demand Intervals
 - e) Instantaneous Real (kW), Reactive (kVAR) and Apparent Power (kVA), by phase and in total
 - f) Current (amps) for each phase and average of all phases
 - g) Phase-to-phase voltage for each phase and average of all phase pairs
 - h) Phase-to-neutral voltage for each phase pair and average of all phases
 - i) Power factor for each phase and average of all phases
 - j) AC frequency
3. The power meter shall communicate using the BACnet MS/TP protocol at speeds from 9600 to 115,200 baud (no parity). The meter shall provide a BACnet Device object, a set of writable Analog_Value objects for remote configuration, a set of Analog_Input objects to provide access to scaled 32-bit measurement values and their unit types, and a set of Binary_Input objects for indicating individual alarm conditions.
4. The meter shall be UL/CUL listed to the latest applicable safety standards.
5. Power meter models must be available to directly accept voltage input over the range of 90 to 600 VAC (50 or 60 Hz).
6. The power meter shall accept either 0 to 0.333 VAC or 0 to 1 VAC input from up to three current transducers to 32000 amps.
7. The measured energy consumption shall be retained in non-volatile memory for the life of the product warranty.
8. The power meter shall have demand measurement programmable for up to 6 sub-intervals of 10 seconds to 546 minutes duration.
9. Meter shall be optionally available in an outdoor NEMA 4X enclosure.

10. The power meter shall operate from -30C to +70C.
11. The power meter shall have dimensions not exceeding 4.2" x 3.6" x 2.3".
12. The power meter shall be Veris E50H5 or equivalent.
13. The power meter shall meet both ANSI C12.20 0.5% and IEC 62053-22 Class 0.5S real power and energy accuracy specifications.
14. The power meter shall meet IEC 62053-22 Class 2 reactive power and energy accuracy specifications.
15. The power meter shall be configurable for operation on Single Phase (AN or AB), Split Phase (ABN), Delta (ABC), and Wye (ABCN) systems.
16. The power meter shall have automatic phase reversal compensation such that it is insensitive to the CT's load orientation.
17. The power meter shall have separate control power inputs such that it may be powered from a different service than it measures.
18. The power meter shall have two user-configurable Pulse Contact inputs to support measurement of other related energy values (gas, water, steam, etc.) over BACnet using simple pulse-output transducers.
19. The power meter shall be configurable for use with potential transformers to 32000 volts.
20. The power meter shall calculate a maximum theoretical system power using the configuration parameters set by the user.
21. The power meter shall support warnings for low power factor (phase current or voltage miss-wired), current over range, voltage over range, and frequency out of range.
22. The power meter shall log and retain in non-volatile memory up to 5760 (up to 60 days at 15 minute intervals) measurement records at time intervals determined by the Demand Interval duration setting. These records shall contain any three 32-bit data values that the user selects from the list of supported Analog_Input objects. These logged data records shall be readable over BACnet via three Trend_Log objects.
23. The product shall have a 5-year warranty.