

PowerHawk[®] Smart Meters

6000 Series Revenue Grade Meters

The PowerHawk 6000 series of smart meters and monitors combines revenue-grade electrical submetering with advanced communications technology — complying with all regulatory electric safety and communications requirements and meeting stringent ANSI 0.5 Accuracy Class standards.

Using advanced IP-based communications, PowerHawk meters transmit data over existing wireless, phone, or high-speed Internet connections without the cost of a dedicated service. There's no need to purchase or maintain additional computers or meter reading equipment.

PowerHawk 6X03 Multi-point Meter

The PowerHawk[®] 6X03 is designed to meter or monitor branch offices, remote loads, and other low density applications. The 6X03 provides six meter elements that can be configured as any combination of 1 phase, 2 phase or 3 phase meters or monitors.

PowerHawk 6X12 High Density Meter

The PowerHawk[®] 6X12 is designed to meter or monitor multi-tenant office buildings, medium-sized retail, industrial, or institutional buildings, multi-tenant residential buildings, and other high density applications. The 6X12 provides twenty-four meter elements that can be configured as any combination of 1 phase, 2 phase or 3 phase meters or monitors.

PowerHawk 6320 High Density Meter

The PowerHawk[®] 6320 is also designed to meter or monitor high density applications but with has more meter elements available for configuration. The 6320 provides fifty meter elements that can be configured as 1 phase, 2 phase or 3 phase meters or monitors.

- ✓ Fast installation for new construction or retrofits with maintenance free design
- ✓ Measures Wh delivered & received, VARh delivered & received, VAh, Vrms, Irms
- ✓ MODBUS[®] TCP and BACnet[®] protocols for building automation integration
- ✓ Datalogging: Non-volatile flash memory unaffected by power outages, stores up to 2.4 years of interval data
- ✓ Use existing wireless, phone, or high-speed internet connections
- ✓ Field upgradable firmware for future protocol support



PowerHawk 6000 Series Meter Features

PowerHawk 6000 Series Meter Features

- Measures Current (Irms), Voltage (Vrms), Energy (Wh delivered), Energy (Wh received), R. Energy (VARh delivered), R. Energy (VARh received), A. Energy (VAh)
- 2 Pulse inputs (6320 has 1 Pulse Input) to collect data from electric, water and/or gas meters
- Multiple Communications Ports: Ethernet, RS-232, RS-485
- Building Automation protocols: MODBUS® TCP, BACnet®/IP (6X03 and 6X12 only)
- Push reporting to Energy Management System (eg. PowerHawk Manager)
- Remotely configurable
- Interval (all) and Received/Delivered Metering (6X12, 6X03)

Metering Elements

6X03 Meters

- Electronic solid state device provide up to 6 single phase meters, 3 two phase or 2 three phase meters

6X12 Meters

- Electronic solid state device provide up to 24 single-phase meters, 12 two phase meters or 8 three phase meters

6X20 Meters

- Electronic solid state device provide up to 20 single or two phase meters, or up to 10 three phase meters and 10 two phase meters

Current Output

6X03 Meters

- 6303 supports 80 mA and 100 mA CTs
- 6203 supports split-core 333 mV CTs

6X12 Meters

- 6312 supports 80 mA and 100 mA output CTs
- 6212 supports split-core 333 mV CTs
- 6412 supports 5A CTs

6X20 Meters

- 6320 supports 80 mA CTs

Communications Interfaces

6X03 and 6X12 Meters

- Single 10/100BASE-T Ethernet Port
- Protocols: TCP/IP, DHCP, HTTP, PPP, SNTP, FTP, MODBUS TCP, BACnet/IP
- Communications Header accommodates single V.90 modem, MODBUS RTU over RS-485
Wireless Communications Module

6320 Meters

- Ethernet port: 10 Mb/s
- Protocols: TCP/IP, DHCP, HTTP, PPP, SNTP, FTP, MODBUS TCP
- On board V.90 modem, external PLC or wireless communications

Physical Characteristics

6X03 Meters

- Size: 33 cm H x 30 cm W x 5 cm D (13 in H x 12 in W x 2 in D)
- Weight: 3.98 kg (8.77 lbs)

6X12 Meters

- Size: 33 cm H x 30 cm W x 5 cm D (13 in H x 12 in W x 2 in D)
- Weight: 6.4 kg (14 lbs), 9.5 kg (21 lbs)

6X20 Meters

- Size: 40.6 cm H x 20.3 cm W x 5.1 cm D (16 in H x 10 in W x 2 in D)
- Weight: 2.4 kg (5.3 lbs)

Meter Specifications

- Voltage: 120/208V, 120/240V, 240/416V, 277/480V (Higher voltage supported with potential transformers)
- Voltage Tolerance: +/- 10%
- 50Hz and 60Hz models
- Service Type: Single, Poly & 3-Phase + Neutral
- Accuracy: ANSI C12.20 0.5 Accuracy Class
- Measurements: Wh delivered & received, VARh delivered and received, VAh, Vrms, Irms
- Demand Interval: 5 to 60 minutes
- Operating Temperature: -40 to 70°C (6X20 = 0 to 50°C)
- Operating Humidity: 0 to 90% non-condensing
- For indoor use only; NEMA4 cabinet available for outdoor applications
- Maximum Altitude: 3000m (6X20 2000m)
- Pollution Degree: 2

Regulatory Approvals

- **Safety:** TUV and UL certified to IEC/EA/UL/CSA - 61010-1 2nd Edition CSA-C22.2 No. 61010-1-04
- **Emissions (EMC):** FCC Part 15 Class A, ICES-003, IEC6100-4-5
- **Surge power/telephone lines:** ANSI/TIA968-A: 2002
- **Accuracy & Billing:**

6X03 and 6X12 Meters

- ANSI/C12.20 0.5 Class Measurement
Canada LMB-EG-7, AE-1665 CDFA (6303, 6312)

6320 Meters

- ANSI/C12.16 0.5 Class Measurement Canada
LMB-EG-7, AE-1434 (6320 only) CDFA Certification (6320 Only)

Reporting Capabilities

Datalogging and Format

- Interval config (5 to 60 min)
- Data storage (1hr intervals)
- CSV/TR3 file (via FTP push)

AMR Functionality

- PowerHawk Manager AMR
- Scheduled push reporting (FTP)
- Config report schedule (hr, day)
- Data polling (Modbus, BACnet)
- Real-time data viewing (e.g. HTTP)
- On-Board Display: Liquid Crystal with button scroll
- Pulse Inputs: two (6X12/03) or single (6320) pulse in terminal blocks (2 wire) compatible with dry form A and solid state form A contacts
- On-Board Memory: Non-volatile flash memory is unaffected by power outages; holds up to 2.4 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)

Meter Configuration and Resource Management

Every Triacta meter comes complete with meter and resource management software — everything you need to create and manage your metering infrastructure.

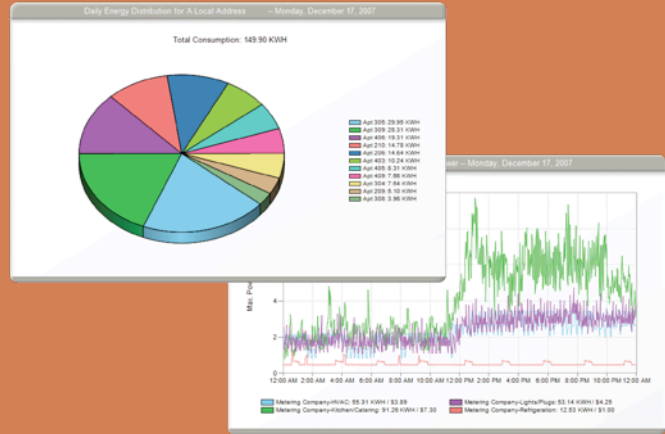
Meter Management

PowerHawk meters can be programmed on site or remotely. Configuration and management is simple and straightforward. On-site programming can be performed from a PC-based configuration tool. Alternatively, connecting a meter to the Internet can immediately download a pre-programmed configuration from Triacta's PowerHawk Manager cloud-based Software as a Service platform. The latter approach streamlines multiple meter deployments, reducing installation time dramatically.

Once configured, an extensive set of meter management tools in PowerHawk Manager allow operators to monitor meter operation and receive notification of extraordinary events to ensure the integrity of energy information.

Resource Management

PowerHawk® Manager is a complete Metered Resource Management System that combines automated data collection, powerful analysis tools and flexible billing capabilities with "cloud-based" software delivery. Focused on Metered Resource Management (energy, water, gas and monetizable derivatives such as Green House Gases), PowerHawk Manager delivers stakeholders as much or as little information as they need, at the office or remotely — 24/7. And with PowerHawk Manager's live update dashboard, all stakeholders can be kept apprised of critical resource use information in a timely and convenient way, on personal devices or public monitors.



Software as a Service

Most multi-tenant metering systems are managed through onsite meter management systems, proprietary gateways, or dedicated server-based applications. Installing these systems presents obstacles to provisioning, accessibility, flexibility, and management. With PowerHawk Manager Software as a Service (SaaS), there are no distracting set-up issues or deployment costs, no software licensing fees, and there's no hardware to buy.

With PowerHawk Manager, any energy stakeholder can distill meaningful information from electricity, gas, water and BTU meters to pinpoint savings opportunities, create an accurate picture of a building's carbon footprint and identify failing equipment and expensive peak demand charges.

Control Cost, Increase Profitability

Staying competitive in a world of escalating energy costs

Building owners and property managers are learning that implementing a Triacta PowerHawk™ smart metering system is one of the fastest ways to control rising energy costs and increase property profitability.

Research shows that when tenants pay for their own electricity, overall consumption drops 15 to 25 percent — with a majority of tenants experiencing a reduction in their net monthly costs. And submetering establishes billing equity, as tenants pay only for the energy they use.

Whether you're a landlord or condominium board looking to install submeters as a retrofit, a new building developer, or a service provider developing your metering business, you want



a high quality, cost-effective metering solution that will integrate with existing systems and last for decades.

PowerHawk 6000 series meters meet all these requirements and more. The PowerHawk's communications and management features, high accuracy, utility grade fit, finish and reliability, and their comprehensive commissioning features make them the meter of choice for leading property managers and metering companies around the world.

Triacta manufactures utility-grade meters that comply with all regulatory electric safety and communications requirements and meet stringent ANSI 0.5% accuracy standards.

PowerHawk 6000 Series Part Matrix

For information related to retail and tiered distributor pricing, please contact your Triacta sales representative.

6 Elements (CTs)					
CT Type	Accuracy	Control Voltage	Notes	Product	Part No.
333mV	+/- 1% to 1.5%	120V 60Hz	• No MODBUS-RTU over RS-485	PowerHawk 6203/120-60	900-124-01
		240 60Hz		PowerHawk 6203/240-60	900-124-02
		230V 50Hz		PowerHawk 6203/230-50	900-124-03
		277V 60Hz		PowerHawk 6203/277-60	900-124-05
80mA	+/- 0.5% resolution	120V 60Hz		PowerHawk 6303/120-60	900-125-01
		240 60Hz		PowerHawk 6303/240-60	900-125-02
		230V 50Hz		PowerHawk 6303/230-50	900-125-03
		277V 60Hz		PowerHawk 6303/277-60	900-125-05

24 Elements (CTs) *6320 has 50 elements					
CT Type	Accuracy	Control Voltage	Notes	Product	Part No.
333mV	+/- 1% to 1.5%	120V 60Hz	• No V.90 Modem • No MODBUS-RTU over RS-485 • All reference voltages are 100V-300V except 6320 which is 120V only	PowerHawk 6212/120-60	900-118-01
		240 60Hz		PowerHawk 6212/240/60	900-118-02
		230V 50Hz		PowerHawk 6212/230-50	900-118-03
		277V 60Hz		PowerHawk 6212/277-60	900-118-05
80mA	+/- 0.5% resolution	120V 60Hz		PowerHawk 6312/120-60	900-117-01
		240 60Hz		PowerHawk 6312/240-60	900-117-02
		230V 50Hz		PowerHawk 6312/230-50	900-117-03
		277V 60Hz		PowerHawk 6312/277-60	900-117-05
5A	+/- 0.5% resolution	120V 60Hz		PowerHawk 6412/120-60	900-119-01
		240 60Hz		PowerHawk 6412/240-60	900-119-02
		230V 50Hz		PowerHawk 6412/230-50	900-119-03
		277V 60Hz		PowerHawk 6412/277-60	900-119-05
80mA	+/- 0.5% resolution	120V 60Hz		PowerHawk 6320/120-60	900-112-01

About Triacta

Long known for its highly reliable, revenue-grade, multi-protocol submetering products, Triacta's meters have been deployed by submetering companies, property owners, building system integrators and Local Distribution Companies since 2003.

Triacta's meters can be integrated with existing building management and automation systems or used on their own to form a metering fabric for part of a building, an entire building, or a complete real estate portfolio.

Triacta is currently deploying its 5th generation of electric sub-metering devices with over 100,000 active meter points serving a multitude of metering applications in commercial, residential, institutional, government and industrial market sectors.

Triacta has established several OEM, Distributor and/or Reseller relationships with leading companies participating in the "intelligent building" space.

More Information

For more information about Triacta's Intelligent Building submetering solutions, visit www.triacta.com, email info@triacta.com, or call 1-877-797-4295, 1-613-256-2868 or in the U.S. 1-214-296-2142



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