Smart and simple solar and batteries

Droplet™

Data integrator and Energy Management System

Droplet™ is easy to install (DIN version shown)

Functions

Data integrator and energy management system for solar, battery storage and controllable loads.

⇒ Plug & Play EMS, VPP and Micro-grids
⇒ Reduce complexity and standarise operation
⇒ Reduce need for "smart" inverters or difficult programming;
⇒ Simple monitoring and reduced support costs;
⇒ Complete security for utility interface

Features & Benefits

- Convenient vendor agnostic interfacing to most solar and battery inverter systems, power meters, load controllers and sensor devices;
- Improved user experience with web and mobile portal for whole-of-site.
- Utility grade security available in both communications and cloud platform;
- Flexible & vendor agnostic solution improves cost effectiveness and reduces technology and supply risk

Reported Information

All accessible data by supported inverters, chargers, charge controllers, battery management, power meter, and sensor devices, can be reported. This typically includes:

- Battery state of charge
- All power flows: active, reactive, apparent, phase by phase and aggregate
- Grid real and reactive, voltage, current and frequency in real-time
- Instantaneous, day, week, month and year historical records
- DC-side voltages and currents for Solar and Battery
- Asset and warranty related data (e.g. serial numbers, operating hours, device temperatures)
- Device status and settings (including Grid code), fault logs and alarms

Available on web and mobile portal, regular and custom reports, or CSV export.

Controller Actions

Local controller provides smart energy management system (EMS), remote control and improve device management. This includes:

- Control of charging and discharging of battery;
- Smart control of whole of system (power meter, solar, battery systems) for AC or DC couplings, inverter and battery management systems, multi-inverter multi-vendor systems, hybrid systems;
- Smart Inverter EMS functions means vendor independent functionality across the fleet including self-consumption, managed import/export, tariff optimisation, demand management, managed grid voltage support, solar curtailment and smoothing, time-based charging management.
- Enhanced EMS with optimal control of solar, batteries and loads; Economic optimisation taking into account generation and load forecasts, tariffs and pricing signals
- Micro-grid, Virtual Power Plant (VPP) and Utility demand response management support, including availability forecasts, fleet SoC management, and battery pre-conditioning.
- Connects to StormCloud platform for advanced predictive and fleet-wide control functions for VPP, AEMO and NSP service integration.

Security and Resilience

- Remote self-managed firmware upgrades using StormCloud platform.
- Factory fitted with X.509 certificates and keys ensure secure authorised access.
- Autonomous operation and safe-fall-back during communications outages
- Data logging, data repair and maintenance minimises data loss

Connectivity Options

- WAN/LAN - Wi-Fi & Ethernet (standard) and 3G/4G, AMI RF-Mesh available.
- Devices – USB, RS232/422/485, Modbus, CAN, BLE, Ethernet, Wi-Fi
- Appliance adapters – AS4755 DRC, DRED (wired and wireless)
- Utility – Modbus SCADA, IEC61850, DNP3.0, SEP2.0, IEEE2030.5 (2018)

Device Integrations

We connect directly to many devices for reading data and issuing commands using USB, RS232/422/485, Modbus, CAN, Ethernet, wifi, and Bluetooth. This includes solar grid and hybrid inverters, battery management systems, power meters, battery chargers, charge controllers, and sensors. Ask for our current list and add your devices to our pipeline.

Compliance & Installation

- Installation in proximity to metallic parts may impair wireless communications
- Standard installation not to be exposed to weather or dust, an (optional) IP54 enclosure is available for this purpose
- Device powered via USB, or 230V AC or 12/24/48V DC (optional) adapters. A power source at the installation is required.
- Available in Table-top or DIN rail housing format

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