

# PowerHawk® 6000 Series Smart Meters

## Revenue Grade Meters

The PowerHawk® 6000 series of meters combines revenue-grade electrical sub-metering with advanced communications technology and are CDFA certified, Maryland PSC and NYPSC listed, Measurement Canada approved, and independently verified to ANSI C12.20 Class 0.5 and Philippines ERC Class 0.2.

Using advanced IP-based communications, PowerHawk® meters transmit data over existing 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

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

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

Designed to meter or monitor high density applications, but with 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.



## Key Features

- ✓ Fast installation for new construction or retrofits with maintenance free design
- ✓ Measures Wh delivered & received, VARh delivered & received, VAh, Vrms, Irms, Watt demand, VA demand
- ✓ MODBUS® and BACnet® protocols for building automation integration
- ✓ Data logging: 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
- ✓ Remotely upgradeable firmware for future protocol support

# Features & Specifications

	6X03 Meters	6X12 Meters	6320 Meters					
<b>Metering Elements</b>	Electronic solid state device provides up to 6 single phase meters, 3 two phase or 2 three phase meters	Electronic solid state device provides up to 24 single-phase meters, 12 two phase meters or 8 three phase meters	Electronic solid state device provides up to 20 single or two phase meters, or up to 10 three phase meters and 10 two phase meters					
<b>Current Output</b>	<ul style="list-style-type: none"> <li>• 6103 supports 100 mA CTs</li> <li>• 6303 supports 80 mA CTs</li> <li>• 6303 supports 5A CTs when combined with 5A/80mA converters</li> <li>• 6203 supports split-core 333 mV CTs</li> </ul>	<ul style="list-style-type: none"> <li>• 6112 supports 100 mA CTs</li> <li>• 6312 supports 80 mA CTs</li> <li>• 6312 supports 5A CTs when combined with 5A/80mA converters</li> <li>• 6412 supports 5A CTs</li> </ul>	<ul style="list-style-type: none"> <li>• 6320 supports 80 mA CTs</li> <li>• 6320 supports 5A CTs when combined with 5A/80mA converters</li> </ul>					
<b>Communications Interfaces</b>	<ul style="list-style-type: none"> <li>• Single 10/100BASE-T Ethernet Port</li> <li>• Protocols: TCP/IP, DHCP, HTTP, PPP, SNMP, FTP, MODBUS TCP, BACnet/IP</li> <li>• Communications Header accommodates single V.90 modem, Wireless Communications Module</li> </ul>		<ul style="list-style-type: none"> <li>• Ethernet port: 10 Mb/s</li> <li>• Protocols: TCP/IP, DHCP, HTTP, PPP, SNMP, FTP, MODBUS TCP</li> <li>• On board V.90 modem, external PLC or wireless communications</li> </ul>					
<b>Physical Characteristics</b>	<ul style="list-style-type: none"> <li>• <b>Size:</b> 33.7cm(h) x 34.3cm(w) x 6.4cm(d) -or- 13.25in(h) x 13.5in(w) x 2.5in(d)</li> <li>• <b>Weight:</b> 4.54 kg (10 lbs)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Size:</b> 33.7cm(h) x 34.3cm(w) x 6.4cm(d) -or- 13.25in(h) x 13.5in(w) x 2.5in(d)</li> <li>• <b>Weight:</b> 4.54 kg (10 lbs) <b>* 6412*</b></li> <li>• <b>Size:</b> 33.7cm(h) x 34.13cm(w) x 6.4cm(d) -or- 13.25in(h) x 17.4in(w) x 2.5in(d)</li> <li>• <b>Weight:</b> 6.4 kg (10 lbs)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Size:</b> 40.6cm(h) x 27.3cm(w) x 6.4cm(d) -or- 16in(h) x 10.75in(w) x 2.25in(d)</li> <li>• <b>Weight:</b> 4.3 kg (9.5 lbs)</li> </ul>					
<b>Specifications</b>	<ul style="list-style-type: none"> <li>• <b>Control Voltage:</b> 120V, 230V, 240V, 277V (Higher voltage supported with potential transformers)</li> <li>• <b>Reference Voltage:</b> 100V-300V (Higher voltage supported with potential transformers)</li> <li>• <b>Voltage Tolerance:</b> +/- 10%</li> <li>• 50Hz and 60Hz models</li> <li>• <b>Service Type:</b> Single, Poly &amp; 3-Phase + Neutral</li> <li>• <b>Accuracy:</b> ANSI C12.20 0.5 Accuracy Class</li> <li>• <b>Measurements:</b> Wh delivered &amp; received, VARh delivered and received, VAh, Vrms, Irms, Watt demand, VA demand</li> <li>• <b>Demand Interval:</b> 1 to 60 minutes</li> <li>• <b>Operating Temperature:</b> -40 to 70°C (6320 = 0 to 50°C)</li> <li>• <b>Operating Humidity:</b> 0 to 90% non-condensing</li> <li>• For indoor use only; NEMA4 cabinet available for outdoor applications</li> <li>• <b>Maximum Altitude:</b> 3000m (6320 2000m)</li> <li>• <b>Pollution Degree:</b> 2</li> </ul>							
<b>Regulatory Approvals</b>	<ul style="list-style-type: none"> <li>• <b>Safety:</b> UL certified to IEC/EA/UL/CSA - 61010-1 2nd Edition CSA-C22.2 No. 61010-1-04</li> <li>• <b>Emissions (EMC):</b> FCC Part 15 Class B, ICES-003, IEC6100-4-5</li> <li>• <b>Surge power/telephone lines:</b> ANSI/TIA968-A: 2002</li> </ul>							
	<p><b>Accuracy &amp; Billing</b></p> <table border="1"> <thead> <tr> <th>6X03 Meters:</th> <th>6X12 Meters:</th> <th>6320 Meters:</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>• ANSI C12.20 0.5 Class</li> <li>• Measurement Canada LMB-EG-07, AE-1665</li> <li>• CDFA Certification</li> <li>• Maryland PSC and NYPSC Listed</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>• ANSI C12.20 0.5 Class</li> <li>• Measurement Canada LMB-EG-07, AE-1665</li> <li>• Philippines ERC Class 0.2 standards</li> <li>• CDFA Certification</li> <li>• Maryland PSC and NYPSC Listed</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>• ANSI/C12.16 0.5 Class</li> <li>• Measurement Canada LMB-EG-07, AE-1434</li> <li>• CDFA Certification</li> </ul> </td> </tr> </tbody> </table>			6X03 Meters:	6X12 Meters:	6320 Meters:	<ul style="list-style-type: none"> <li>• ANSI C12.20 0.5 Class</li> <li>• Measurement Canada LMB-EG-07, AE-1665</li> <li>• CDFA Certification</li> <li>• Maryland PSC and NYPSC Listed</li> </ul>	<ul style="list-style-type: none"> <li>• ANSI C12.20 0.5 Class</li> <li>• Measurement Canada LMB-EG-07, AE-1665</li> <li>• Philippines ERC Class 0.2 standards</li> <li>• CDFA Certification</li> <li>• Maryland PSC and NYPSC Listed</li> </ul>
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<b>Reporting Capabilities</b>	<p><b>Data-logging and Format</b></p> <ul style="list-style-type: none"> <li>• Interval config (1 to 60 min)</li> <li>• Data storage (up to 2.4 years)</li> <li>• CSV/TR3 file (via FTP push)</li> </ul> <p><b>AMR Functionality</b></p> <ul style="list-style-type: none"> <li>• Triacta Cloud AMR</li> <li>• Scheduled push reporting (FTP)</li> <li>• Config report schedule (hr, day)</li> <li>• Data polling (MODBUS, BACnet)</li> <li>• Real-time data viewing (e.g. HTTP)</li> <li>• On-Board Display: Liquid Crystal with button scroll</li> <li>• 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</li> <li>• 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</li> <li>• On-Board real-time clock with battery back-up (holds time up to 10 years)</li> </ul>							

# Triacta Cloud

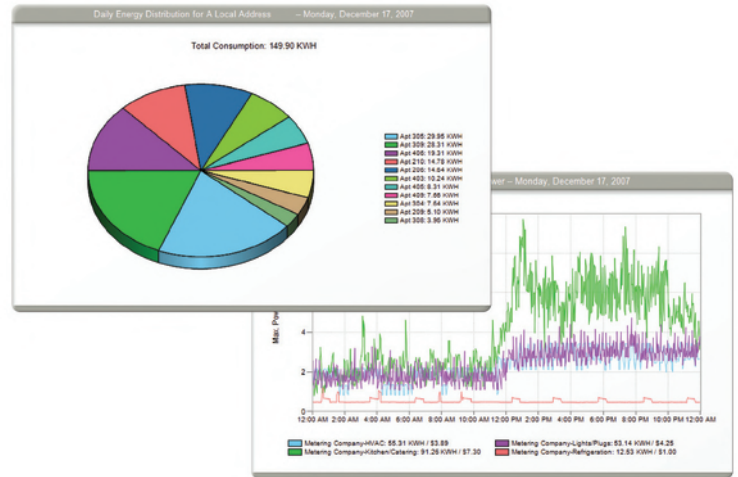
Every Triacta meter ships with meter and resource management software – everything needed to create and manage a metering infrastructure

## Meter Management

Triacta meters can be programmed on-site or remotely using Triacta Cloud. Configuration and management is simple and straight-forward. On-site programming can be performed from a PC-based configuration tool. Alternatively, connecting a meter to the Internet can automatically download a pre-programmed meter configuration – streamlining meter deployment and reducing installation time dramatically. Once configured, an extensive set of meter management tools allow operators to monitor meter operation to ensure the integrity of energy information.

## Resource Management

Triacta Cloud is a complete Metered Resource Management System (energy, water, gas, and monetizable derivatives such as greenhouse gases) that combines automated data collection, powerful analysis tools, and flexible data export capabilities with cloud-based software delivery. Triacta Cloud delivers stakeholders as much or as little information as they need, at the office or remotely – 24/7.



## 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 Triacta Cloud 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.

# Control Cost, Increase Profitability

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 20 percent\* – with a majority of tenants experiencing a reduction in their net monthly costs. And sub-metering establishes billing equity, as tenants pay only for the energy they use.

Whether you're a landlord or condominium board looking to install sub-meters 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.

\* Making the Case For Energy Metering: ASHRAE Journal, April 2011

# PowerHawk® 6000 Series Part Matrix

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

## 6 Elements (CTs)

	PowerHawk 6103/120-60	PowerHawk 6103/240-60	PowerHawk 6103/230-50	PowerHawk 6103/277-60	PowerHawk 6303/120-60	PowerHawk 6303/240-60	PowerHawk 6303/230-50	PowerHawk 6303/277-60
<b>Control Voltage</b>	120V / 60Hz	240V / 60Hz	230V / 50Hz	277V / 60Hz	120V / 60Hz	240V / 60Hz	230V / 50Hz	277V / 60Hz
<b>CT Type</b>	100mA				80mA			
<b>Accuracy</b>	+/- 0.5%				+/- 0.5%			
<b>Notes</b>	All reference voltages are 100V-300V except 6320 which is 120V only							

## 24 Elements (CTs)

	PowerHawk 6112/120-60	PowerHawk 6112/240-60	PowerHawk 6112/230-50	PowerHawk 6112/277-60	PowerHawk 6312/120-60	PowerHawk 6312/240-60	PowerHawk 6312/230-50	PowerHawk 6312/277-60
<b>Control Voltage</b>	120V / 60Hz	240V / 60Hz	230V / 50Hz	277V / 60Hz	120V / 60Hz	240V / 60Hz	230V / 50Hz	277V / 60Hz
<b>CT Type</b>	100mA				80mA			
<b>Accuracy</b>	+/- 0.5%				+/- 0.5%			

	PowerHawk 6412/120-60	PowerHawk 6412/240-60	PowerHawk 6412/230-50	PowerHawk 6412/277-60	PowerHawk 6320/120-60*
<b>Control Voltage</b>	120V / 60Hz	240V / 60Hz	230V / 50Hz	277V / 60Hz	120V / 60Hz
<b>CT Type</b>	5A				80mA
<b>Accuracy</b>	+/- 0.5%				+/- 0.5%
<b>Notes</b>	* 6320 has 50 elements All reference voltages are 100V-300V except 6320 which is 120V only				

## About Triacta

Triacta Power Solutions designs and manufactures high-end, revenue grade meters and data acquisition devices for energy management, tenant billing, and building control applications. Every Triacta meter ships with software that combines meter management, automated data collection, powerful analysis tools and flexible billing capabilities — everything needed to create and manage a metering infrastructure.

Triacta's hardware and software make it possible to monitor hundreds of meter points within a facility in real-time. 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.

Long known for its high-reliability, revenue-grade, multi-protocol sub-metering products, Triacta's meters have been deployed by sub-metering companies, property owners, building system integrators, and local distribution companies since 2003.

Contact us for more information about Triacta's advanced sub-metering solutions.

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