

Cyberhawk 200M™

REVENUE GRADE CERTIFIED POWER METER

Cyberhawk 200M is a family of revenue grade certified (ANSI C12.20 Class 0.5 or Class 0.2) Multiple Meter Units (MMU) that monitors energy, power and power quality. These meters also include digital inputs to count pulses from external water, gas and other meters, and have user configurable alarms. Configurations integrating up to six meters in one enclosure are available to save space and cost.

SUB-METERING FOR EFFECTIVE RESOURCE MANAGEMENT

Use these meters to accurately monitor energy consumption and production by systems such as solar, lighting, HVAC, process and plug loads, or by building, floor or zone for cost allocation and billing. Cyberhawk 200M enables users to identify energy conservation opportunities and perform the subsequent follow-up validation of energy reduction initiatives. The meter can also provide real-time feedback on performance, which studies have shown to be a powerful tool to promote energy conservation through behavioral change.

CONNECTIVITY

Cyberhawk 200M is equipped with an RS-485 serial port supporting Modbus RTU. When equipped with the web-server option, Cyberhawk 200M provides a dynamic browser-based user interface to access real-time data and short-term trends, enables third party systems to read required data over an Ethernet based network connection using either Modbus TCP or optional BACnet/IP protocol, and allows for data push to Powersmiths WOW™. Trend logs stored on the web-server can be downloaded via the network or a computer directly connected to the meter, allowing for further analysis.

POWERSMITHS WOW™ CERTIFIED

Cyberhawk 200M has been tested and certified to be compatible with the cloud-based Powersmiths WOW Sustainability Management Platform to support education, analytics and GHG reporting. Note: Data push to Powersmiths WOW requires either the integrated web-server option (EM or EB model) or an external WOW COMserver™.



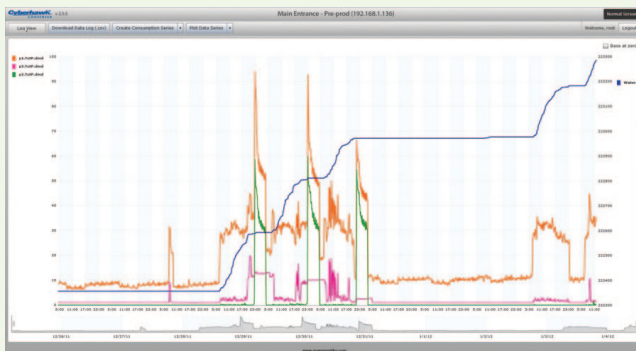
Models Cyberhawk 200M-2P and Cyberhawk 200M-6P shown

APPLICATIONS

- Track energy systems such as lighting, HVAC and plug load
- Benchmark and trend by building, energy system or zone
- Commission and validate systems and equipment at startup and ongoing
- Revenue grade certified measurement of renewable energy systems such as solar and wind
- Allocate energy use accurately for tenant billing
- Shadow main utility meter for billing verification
- Energy audits and energy conservation measure validation
- Identify cost avoidance opportunities and support load-shifting strategies
- Track water, gas, steam and other building resources via pulse inputs
- Record data for utility rebate programs
- Support ongoing commissioning and verification for high performance building certifications and frameworks
- Power quality monitoring with user-settable alarms

KEY FEATURES

- Revenue grade certified to ANSI C12.20 Class 0.5 or 0.2
- Integrates up to six meters and twelve digital inputs for water, gas, and more in one enclosure to save space, time and cost
- Web-server option enables browser-based remote access to live data and trend logs, third party systems to read data, and data push to Powersmiths WOW™
- Simplifies on-going commissioning of building systems and equipment
- User settable threshold alarms
- Packaged and third party UL inspected for safe installation



Graphical data trends viewed via a standard web browser

TECHNICAL INFORMATION

There are two accuracy options of the revenue grade certified Cyberhawk 200M available; ANSI C12.20 Class 0.5 and Class 0.2. Class 0.5 meets most accuracy requirements, with Class 0.2 available for more demanding requirements.

Single meter and dual meter units come in a 17"H x 13"W x 7"D enclosure, and three to six meter units are integrated in a 24"H x 16"W x 8"D enclosure. For ease of installation, all configurations are pre-wired and packaged ready for conduit connection, including screw terminal block interfaces, fused voltage disconnects and 'shorting' CT terminal blocks. Cyberhawk 200M is directly powered by the voltage sensing lines, avoiding the often-required low voltage auxiliary power source. Each meter port has a LCD display for displaying up to 5 parameters simultaneously.

EMBEDDED WEB-SERVER (EM and EB models)

This option leverages an existing IP network infrastructure and enables single point access to all the meters within the Cyberhawk 200M multiple meter unit through one Ethernet connection. This reduces the cost and complexity of accessing data from multiple meters. The built-in web pages are viewed through a standard web browser which provides easy access to live data and short-term data logging and trends, overcoming the limitations associated with serial communications and purchasing and managing expensive IT infrastructure. Powersmiths web-enabled meters within a network can also be discovered and setup remotely using a free downloadable software tool.

CURRENT TRANSFORMERS (CTs)

Current sensing CTs are required for each phase and selected based on the current rating and physical conductor dimensions. The accuracy of the CTs has more of an impact on the overall measurement accuracy than the meter itself, and therefore, CTs must be properly selected for each application. Note: CTs are not included with Cyberhawk 200M but can be ordered separately.

ORDERING INFORMATION

Cyberhawk - 200M - 5 - 6P - 600/480 - RS

Model Family	Accuracy	Metering Ports	Voltage	Connectivity		
	2: Class 0.2 5: Class 0.5	1P: 1 X 4W 2P*: 2 X 4W 3P: 3 X 4W 4P: 4 X 4W 5P: 5 X 4W 6P: 6 X 4W	240/120 600/480	RS-485	RS	EM EB
				Modbus RTU	✓	✓ ✓
				Web-Server		✓ ✓
				Modbus TCP		✓ ✓
				Ethernet		✓ ✓
				Web Accessible		✓ ✓
				Trend Logs		✓ ✓
				WOW Push		✓ ✓
				BACnet/IP		✓

*Only 2P model can support a different voltage for each meter port. See below for ordering information.

Cyberhawk - 200M - A - 2P - P1V - P2V - C

A: Accuracy (2 or 5)
P1V: Meter Port 1 Voltage (240/120 or 600/480)
P2V: Meter Port 2 Voltage (240/120 or 600/480)
C: Connectivity (RS, EM or EB)

e.g. Cyberhawk - 200M - 5 - 2P - 240/120 - 600/480 - EM

SYSTEM RATINGS:

240/120 Model: 120/208 50/60Hz; 120/240V 50/60Hz
600/480 Model: 231/400V - 277/480V 50/60Hz; 347/600V 60Hz
Operating Range: 75% of nom.; 115% of max.
Power Burden: < 5W - 15W (Model dependent)

METER PORT CONFIGURATIONS:

1-phase Single/Split (2/3 wire, 1/2-CT)
3-phase D (3-wire, 2/3-CT)
3-phase Y (4-wire, 3-CT)

CT INPUTS:

5A nom. 10A max, Crest Factor < 3, Burden < 1VA

MEASUREMENTS & ACCURACIES:

V & I: L-N, L-L, effective (0.2%)
Powers (P,Q,S): L1, L2, L3, Total (0.5% or 0.2%)
Demands: Powers and Currents (0.5% or 0.2%)
Power Quality: PF (0.5% or 0.2%), THD (V,I) and harmonics (1%)
Energy: Imported, Exported, Total, Net (Class 0.5 or Class 0.2)
Min/Max Registers: V, I, PF, P, Q, S, THD
Sampling Rate: 64/cycle for Class 0.5, 128/cycle for Class 0.2

PROTECTION & CONNECTIONS:

Fused disconnects, Shorting CT terminal block

PHYSICAL:

1P-2P: 17"H x 13"W x 7"D; 23 lbs
3P-6P: 24"H x 16"W x 8"D; 48 lbs
Mounting: Wall (bracket included)
Enclosure: NEMA 1
Temperature: -25°C to +50°C

DIGITAL INPUTS:

1P Model: 6 inputs, self-biased 24V, 2mA max.
2P-6P Models: 12 inputs, self-biased 24V, 2mA max.
Start/Stop: 15/5V
Scaling Factors: User settable
Pulse Frequency: 100Hz, 50% duty ratio (5ms On, 5ms Off) max.
SOE Resolution: 2ms

RELAY OUTPUTS:

1P Model: 2 N/O
2P-6P Models: 2x2 N/O
Rating: 3A Res. 2A Ind.

ALARMS:

Set Points: 16, Settings: <, =, >

COMMUNICATION INTERFACE:

RS-485: half duplex to 38.4kB
Ethernet: 10/100 BaseT (EM and EB models)
IP Addressing: Static or DHCP client (EM and EB models)

COMMUNICATION PROTOCOL:

Modbus RTU
Modbus TCP (EM and EB models)
BACnet/IP (EB model)
TCP/IP, HTTP (EM and EB models)
WOW XML Push (EM and EB models)

USER INTERFACE:

Browser based access via IP (Requires Adobe® Flash® plugin, EM and EB models)
Setup: Software (Windows XP or later) or local display
Access Restriction: 2-level password
Display: 1 per meter port, 5-line LED backlit LCD, 4-button user controls

WEB-SERVER TREND LOGS: (EM and EB models)

Parameters: Up to 200
Log Intervals: 1 - 60 min
Typical Log Period: 40 days for 6 parameters logged at 15 min
Longer remote logging available when connected to Powersmiths WOW™

PRODUCT CERTIFICATIONS:

Assembly to USTC/QPS inspected to UL508
Meter module to UL/cUL Listed to Category PICQ (UL61010-1)
Certified compatible for data push to Powersmiths WOW™

WARRANTY:

5 year limited

ACCESSORIES:

External CTs: 5A output; Refer to CT Selection Guide
Voltage Interface: 15A fused disconnect
CT Interface: 5A CT shunting blocks

MANUFACTURER'S STANDARDS COMPLIANCE:

ISO 9001, Quality Management System
ISO 14001, Environmental Management System
ISO 17025, CSA Certified Efficiency Test Lab

Technical specifications subject to change without notice.

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