myenergi

Myenergi

Great products for new build projects

Dr Chris Horne
Commercial Director

myenergi

Our products

eddi

Zappi v2i

harvi

hub

myenergi

- 7kw Single
- 3-Phase 22kw
- Black
  White
- Tethered
  Untethered

Zappi v2

- Charge your EV from your PV
- Works with Solar PV or Wind Generation
- Programmable timers
- Pin-code to lock/unlock
- IP65 weatherproof
- Built-in RCD protection (Type A + 6ma DC Leakage protection)
- Dynamic load balancing for maximum flexibility during installation
- NO earth rod required.
- Zappi has advanced integral safety features built in that will shut the product off in the event that there were a loss of the PEN conductor

- 3 charge modes
  - Eco+
  - Eco
  - Fast

- No PV? NO PROBLEM!!!
  In fast mode zappi will operate like a standard EV Charger by pulling energy from the grid

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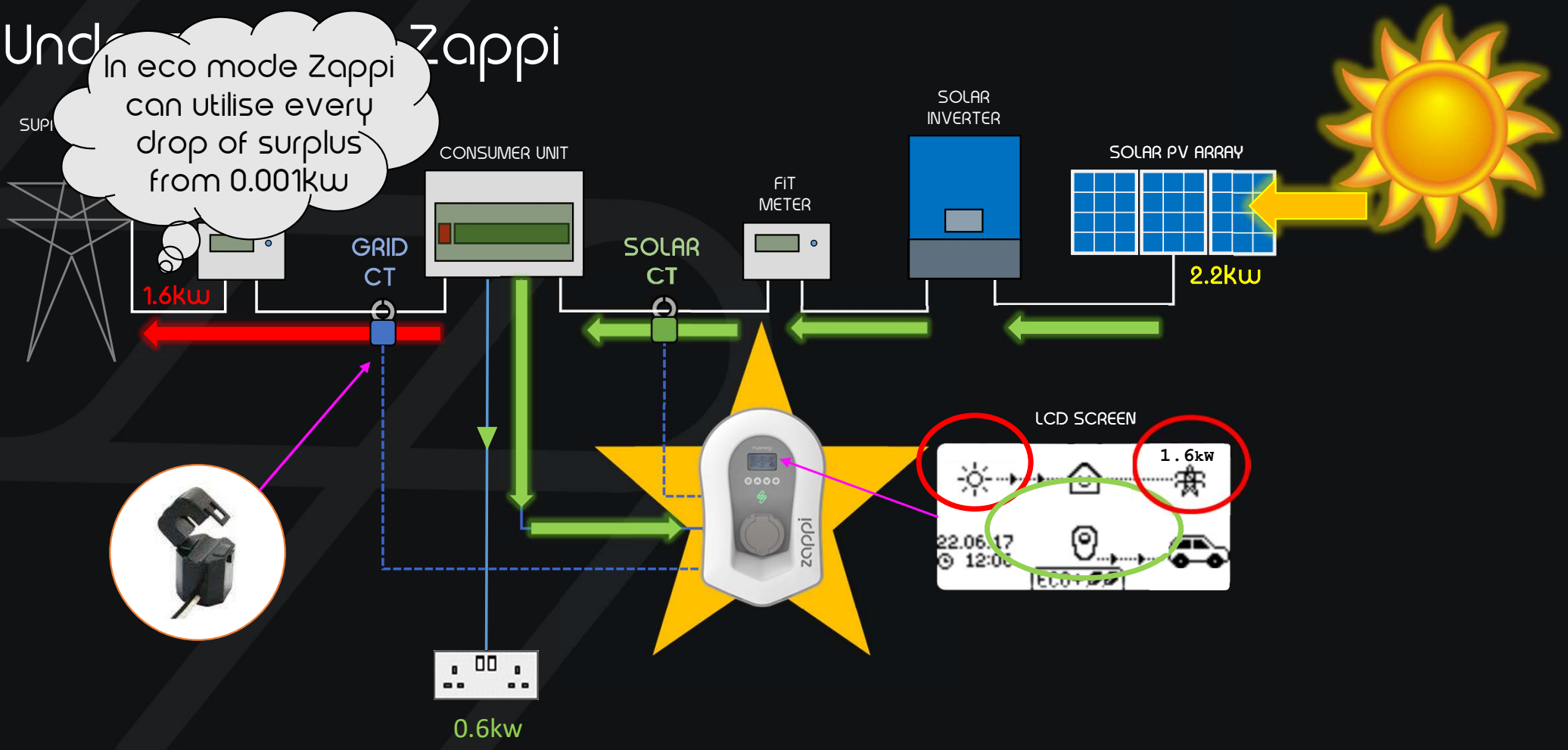
Und Zappi



ECO & ECO+ Mode

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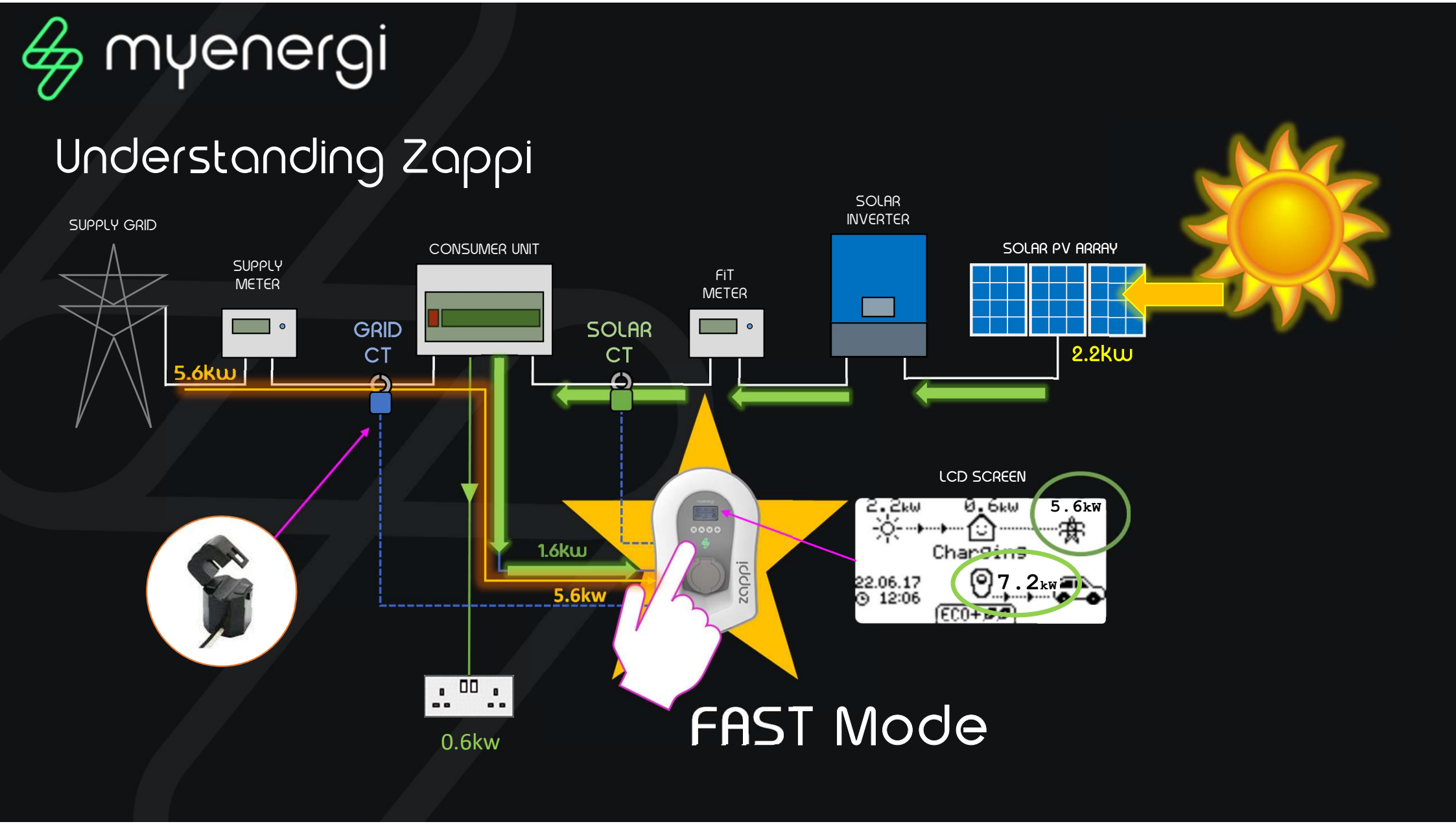
Understanding Zappi



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Dynamic load balancing

zappi – Dynamic Load Balancing

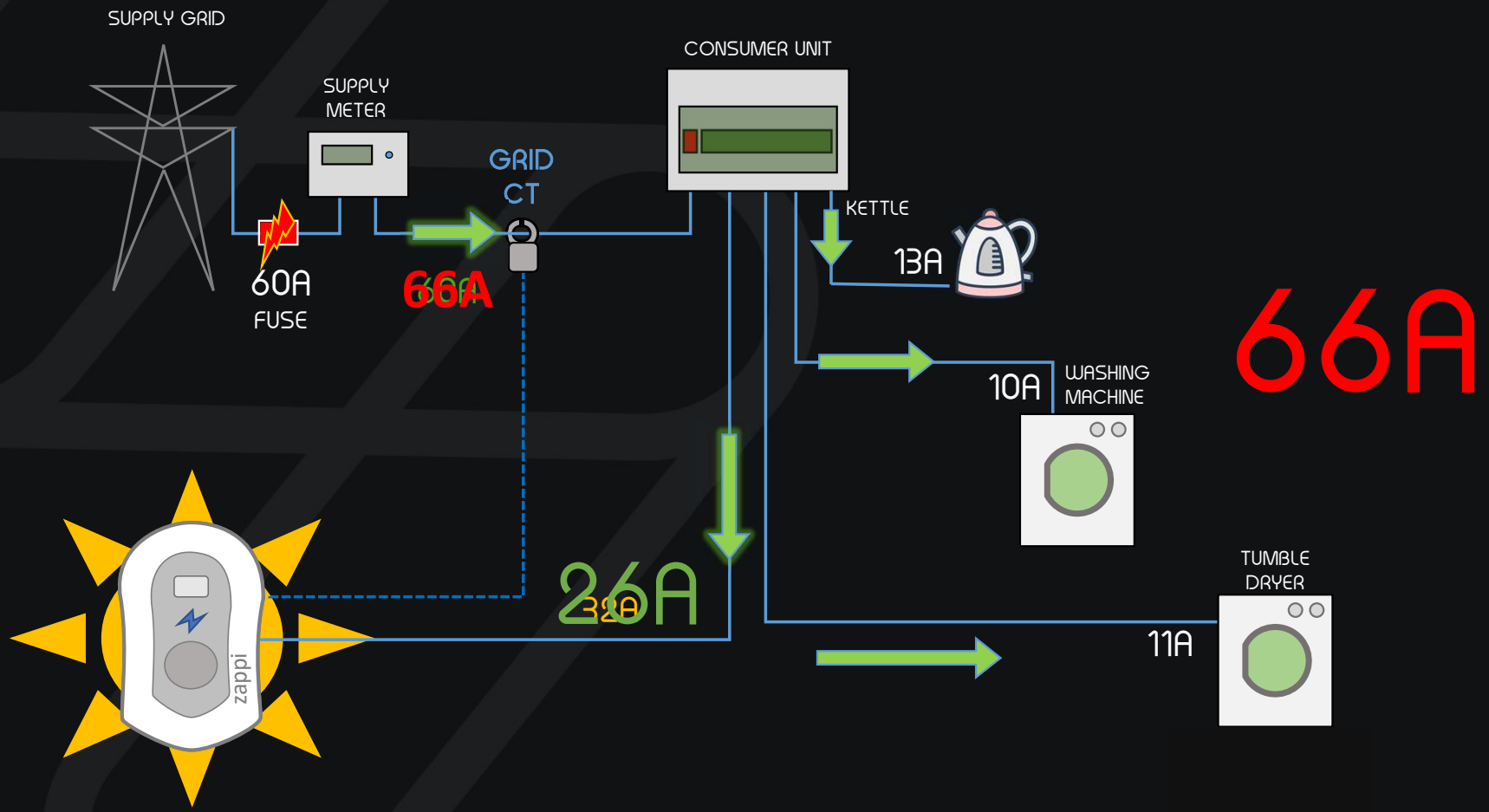
BS7671:2018

Amendment 1- 722.311: Maximum demand and diversity

722.311.201: Load curtailment, including load reduction or disconnection, either automatically or manually, may be taken into account when determining maximum demand of the installation of part thereof.

- *Zappi has load balancing technology built in. Meaning that complicated diversity calculation are now a thing of the past.*
- *Zappi is capable of automatically reducing demand from 32amps to zero while allowing other items in the property to continue to function.*
- *During installation zappi can be viewed as a zero load figure so diversity calculation would not be needed.*

zappi – Dynamic Load Balancing



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Electrical Safety

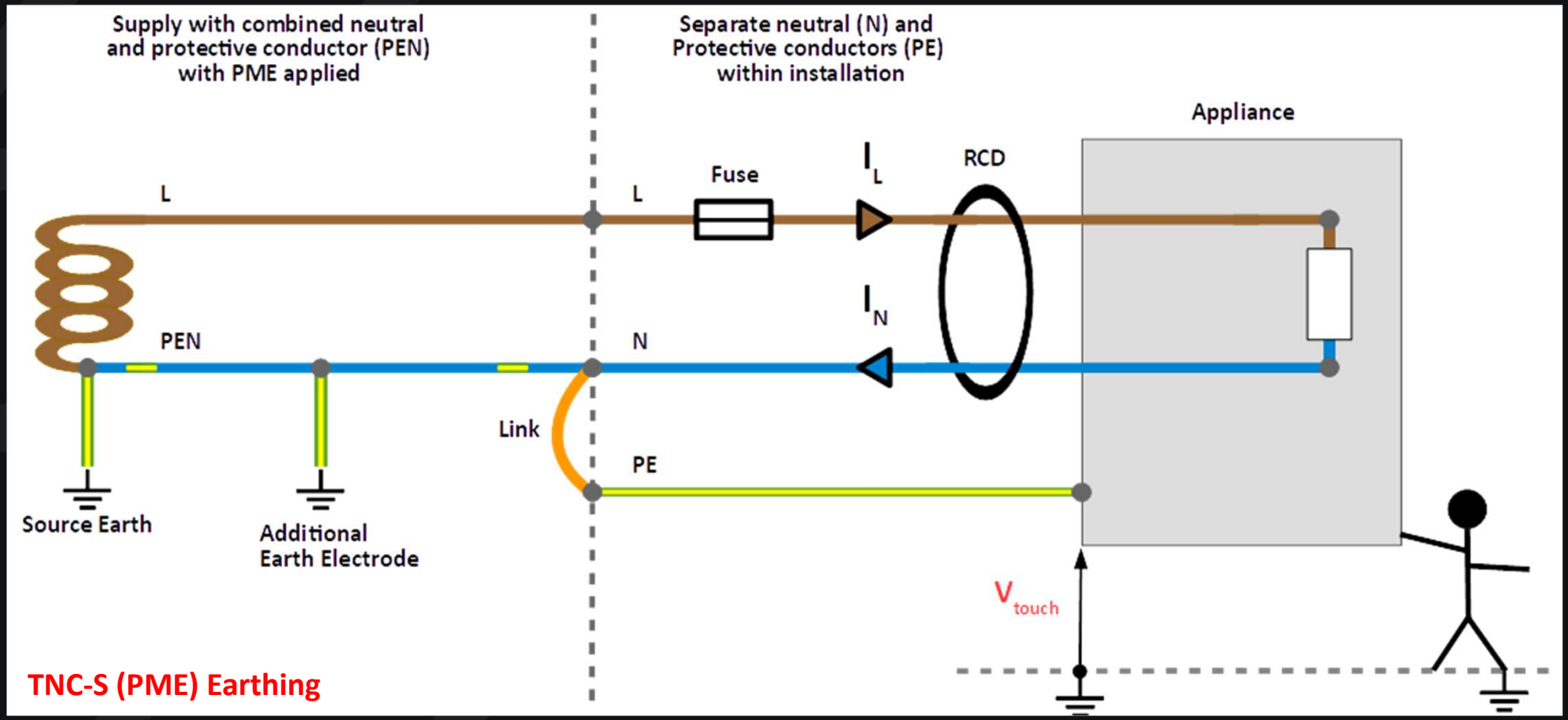
zappi – Integral RCD

- An RCD is needed to protect against electrical faults – Type A RCD required. Zappi has this built in
- From Jan 2019 all EV charge points need DC leakage fault protection
- Regulations 722.531.2 of BS 7671:2018

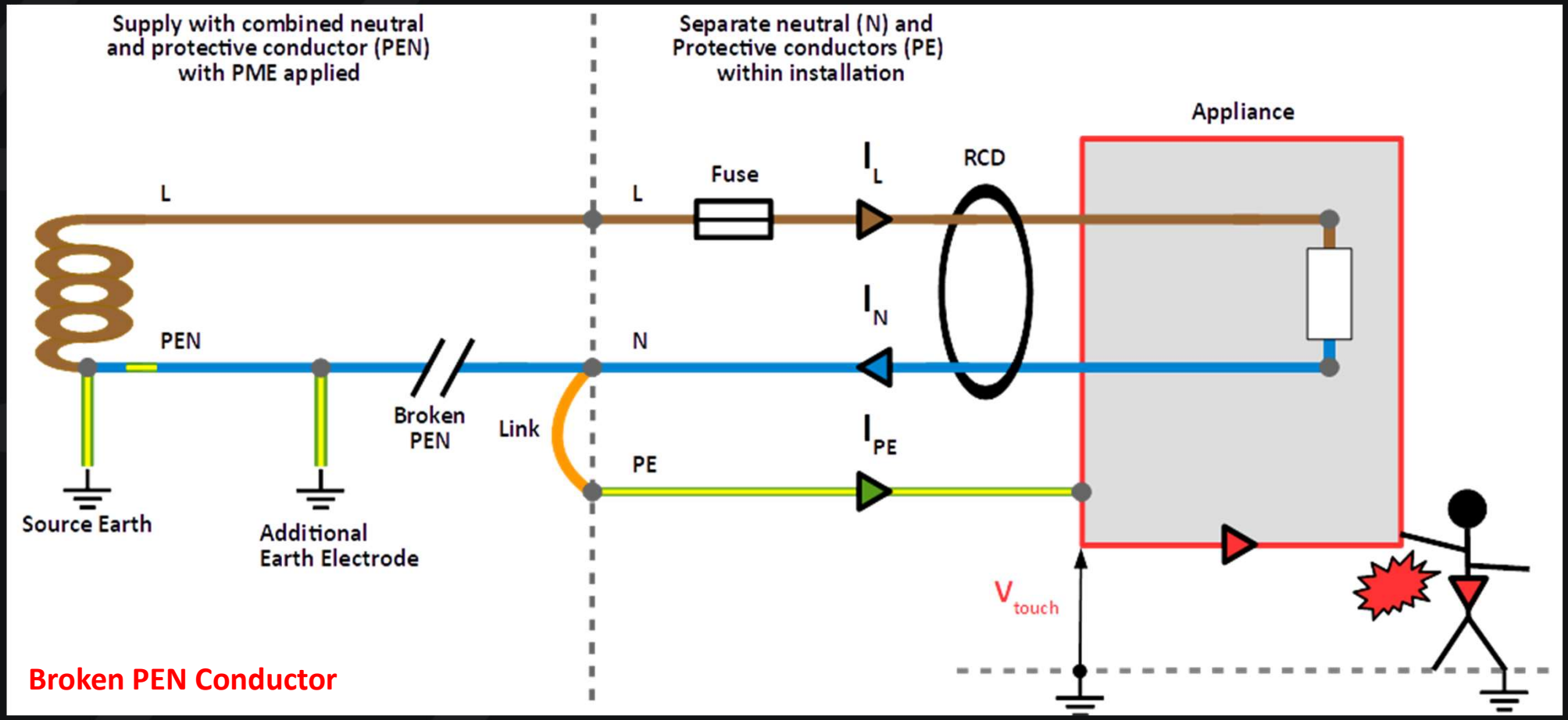
1. Install Type B RCD – expensive!
2. Type A + >6mA DC detection – hard to source!

- zappi has a Type A + >6mA DC detection fitted internally as standard
  - Satisfies regulation 722.531.2 of BS 7671:2018
- Self tests every time an EV starts to charge

zappi – PEN Conductor Fault Protection



zappi – PEN Conductor Fault Protection



zappi – PEN Conductor Fault Protection

- EVSE install regulations January 2018 : BS7671
- Earthing protection needed for loss of PEN conductor

  Options for installer:

  1. Earth electrode is installed – a lot of work
     - More expense
     - Multiple rods may be needed
     - Gas Pipes and other services?
     - Messy
  2. Detection device – not available

Until zappi

- zappi will isolate in event of PEN fault without an earth rod!

zappi – Amendment 1

BS7671:722

(iv) The device shall operate by electrically disconnecting the vehicle from the live conductors of the supply and from protective earth in accordance with Regulation 543.3.3.101(ii) within 5 seconds of an event of the utilisation voltage at the charge point, between the line and neutral conductors, being greater than 253V or less than 207V

(v) Protection against electric shock is provided by the use of an alternative device to those in (iii) or (iv)
The device shall operate by electrically disconnecting the vehicle from the live conductors of the supply and from protective earth in accordance with Regulation 543.3.3.101(ii)

Zappi???

AND

Indent (iv) ✓

Indent (v) ✓

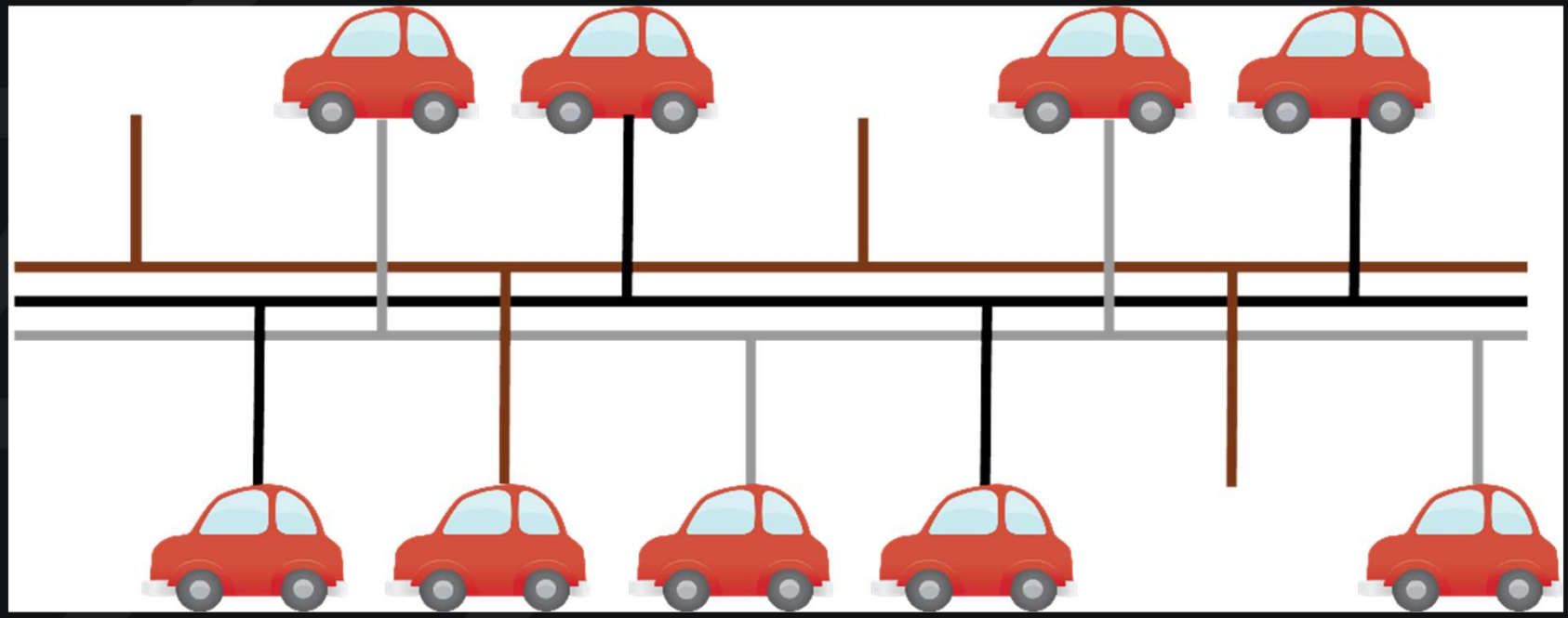
zappi – Amendment 1

BS7671:722

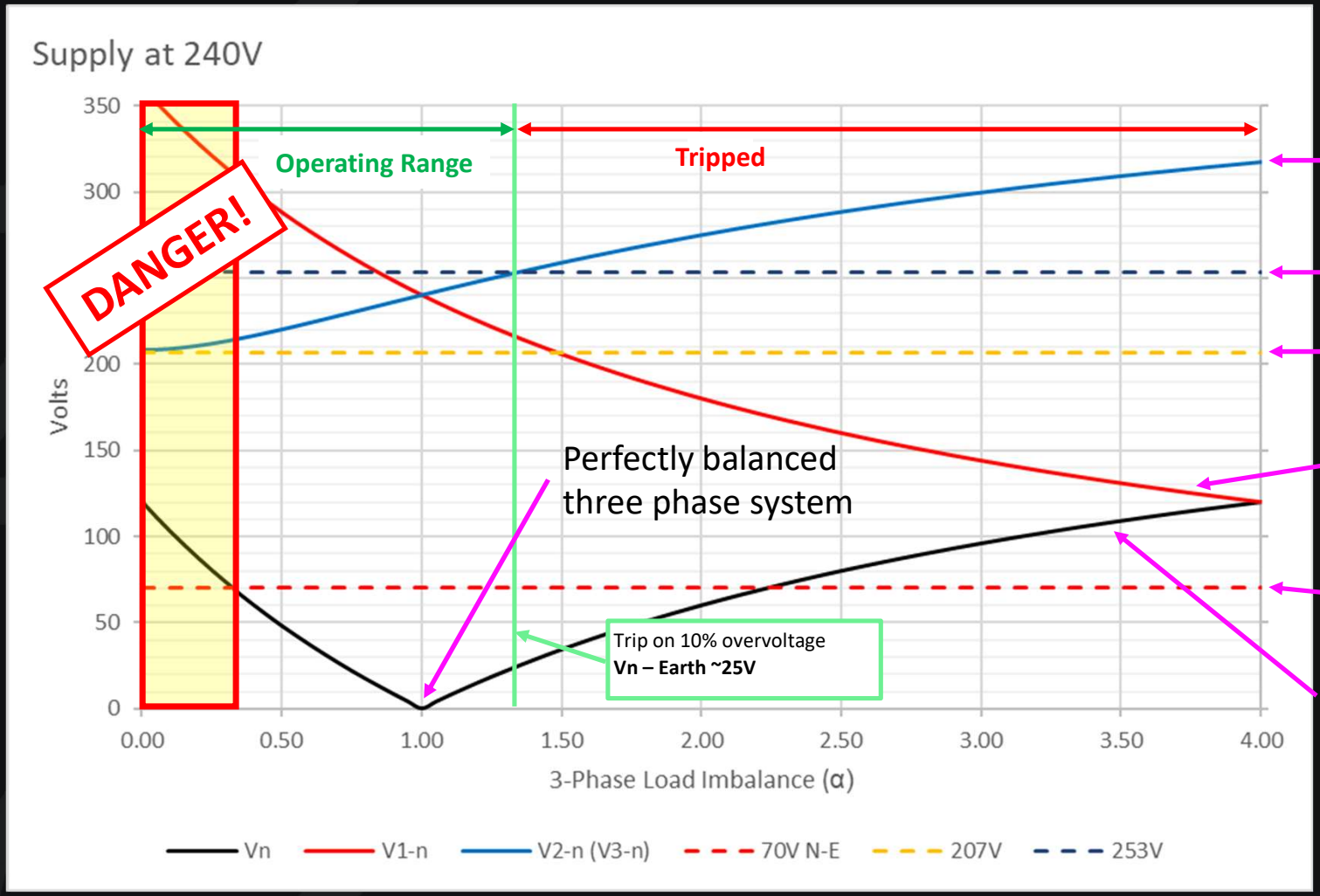
Why both? What's wrong with complying with just one?

zappi – Earth Fault Protection

zappi – Earth Fault Protection



zappi – Earth Fault Protection



L-N Voltage on heavily loaded phases

Upper Limit 253V

Lower Limit 207V

L-N Voltage on lightly loaded phases

70V Limit "Touch Voltage"

Voltage from exposed metalwork to true Earth

zappi – Earth Fault Detection

Odd but true;

IET state in the application guide which accompanies the new wiring regulations after Amendment 1. Published in March 2020

“An EVSE using BS7671:722 (iv) may not be able to provide a safe solution in some circumstances or situations.”

zappi – Amendment 1

BS7671:722

(iv) The device shall operate by electrically disconnecting the vehicle from the live conductors of the supply and from protective earth in accordance with Regulation 543.3.3.101(ii) within 5 seconds of an event of the utilisation voltage at the charge point, between the line and neutral conductors, being greater than 253V or less than 207V

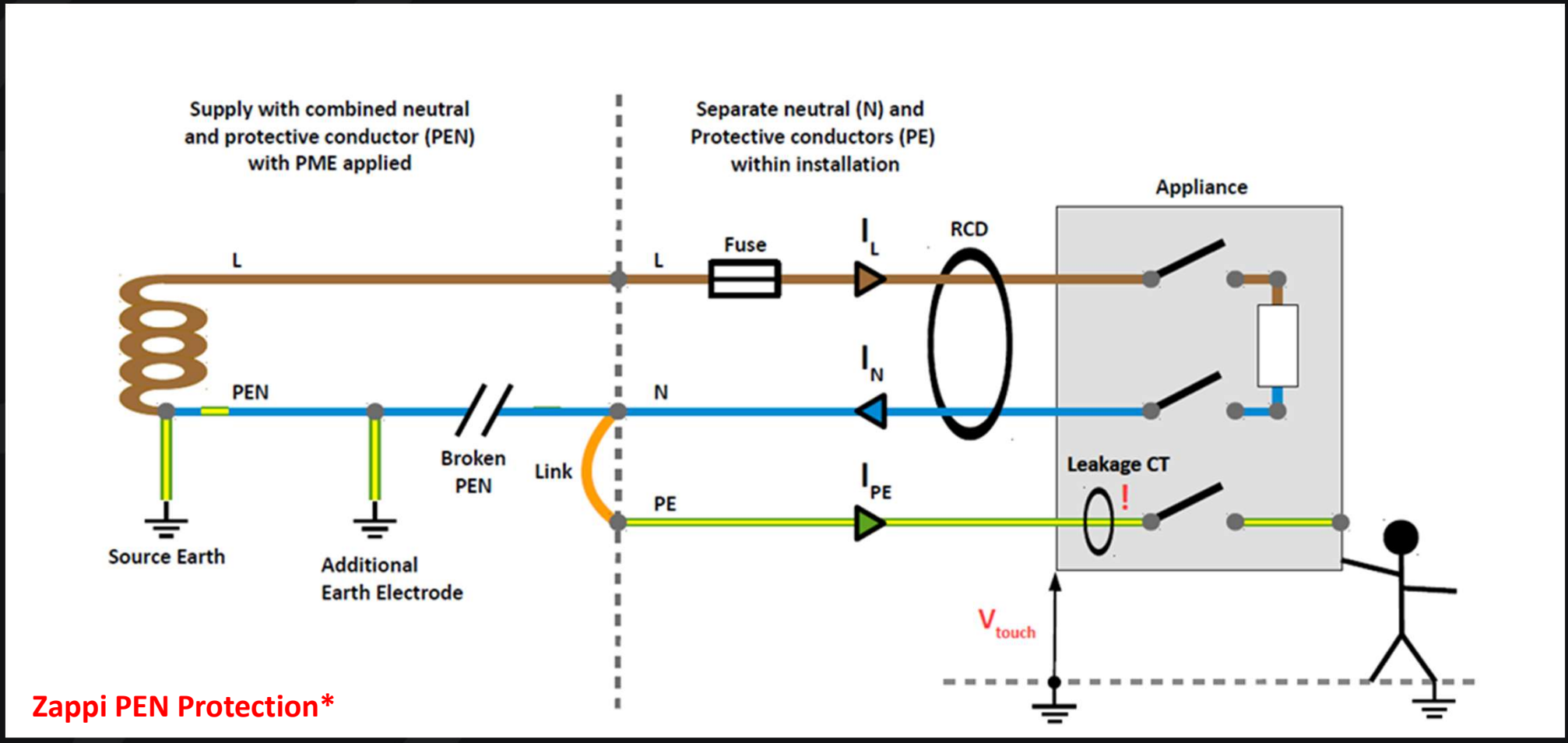
Nuisance tripping.

A significant number of houses in UK government backed FRED trial showed readings of line voltage at over 253V for over 60 minutes in January alone

None of these had PEN conductor faults

Just unwarranted call outs for the installer

zappi – PEN Conductor Fault Protection



Zappi PEN Protection*

* Patent Pending

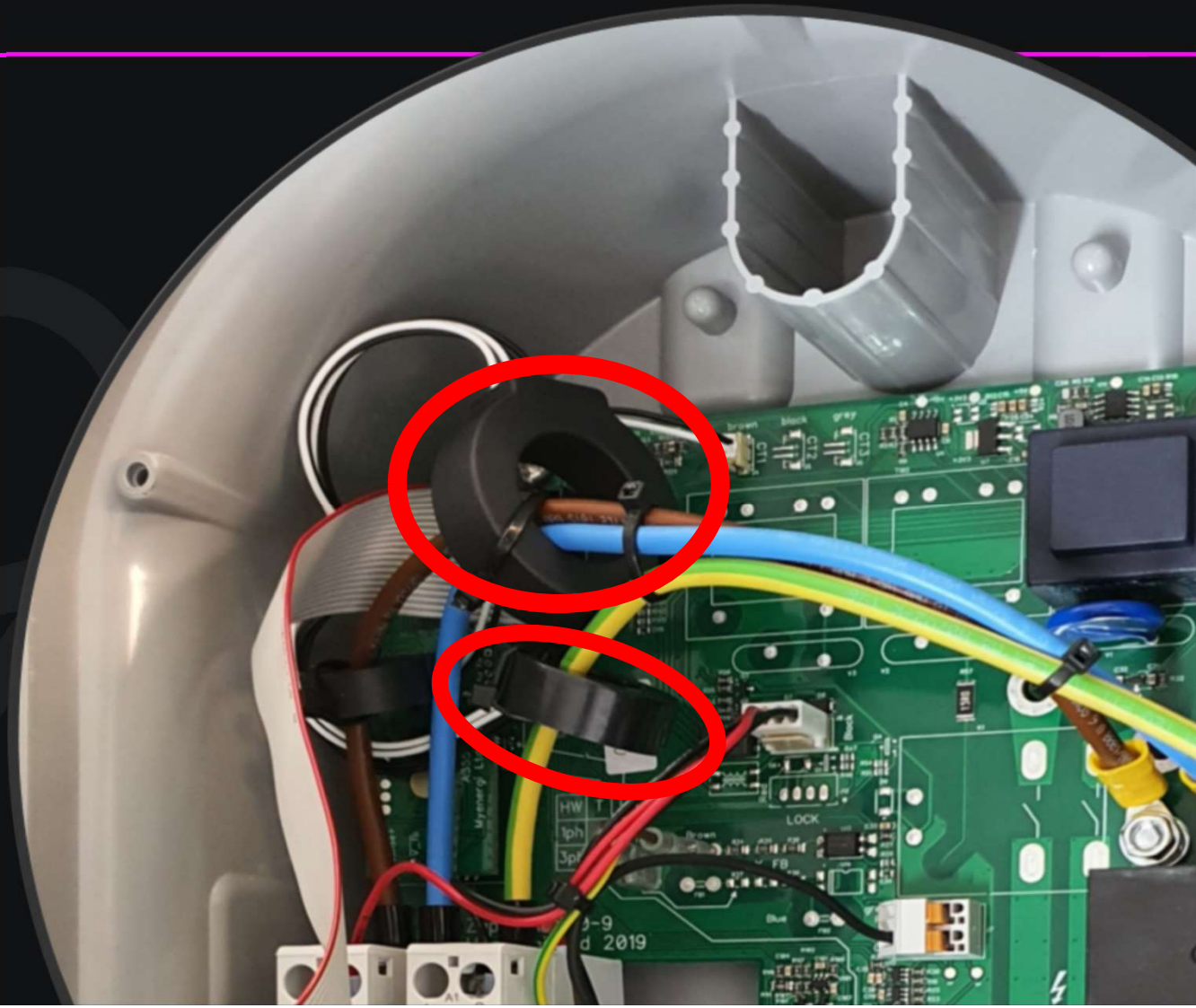
zappi – Amendment 1

3 Current transformers inside zappi.

2 of which contribute directly to our safety tech

CT Live and Neutral: Providing RCD Protection – Type A + 6mA DC

CT Earth: Continuously monitoring any fault current which will instantly identify a loss of PEN conductor tech



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Thank you

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Backup

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Eddi

- Power diverter utilising excess generation to heat your water tank & underfloor heating
- Complements heat pumps & legionella control
- 3.68kwh output
- Supports two heaters (sequentially)
- Fan-less cooling
- Programmable timed boosts
- Works seamlessly alongside battery storage systems (AC Coupled)

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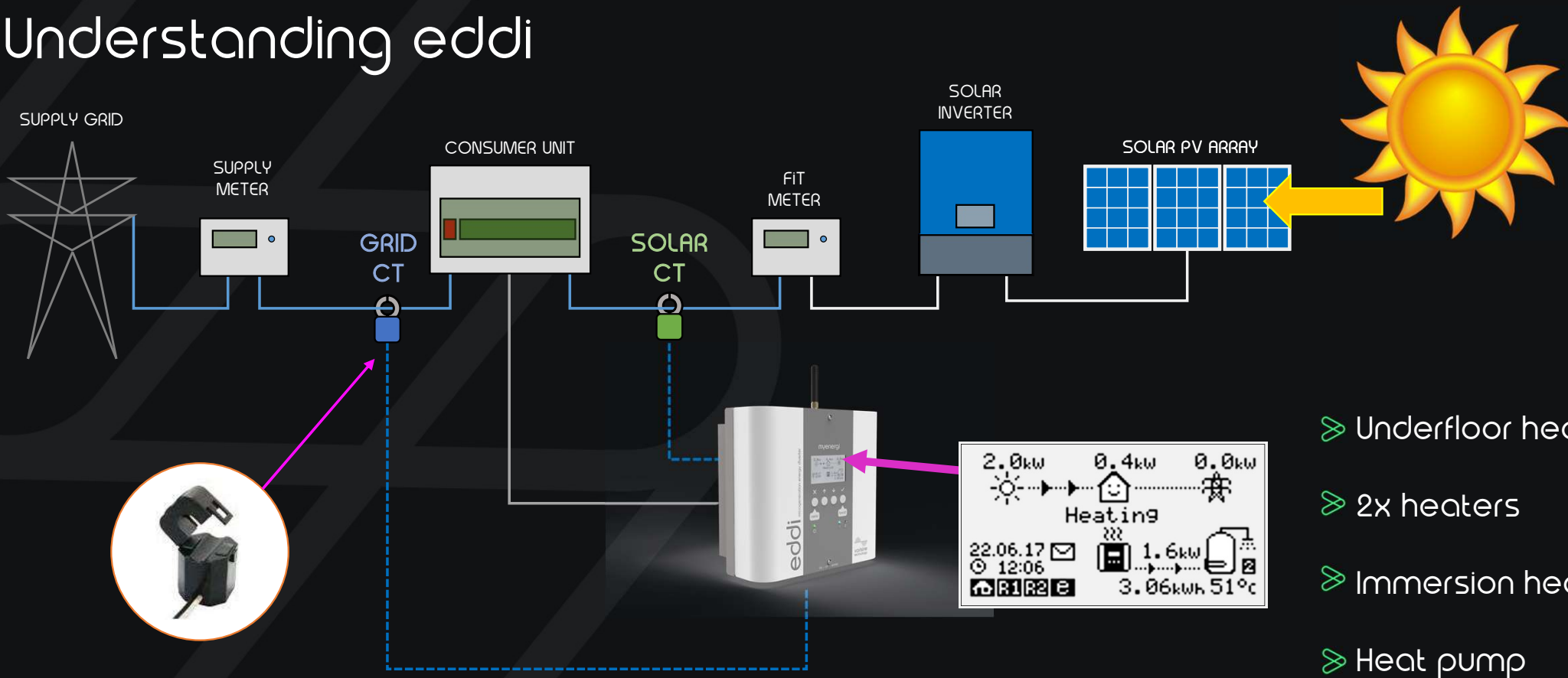
Understanding eddi



- Underfloor heating
- 2x heaters
- Immersion heater
- Heat pump

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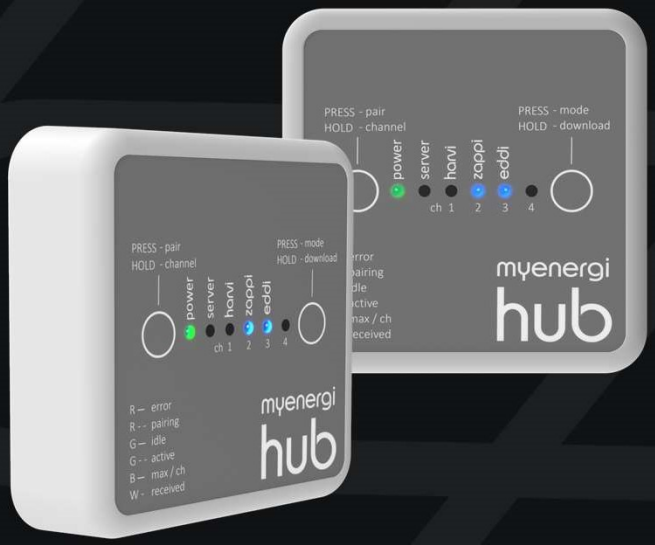
hub



- **hub is** a communication device to allow remote access to your zappi or eddi usage data
- **Connect** directly to your wifi router via ethernet cable
- **Allows** access to the myenergi app to control your products
- **25-30m** range. Can extend this range by using a longer ethernet **cable** to move the hub further from the router
- **Data** from zappi/eddi via RF. Data to APP via wifi,
- Hub is hard wired to wifi router via ethernet cable

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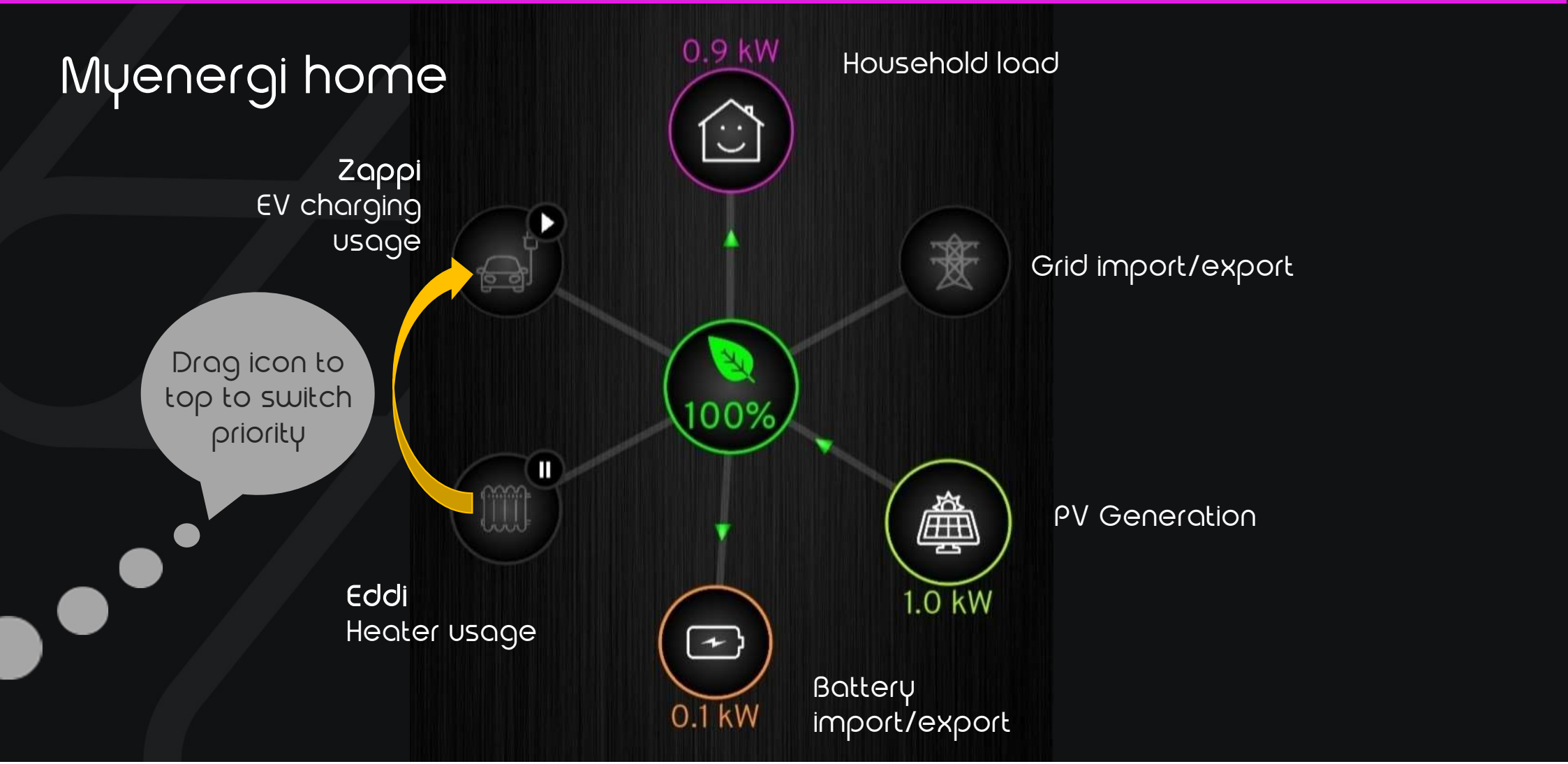
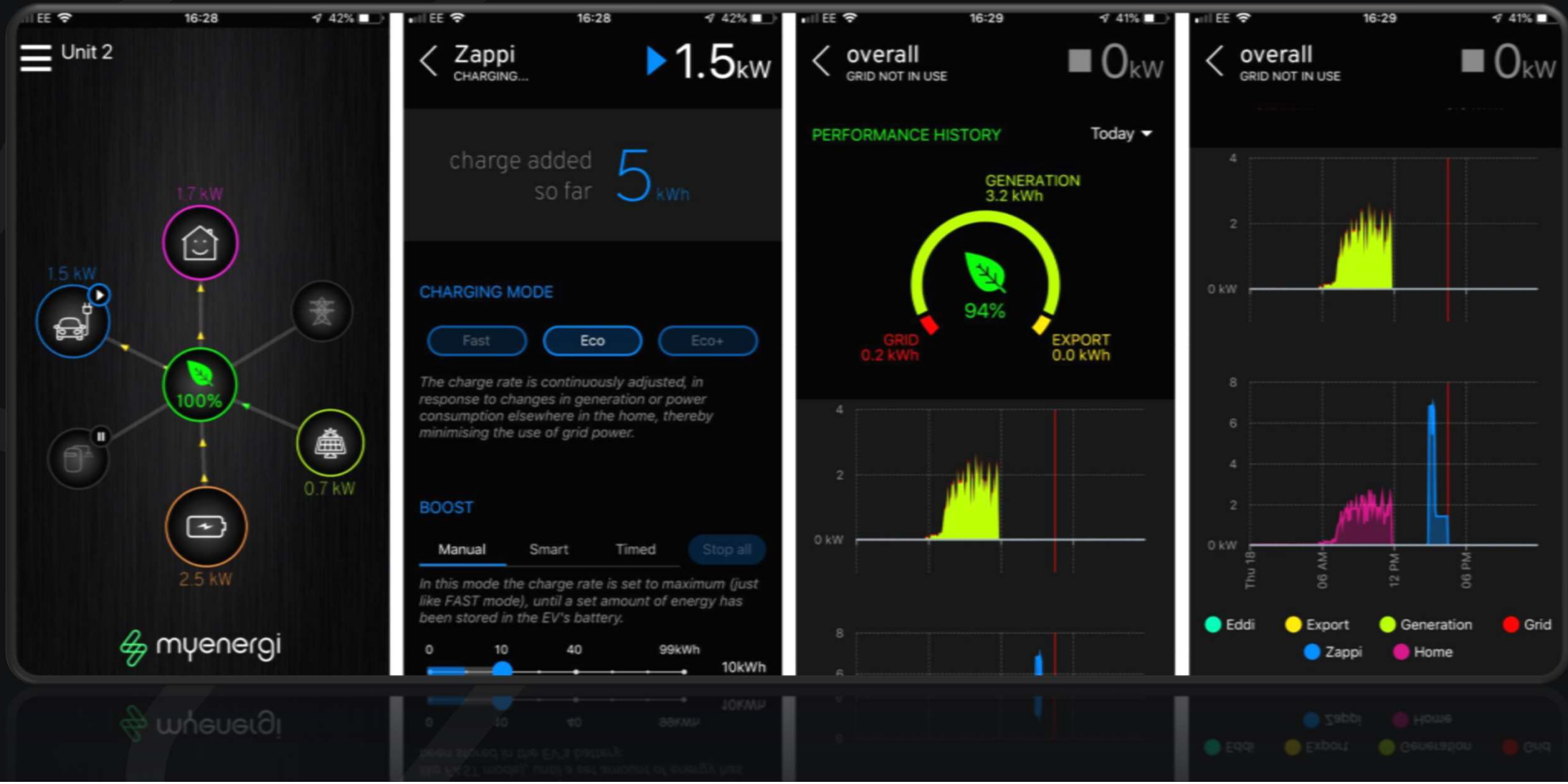
Myenergi home



Myenergi app



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Harvi

- Wireless transmitting device for CT data
- Connect the CT directly into harvi instead of hard wiring back to the zappi or eddi (upto 3 CT per harvi
- Harvi is battery free and does not need a hard wired energy source.
- Harvi 'harvests' its own energy from the CT clamps
- 25-30m range (CT cable can be extended via CAT5 cable up to 100m)
- Allows flexible installations where zappi or eddi may be away from the consumer unit or in awkward areas

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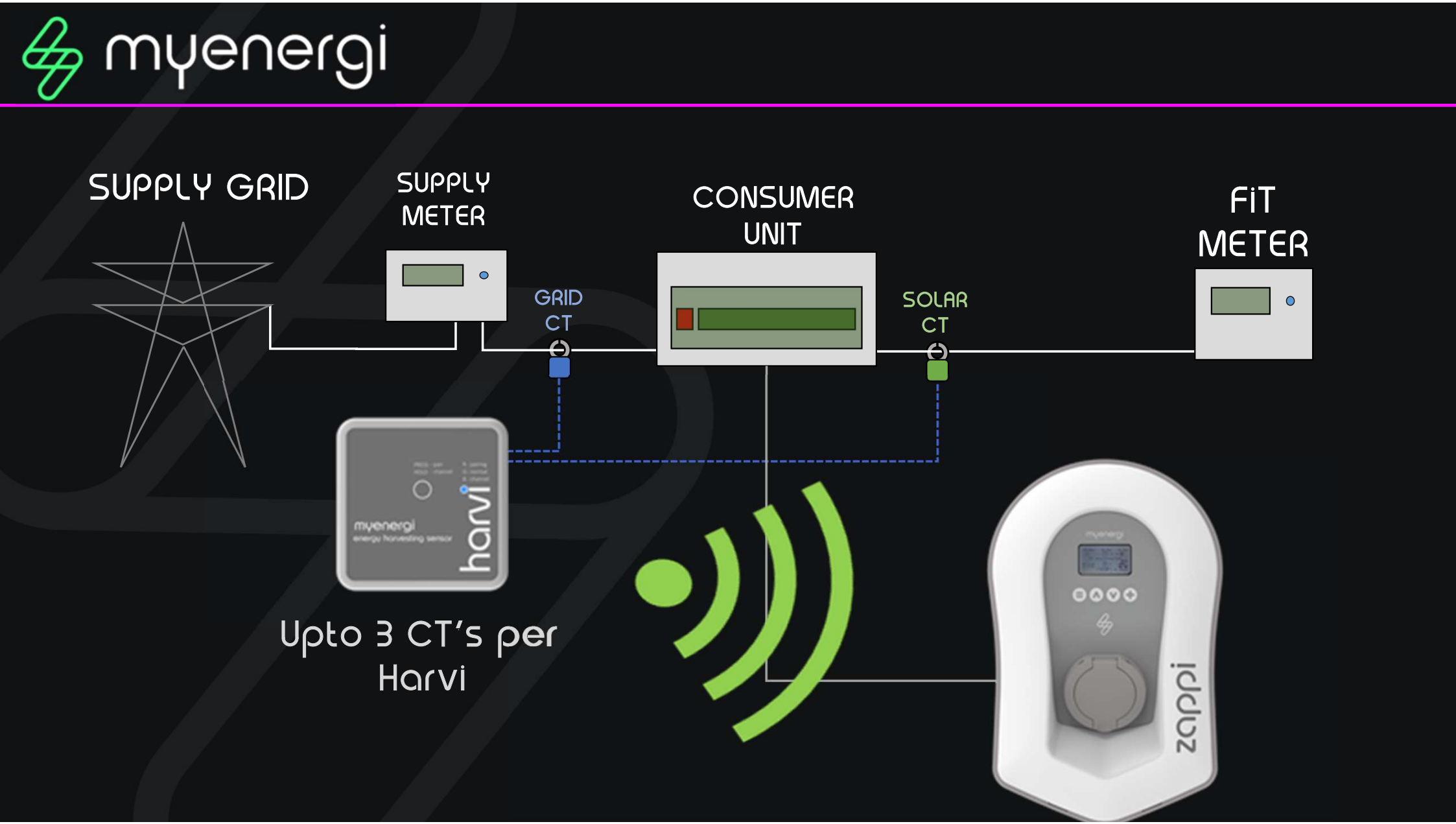
SUPPLY GRID
SUPPLY METER
CONSUMER UNIT
FiT METER
GRID CT
SOLAR CT
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energy harvesting sensor
harvi
Upto 3 CT's per Harvi
zappi

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How they all work together