



wattwatchers
DIGITAL ENERGY

Auditor 3M/6M Specifications

April 2017 - Version 1.1

Version control

This document contains technical and configuration specifications for all Auditor 3M and 6M options.

Version 1.0	Initial release - February 2017
Version 1.1	Updated document layout



- 3G connected real-time energy metering and control
- 3 or 6 channels of Class 1 (revenue-grade) measurement
- Ultra-compact 35mm DIN package
- Enterprise-class performance - suitable for domestic, commercial and industrial use
- Device Management System (DMS) for over-the-air (OTA) configuration & fleet management
- Simultaneous support for two hosting services
- Current and future options support load control and gateway functions
- Plug compatible with WiFi, Ethernet and LoRa versions
- Onboarding application (2Q17)



AUDITOR 3M, AUDITOR 6M

Standard inclusions	Within enclosure: 3 or 6 meters, power supply, 2G/3G Outside enclosure: Current Transformers or Rogowski coils, Antenna
2G/3G	Certified for Australia, NZ, US, Canada GSM/GPRS/EDGE: Quad band 850/900/1800/1900MHz UMTS/HSPA+: Five band 800/850/900/1900/2100MHz
Antenna	SMA connector, direct connect Multiband antenna provided Optional: external antennas as required e.g. outside metal meter box
Power Supply	Built in (operates from phase 1) universal power supply
Meters	Auditor3M supports three channels, each separately reported Auditor6M supports six channels, each separately reported
Availability	Now
Hosting	GridAnalytics (SME energy management) SolarAnalytics (solar monitoring and diagnostics) Wattwatchers (API, applications)
Device Management	The Wattwatchers Device Management System (DMS) supports <ul style="list-style-type: none"> • Firmware updates • Remote network diagnostics • Configurable reporting • Tracking of manufacturing and calibration processes • Enrolment API (2Q2017) • Installation verification, OTA correction of CT “wrong phase” errors
Measurement interval	5 to 150 seconds
Energy logging	5 minute intervals; servers request logged data.



Logged values	Real and reactive energy, min and max voltage and current, frequency
Logging period	27 days of 5 minute data for 6 channels 50 days of 5 minute data for 3 channels The log is kept current, and used after an operational device has been offline.
Data volume	11.3MB/month (30 second reports)
Protocol	Wattwatchers (see WW-AN002)
Voltage connections	P1 is used to sense voltage and power supply P2 and P3 sense only P1, P2 and P3 can be remotely assigned to channels Neutral is required
Current sensing	AUDITORs use Current Transformers and Rogowski coils: <ul style="list-style-type: none"> - Standard CTs 60A, 120A, 400A, 600A are field interchangeable - Rogowski coils require factory configuration
Configuration	No network configuration required at install time
Data, SIMs	SIMs are required during the final stages of manufacture: <ul style="list-style-type: none"> - Customers with their own data account supply SIMs at time of order, or - Wattwatchers provides SIMs and a data plan
Networking	AuditorM series devices generally report data to one hosting service. Reporting to multiple servers can be enabled but uses additional data.
Time	Time is managed by the Hosting service(s) and the DMS
Applications	Load switching: autonomous, WAN supervised, frequency responsive Gateway functions (eg: Modbus master connects to inverter) Control (eg: change battery mode)



Electrical characteristics

Measurement configuration	Voltage	1, 2 or 3 phase (Neutral required)
	Current	CT or Rogowski
	Mode	Fundamental only / all harmonics
Measurement accuracy	Current and voltage	Meter is 0.1%. CT's supplied reduce this to 0.5% = 1%
	Power	Real power: 1 % of reading from pf 0.8 leading to 0.5 lagging: Reactive power: 2% below 0.5 lagging
	Frequency	200 ppm
	Power factor	2% from 0.8 leading to 0.5 lagging
	Active energy	Class 1 as defined by IEC 62053-21
	Reactive energy	Class 2 as defined by IEC 62053-23
Input-voltage characteristics	Measured voltage	50 to 265 V AC
	Permissible overload	1.15 Un, 1 minute
Input-current characteristics	Standard CT ratings	60A, 120A, 400A, 600A, Rogowski coils
	Internal burden	2.7 ohms (same value used for all standard CTs)
	Full Scale	100 mA
	CT Connections	Not isolated (Neutral referenced)
Internal Power		1W Single Phase (P1)

Mechanical characteristics

Weight		0.3 kg
iIP degree of protection		IP50 (front display) (higher, depending on cabinet)
Dimensions		90 x 66 x 35 mm (2 DIN pole)
Connection	Voltage	6 positions / 4 connection 5.08 mm pitch FCI part 20020007-H061B01LF
	Current - 3 meters version	6-way 3.81mm pitch FCI part 20020004-D061B01LF
	Current - 6 meters version	8-way 3.81mm pitch FCI part 20020004-D081B01LF

Environmental conditions

Operating temperature		-30 °C to +70 °C
Installation / pollution category		III / 2
Electromagnetic immunity	Electrostatic discharge	Level III (IEC 61000-4-2)
	Immunity to radiated fields	Level III (IEC 61000-4-3)
	Immunity to fast transients	Level IV (IEC 61000-4-4)
	Immunity to impulse waves	Level IV (IEC 61000-4-5)

Safety

AS60950 Level III

Communication

2G/3G		Pentaband
Antenna		External, SMA connector
SIM		Internal (WW, or accredited partners)

Network

Public Network	Routes	Consult vendor
	APN	Consult vendor
Private APN	Routes	Consult vendor
	APn	Consult vendor



Servers

Hosting Management	2
Time	DMS
	Internal

Power Quality

Frequency Measurement	45 to 65 Hz, 0.01 Hz resolution
Voltage	80-265V in 0.1V resolution

Compliance Certificates

RMC	E5258
Safety	AS/NZ60950.1:2015
Conducted Emissions	AS/NZS CISPR 22:2009 ClassB
FCC ID	QIPEHS6
PTCRB	Request #59525
AT&T	TBN
Related spurious emissions	AS/NZS 4268:2008 +A1:2010 C 8.2 and 9.1

