

Smart and simple solar and batteries



Function

A Robust data integrator, controller and communications adapter for inverter-based renewable energy systems for energy management, network integration and aggregation support.

Application

Demanding applications where reliable solar, battery or deferrable load management is critical. This includes commercial or utility scale systems, micro-grids, and remote applications.

Features & Benefits

- Convenient vendor agnostic interfacing to a range of solar and battery inverter systems, power meters, load controllers and sensor devices
- Improved user experience with all power and asset data available on web and mobile portal for each site and across the fleet.
- Flexible system design through plug-and-play data connectivity improves cost effectiveness and reduces risk
- Rich real-time data from devices including AC and DC electrical measurements, temperatures, native status and alerts.
- Installation time and cost of capital minimised due to:
 - Reduces need for CTs or power meters
 - Controls deliver consistent functionality and reduce need for "smart" inverters or custom PLC programming
- Vendor neutral data and control means reduced asset risk by avoiding single supplier lock-in

Reported Information

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

- Energy: active, reactive, apparent, phase by phase and aggregate

- Active, reactive and apparent powers, power factor
 - RMS voltage, current and frequency
 - Instantaneous, day, week, month and year historical records
 - Device status and alerts, device settings & temperatures
 - DC-side voltages and currents
- Available on web and mobile portal, regular and custom reports, or CSV export. Data reported and stored with better than Class 1 accuracy.

SwitchDin maintains independent device status monitoring, where available, for continuous support independent of other communications options.

Connectivity

- WAN/LAN - Wifi, Ethernet and cellular (for backlink and/or support), provides multi-network or LAN switch support.
- Devices – USB, RS232/422/485, Ethernet, Wifi
- Adapters available for AS4755 DRC or DRED (wired and wireless) for load control.

Device Integrations

Connects directly to many devices for reading data and issuing commands using proprietary protocols, SunSpec, Modbus TCP or RTU, CAN, Wifi. This includes solar grid and hybrid inverters, battery management systems, power meters, battery chargers, charge controllers, and sensors.

Ask us for our current list and add your devices to our pipeline.

Controller Actions

Local autonomous and cloud-based control uses real-time measurements to add functionality and enhance system performance. This includes:

- Smart device integrations including whole of system (power meter, solar, battery systems) for AC or DC couplings, inverter and battery management systems, multi-inverter multi-vendor systems, multi-battery systems;
- Smart Inverter functions means vendor independent functionality across the fleet including managed/zero export,

tariff optimisation, volt-W management, time-based charging management.

- Enhanced energy management functions with predictive weather and load prediction taking into account tariffs and pricing signals
- Utility demand response management support for inverters and for AS4755 compliant HVAC, Hot Water, Pool Pumps and EV-charging (from Q4 2017).
- Connects to SwitchDin StormCloud platform for advanced predictive and fleet-wide control functions for aggregation

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 12/24V DC or 240V AC plug-pack (optional).
- Installation involving connection of power meters requires a qualified electrician

Terms & Conditions

24 months warranty on manufacturer defects. No cover for connected devices.

Chipset	• SoC Integrated, Intel® Atom™ Processor E3815 (1.46GHz)
System Memory	• 1 x SO-DIMM DDR3L-1333/1600, 4GB
COM	• 4 x RS-232/422/485 (selectable)
USB	• 2 x USB 2.0
Ethernet	• 2 x 10/100/1000 Mbps isolated
CANbus	• 1xCAN using adapter (optional)
Protocols	• Modbus TCP or RTU, SunSpec, and other proprietary
Display	• 1 x VGA for HMI (optional)
Wireless	• Wifi, 3G/4G • 2 x Antenna
Storage	• 1 x 8G SATA SSD (or HDD)
Others	• RTC Battery backed
Power Supply	• 12-24VDC, 1.21-0.66A • Power Protection: OVP, Reverse protection
Watchdog Timer	• 1~255 sec, software safeguard
Construction	• Extruded aluminum and heavy-duty steel, IP40 • DIN rail mounted or wall mount (optional)
Operating Temperature	• -20°C ~ +70°C (-28°F ~ +158°F)
Relative Humidity	• 10% ~ 95%
Vibration	• 2g@5~500Hz, amplitude 0.35 mm (operation/ storage/ transport)
Dimensions (W x D x H)	• 48 x 110 x 155 mm (1.88" x 4.33" x 6.10")
Weight (net/gross)	• 1.0 kg (2.2 lb)/1.50 kg (3.3 lb)
Certificate	• CE, FCC, UL

Inverters supported (Oct 2017) include Eguana, Fronius, SMA, SolaX, SolarEdge, Xantrex, ABB, Schneider, Giant, Studer, SunGrow, Victron.. Contact sales@switchdin.com for further details.