

PowerHawk® Smart Meters

Revenue-grade Meters for Building Automation, Intelligent Building and Regulated Metering Applications

Triacta's PowerHawk® family of revenue-grade meters and monitors can be used on their own or seamlessly integrated with existing Building Automation Systems, Internet Protocol (IP) based IT servers, and business applications such as Energy Management Systems.

Triacta meters transform properties into Intelligent Buildings — bridging the energy information gap by making data visible to all stakeholders via Building Automation, Financial, and Energy Management Systems. Energy management data that was once only available within facilities management is now also accessible by anyone with the need to know. Triacta meters accomplish this by communicating concurrently with Building Automation systems over Building Automation protocols, and with IT systems over IP.

Triacta meters are built using industry standard protocols and come complete with field upgradable firmware — making them a future-proof solution that will perform for years to come. Reliable, full-featured and fully networkable, PowerHawk meters can be quickly installed for both new construction and retrofits.

The PowerHawk family of meters comes in two series — the 4000 and the 6000. Customers can trade off the utility-grade sealable capabilities of the 6000 series meter for the economic price point of the 4000 series. 6000 series meters meet the sealing requirements of the most stringent jurisdictions, such as California, Canada and Europe.

All Triacta meters deliver rich functionality that allow them to be a single component in a larger application, or to function on their own as a standalone offering.

Triacta's web-based PowerHawk Manager — delivered through the Software as a Service model — combines with PowerHawk meters to create a powerful metering platform that can serve as a complete energy management solution.

- ✓ Fast installation for new construction or retrofits
- ✓ Single, poly and three phase + neutral functionality
- ✓ Multiple energy parameters measured: Wh, VARh, VAh, Vrms, Irms
- ✓ Building Automation: MODBUS® TCP, MODBUS RTU over RS-485 (new) and BACnet® IP
- ✓ Internet Protocol: TCP/IP, DHCP, HTTP, PPP, SNMP, FTP
- ✓ Pulse inputs for integrating other meters & services
- ✓ 5 to 60 minute programmable datalogging interval data stored in non-volatile flash memory
- ✓ Built-in ethernet port
- ✓ Communications expansion port for wireless and Power Line Carrier (PLC)
- ✓ Field upgradable firmware for future protocol support
- ✓ Remote configuration
- ✓ Revenue grade accuracy and Measurement Canada 10-year seal period



TRIACTA
SIMPLE SMART GREEN®

PowerHawk® Smart Meter Feature Comparison

Meter Specifications

Meter Elements					
Single phase	6	24	6	24	50
Two phase	6	24	6	24	20
Three phase	3	12	3	12	20
	2	8	2	8	10 (+10N)
Current Output					
80mA CT (200A)	4306	4324	6303	6312	6320
100mA CT	4106	4124	No	No	No
333mV CT (split core)	4206	4224	6203	6212	6220
5A CT (200A - 800A)	No	No	No	6412	6420
Voltage Range					
120/208V	Yes	Yes	Yes	Yes	Yes
120/240V	Yes	Yes	Yes	Yes	Yes
240/416V	Yes	Yes	Yes	Yes	No
277/480V (US)	Yes	Yes	Yes	Yes	No
Voltage Frequency					
60Hz	Yes	Yes	Yes	Yes	Yes
50Hz	Yes	Yes	Yes	Yes	No
Control Power Option					
120V	Yes	Yes	Yes	Yes	Yes
240V	Yes	Yes	Yes	Yes	No
277V	Yes	Yes	Yes	Yes	No
Meter Measurements					
Current (Irms)	Yes	Yes	Yes	Yes	Yes
Voltage (Vrms)	Yes	Yes	Yes	Yes	Yes
Energy (Wh delivered)	Yes	Yes	Yes	Yes	Yes
Energy (Wh received)	Yes	Yes	Yes	Yes	No
R. Energy (VARh delivered)	Yes	Yes	Yes	Yes	No
R. Energy (VARh received)	Yes	Yes	Yes	Yes	No
A. Energy (VAh)	Yes	Yes	Yes	Yes	No
Metering Mode					
Cumulative register	Yes	Yes	Yes	Yes	Yes
Interval	Yes	Yes	Yes	Yes	Yes
Accuracy					
Revenue grade (0.5%)	4306	4324	6303	6312	6320
Monitoring grade (2%)	4206	4224	6203	6212	6220
Configuration & Maintenance					
PowerHawk Manager support	Yes	Yes	Yes	Yes	Yes
FTP config and download	Yes	Yes	Yes	Yes	Yes
TFTP F/W upgrade	Yes	Yes	Yes	Yes	Yes
Event records (FTP)	Yes	Yes	Yes	Yes	Yes
Operating Parameters					
Operating Temperature	-40 to 70C	-40 to 70C	-40 to 70C	-40 to 70C	0 to 50C
Humidity (non-condensing)	0 to 90%	0 to 90%	0 to 90%	0 to 90%	0 to 90%
Special Features					
Sealing (revenue billing grade)	No	No	6303	6312	6320
On-board meter display	Yes	Yes	Yes	Yes	Yes
Pulse inputs	2	2	2	2	1
Cumulative pulse records	Yes	Yes	Yes	Yes	No
On-board real-time clock (10 years)	10 year	10 year	10 year	10 year	1 year

Energy Management Meters

Revenue Grade Meters

Communication Interfaces

IPV4	Yes	Yes	Yes	Yes	Yes
TCP	Yes	Yes	Yes	Yes	Yes
FTP	Yes	Yes	Yes	Yes	Yes
Trivial FTP (TFTP)	Yes	Yes	Yes	Yes	Yes
DHCP	Yes	Yes	Yes	Yes	Yes
SNTP	Yes	Yes	Yes	Yes	Yes
HTTP	Yes	Yes	Yes	Yes	Yes
PPP	No	No	Yes	Yes	Yes
Modbus TCP	Yes	Yes	Yes	Yes	Yes
Modbus RTU (serial)	Yes	Yes	Yes	Yes	Yes
BACnet/IP	Yes	Yes	Yes	Yes	No
Ethernet (on-board)	Yes	Yes	Yes	Yes	Yes
V.90 modem module	No	No	Yes	Yes	Yes
RS-485 serial	Yes	Yes	No	No	Option
RS-232 serial	Yes	Yes	Yes	Yes	No

Reporting Capabilities

Datalogging and Format

Interval config (5 to 60 min)	Yes	Yes	Yes	Yes	Yes
Data storage (1hr intervals)	2.4 yr	2.4 yr	2.4 yr	2.4 yr	480 days
CSV/TR3 file (via FTP push)	Yes	Yes	Yes	Yes	Yes

AMR Functionality

PowerHawk Manager AMR	Yes	Yes	Yes	Yes	Yes
Scheduled push reporting (FTP)	Yes	Yes	Yes	Yes	Yes
Config report schedule (hr, day)	Yes	Yes	Yes	Yes	Yes
Data polling (Modbus, BACnet)	Yes	Yes	Yes	Yes	Modbus
Real-time data viewing (e.g. HTTP)	Yes	Yes	Yes	Yes	Yes

Physical Characteristics

Height (cm)	33	33	33	33	41
Width (cm)	30	30	30	30	20
Depth (cm)	5	5	5	5	5
Volume (cu. cm)	4950	4950	4950	4950	4100
Volume per Meter element (cu. cm)	825.0	206.3	825.0	206.3	205.0
Weight (KG)	6.4	6.4	3.98	6.4	2.4
Weight per Meter element (grams)	1066.7	266.7	663.3	266.7	120.0

Regulatory Approvals

Safety - UL/CSA	Yes	Yes	Yes	Yes	Yes
Emissions - Class A	Yes	Yes	Yes	Yes	Yes
Emissions - Class B	Yes	Yes	Yes	Yes	No
Measurement Canada (0.5% revenue grade)	No	No	6303	6312	6320
ANSI 0.5 Accuracy Class standards	4306	4324	6303	6312	6320

Energy Management Meters

Revenue Grade Meters

IPV4	Yes	Yes	Yes	Yes	Yes
TCP	Yes	Yes	Yes	Yes	Yes
FTP	Yes	Yes	Yes	Yes	Yes
Trivial FTP (TFTP)	Yes	Yes	Yes	Yes	Yes
DHCP	Yes	Yes	Yes	Yes	Yes
SNTP	Yes	Yes	Yes	Yes	Yes
HTTP	Yes	Yes	Yes	Yes	Yes
PPP	No	No	Yes	Yes	Yes
Modbus TCP	Yes	Yes	Yes	Yes	Yes
Modbus RTU (serial)	Yes	Yes	Yes	Yes	Yes
BACnet/IP	Yes	Yes	Yes	Yes	No
Ethernet (on-board)	Yes	Yes	Yes	Yes	Yes
V.90 modem module	No	No	Yes	Yes	Yes
RS-485 serial	Yes	Yes	No	No	Option
RS-232 serial	Yes	Yes	Yes	Yes	No
Datalogging and Format					
Interval config (5 to 60 min)	Yes	Yes	Yes	Yes	Yes
Data storage (1hr intervals)	2.4 yr	2.4 yr	2.4 yr	2.4 yr	480 days
CSV/TR3 file (via FTP push)	Yes	Yes	Yes	Yes	Yes
AMR Functionality					
PowerHawk Manager AMR	Yes	Yes	Yes	Yes	Yes
Scheduled push reporting (FTP)	Yes	Yes	Yes	Yes	Yes
Config report schedule (hr, day)	Yes	Yes	Yes	Yes	Yes
Data polling (Modbus, BACnet)	Yes	Yes	Yes	Yes	Modbus
Real-time data viewing (e.g. HTTP)	Yes	Yes	Yes	Yes	Yes
Physical Characteristics					
Height (cm)	33	33	33	33	41
Width (cm)	30	30	30	30	20
Depth (cm)	5	5	5	5	5
Volume (cu. cm)	4950	4950	4950	4950	4100
Volume per Meter element (cu. cm)	825.0	206.3	825.0	206.3	205.0
Weight (KG)	6.4	6.4	3.98	6.4	2.4
Weight per Meter element (grams)	1066.7	266.7	663.3	266.7	120.0
Regulatory Approvals					
Safety - UL/CSA	Yes	Yes	Yes	Yes	Yes
Emissions - Class A	Yes	Yes	Yes	Yes	Yes
Emissions - Class B	Yes	Yes	Yes	Yes	No
Measurement Canada (0.5% revenue grade)	No	No	6303	6312	6320
ANSI 0.5 Accuracy Class standards	4306	4324	6303	6312	6320