6/2/2024

Product Selection Guide 2024

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Contacts

Sales & Technical Questions

https://www.sma-australia.com.au/contact/contact-us.html

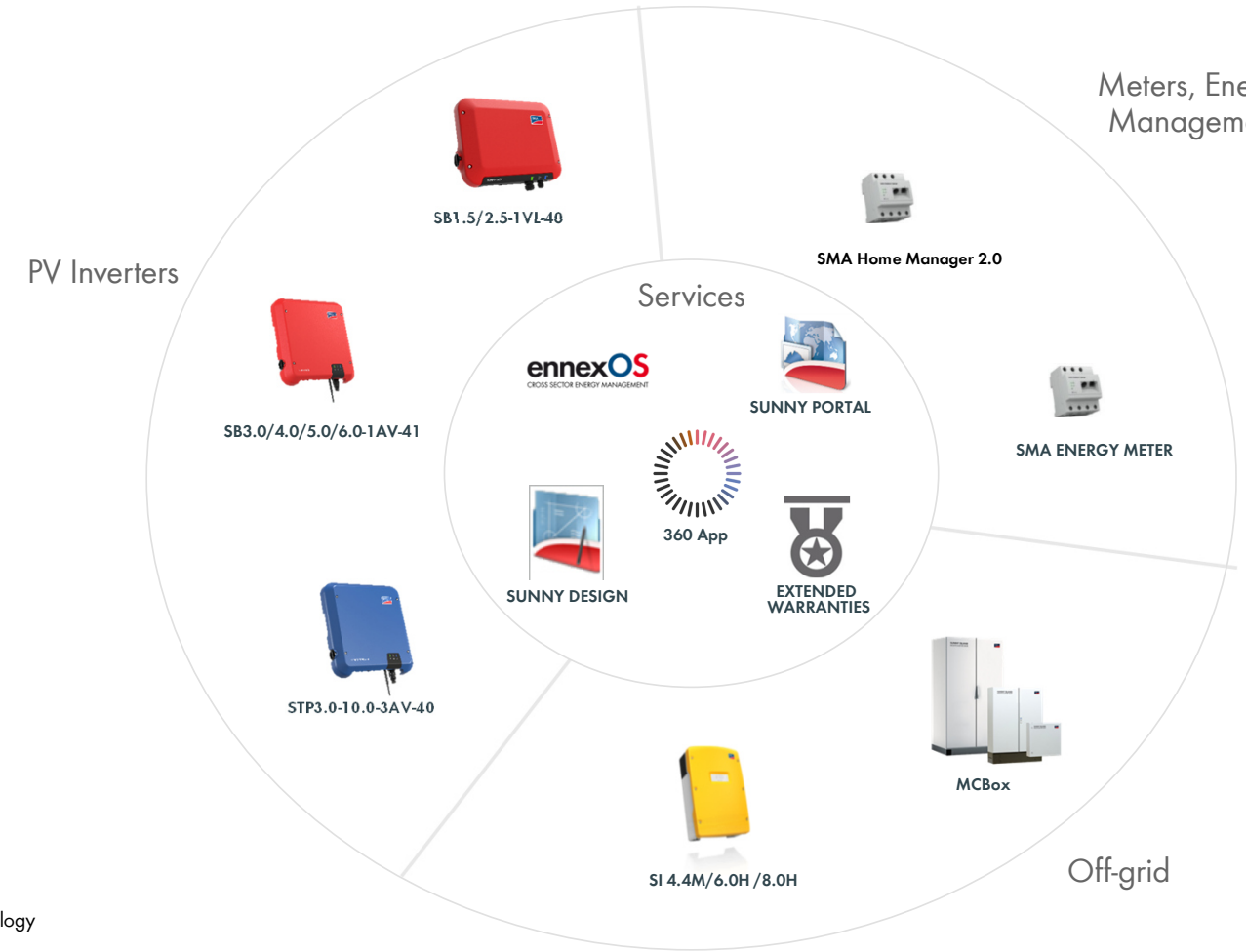
On-site technical support and enquiries about after sales

1800 SMA AUS
+61 2 9491 4200

https://my.sma-service.com/

Contents

Portfolio: Home



HOME PV INVERTERS

SMA Solar Technology

Sunny Boy 1.5 / 2.5

https://www.sma-australia.com.au/products/solar-inverters/sunny-boy-15-20-25.html

Models

- SB1.5-1VL-40
- SB2.5-1VL-40

Electrical

- Integrated DC Isolator
- Max PV: 3kWp (SB 1.5), 5kWp (SB 2.5)
- 1 MPPT, 1 String, Sunclix
- Single Phase (L, N, PE). Balancing/ interlocking multiple Sunny Boys across different phases not supported.

Communications

- WiFi for Monitoring (Webconnect)
- 1x Ethernet (RJ45) connection for monitoring and control
- Modbus TCP slave

Features

- ShadeFix
- Volt-Watt, Volt-VAR
- Export Control possible
- Earth Fault alarm via Sunny Portal
- Smart Connected

Accessories

- **SMA Energy Meter (EM-20)**
  - Consumption monitoring
  - Export control (single inverter only)

- **Home Manager 2.0 (HM-20)**
  - Consumption monitoring
  - Export control (up to 12 inverters)
  - Allows up to 24 inverters to be monitored together in Sunny Portal (normally limited to 4)

Sunny Boy 3.0 / 4.0 / 5.0 / 6.0

https://www.sma-australia.com.au/products/solar-inverters/sunny-boy-30-36-40-50-60.html

Models

- SB3.0-1AV-41
- SB4.0-1AV-41
- SB5.0-1AV-41
- SB6.0-1AV-41

Electrical

- Integrated DC Isolator
- Max PV: 5.5kWp (SB 3.0), 7.5kWp (SB 4.0, 5.0), 9kWp (SB 6.0)
- 2 MPPT, Sunclix
- Single Phase (L, N, PE). Balancing/ interlocking multiple Sunny Boys across different phases not supported.

Communications

- WiFi for Monitoring (Webconnect)
- 1x Ethernet (RJ45) connection for monitoring and control
- Modbus TCP slave
- RS485 SMA Data1 only

Functions

- ShadeFix
- Volt-Watt, Volt-VAR
- Export Control possible
- Audible Earth/Ground Fault alarm
- Smart Connected

Accessories

- **SMA Energy Meter (EM-20)**
  - Consumption monitoring
  - Export control (single inverter)

- **Home Manager 2.0 (HM-20)**
  - Consumption monitoring
  - Export control (up to 12 inverters)
  - Allows up to 24 inverters to be monitored together in Sunny Portal (normally limited to 4)

Sunny Tripower 3.0 / 4.0 / 5.0 / 6.0

https://www.sma-australia.com.au/products/solar-inverters/sunny-tripower-30-40-50-60.html

Models

- STP3.0-3AV-40
- STP4.0-3AV-40
- STP5.0-3AV-40
- STP6.0-3AV-40

Electrical

- Integrated DC Isolator
- Max PV: 6kWp (STP 3.0), 8kWp (STP 4.0), 9kWp (STP 5.0, 6.0)
- 2 MPPT, 1 Strings per MPPT, Sunclix
- Three Phase (L1,L2,L3, N, PE)

Communications

- Wifi for Monitoring (Webconnect)
- 1x Ethernet (RJ45) connection for monitoring and control
- Modbus TCP slave
- RS485 for SMA Data1 only

Functions

- ShadeFix
- Volt-Watt, Volt-VAR
- Export Control possible
- Earth Fault alarm via Sunny Portal
- Smart Connected

Accessories

- **SMA Energy Meter (EM-20)**
  - Consumption monitoring
  - Export control (single inverter)

- **Home Manager 2.0 (HM-20)**
  - Consumption monitoring
  - Export control (up to 12 inverters)
  - Allows up to 24 inverters to be monitored together in Sunny Portal (normally limited to 4)

Sunny Tripower 8.0 / 10.0

https://www.sma-australia.com.au/products/solar-inverters/sunny-tripower-80-100.html

Models

- STP8.0-3AV-40
- STP10.0-3AV-40

Electrical

- Integrated DC Isolator
- Max PV: 15kWp
- MPPT A: 2 Strings
  MPPT B: 1 String, Sunclix
- Three Phase (L1,L2,L3, N, PE)

Communications

- Wifi for Monitoring (Webconnect)
- 1x Ethernet (RJ45) connection for monitoring and control
- Modbus TCP slave
- RS485 for SMA Data1 only

Functions

- ShadeFix
- Volt-Watt, Volt-VAR
- Export Control possible
- Earth Fault alarm via Sunny Portal
- Smart Connected

Accessories

- **SMA Energy Meter (EM-20)**
  - Consumption monitoring
  - Export control (single inverter)

- **Home Manager 2.0 (HM-20)**
  - Consumption monitoring
  - Export control (up to 12 inverters)
  - Allows up to 24 inverters to be monitored together in Sunny Portal (normally limited to 4)

Home Hybrid Inverters

SMA Solar Technology

SBSE 3.6 / 4.0 / 5.0 / 6.0

Models

- SBSE3.6-50
- SBSE4.0-50
- SBSE5.0-50
- SBSE6.0-50

Electrical

- Integrated DC Isolator
- Max PV: 12kWp (on 6kW model only)
- MPPT A: 1 String
  MPPT B: 1 String
  MPPT C: 1 String
- Single Phase (L1, N, PE)

Communications

- Wifi for Monitoring (Webconnect)
- 2x Ethernet (RJ45) connection for monitoring and control
- Modbus TCP slave

Functions

- ShadeFix
- Volt-Watt, Volt-VAR
- Export Control possible
- Earth Fault alarm via Sunny Portal
- Smart Connected

Accessories

- **SMA Energy Meter (EM-20)**
  - Consumption monitoring
  - Export control

- **Home Manager 2.0 (HM-20)**
  - Consumption monitoring
  - Export control (up to 12 inverters)
  - Allows up to 24 inverters to be monitored together in Sunny Portal (normally limited to 4)

HOME BATTERY INVERTERS

SMA Solar Technology

Sunny Island 6.0 / 8.0

Sunny Island 4.4M / 6.0H / 8.0H

Models

- SI6.0H-13
- SI8.0H-13

Electrical

- 20+ Li-Ion compatible batteries on battery compatible list.
  Battery List
- Automatic Backup accessory available
- Single Phase (L, N, PE)

Communications

- WiFi for Commissioning only
- 1x Ethernet (RJ45) connection for monitoring and control
- Modbus TCP slave
- 1x CAN interface for Battery Management System

Functions

- Auto Backup via external transfer switch
- Peak Load shaving mode and Forced charge scheduling (when paired with Home Manager)
- AS/NZS4777.2:2020
- Smart Connected

Accessories (EM-20 or HM-20 required for battery op)

- SMA Energy Meter (EM-20)
  Also adds consumption monitoring, export control
- Home Manager 2.0 (HM-20)
  For sites with with multiple PV inverters. Allows 12 inverters to be monitored together in Sunny Portal.
- Transfer Switch (3rd Party)
  For automatic backup during grid outages

Transfer Switch (3rd Party)

Available from select distributors

Models

- Depends on individual distributors
- IP rated enclosures available

Communications

- No external communication required

Electrical

- Rated up to 63A per phase
- 1 phase or 3 phase setup available
- Up to 2x of SI installed allowed
  - 1 phase – up to 12kW PV when paired with SI8.0
  - 3 phase – up to 36kW PV when paired with SI8.0
- Overload capability, same as off grid SI during backup.

Functional Description

- For the automatic backup of households during a grid failure
- Depending on site configuration, single or three phase backup.
- Single or three phase PV inverters on circuit will turn on and help supply loads/recharge battery
- Not rated as a UPS, not appropriate for life support devices

A datasheet is not available

HOME ACCESSORIES and MONITORING

SMA Solar Technology

SMA Energy Meter

https://www.sma-australia.com.au/products/monitoring-control/sma-energy-meter.html

Models

- EM-20

Installation Notes

- When using CT configuration, CT leads and voltage measurement share the same terminals. Use ~6A MCB for protection

Electrical

- 1, 2 or 3 phase grids with 230V to neutral (split phase not supported)
- Current rating and measurement:
  - <63A for inline current measurement
  - <2000A for measurement via current transformers

Communications

- 1x Ethernet (RJ45) connection to inverter or network router

Functions

- Bidirectional energy meter
- SMA Speedwire communication

Note:

- EM-20 not to be used for sites with > 63A per phase for export control

Accessories

- **Current Transformers (not supplied by SMA)**
  Optional for systems with current <63A,
  Required for systems > 63A per phase
  Any 3rd party CT with secondary
  current rating of 5A, and accuracy Class I

Home Manager 2.0

https://www.sma-australia.com.au/products/monitoring-control/sunny-home-manager-20.html

Models

- HM-20

Installation Notes

- When using CT configuration, CT leads and voltage measurement share the same terminals. Use ~6A MCB for protection

Electrical

- 1, 2 or 3 phase grids with 230V to neutral (split phase not supported)
- Current rating and measurement:
  - <63A for inline current measurement
  - <2000A for measurement via current transformers

Communications

- 1x Ethernet (RJ45) connection to network router
- EEBUS and SEMP protocols
- Appliance compatibility list: https://files.sma.de/downloads/SMASmartHome-Compatible-TI-en-11.pdf

Functions

- Bidirectional energy meter
- SMA Speedwire communication
- Export control of 12 inverters
- Control and monitoring of select Stiebel Eltron, EEBUS and appliances connected to Edimax Wifi Sockets
- Forecast based switching of smart appliances to increase self consumption
- Up to 24 devices, max 12 actively controlled

Accessories

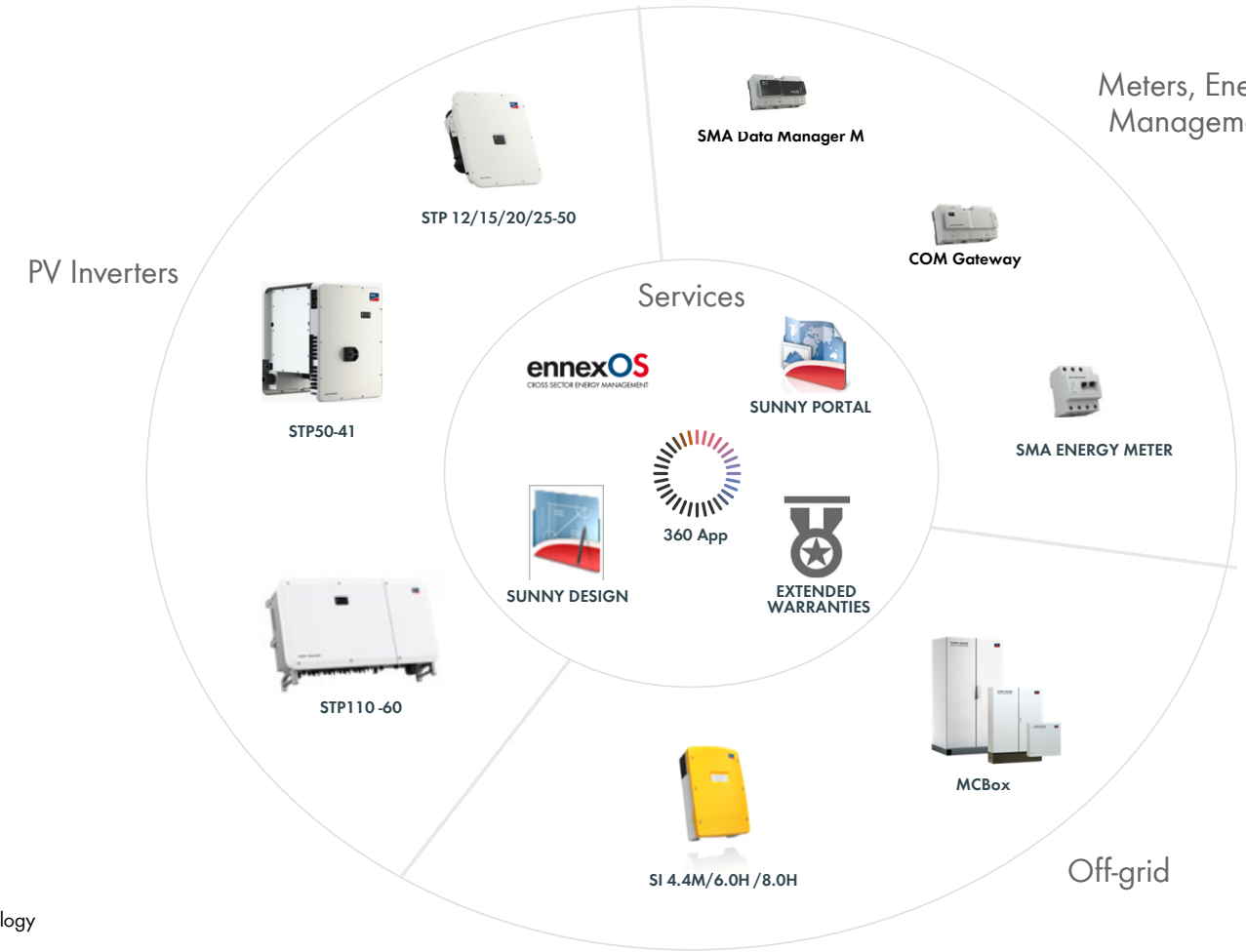
- **Current Transformers (not supplied by SMA)**
  Optional for systems with current <63A,
  Required for systems > 63A per phase
  Any 3rd party CT's with secondary current rating of 5A, and accuracy Class I

- *HM-20 not to be used for sites with > 63A per phase for export control*
- **Edimax SP-2101W V3 (not SMA supplied)**
  Monitor and control connected appliances to increase self consumption. Fully integrated with HM and sunny portal

Monitoring Solutions (Home) – www.SunnyPortal.com

	Inverter Only 	Inverter + SMA Energy Meter 	Inverter + Home Manager 2.0 
Max # of inverters	4 inverters per Sunny Portal plant	1 Solar inverter	12 inverters/controlled loads per Sunny P. plant
Live & Historical: PV Generation	✓	✓	✓
Live & Historical: Grid usage & Feed-in	X	✓	✓
Live/Historical Consumption	X	✓	✓
PV & Consumption Forecast	X	X	✓
Visualisation and automatic control of individual loads	X	X	SEMP/EEBUS compatible loads, loads with Edimax 2101WV3
Inverter P, V, I (AC & DC side) graphs	With Sunny Portal Professional. Inverters without WiFi/older models have less channels		

Portfolio: Business



Business PV Inverters

Sunny Tripower 12/15/20/25

Sunny Tripower X powered by ennexOS | SMA Australia (sma-australia.com.au)

Models

- STP 12-50
- STP 15-50
- STP 20-50
- STP 25-50

Electrical

- Inbuilt DC isolator
- Max PV: 18kWp (STP 12), 22.5kWp (STP 15), 30kWp (STP 20), 37.5kWp (STP 25)
- 3x MPPT
  - 2 strings per MPPT
- Three Phase (L1,L2,L3, N, PE)

Functions

- ShadeFix
- Volt-Watt, Volt-VAR
- Integrated export control up to 5 devices with energy meter.
- Earth Fault alarm via Sunny Portal
- Smart Connected*
- AFCI – Arc Fault Detection
- I-V Curve Analyser[1]

Communications

- 2x Ethernet (RJ45) connection for monitoring and control
- Modbus TCP slave
- RS485 (option) for SMA Data1 only

Accessories

- RS485 module
- Sensor module
- DC SPD type 1/2
- DC terminal cover

*Smart Connected for business inverters has reduced scope compared to home inverters. 1. Available in the future with FW update.

Sunny Tripower CORE1

https://www.sma-australia.com.au/products/solar-inverters/sunny-tripower-core1.html

Models

- STP 50-41

Electrical

- Integrated DC Isolator
- Max PV: 75kWp
- 6x MPPT's, 2 string inputs per MPPT
- Sunclix connectors
- Three Phase (L1,L2,L3, N, PE)

Communications

- Sunny Portal (Webconnect)
- 2x Ethernet (RJ45) connection for monitoring and control
- Modbus TCP slave
- RS485 (optional) for SMA Data1 only

Features

- ShadeFix
- Volt-Watt, Volt-VAR
- Export Control possible via Data Manager M + Energy Meter
- Earth Fault alarm via Sunny Portal
- Smart Connected*
- Compatible with >300 mA Type B RCD
- Q on demand
- In-built MPPT yield comparison
- AFCI – Arc Fault Detection
- I-V Curve Analyser

*Smart Connected for business inverters has reduced scope compared to home inverters.

Sunny Tripower CORE1

https://www.sma-australia.com.au/products/solar-inverters/sunny-tripower-core1.html

Addon Accessories

- Home Manager 2.0 (HM-20)
  Consumption monitoring
  (1 to 24 inverters)

- Data Manager M (EDMM-10)
  Advanced monitoring; remote settings; integration of weather stations, 3rd party meters, SCADA, I/O devices; export control (with Compatible Energy Meters), up to 50 devices (including meters and sensors)

- SMA Energy Meter (EM-20) (on its own)
  Consumption monitoring, max 1 inverter.
  Cannot export control the CORE1.

On-board Accessories (protection), see https://files.sma.de/downloads/U_Schutz-TI-en-13.pdf
Options for AC and DC surge protection, retrofittable modules.

- AC Surge Protection Type 2 (AC_SPD_Kit1-10): 4x Type 2 SPD's for protection of indirect lightning
- AC Surge Protection Type 1&2 (AC_SPD_Kit1-10): 4x Type 1/2 SPD's for higher lightning protection
- DC Surge Protection Type 2 (AC_SPD_Kit1-10): 9x Type 2 SPD's for protection of indirect lightning
- DC Surge Protection Type 1&2 (AC_SPD_Kit1-10): 9x Type 1/2 SPD's for higher lightning protection

Sunny Tripower CORE1

https://www.sma-australia.com.au/products/solar-inverters/sunny-tripower-core1.html

On-board Accessories (comms/control), 2 slots available:

- SMA Sensor Module (MD.SEN-40)
  For the integration of individual weather sensors into a PV system by direct connection to this module installed into any one of the CORE1 inverters at site. Data is displayed on the respective Sunny Portal plant or ennexOS plant (when Data Manager M installed). Supports:
  (i) 1x PT100 or 1xPT1000 temperature sensor for ambient air temperature (no converter, passive sensor only)
  (ii) 1x PT100 or 1xPT1000 temperature sensor for PV module temperature (no converter, passive sensor only)
  (iii) Irradiance sensor with 0V – 10V or 0mA – 20mA signal output. 24VDC 600 mW supply on-board if needed for sensor
  (iv) S0 interface for wind speed sensor
  Not compatible with weather stations with a Modbus or serial output. Examples of compatible sensors: https://files.sma.de/downloads/MDSEN-40-TI-en-11.pdf

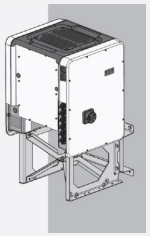
- SMA RS485 Module (MD.485-40)
  For the integration of CORE1 with legacy SMA data loggers/controllers (e.g. SMA Webbox) which uses the SMA Data1 standard over RS485 wiring. Can also be used in combination with Data Manager M as an alternative to Speedwire communications over ethernet.

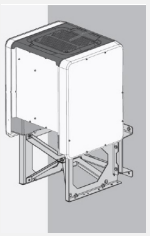
- SMA IO-Module (MD.IO-40)
  Adds 6 digital inputs for the control of the inverter's power output (e.g. coarse limitation between 0% and 100% power output) or remote shutdown via digital/relay signal. Also adds 1x digital output relay for (i) signalling a fault (ii) signalling contactors/loads for increased self-consumption (e.g. turn on loads when PV energy available)

Sunny Tripower CORE1

https://www.sma-australia.com.au/products/solar-inverters/sunny-tripower-core1.html

External Accessories





- Universal Mounting Kit (UMS_KIT-10)
  Aluminium-Magnesium alloy mounting kit for raising CORE1 off the ground or wall mounting.

- DC Connections Cover
  Some regions require an external DC connections cover. Sydneylasercut.com.au produces DC covers for CORE1 or you may design your own.

Common Mounting Questions

- Can I reduce the recommended clearances around the inverter?
  When mounting CORE1 on or against a wall, the clearance to that side may be reduced to 100mm. SMA recommends clearances on all other sides for adequate heat dissipation. SMA expects these clearances are available for the purposes of servicing the inverter and valuing the service rebate. Contact SolarAcademy@SMA-Australia.com.au for questions.
- Does CORE1 need to be fixed to the ground?
  CORE1 can sit on the ground when provided mounting feet are attached without fixation to the ground. Inverter must be fixed if the surface is >3 degrees incline, wind speed exceeds 25 m/s, or height of feet/rail is >100mm.
- Can CORE1 be mounted in direct sunlight? Yes (unlike other SMA inverters)

Sunny Tripower CORE2

https://www.sma.de/en/products/solarinverters/sunny-tripower-core2.html

Models

- STP 110-60

Electrical

- Max PV: 165kWp
- 12x MPPT, each with 2x string inputs, Sunclix
- Three Phase (L1,L2,L3, PE) (No Neutral)
- Type II DC & AC Surge protection devices

Communications

- 2x Ethernet (RJ45) connection for WebUI and Data Manager M
- Modbus Sunspec
- Relay for signaling alarm/fault
- Digital input for shutdown signal
- DRM port

Functions

- ShadeFix
- Volt-Watt, Volt-VAR
- Smart Connected*
- IP66

Accessories

- Data Manager M (EDMM-10)
  Required for any online monitoring of CORE2.
  Each Data Manager supports a maximum of 20 CORE2 devices.
  Advanced monitoring; Export Control; integration of weather stations, 3rd party meters, SCADA, I/O devices; up to 50 devices (max 2.5MW per EDMM-10)

Business ACCESSORIES and MONITORING

Monitoring Solutions (Business)

	Inverter Only 	Inverter + Data Manager M 
Monitoring Platform	sunnyportal.com	ennexos.sunnyportal.com
Max # of inverters	4 inverters per Sunny Portal plant (CORE2 must be installed with Data Manager)	50 devices per Data Manager M
Live & Historical: PV Generation	✓	✓
Live & Historical: Grid usage & Feed-in	X	✓ if meter installed
Live/Historical: Consumption	X	✓ if meter installed
3rd Party Modbus Device support	X	inverters, weather stations, meters
Remote Inerter Parameter Changes	X	✓
Inverter P, V, I (AC & DC side) graphs	With Sunny Portal Professional	✓, standard and supports all SMA inverters

Data Manager M

https://www.sma-australia.com.au/products/monitoring-control/data-manager-m.html

Models

- EDMM-10

Electrical

- Requires 10 – 30V DC power supply or purchase from SMA (CLCON-PWRSUPPLY)

Communications

- 2x Ethernet (RJ45) connection to inverter or network router, etc

Device Count

- Max 50 devices per Data Manager M or 2.5MWac. Of which, max 20 Modbus devices (such as CORE2)
- Expand with addon slave data managers

Main Functions

- Centralised monitoring of SMA and 3rd party inverters, meters, weather stations
- Advanced grid management features (active/reactive power)
- Connection to advanced monitoring portal and remote setting changes

In-built interfaces

- USB Port:
  Firmware update of Data Manager M and connected inverters
- RS485 Port:
  Connect Modbus RTU inverters, meters,weather stations or legacy SMA inverters with RS485 communications
- Digital Input:
  Dig In 1-5 for limitation of plant active power and fast-stop
- Ethernet (2x RJ45):
- *Internet, Speedwire, Modbus TCP (network switch 2x)*

Data Manager M

https://www.sma-australia.com.au/products/monitoring-control/data-manager-m.html#tab-content-355824-4

Addon SMA Accessories

- SMA COM Gateway
  - (If RS485 port on Data Manager is used for Modbus RTU devices), COM Gateway can be added to integrate legacy SMA devices with RS485 communication (SMA Data 1/Data net)
  - Supports SMA inverters with RS485 port, Sunny Sensorbox.
  See https://files.sma.de/downloads/COMGW-10-TI-en-12.pdf

- SMA Energy Meter
  - When a single meter is installed at grid connection point, allows consumption monitoring
  - Several meters can be added for monitoring of specific loads on-site. Data from additional meters are not aggregated in total consumption figures

- SMA Inverter Manager (IM-20) Systems
  - Danfoss TLX/FLX, STP60, STPS60, SHP75-10 based systems can be monitored on ennexOS and integrated with other SMA inverters when added with a Data Manager M

Data Manager M

https://www.sma-australia.com.au/products/monitoring-control/data-manager-m.html#tab-content-355824-4

Addon Interfaces I/O Interface

- Analog inputs for Active/Reactive power setpoints
- Analog output for feedback of setpoints
- Digital Input for Active power setpoints
- Digital outputs for Error/Warning alarms and load control for self-consumption
- Analog inputs for weather sensors – see below

Sensor	**Configuration**	**Interface**	**WAGO-I/O-SYSTEM 750** 8 DI, 8 DO, 4 AI, 4 AO, 4 Temp.	**Moxa ioLogik E1242** 4 DI, 4 DO, 4 AI	**Moxa ioLogik E1260** 6 Temp.
Temperature	Ambient temperature in °C Cell temperature in °C	Pt100 Pt100	4 sensors (2 conductor connection)	- -	6 sensors (2 or 3 conductor connection)
Irradiation	Solar irradiation in W/m²	4 mA to 20 mA	Max 4 sensors	Max 4 sensors	-
Wind	Wind speed in m/s	4 mA to 20 mA	Max 4 sensors	Max 4 sensors	-

Data Manager M

https://www.sma-australia.com.au/products/monitoring-control/data-manager-m.html#tab-content-355824-4

Addon Modbus Accessories (configuration of registers in Data Manager required)

- Modbus Meters
  - 3rd party energy/gas meters with a Modbus TCP or Modbus RTU (RS485) can be integrated into the Data Manager M for additional energy monitoring.
  - 3rd party modbus meters can be used for export control but SMA cannot guarantee their smooth operation without testing
  - e.g. Siemens PAC 2200, Measurlogic DTS-307, WattNode WNC-3Y XXX-MB

- Modbus Weather Stations
  - Modbus TCP/RTU weather stations can be added for irradiation, windspeed, temperature measurements (module + air)
  - e.g. SMA COM-WS-200-10 or COM-WS-100-10, equivalent to Rainwise PVMet

- Modbus Inverters
  - 3rd party inverters with a Modbus TCP/RTU interface can be monitored (Energy & Power)
  - 3rd party inverters with Sunspec Modbus have more monitoring/control functions

Off-grid

Sunny Island 4.4M / 6.0H / 8.0H

https://www.sma-australia.com.au/products/battery-inverters/sunny-island-44m-60h-80h.html

Models

- SI 4.4M-13
- SI 6.0H-13
- SI 8.0H-13

Model number indicates the 30 min AC rating at 25'C in kW.

Electrical

- DC Inputs: 48V, Supported Batteries
- AC1: Standalone AC grid, AC coupled PV and other AC generators
- AC2: Generator

Consult Datasheet for full electrical information.

Approved battery list

Communications

- Wifi interface for commissioning only
- 1x Ethernet (RJ45) – COM ETH - connection for connection to internet or Data Manager M

Functions

- Off-grid use only (Australia)
- Generates a reliable standalone grid and also:
  - Battery Management
  - Generator start/scheduling
  - Load shedding/control
  - PV curtailment

In-built interfaces

- 2x Output Relays: configuration for generator on/off control, load shedding and other functions
- BatTmp: for the input of a battery temperature sensor required for Lead-Acid batteries
- Digital Input: *for external triggering of generator start*
- ComSYNC (2x RJ45): *for the connection between Master and Slave inverters in a cluster and for the connection to approved Lithium batteries*
- *ComETH (1x RJ45): for connection to internet router/Data Manager M*

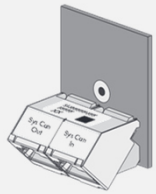
Sunny Island 4.4M / 6.0H / 8.0H

https://www.sma-australia.com.au/products/battery-inverters/sunny-island-44m-60h-80h.html

Addon interfaces/Accessories

- Battery Temperature Sensor:
  Optional external battery temperature sensor which is required for Sunny Island for systems with a lead-acid battery

- SI-SYSCAN.BG:
  Optional communications interface which is required to be ordered for each Master Sunny Island in a Multicluster system (2 or more clusters, i.e. 6 or more Sunny Islands in total). For e.g., for a system with 6 Sunny Islands connected to a MultiCluster Box 6, two SYSCAN addons are needed



- Data Manager M (EDMM-10) - Optional
  Advanced monitoring; remote settings (not possible for Sunny Island); integration of weather stations, 3rd party meters, SCADA, I/O devices; up to 50 devices

Sunny Island 4.4M / 6.0H / 8.0H

https://www.sma-australia.com.au/products/battery-inverters/sunny-island-44m-60h-80h.html

Compatible Batteries

Please consult the Downloads section of the Sunny Island product page, "Background Knowledge" category, file "Batteries in Sunny Island Systems - List of Approved Batteries"

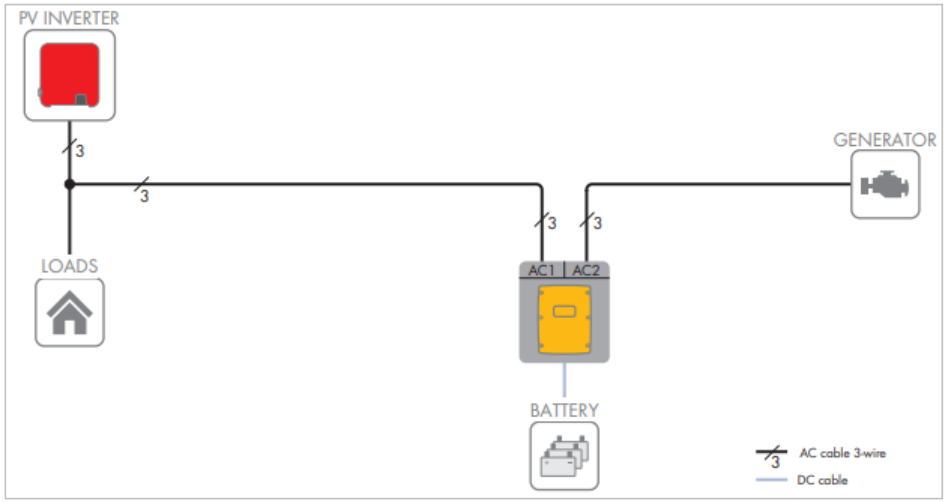
- Lead-acid batteries
  SI is compatible with lead-acid based batteries with a nominal voltage of 48V. For these batteries, Sunny Island uses its integrated Battery Management System to manage the charging regimes suited for these chemistries. Further configuration of charging parameters required, to prevent incorrect charging.

- Lithium-ion and Sodium-ion batteries
  Only lithium batteries listed in the Approved Battery list should be used with Sunny Island for safe and stable operation. Sunny Island requires communication with the BMS of the 3rd party lithium battery for the proper charge/discharge of the lithium battery.
  "Unmanaged" lithium batteries are not formally approved for use with Sunny Island.

Sunny Island 4.4M / 6.0H / 8.0H – Single Phase Configuration

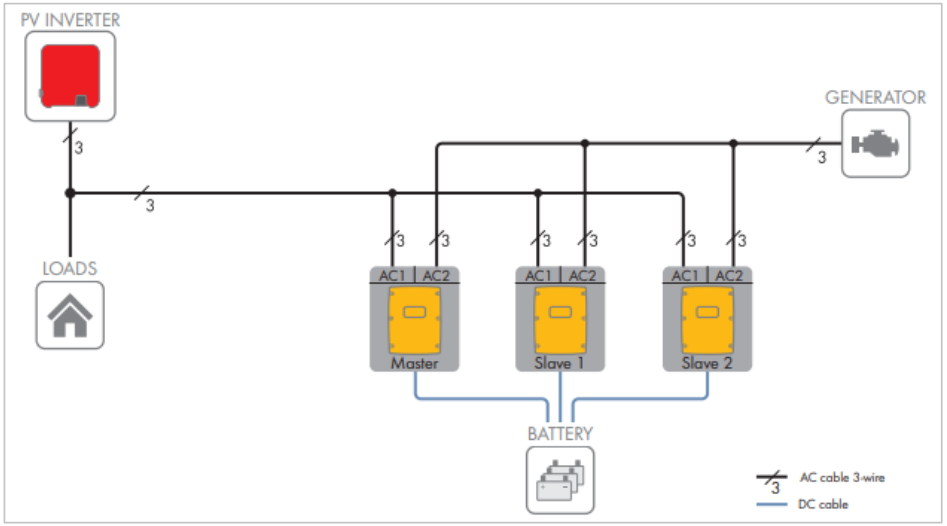
https://www.sma-australia.com.au/products/battery-inverters/sunny-island-44m-60h-80h.html

SINGLE



- 1x Sunny Island inverter
- Single Phase PV inverter(s)
- Single Phase Generator (optional)

SINGLE Phase CLUSTER

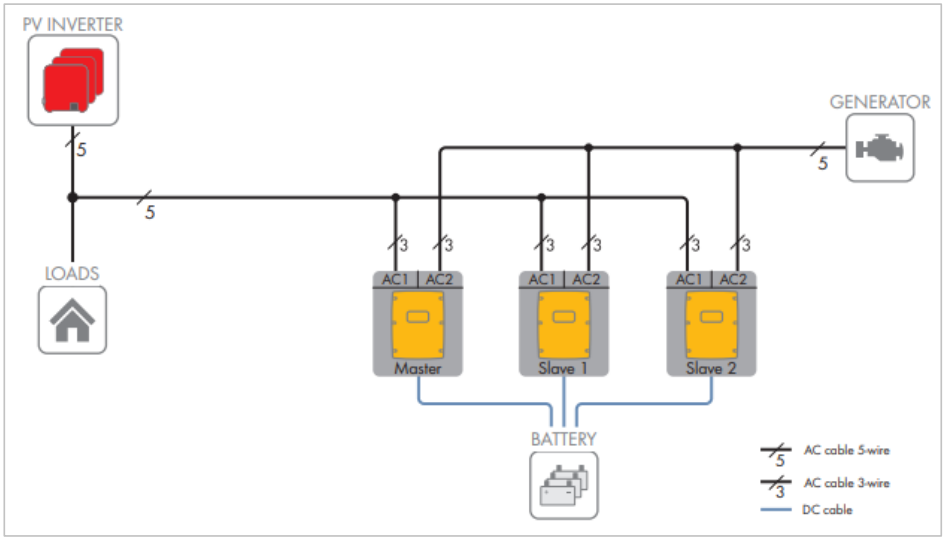


- Two or three **SI 6.0H-13** OR two or three **SI 8.0H-13**
- Single Phase PV inverter(s)
- Single Phase Generator (optional)
- Same battery bank shared by Sunny Islands

Sunny Island 4.4M / 6.0H / 8.0H – Three Phase Configuration

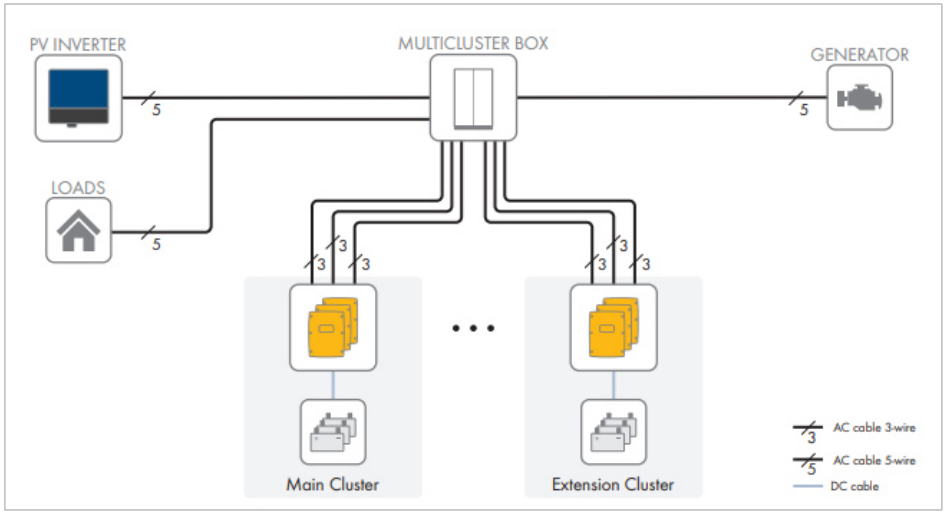
https://www.sma-australia.com.au/products/battery-inverters/sunny-island-44m-60h-80h.html

THREE Phase CLUSTER



- 3x Sunny Island of the same model
- Three Phase PV inverter(s) or multiple single phase PV inverters
- Three Phase Generator (optional)
- Same battery bank shared by Sunny Islands

MULTICLUSTER



- Multiple 3-phase clusters are combined in an SMA MultiCluster Box (supported models discussed later)
- Three Phase PV inverters
- Three phase Generator (optional)
- Each cluster has its own battery bank (should be same capacity)

Compatible Sunny Island models for Clusters

Device type	Rated power	Power for 30 minutes at 25 °C	Application			
			Single System	Single-phase single-cluster system	Three-phase single-cluster system	Multicluster system
SI4.4M-12 / SI4.4M-13 (Sunny Island 4.4M)	3300 W	4400 W	yes	no	yes	no
SI6.0H-12 / SI6.0H-13 (Sunny Island 6.0H)	4600 W	6000 W	yes	yes	yes	yes
SI8.0H-12 / SI8.0H-13 (Sunny Island 8.0H)	6000 W	8000 W	yes	yes	yes	yes

Multicluster Box 6 / 12 / 36

https://www.sma-australia.com.au/products/battery-inverters/multicluster-boxes-for-sunny-island.html

Models

- MC-Box-6.3-11
- MC-Box-12.3-20
- MC-Box-36.3-11

Electrical

Rated Power	MC-Box 6	MC-Box 12	MC-Box 36
Loads	55 kW	138 kW	300 kW
Sunny Island	Up to 6x SI8.0H	Up to 12x SI8.0H	Up to 36x SI8.0H
Generator	1x 3-phase Gen. 3x 80A, 55kW	1x 3-phase Gen. 3x 200A, 138kW	1x 3-phase Gen. 3x 435A, 300kW
PV system	55kWac	138 kWac	360 kWac

Functions

- Off-grid use only (Australia/NZ)
- For the AC distribution of off-grid systems comprising of Sunny Islands, PV inverters and a generator.
- Flexibly expand Sunny Island systems

Common Application Questions

What additional Sunny Island parts are needed in a multi-cluster system?

- Each Master Sunny Island requires optional "SI-SYSCAN.BG"

Can I mix different models of Sunny Island within a cluster of 3 SI?

- Within a cluster of 3, each Sunny Island must be the same series and same power class. The only exception is you are permitted to mix SI-12 and SI-13 within a cluster. Each SI must have the same firmware version loaded

Can I mix different models of Sunny Island in different clusters?

- In Multicluster systems, clusters containing different Sunny Island generations can be mixed. For more info see Section 5.6 of https://files.sma.de/downloads/OffGrid-System-PL-en-25.pdf

Product Selection Guide

Consumption monitoring and Export Limiting

SMA Solar Technology

Consumption Monitoring– Product Selection PV inverters

INVERTER	Options for Consumption Monitoring		
	SMA Energy Meter 	Home Manager 2.0 	Data Manager M[1] + Energy Meter[2] 
 **SB1.5/2.5 VL-40**	Max 1 PV inverter + battery inverter	Max 24 inverters	Max 49 inverters
 **SB3.0 – 6.0 AV-41**	Max 1 PV inverter + battery inverter	Max 24 inverters	Max 49 inverters
 **STP 3.0 – 10.0 AV-40**	Max 1 PV inverter + battery inverter	Max 24 inverters	Max 49 inverters
 **STP X 12 – 25-50**	Max 5 inverters (PV or Battery)	Max 24 inverters	Max 49 inverters
 **CORE1 STP50-41**	Max 1 PV inverter + battery inverter	Max 24 inverters	Max 49 inverters
 **CORE2 STP110-60**	Not supported	Not Supported	Max 20 inverters

1. Up to 2.5MVA

2. Any energy meter compatible with the Data Manager M

Export Control – Product Selection PV inverters – AS4777.2:2020

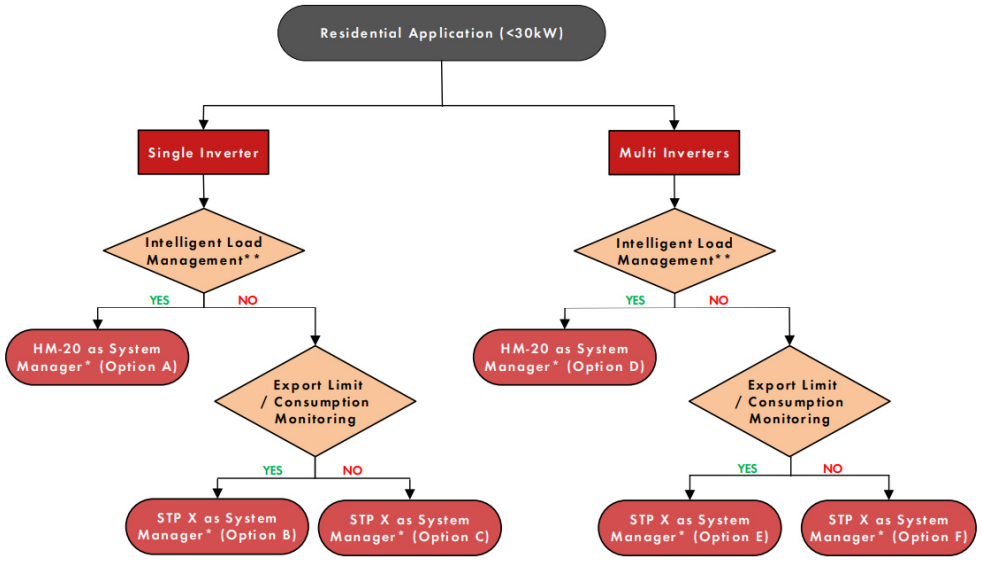
INVERTER	Options for Consumption Monitoring		
	SMA Energy Meter	Home Manager 2.0	Data Manager M[1] + Energy Meter[2]
 **SB1.5/2.5 VL-40**	Max 1 PV inverter + battery inverter	Max 12 inverters	Max 49 inverters
 **SB3.0 – 6.0 AV-41**	Max 1 PV inverter + battery inverter	Max 12 inverters	Max 49 inverters
 **STP 3.0 – 10.0 AV-40**	Max 1 PV inverter + battery inverter	Max 12 inverters	Max 49 inverters
 **STP X 12 – 25-50**	Max 5 inverters (PV or Battery)	Max 12 inverters	Max 49 inverters
 **CORE1 STP50-41**	Not Supported	Max 12 inverters	Max 49 inverters
 **CORE2 STP110-60**	Not supported	Not Supported	Max 20 inverters

1. Up to 2.5MVA

2. Any energy meter compatible with the Data Manager M

STP X Product Selection Guide

STP X Selection Matrix – Residential Application



* Please refer to Table 1

** Appliances management e.g., Heat pump, Lighting

Figure 1 STP X Selection Matrix for Residential Application

Combination with Battery inverters?

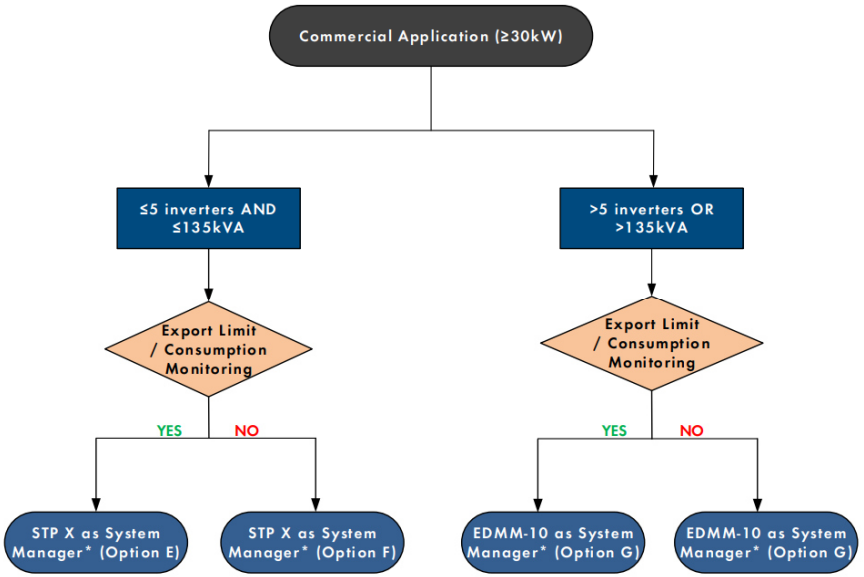
Please contact your BDM or Solar Academy at SolarAcademy@sma-australia.com.au

Option	System Manager	Other Hardware Components
A	Home Manager 2.0 (HM-20)	1 x STP X
B	STP X	1 x compatible energy meter[1]
C	STP X	NA
D	Home Manager 2.0 (HM-20)	≥1 x STP X and other inverters [2]
E	STP X	1 x compatible energy meter and other inverters
F	STP X	Other inverters[2]

Table 1 Minimum Hardware Components

STP X Product Selection Guide

STP X Selection Matrix – Commercial Application



* Please refer to Table 2

Figure 2 STP X Selection Matrix for Commercial Application

Option	System Manager	Other Hardware Components
E	STP X	1 x compatible energy meter and other inverters
F	STP X	Other inverters[2]
G	Data Manager M (EDMM-10)	1 x compatible energy meter[1] and other inverters[2]

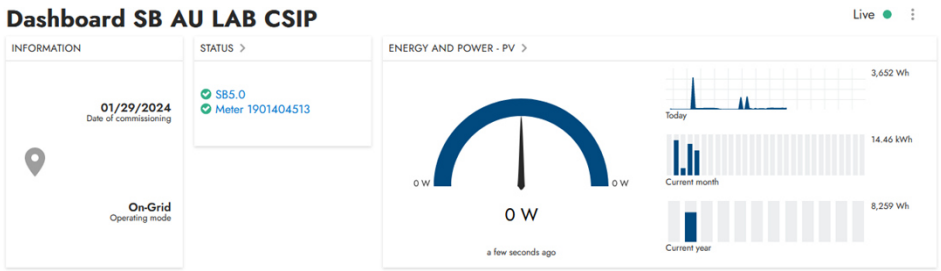
Table 2 Minimum Hardware Components

Monitoring Portal & App

SMA Solar Technology

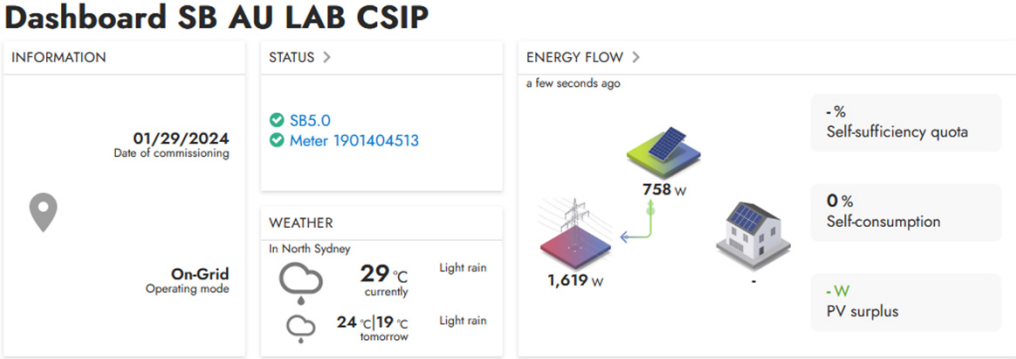
ennexOS.SunnyPortal.com – Homepage Live

Inverter (max 4) only

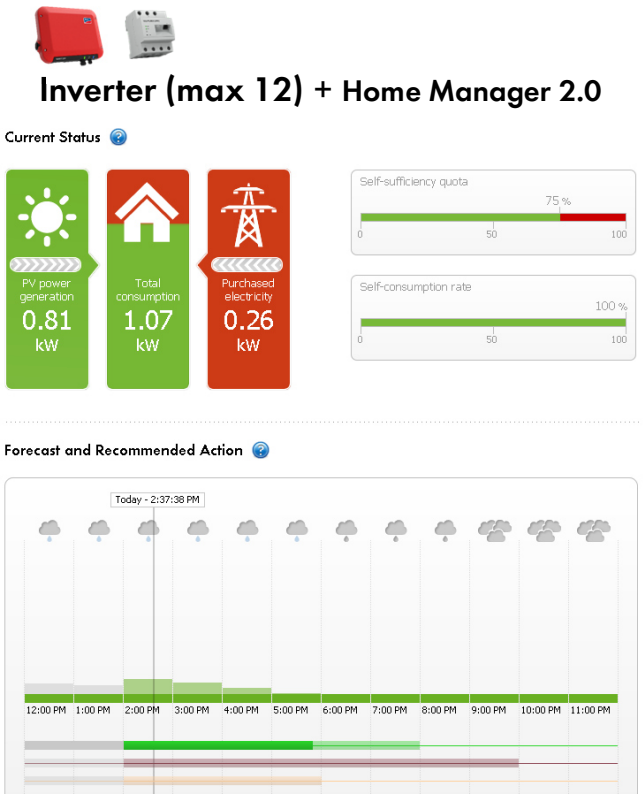


This page is still available if Energy Meter or Home Manager installed

Inverter + SMA Energy Meter

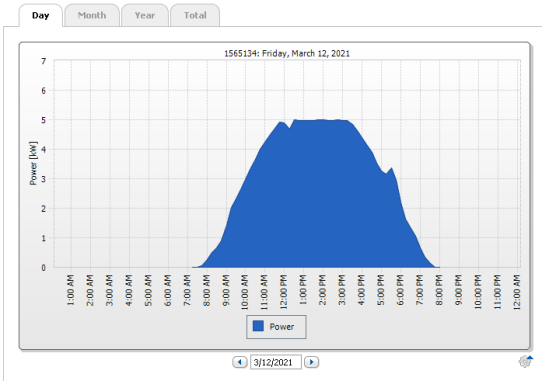


www.SunnyPortal.com – Homepage Live



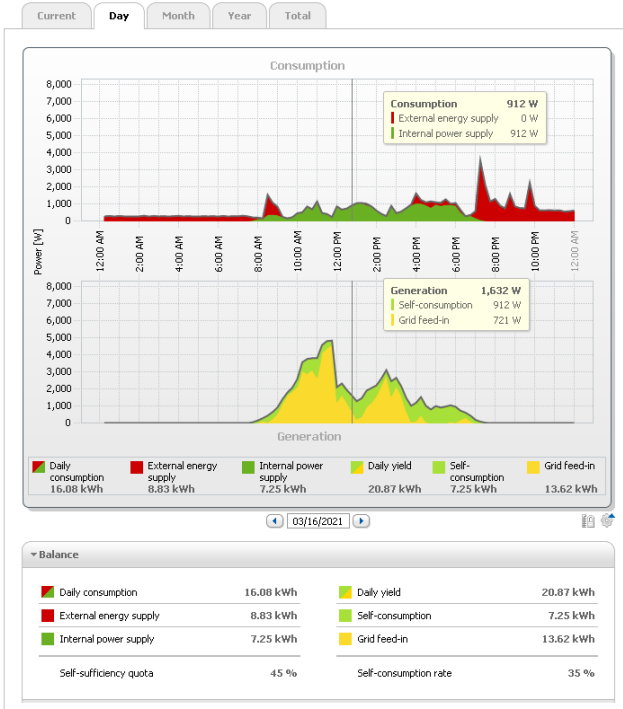
www.SunnyPortal.com – Historical Data

Inverter (max 4) only



This page is still available if Energy Meter or Home Manager installed

Inverter + SMA Energy Meter



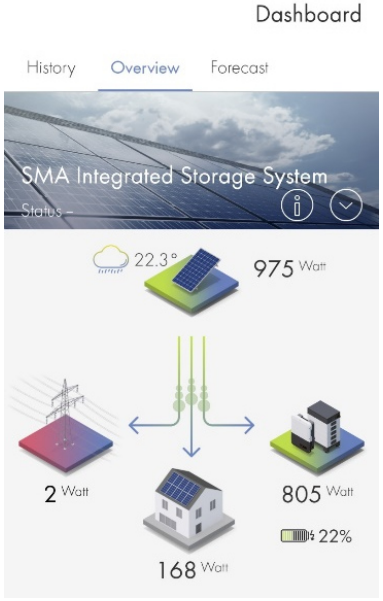
Inverter (max 12) + Home Manager 2.0

SMA Energy App (Live)

Inverter (max 4) only

PV + E. Meter/HM

PV + Battery +E. Meter/HM



SMA Energy App (Totals)

Inverter (max 4) only

Historical Totals (Day, Week, Month, Year or All-time)

- PV generated energy (kWh)
- CO_2 avoided (kg)

PV + Meter/HM

Historical Totals (Day, Week, Month, Year or All-time)

- PV generated energy (kWh)
- CO_2 avoided (kg)
- Total energy consumed (kWh)
- Grid supplied energy (kWh)
- Grid feed-in energy (kWh)
- Self-sufficient & self-consumption
- Savings ($)

PV + Battery +Meter/HM

Historical Totals (Day, Week, Month, Year or All-time)

- PV generated energy (kWh)
- CO_2 avoided (kg)
- Total energy consumed (kWh)
- Grid supplied energy (kWh)
- Grid feed-in energy (kWh)
- Self-sufficient & self-consumption
- Savings ($)
- Battery discharge (kWh)
- Battery charge (kWh)