# Customer Welcome Pack

Welcome to Wattwatchers. If you are receiving this pack then you've most likely already ordered a Wattwatchers device or devices, or you are planning to do so. In either case, we want to help you to have a positive experience with our suite of solutions from the outset.

This 'Wattwatchers Customer Welcome Pack' pulls together many of the key information and links you'll need in one place including:

# 1.   Introduction to Wattwatchers products

Wattwatchers devices are enterprise-quality, API-enabled internet appliances for monitoring and controlling electricity at circuit-level in real time.

The installation and ongoing operation of Wattwatchers devices may differ from other utility meters, commercial sub-metering and home energy management products that you have deployed in the past. It really helps to get familiar with the kit before a first installation job.



Typical 3G monitoring device with examples of CT's - 600 amp, 400 amp, 60 amp



Examples of monitoring + control devices with contactors - 3-phase (left) and single-phase (right)

## 2.    What's in the box?

In most cases each device and the equipment that goes with it for an installation will arrive packed in a box of their own. In some cases - for example where larger-sized CT's or Rogowski Coils, or longer-range antennas have been ordered - then these may be packed in a second box.

If multiple devices have been ordered then a number of individual product boxes will be packed into a larger carton for transport and delivery.

The hardware items typically packed will be:

- The Wattwatchers device itself, with 3G devices including a small 70mm antenna that needs to be screwed on to the SMA connector on the face of the device by the installer (WiFi devices have an internal aerial only). In some cases for 3G devices, larger blade antennas or longer-range antennas with a cable connection to the device may be supplied and used (or can be independently sourced).

- CT's (current transformers) including wiring leads with each CT and a green plastic connector to plug all of them into the top of the device - either one set of 3 for a 3-channel device or two sets for a 6-channel device (Wattwatchers-supplied CT's must be used to avoid compromising accuracy and voiding warranties).

- Wiring tails with green plastic connectors - for hardwiring the device to power the Wattwatchers unit and provide voltage for measurement, with either single-phase (red and black), 3-phase (red, white and blue) or both.

Information materials in the box may include:

- Wattwatchers Device Install Sheet (part # WW017001) - lists the 'onboarding metadata' that needs to be captured by installers on-site (this will be substantially augmented in 2018 by the release of a Wattwatchers onboarding app).

- Quick Install Guides - for example for 3G devices the Auditor 6M Quick Install Guide (part # WW017008) and for WiFi the Auditor 6W Quick Install Guide (part # WW017007)

- Support Flyer - Need Help? (part # WW017005)

- Wiring Diagrams - for example for the Auditor 6M+3SW monitoring + control device (part # WW017006)

# THE WATTWATCHERS **HARDWARE** UNIVERSE

## MODELS

- **3M**
  » 3G, 3 CHANNELS
- **6M**
  » 3G, 6 CHANNELS
- **6W**
  » WIFI, 3/6 CHANNELS
- **6M + 3SW**
  » 3G, 6 CHANNELS +
  3 SWITCHES

## ANTENNAS

- **STANDARD**
  » 35MM
- **BLADE**
  » 70mm
- **LONG RANGE**

## WIRING TAILS

- **SINGLE PHASE**
  » RED + BLACK
- **3 - PHASE**
  » RED, WHITE & BLUE

## CTs – AMPS

- **60**
- **120**
- **200**
- **400**
- **600**
- **Rogowski Coils**

**3000 amps**

## CONTACTORS

- **SINGLE PHASE**
  » 2 POLE
- **3 - PHASE**
  » 4 POLE

# 3.  Getting data out of Wattwatchers devices

## 3.1  Overview

Wattwatchers devices transmit energy measurements as 'packets of data' to the Cloud. The raw data is then processed as 'useful energy data' and is typically presented and viewed via software dashboards and apps on ubiquitous screen devices such as computers, tablets and laptops (also see next section on software including Wattwatchers' APIs and tools, and third-party apps and dashboards offered by our partners).

Please note that:

- Wattwatchers devices <u>do not</u> provide a readout on the device itself
- They also <u>do not</u> allow data to be downloaded directly from the device on-site

## 3.2  Measurement

Wattwatchers devices measure energy flows bi-directionally at circuit level in:

- 5-second intervals which we call 'short energy'
- 5-minute intervals which we call 'long energy'

## 3.3  Transmission

The transmission of energy measurements to the Cloud is configurable via the Wattwatchers Device Management System (DNS).

Depending on the model of Wattwatchers device being used, 'short energy' is normally streamed every 5 seconds from WiFi devices and every 30 seconds or 60 seconds from 3G devices (in order to better manage data plan charges - in these cases each 'packet' transmitted is the average of 6x 5-second measurements or 12x 5-second measurements).

'Long energy', meanwhile, is normally transmitted every 5 minutes and is guaranteed to be delivered to the server connection in the Cloud. These measurements are time-and-date stamped, and logged (see below), and represent the official record. 'Long energy' transmissions can be modified for special requirements, for example to hourly transmissions to further minimise monthly 3G data plan costs.

## 3.4  Logging

The 'long energy' data is logged in the devices themselves for a minimum of three weeks - see table below for more details. If the communications connection with the Cloud is lost and then restored, the server will 'catch up' with any data that has been logged in the device and not previously received by that server. (This happens because 'short energy' packet transmissions prompt servers to ask for any 'long energy' packets that haven't been sent from the devices.)

| Device type | Logging period |
| --- | --- |
| 3G models | 27 days of 5 minute data for 6 channels<br>50 days of 5 minute data for 3 channels |
| WiFi models | 30 days of 5 minute data for 6 channels<br>60 days of 5 minute data for 3 channels (i.e. installed with only 1 set of 3 CT's) |

*The log is kept current, and used after an operational device has been offline.

# 4.  Wattwatchers APIs, tools and apps

## 4.1  Overview

Wattwatchers is developing an expanding suite of in-house Applications Programming Interfaces (APIs), tools and basic apps to support the use of our devices and data streams, which collectively make up the emerging Wattwatchers 'Energy Data Hub' model.

In 2018 and beyond these will include:

- Monitoring API - to access circuit-level energy data from our monitoring devices

- Control API - to remotely energise or de-energise electrical circuits in households, businesses and other sites that are available via our monitoring + control devices

- Onboarding app - to guide installers through the installation process, capture required site data, and verify successful installation and connection to the Cloud

- Basic end-user apps - visualisation of energy data and simple budgeting tools

## 4.2  APIs

Wattwatchers APIs are industry-standard RESTful interfaces. Our first API, for monitoring data, has been successfully integrated with by dozens of partners in Australia and around the world since it went live in 2016*.

The control API was introduced in November 2017, coordinated with the release of our first generation of monitoring + control devices (Auditor 6M+3SW).

> *Please note that older-generation Wattwatchers devices dating back to pre-2016 cannot be used with the API.*

API DEMONSTRATIONS: Wattwatchers provides API accounts to potential users of our solutions as well as to established customers. This includes access to 'demonstration data streams' from already installed devices - with relevant metadata - to assist with assessment of our APIs for software integration purposes. If haven't already been provided with access to our APIs, but need it, then please ask - all we need from you is an email address that you want to use for your API account (should be monitored regularly by a real person).

# 5.  Third-party partner dashboards and apps

Wattwatchers 'works with' a growing choice of third-party dashboards and apps* provided by partners and customers in keeping with our 'software agnostic' business model and facilitation of own-branding options.

These include:

- Commercially available software-as-a-service and energy-as-a-service business models e.g. solar performance monitoring, business energy management, home energy management, microgrid management

- Energy marketplace platforms e.g. demand response programs and aggregation, Virtual Power Plant and Virtual Demand Plant business models

- Building management systems (BMS) and environmental management systems (EMS)

- Compatible hardware e.g. HVAC control solutions, energy storage systems and electric vehicle charging

- Emerging IoT and 'smart' solutions e.g. automation, big data

In some cases third-party solutions will only be available as bundled hardware + software offerings via our partners. In other cases they may be available as 'app store' options to anyone who has a Wattwatchers device installed and connection to our Energy Data Hub.

Up-to-date information on partner offerings is available from our [Partners](#) page on the website and newsletters, and also from partner websites sites.

> *Please note that third-party solutions may have their own installation, onboarding and data access and management processes, including in some cases their own APIs. These should be investigated, understood and used where relevant to that service.

# 6.    Onboarding app - additional install advice

The introduction of the Wattwatchers device 'Onboarding App' from 2018 onwards will provide easy-to-use support for installers.

Nevertheless, we always highlight the following, especially for first-time installers of our products:

1. Wattwatchers devices are professional equipment and need to be hardwired into a meter box or distribution board <u>by a qualified electrician</u>.

2. While the devices are designed to clip on to the DIN-rail format commonly used in Australia and many countries around the world, in some cases this will not be possible due to lack of space or other reasons.

   a. If mounting on an already-installed DIN is not an option, the electrician on-site should <u>use their professional discretion</u> on how to mount the device, if this can still be done safely and effectively, with options including using a standalone DIN-box for an adjacent installation (e.g. IP65, IP66 box)

   b. In all cases, the electrician on site should make their own professional decision on whether an installation can be made <u>safely and effectively</u>; and can, at their discretion, declare a location as 'not able to be installed' for specific reasons.

3. Before attempting a first-time installation please make sure that you familiarise yourself with the hardware (device, CT's, wiring tails & contactors for switching units) and support materials in the box including setup guide, wiring diagrams and installation reporting form. Please use the [Install](#) page on our website as a key resource [www.wattwatchers.com.au/install](http://www.wattwatchers.com.au/install)

4. If still in any doubt, please call SUPPORT NUMBER to arrange a pre-installation briefing call with a Wattwatchers technical expert.
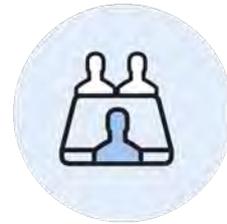
# 7.  Support

| Email | Phone | Self-help | Ask to meet |

## 7.1  Hardware support

Wattwatchers operates a ticketed support system aimed at customers and tradespeople who are installing Wattwatchers devices, or have already installed one or more devices. Also see [Support](#) pages on website.

## 7.2  Support email (recommended)

The ticketed Support service is accessed using the email [support@wattwatchers.com.au](mailto:support@wattwatchers.com.au) Please include these details:

- The issue or problem (one item per support request)
- 13-character ID for device e.g. D704206001234
- Type of device e.g. 3M (3G, 3 CT's), 6M (3G, 6 CT's), 6M+3S (3G, 6 CT's, 3 switches), 6W (WiFi, 3 or 6 CT's)
- Your contact details - including mobile phone

## 7.3  Support call

Within Australia: (02) 8316 7540
From Overseas: +61 2 8316 7540

Operates during normal business hours Sydney time 9am-5pm, Monday to Friday excluding public holidays. First-time installers in particular also can pre-arrange a telephone hook-up with an appropriate Wattwatchers representative.

## 7.4 Software support

For inquiries in regard to our software applications including the Wattwatchers.energy app, please also use the ticketed support system i.e. [support@wattwatchers.com.au](mailto:support@wattwatchers.com.au) or call (02) 8316 7540