TRIACTA
SUBMETERING BEYOND MEASURE™

PowerHawk 4224

ANSI C12.20, 0.5 multi-point sub-meter deploying up to 24 qty. 333mV CTS in non-regulated, energy management applications (NR-EM Grade). Configurable as 24 single phase, 12 two phase or 8 three phase meters. Ethernet communications with native BACnet IP, Modbus TCP/IP plus optional, integrated V.90 telephone modem or Modbus RTU interface.

Product Specification

Product Numbers and Variants

Product Number	Product Name	Listings /Approvals for Revenue Applications
910-138-01	PowerHawk 4224 ETH (120V,60Hz)	None
910-138-05	PowerHawk 4224 ETH (277V,60Hz)	None
910-138-01-RTU	PowerHawk 4224 ETH + RTU (120V,60Hz)	None
910-138-05-RTU	PowerHawk 4224 ETH + RTU (277V,60Hz)	None

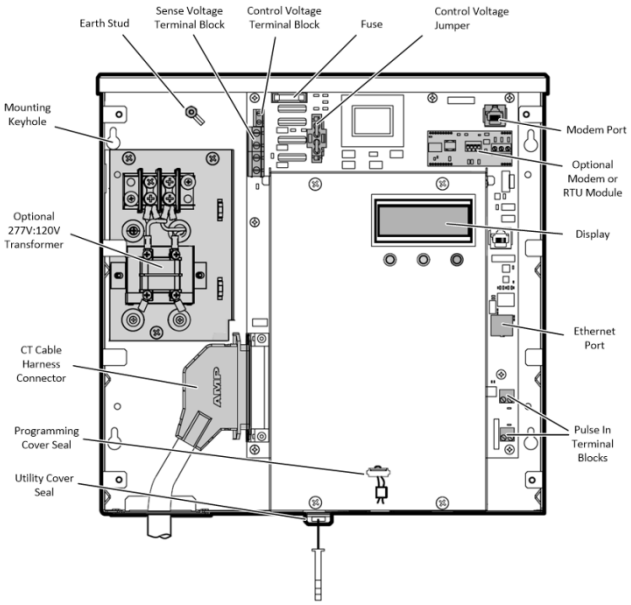
Features and Specifications

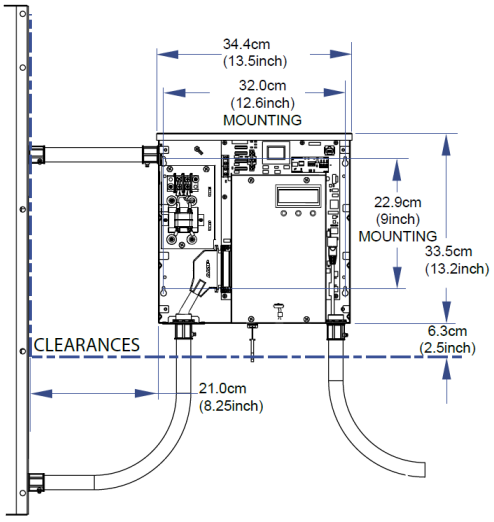
- Electronic solid state device configurable as:
  - 24 single-phase meters
  - 12 two-phase or three-phase Delta meters
  - 8 three-phase Wye meters
- 4-quadrant meter measures total and per phase:
  - Active, Reactive & Apparent Power
  - Peak W and VA Demand
  - PF and phase angles
  - Irms, Vrms
- Interfaces to 333mV output CTs
- Service Voltages up to 277V with no external PTs
- On-board Liquid Crystal Display
- On-board non-volatile flash memory is unaffected by power outages and holds up to 2 years of meter data (1 hour intervals for 20 years)
- On-board real-time clock with battery back-up holds time up to 10 years
- Two on-board pulse inputs (2 wire) compatible with dry form A and solid state form A contacts, collect data from other pulse-out meters (gas, water or electric)
- Multi-point economic efficiencies for retrofit or new construction
- Remotely configurable and upgradable with Ethernet connectivity

Reporting and Communications

- AMR via FTP data push over IP or (optional) MODEM
  - Plain text CSV file
  - Measurement Interval: 1 to 60 minutes
  - Reporting interval: once/day or every N min.
- Logged Measurements for AMR (interval and register)
  - Wh delivered & received
  - VARh delivered & received
  - VAh
  - Peak W & VA Demand
  - Present W & VA Demand
  - Peak Current
  - Vrms
  - Pulse counts x 2 inputs
- BAS Integration via BACnet IP, Modbus TCP/IP, or (optional) Modbus serial RTU.
- On-board Web server and Liquid Crystal Display for local readings
- Ethernet Interface
  - 10/100BaseT Full Duplex
  - DHCP Client or static IP address
  - Passive FTP port 21
  - NTP port 123
  - Modbus TCP/IP port 502
  - BACnet IP port 47808
  - HTTP port 80

Internal View and Dimensions





Specifications

MECHANICAL	
Dimensions	Height: 13.2 in. (33.5cm) Width: 13.5 in. (34.3 cm) Depth: 2.5 in. (6.4 cm)
Weight	9.5 lb (4.4 kg)
ELECTRICAL	
Sense (Service) Voltage – With control voltage jumper removed – All Control Voltage variants except 277V	100V to 300V 50/60Hz – 2W+N+Protective Earth – 3W+N+Protective Earth Wye – 3W+Protective Earth Delta
Control Voltage and Current	120V variant +/- 12V, 125 mA 60 Hz 230/240V variants +/- 24V, 63 mA 50/60 Hz 277V variant +/- 28V, 54 mA 60 Hz
Fuse rating (F1)	120V & 277V variants: T125 mA, 250V
Required Current Transformers Measurement Category III	333 mV secondary CT Must be UL recognized/listed
Pulse inputs 1 and 2	Dry form A and solid-state form A compatible. Internal 3.3V pull-up Maximum frequency 10 Hz Minimum pulse width 20 MS
REGULATORY	
Measurement accuracy (0.5% with 0.3% CTs)	ANSI C12.1 and C12.20 Class 0.5 IEC 62053-22 Class 0.5S
Safety	IEC/EA/UL/CSA 61010-1 3rd Edition, CSA C22.2, No. 61010-1-04, CE directive 2014/35/EU
Emissions	FCC Part 15, ICES 003, EN55022, IEC 6100-4-5 - Class B, CE directive 2014/30/EU
Surge power/telephone lines	47 CFR Part 68, CS-03
RoHS	CE directive 2011/65/EU
COMMUNICATIONS AND MEMORY	
On-board Ethernet port	10/100 BaseT, Full Duplex
On-board modem (optional)	V.90
On-board Modbus RTU serial port (optional)	RS422 or RS485 19200/9600 Baud
BACnet	ASHRAE 135-1, BTL Listed B-SA
Non-volatile memory storage	Up to 2 years of data at 1-hour data intervals, 20 Years storage time
ENVIRONMENTAL	
Operating temperature	-20 to 70^{O}C
Operating humidity	5% to 90% non-condensing
Usage environment	Indoor or enclosed outdoor environment
Maximum altitude	9843 ft (3000 m)
Pollution degree	2
Installation category	II
Measurement category	III