



BEEBOX

For many households the only information they receive regarding their energy consumption comes from their quarterly power bill. Some households don't even receive these. As such, for many the calculation of their power costs can seem like a random and mysterious process, and their ability to manage their expenditure is severely limited by the lack of information. These issues are often further confused where different billing options and/or pre-payment (power card) meters are employed, and where the number and/or composition of residents often changes.

The BEEBox has been designed to address this issue. Developed by CAT Projects and manufactured in Australia, it provides clear, real-time information on energy use and cost - helping consumers understand their energy consumption and enabling them to better manage their electricity expenses.



BENEFITS:

- Consumers have a constant visual reference of how they are tracking against their nominated daily, weekly, or monthly budget.
- Consumers also have an indication of how much their energy use is costing based on the utility's time-of-use tariff/s.
- Key information is displayed in a simple, easy to understand format – consumers don't require a high level of technology literacy.
- Engaging consumers about their energy and power use can also demystify electricity supply in general and other components like powercard or pre-payment meters.
- Energy consumption data is stored in the BEEBox Controller and can be downloaded at any time for a better understanding of the household's energy use over time.
- Electricity parameters such as voltage, current, apparent power, reactive power, and power factor can be downloaded by advanced users or enthusiasts for more in-depth load and power quality analysis.

'Thanks for the magical thing on the wall . . . that BEEBox box. Very good to see the power', Keith Lapulang, senior elder, Milingimbi community, NT.



BEEBOX CONTROLLER

IP56 rated enclosure designed for easy installation in standard consumer switchboards.

Communicates by radio with BEEBox Display using free 915 GHz frequency spectrum.

Programmable via intuitive, easy to use dedicated software interface using standard USB cable.

Programmable location details; date and time; recording period (daily, weekly, monthly); period budget (up to 2500kWh in increments of 250Wh, either fixed or with variable monthly values); period reset time; two tariff levels with start/end times; and instantaneous power threshold display values.

Internal SD card stores a minimum of 12 months of 15 minute consumption and power quality data (voltage, current, watts, VAR, VA, PF, period cumulative kWh, total cumulative kWh, Display status, and radio signal strength), along with configured values.

Internal battery ensures configuration data is held indefinitely.



BEEBOX DISPLAY

Can be either freestanding or wall-mounted. For internal use only. Uses standard 12V DC plugpack.

Displays cumulative kWh budget, cost of consumption and instantaneous power usage for current period.

Safety compliance and radio-emissions tested according to Australian Standards.

HOW DOES IT WORK:

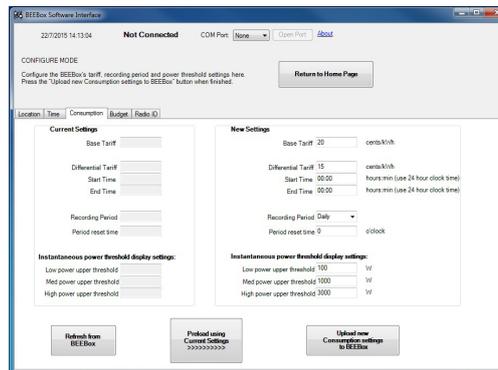
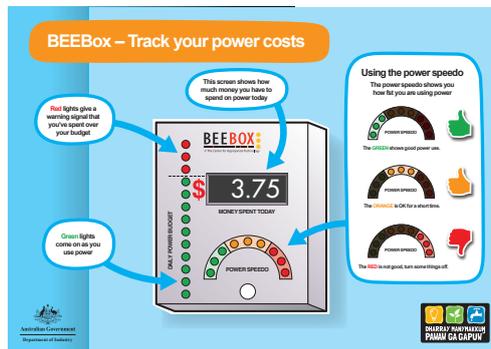
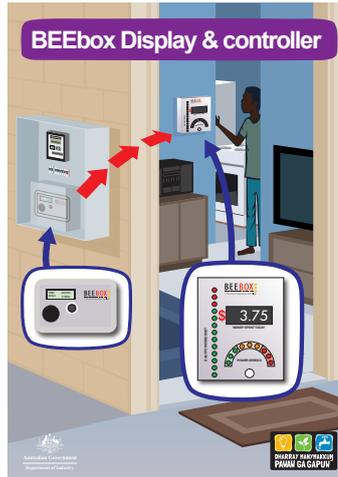
The BEEBox Display is the consumers' primary interface. It is mounted on a wall or shelf in a central or high-traffic location within the house so that passers-by will trigger the motion sensor and the consumption information will light up.

The 'Daily Power Budget' green lights accumulate over the recording period (typically over a day) and give consumers an indication of whether they are on track to remain within their nominated household energy/cost budget. If the designated energy budget is exceeded the red lights will come on.

The 'Money Spent Today' display segment provides an accumulated 'to-date' cost for the recording period.

The 'Power Speedo' lights show the consumer their instantaneous power usage. It is recommended that the thresholds for each level (green, yellow, red) be set relative to the consumer's nominated daily budget. In this way, maintaining consumption within the green zone will result in the 'Daily Power Budget' not being exceeded; time in the orange zone will warn of consumption potentially exceeding the nominated budget; while the red zone makes consumers aware of an energy intensive consumption pattern they potentially need to manage.

The 'Power Speedo' thresholds, nominated 'Daily Power Budget' and tariffs for presentation of the 'Money Spent Today' segment are all configured at the time of installation.



INSTALLATION:

The BEEBox should only be installed by a licensed electrician.

The BEEBox Controller is typically mounted on the escutcheon of a consumer's switchboard beside the household meters allowing general access to the data port. The BEEBox Display can be free-standing or wall-mounted.

Installation, including programming takes less than an hour.

The BEEBox comes with a comprehensive installation manual and the software required to connect to the unit and upload configuration setting or download data.



For more information about the BEEBox please contact the General Manager, CAT Projects
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TECHNICAL SPECIFICATIONS:

Maximum load measurement capacity:
single phase loads up to 100A (23kW).

Maximum mains cable size: CT can clip onto
cables up to 25mm²

Supply voltage range: 230 Volts (phase to
neutral), +10% to -6%.

On-board surge protection.

Frequency tolerance: 50Hz +/- 2Hz.

Single phase measurement only.

Energy metering:

- Based upon real Watt values taking into
account voltage, current and power factor.

- Usage parameters sampled multiple times
per second and averaged over a period of a
few seconds.

- Accuracy of metering +/- 5% (calibrated
and batch tested)

Data storage: SD card fitted to the BEEBox
Controller PCB - minimum one year's worth of
data storage capacity.

Energy consumption: BEEBox Controller and
Display consume <24Wh per day.

Compliance of the equipment has been
demonstrated with reference to the
following Australian Standards:

- AS/NZS 3820:2009

- AS/NZS 60950:2012

- AS/NZS 4268:2012

USB data port does not supply any USB
power and draws 200uA max.

