



Triacta GATEWAY

Multi-point Submetering for Energy Management, Tenant Billing, and Building Control

Triacta GATEWAY™ systems are modular, high density electrical meters and pulse collectors for measurement and verification (M&V), energy management, tenant billing, and building control applications.

Combining highly accurate, easily deployable, best-in-class metrology with a powerful computing foundation and IoT networking techniques, the Triacta GATEWAY™ system can easily integrate with legacy building automation protocols or with an IoT oriented network — seamlessly delivering building information to multiple cloud-centric or server-based systems, and making advanced building controls and M&V practical for new build and retrofit scenarios — especially in the sub 50,000 square foot market.

Building Services Information When and Where You Need It

The Triacta GATEWAY™ system offers property managers and building owners a highly accurate metering platform that can measure, store, and pass on building services information to any and all building management and business applications — avoiding costly information silos that hamstring building intelligence initiatives by restricting information flow.

Key Features

- ✓ Revenue-grade, industrial design ready for tenant billing, energy management, and building control applications
- ✓ Modular architecture that can accommodate from 12 to 48 inputs for measuring and monitoring building services such as electricity, water or natural gas — all on the same device
- ✓ 2 voltage references selectable on a per meter-point basis
- ✓ Flexible meter point configuration — any combination of 3-phase, 2-phase or 1-phase meter points; any input programmed to a meter point
- ✓ Multi-communication capabilities to match any particular networking situation — from legacy building systems to IoT
- ✓ Multi-homing capabilities with cloud-based access for simultaneous communications with multiple cloud services

Features & Specifications

<p>Key Attributes</p>	<ul style="list-style-type: none"> Up to 48 elements in any combination 1, 2 (network), or 3 phase meters Single or dual reference voltages selectable on a per meter point basis (120/240V, 120/208V, 240/416V, 277/480V) Flexible, phase-programmable assignment of input and voltage reference to each meter point 4 quadrant meter measurements <ul style="list-style-type: none"> Register and interval recording Active, Reactive, Apparent Peak W Demand Peak VA Demand Vrms, Peak Irms Watt demand VA demand 	<ul style="list-style-type: none"> Plug-and-play utility enclosure and base system Sealable for tamper-evident compliance Large 4x20 LCD display, 4 control buttons for local reading Multi-homing for reporting to multiple services Browser-based programming interface, built-in web page for local meterpoint/pulse reading and built-in WIFI access point for easy and direct communication from a tablet, smartphone, laptop, or network Dual processor architecture for MID (Europe) compliance and enhanced system capability: <ul style="list-style-type: none"> System firmware download 3rd party application development
<p>Input Capacity</p>	<p>Flexible, modular design can accommodate from 12 to 48 inputs for measuring electricity and monitoring other building services (such as water or natural gas). Inputs are selectable in increments of 12 :</p>	
	<p>Electrical Metering</p> <ul style="list-style-type: none"> 12 x 100mA CT 12 x 80mA CT 12 x 333mV CT or Rogowski Coil 	<p>Pulse Capabilities</p> <ul style="list-style-type: none"> 12 x Form A Dry-Contact Pulse Input 12 x Form A Solid-State Contact Pulse Input
<p>Physical Characteristics</p>	<ul style="list-style-type: none"> Size: 39.4 cm H x 38.9 cm W x 9 cm D (15.52" x 15.3" x 3.55") Weight: approximately 2.27 kgs (5 lbs) Operating temperature: -40 to 70°C Operating humidity: 0 to 90% non-condensing 	
<p>Communications</p>	<ul style="list-style-type: none"> Ethernet (10/100 Base T) 2 USB ports for communications/memory expansion (e.g. 2nd Ethernet for "Daisy chain" network topology) Wifi on board (access point and network client) Local browser or remote configuration 	<p>Future: "Outside the seal" communications expansion connector (serial bus & UART)</p> <ul style="list-style-type: none"> V.90 modem Daisy Chain Ethernet MODBUS RTU/RS-485 BACnet MS/TP Cell Modem M-BUS KNX
<p>Accuracy</p>	<ul style="list-style-type: none"> Independently certified ANSI C12.20, Class 0.5 (pending) 	
<p>Regulatory Approvals (pending)</p>	<ul style="list-style-type: none"> Residential Tenant Submetering and Billing <ul style="list-style-type: none"> Measurement Canada EG-07 California CDFA New York PSC Maryland PSC Safety: usULc Emissions: FCC Part 15 Subpart B and ICES 003 WIFI: FCC 15.247 (DTS) Physical: NEMA 250 	

Revenue Grade

Tested by some of the most stringent regulators in the world, Triacta meters are renowned for their accuracy and reliability. Triacta GATEWAY meters are designed to meet the same approval standards as our PowerHawk meters – which are CDFA certified, NYPSC listed, Measurement Canada and Maryland PSC approved, and independently verified to ANSI C12.20 Class 0.5.

48 Mix and Match Inputs

The Triacta GATEWAY is built on a modular design that can accommodate from 12 to 48 inputs for measuring electricity and monitoring other building services (such as water or natural gas). Inputs are selectable in increments of 12, meaning you can customize the meter to precisely fit your specific needs.

Flexible Configuration

The Triacta GATEWAY allows you to create any mix of 3-phase, 2-phase or 1-phase meter points – and any element can be assigned to any meter point*. Now property managers and building owners can be 100% efficient in their use of available metering assets – and fix any conceivable wiring errors remotely and programmatically. Triacta GATEWAY's flexible configuration capabilities can save from 30-50% in meter deployment costs.

Multi-Homing Capabilities

With the Triacta GATEWAY™ system and its multi-homing capabilities, all information can be pushed to multiple web services (energy billing, analytics, EnergyStar reporting, demand response programs, meter management, etc.), so you can take full advantage of as many different web services as you like – without restriction and without having to choose a single provider. It's your data after all.

Two-part Modular Design

Each Triacta GATEWAY system consists of a Triacta GATEWAY Enclosure and a Triacta GATEWAY "Meter Head". The Triacta GATEWAY Enclosure can be installed on the wall and termination boards can be attached easily after CT's have been connected (or CT's can be connected with the Triacta GATEWAY Enclosure on the wall). Each termination board has a shorting connector that automatically shorts the CT's when the Triacta GATEWAY Meter Head is removed (a standards-based safety measure), and opens the short when the Triacta GATEWAY Head is installed.

*Refer to Triacta Engineering Bulletin # 2036 for configuration restrictions



Cloud-based Management

Triacta uses a cloud-based approach to meter management. Cloud-based technologies offer the most reliable, safe, secure, and proven way to collect and share data. With the included Triacta Cloud software, there are no distracting set-up issues or deployment costs, no software licensing fees, and no additional hardware to buy.

Dual Voltage Reference

Dual voltage reference facilitates a more efficient meter point utilization and can, in some instances, reduce by half the number of meters needed to be deployed. With the Triacta GATEWAY meter you can create a meter point from any element input, and you can assign any phase to those elements. That phase assignment can come from either one of 2 voltage references.

Future-Proof

Triacta GATEWAY meters feature a powerful, upgradable Linux operating system for developing local applications (building automation, diagnostics, business rules) to meet current and future energy management and building automation needs. As new protocols and applications are developed, the Triacta GATEWAY can be easily updated to handle them. Additionally, the Triacta GATEWAY meter board has its own metrology processor and the Triacta GATEWAY can change system information without affecting meter calibration. This allows system firmware upgrades to happen "under the seal" as per European and Canadian regulations.

COMPONENT ARCHITECTURE

Triacta GATEWAY Systems have two primary components, the GATEWAY Head and the GATEWAY Enclosure. The GATEWAY Head is the active metrology and computing platform for the system. The GATEWAY Enclosure is a passive landing base for power and inputs from sensor sources. There is also a spot to affix optional expansion modules on the Enclosure assembly.

This unique “two-component” approach allows an Enclosure to be installed and electrical connections terminated by electrical contractors separate from the installation of the GATEWAY Head, which may be installed by a technician with no electrical accreditation.



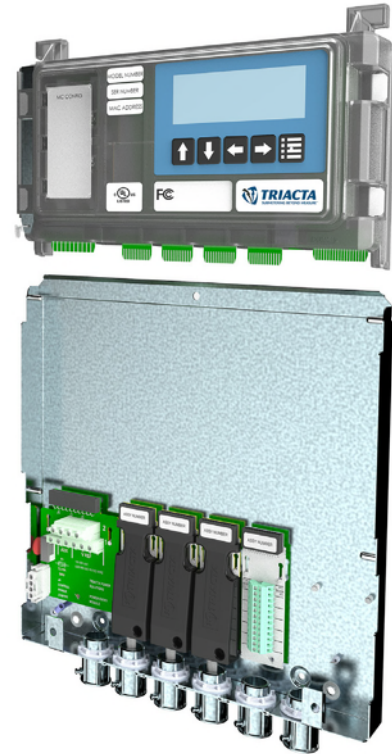
Two-component approach allows GATEWAY Enclosure to be installed and electrical connections terminated separate from the the GATEWAY Head

Triacta GATEWAY Head Unit

The GATEWAY Head is the primary information processing platform for a Triacta GATEWAY System. It has its own cover, with a sealing mechanism covering a programming switch to inhibit modification of regulator restricted parameters. The large LCD display can show all meterpoint/pulse input values, as well as other system level information such as IP address, date and time etc. The Head has several areas where visible custom labels can be added. The Head Unit has one Ethernet port, 2 USB ports, onboard WIFI transceiver and two built in pulse inputs.

Edge Connector Ports

The GATEWAY Head is designed to be inserted into a GATEWAY Enclosure. The GATEWAY Head edge connectors insert into sockets affixed to the GATEWAY Enclosure on the



GATEWAY Head may be installed separate from the GATEWAY Enclosure by a technician with no electrical accreditation – saving time and money

Power Termination, input Termination Cards and optional Communication Expansion Modules. There are 6 separate Edge Connectors, one for power input, 4 for sensor input (4 metrology or pulse modules), and 1 for Communications Expansion modules.

Triacta GATEWAY Enclosure

The GATEWAY Enclosure has a metal base which is affixed to the wall, and a cover which leaves an opening for the GATEWAY Head to protrude (making the display and labelling accessible from the outside). The Enclosure cover incorporates a sealing mechanism for a utility seal, providing tamper-evident entry protection. The cover is easily placed onto the metal base, over the GATEWAY Head, and the utility seal fastens the cover to the base. The metal base has several positions for: a) the voltage termination, b) 4 termination modules of various styles, and an optional communications expansion module. Once a card has been slid into position, it is fastened using a screw. The termination modules align with removable conduit adapters where cabling from CT's and other metering devices.

SUBMETERING BEYOND MEASURE

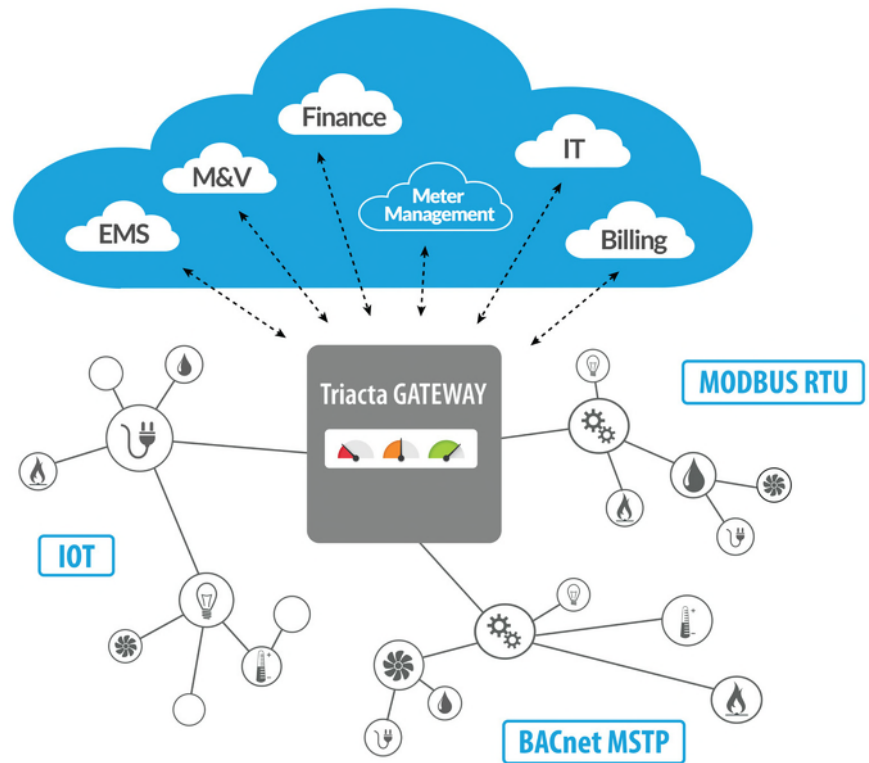
Imagine being able to trial a new energy management analytics service while continuing to use your current vendor. Or sending your meter reads and pulse collection information to a billing agent while also sharing it with an energy management service for ongoing monitoring.

With the Triacta GATEWAY™ system and its multi-homing capabilities, all information can be pushed to multiple web services (energy billing, analytics, EnergyStar reporting, demand response programs, meter management, etc.), so you can take full advantage of as many different web services as you like – without restriction and without having to choose a single provider. It's your data after all.

Information Mobility

The free and unobstructed flow of building services information to all stakeholders, systems, and applications should be the goal of any energy management system – so the right information gets to the right place, at the right time.

Triacta's meters are web-centric devices with collectors built-in, so there's no need for additional proprietary on premises collector systems. And all Triacta products have



multiple internet and BAS protocols built-in, so communicating with cloud-based servers or building automation systems is a snap.

Triacta's "Triacta Cloud" Software as a Service is the default destination, which can distribute information to other cloud-based applications, but the destination is programmable. Push only reporting is fire-wall friendly, avoiding IT department complications. With push, all communications are initiated by the meter from within the firewall.

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.

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 submetering products, Triacta's meters have been deployed by submetering companies, property owners, building system integrators, and local distribution companies since 2003.

Contact us for more information about Triacta's advanced multi-point submetering solutions

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