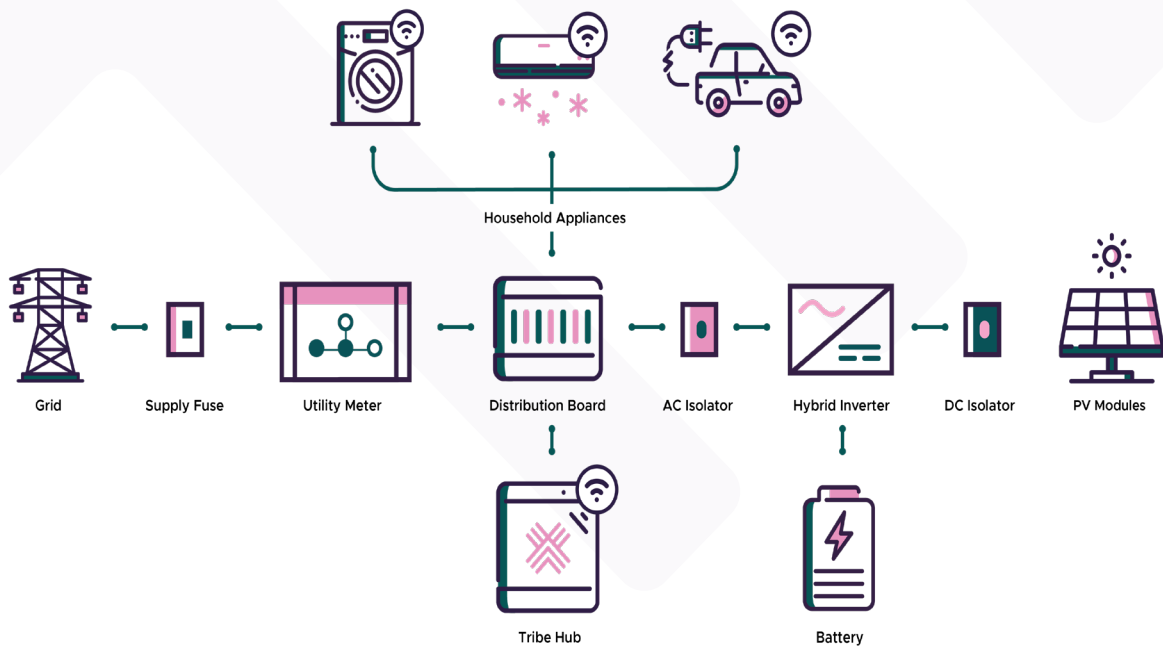# tribe

tribe

Smart energy management for the modern home

Tribe enables customers to monitor, control and optimise a wide range of devices and appliances within the home to maximise self-consumption of solar energy and take advantage of low-cost electricity from the grid

Connecting & Optimising the Smart Home

Household Appliances

Grid — Supply Fuse — Utility Meter — Distribution Board — AC Isolator — Hybrid Inverter — DC Isolator — PV Modules

Tribe Hub

Battery

Tribe Hub

> The core of the system with integrated artificial intelligence to learn energy profiles and forecast future generation and consumption patterns.

> Combines consumption and generation forecasts with price signals and weather data to select when loads should be switched on or off to maximise self-consumption and autonomy from the grid.
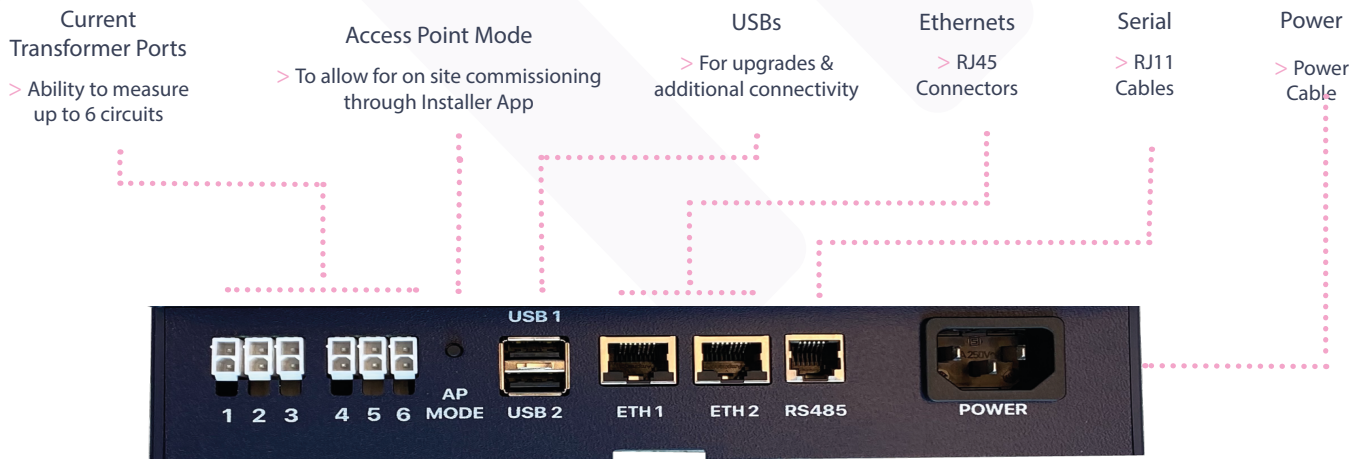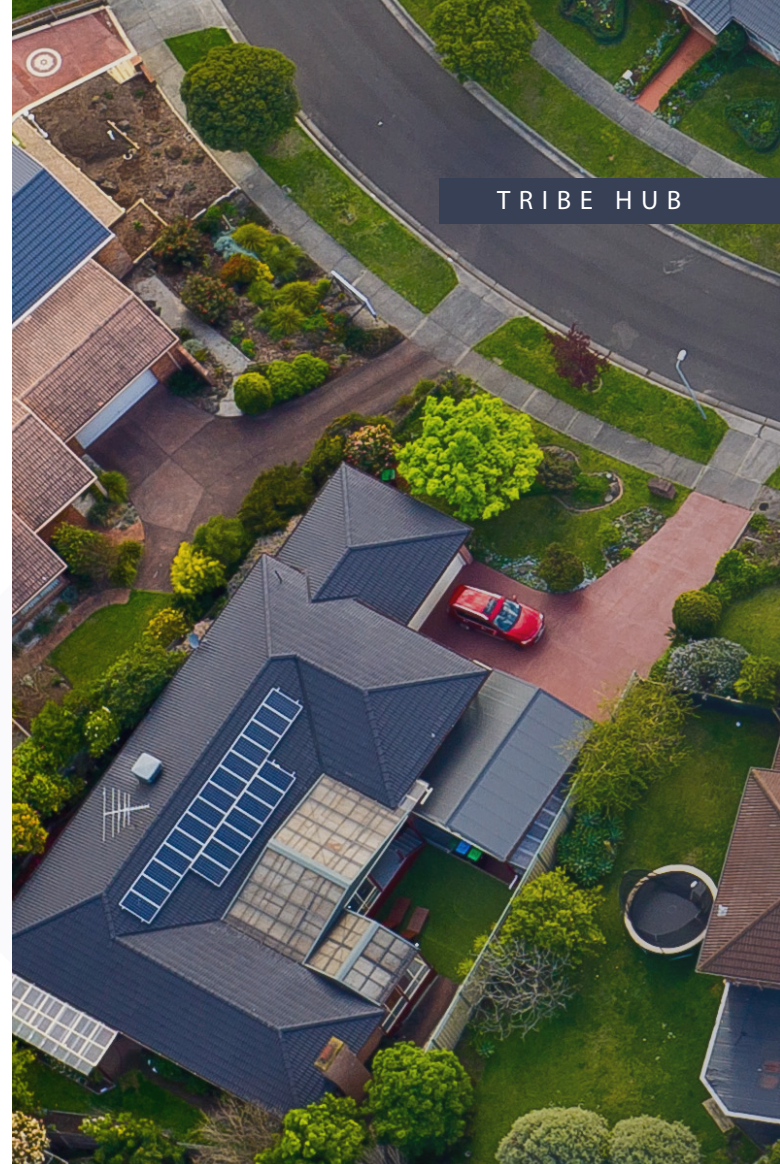
Hub Specifications

Description	> Single plastic (HIPS) enclosure with wall-mounting plate
Dimensions	> Height: 266mm
	> Width: 210mm
	> Depth: 42mm
Weight	2.1kg
Ingress Protection	IP20 (indoor installation only)
Installation Location	Wall-mounted within 2.5m of the property's distribution board
Wiring Constraints	CT clamps extend to 3m (1m + 2m extension) [Extensions included]

Electric Specifications

Operating Voltage	> 200 – 285V AC (Single Phase)	> 45 – 65Hz
Maximum Power Consumption	25W	
Parameters Measured	> Current	> Active Power & Energy
	> Voltage	
	> Frequency	> Reactive Power & Energy
Measured Range	> Voltage (0 - 285V AC phase-to-neutral)	
	> Frequency (45 - 65Hz)	
	> Current (up to 63A)	
Input-Voltage Characteristics	1.2Un	
Measurement Accuracy	<1% of reading measurement error	

Communications & Connections Overview

Current Transformer Ports
> Ability to measure up to 6 circuits

Access Point Mode
> To allow for on site commissioning through Installer App

USBs
> For upgrades & additional connectivity

Ethernets
> RJ45 Connectors

Serial
> RJ11 Cables

Power
> Power Cable

USB 1

1 2 3   4 5 6   AP MODE   USB 2   ETH 1   ETH 2   RS485   POWER

Computing Capabilities

Meters	2 x revenue-grade meters
Processor	1.2GHz
Data Storage	16GB
Software	ubiworx™ IoT/IoE platform

Communications

Wi-Fi	802.11b/g/n 2.4Ghz
Cellular	4G/LTE (EU & Australian bands)
USB	2 x USB2.0 host, type-A connectors
Serial	1 x RS485 port, RJ11 connector
Ethernet	2 x LAN port, RJ45 connector, 10/100Mbps
AP Mode	1 x activation button
CT Ports	6 x 2 wire locking connector

Current Transformers (CTs)

CTs	6 x 125A split CTs with 1m cable
CT Extension Cables	6 x 2m CT extension cables
Cable Aperture	16mm

Environmental Specifications

Location	IP20; indoor-only installation
Operating Temperature Range	$0^{oC} - 50^{oC}$
Storage Temperature Range	$-20^{oC} - 80^{oC}$

Country Technical Support

Live Markets	> Australia
	> Spain
	> United Kingdom

Installation

Location	Indoors; wall-mounted within 2.5m wiring distance of the property's distribution board
Online Commissioning	Tribe Installer App
Technical Support	First-line support during business hours

Compatibility for Monitoring & Control

Hybrid Solar Inverters	> Sungrow (Models: SH3K6, SH4K6, SH5K, SH5K-20, SH5K-30)
	> GoodWe (Model: EM Series, ES Series, EH Series, ET Series, BT Series, BH Series)
	> SolaX (Models: X1; X3)
	> Sofar (HYD3000-ES, HYD3600-ES, HYD4000-ES, HYD4600-ES, HYD5000-ES, HYD6000-ES)
EV Charge Points	> OCPP 1.6-compatible
Appliances	> Air-conditioning controls via infrared remote

Tribe App

Intuitive user interface providing real-time monitoring and control of generation and consumption at device-level.

Compatibility

Operating System	>	Compatible with iOS & Android devices

Optimisation

Artificial Intelligence	Integrated AI and machine-learning algorithms to automatically optimise home generation and consumption of electricity against:

> Smart tariffs (forward-compatible)

> Weather forecasts

> Carbon intensity forecasts

> Predicted house consumption profiles

Auto-optimisation can be overridden, if required; controls and schedules can be managed manually.

User Interface

Flow	Live status of energy generation and consumption within the property

Consumption of up to 3 key assets displayed:

> Home battery system

> Electrical vehicle charge point

> Air-conditioning unit

Graphs	Live graphs showing daily:

> House power (import & export)

> House generation & consumption

> Battery State of Charge

Smart Grid

Virtual Power Plant	Forward-compatible with VPP-type business models and DSR revenue streams:

> Firm Frequency Response

> Peak shaving and constraint management

> Reactive Power control

> Blockchain settlement

Summary	Dashboard displaying daily / weekly / annual:

> Energy $ savings

> % self-consumption of solar generation

> % autonomy from the grid

> Total consumption, generation, import & export

Loads	>	Monitoring, control and scheduling of up to six devices within the property
	>	Summary of daily consumption at device-level

Profile	>	User profile information
	>	Notifications
	>	Technical support
	>	Smart tariff selection

Tribe Installer App

> Designed to minimise the time required to commission the Tribe Hub and complete the installation process

> Full configuration of solar PV, battery, EV charge point and other key loads

> Live overview of installed portfolio of Tribe systems with diagnostics and technical support
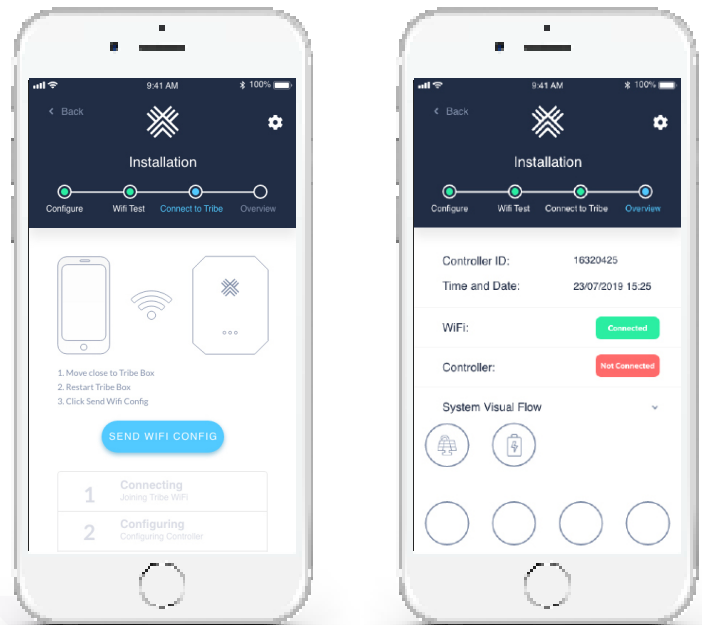
Compatibility

Operating System	>	Compatible with iOS & Android devices

User Interface

Internet Connection	Connect to the property's internet supply either via Wi-Fi or Ethernet
CT Allocations	Clamp up to 6 key loads in the home for power monitoring
Device Set-up	Connect to a wide range of devices in the property for control and scheduling: > Hybrid solar inverter > EV charge point > Air conditioning unit > Smart appliance(s)
Commission	Submit installation details and unlock access to the Tribe App
Portfolio View	Monitor portfolio of installations
Diagnostics & Support	Product status information and access to product troubleshooting documents and front-line Technical Support