



## Genius Series AVOL<sup>™</sup> electrical & lighting solutions.





Be a part of the millions of Australian households that have installed solar + battery systems and reap the benefits.

#### Who?

At AVOL<sup>™,</sup> we are committed to bringing Australian home & business owners clean & affordable energy solutions through innovation and research.

#### How?

Our solutions aim to reduce energy consumption, pollution and minimise harm to the environment, whislt being price-conscious so that solutions are more accessible for Australian households.



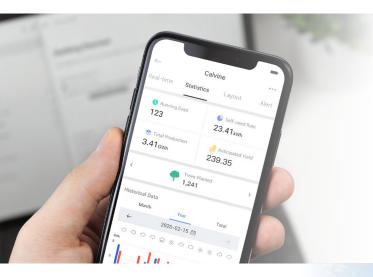
### Combat rising power prices and become self-sufficient

Power your home, earn feed-in tariff and cut your power bill with AVOL<sup>™</sup> Genius. Gain your energy independence and save money by switching to a solar + battery system.

# Battery backup power when you need it most

Keep the family protected by having battery storage. This enables essential appliances to continue running in an event of a blackout.





### Access your energy: Anywhere, anytime

See the energy you are producing, storing and using with the "SOLARMAN Smart" mobile app.

### Lower your carbon emissions for a better tomorrow



## Scalable solar + battery solutions for a energy efficient future

€ AVOL®

### Fast-track your way to being self-sufficient

Harness the power of the sun, and maximise profit from producing clean, renewable energy with AVOL<sup>™</sup> Genius Series solar and battery storage solutions.



Cost and energy savings



Up to 20kWh battery storage

Flexible & robust

solar panels



**G**AV(

Premium CATL battery cells



Easy monitoring with phone app



New or retrofit with existing PV system

Streamline modular design



### **Cost-effective solution**

Store the excess solar power that is generated throughout the day to then use at night when on-grid power costs are higher.





### Expandable Storage

Start with 5kWh and add extra battery modules in 5kWh steps. Add up to a combined 20kWh of energy storage in a single system.

### **No.1 Leading Battery Partner**

The Lithium Iron Phosphate cells in AVOL BA5 are produced by CATL - the world leader in Lithium / EV Battery Suppliers.





### **Black-out protection**

The AVOL Genius can provide you with back-up power during power grid outages, with a max 230VAC load of 4600W.

### **Monitor energy production & use**

View what you are producing, storing & using with the "SOLARMAN Smart" phone app for both iPhone and Android. Connects to the home WiFi 2.4GHz Network via included dongle. 23.41 km





### **Genius Series**

#### AVOL<sup>™</sup>Genius Series: Complete On/Off-grid Energy Storage System

The latest generation of solar energy storage solutions from AVOL<sup>™</sup> can deliver scalable energy storage capacities of up to 20kWh for residential homes and buildings. The solution can be set-up as a new PV system with solar battery storage, or retro-fit into an existing PV system.

- 5kW Hybrid Inverter with LFP Battery, and
  430W flexible solar panels
- Expand up to 20kWh battery storage
- Built-in custom is able energy management
- Mobile app access anytime, anywhere
- New or retro-fit an existing PV system
- Peak load shifting, battery priority
- Easy set-up and install
- IP65 weather rated
- 5 year product warranty



## Components



#### 5kW Hybrid Inverter

The Genius Series: Single Phase 5kW Hybrid Inverter offers flexibility and simplicity in solar-powered system and battery storage installations. The hybrid inverter sends DC electricity generated by solar system directly back to the battery, without additional power conversion or equipment, and has a range of features enable full control over energy management.



#### 5.1kWh LFP Battery

The Genius Series: 5.1kWh LFP Battery Pack are modular designed to store and provide energy during the day and night when used with a PV system. Lithium Iron Phosphate Batteries (LiFePO4 / LFP) used in the Genius Battery pack features longer life span, zero maintenance, ultra-safe, lightweight, improved charge and discharge efficiency.



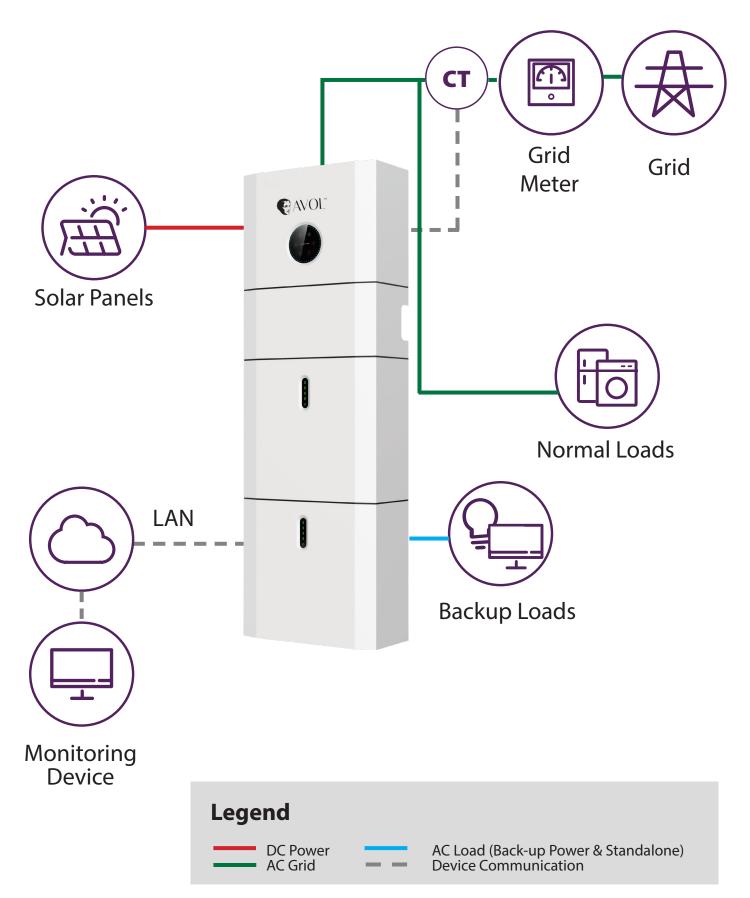
#### 430W Flexible Solar Panel

The Genius Series: 430W Flexible Solar Panel is the pinnacle between cutting-edge technology and usability, designed to be durable and more lightweight than traditional solar panels. The solar panels are approved for grid connect making them ideal to be fitted on residential buildings (metal only), motorhomes and other applications.



## Systems Mapping

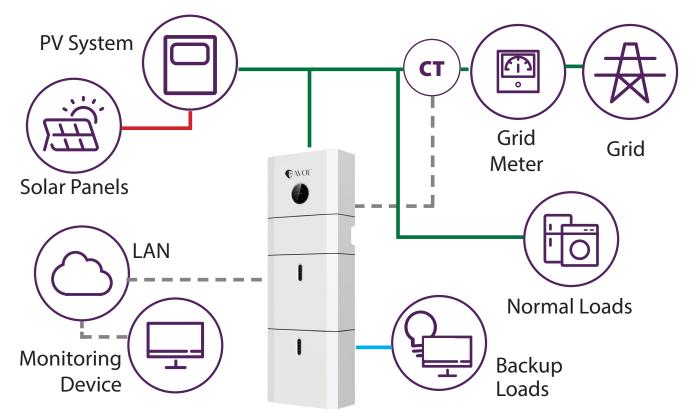
New System



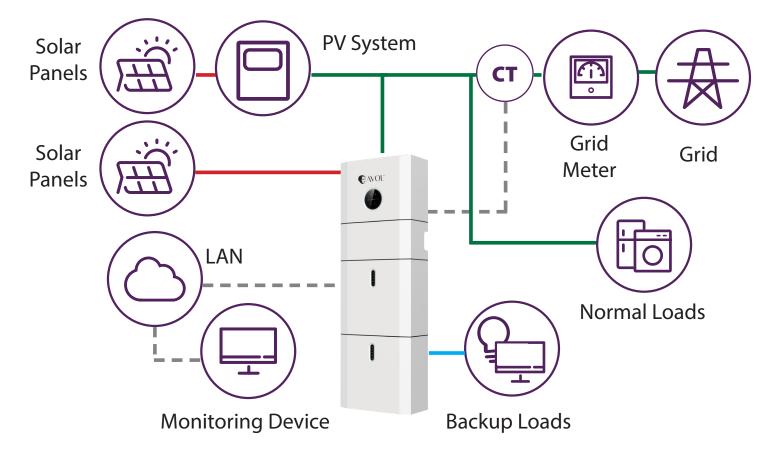




Retrofit Systems: Connect battery storage with existing PV system

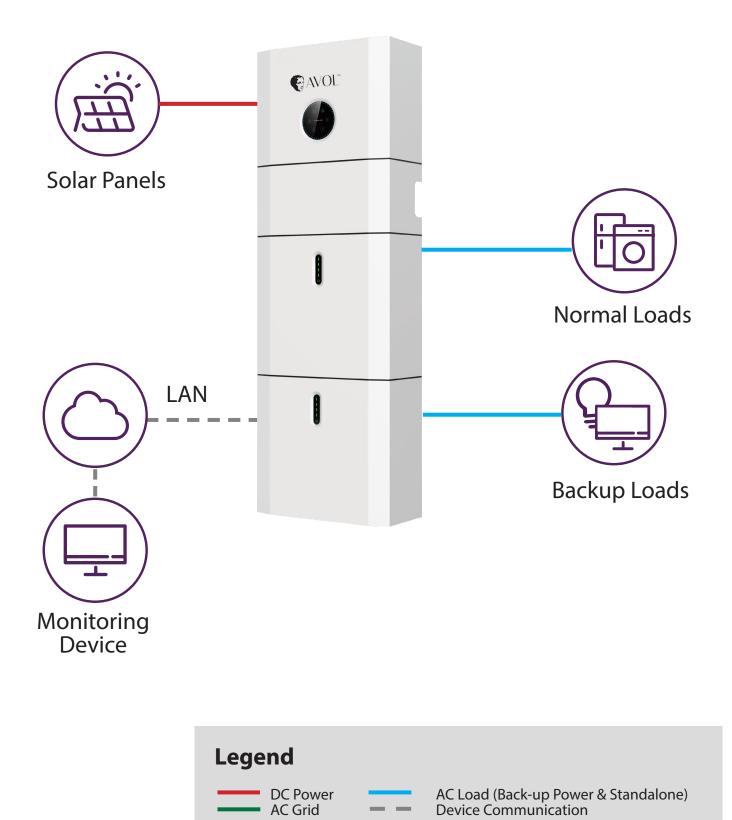


Retrofit Systems: Expand existing PV systems with solar and battery storage





#### Off-grid System

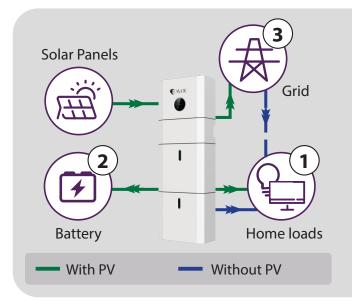


Product specifications may be subject to change without notice.



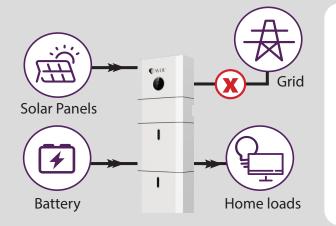
## **Operation Modes**

The AVOL<sup>™</sup>Genius Hybrid Energy Storage solution is equipped with various pre-programmed operational modes, which can be modified to suit the needs and maximise benefits for the end user. Certain operating modes will activate automatically when certain conditions are met, this is done to preserve the system performance.



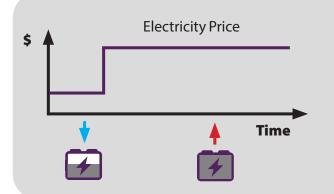
#### Self consume mode

During daylight, system supports home loads, charges battery and feeds excess to power grid. At night, home loads are supported by battery and grid if charge isn't sufficient.



#### Battery priority mode

PV-Battery System is only used as backup power supply when the grid fails. The battery can be charged with power from a PV system or from the grid.



#### Peak shift mode

Accessible through the inverter settings or mobile app. The battery system is charged/ discharged at preset times and powerusage to support the grid system.



## **Genius Energy Capacity Selection**

In order to receive the maximum benefits from the Genius Series battery storage, an informed selection should be made based on the needs and context of the customer. The intended configuration and mode selection need to be considered, though every situation will differ depending on location and power requirements.

#### Key considerations for selecting your system:

#### What do I intend to run powered from my battery system?

• It is important to consider the appliances and essentials that the system is powering. When includes appliances such as fridges, hot water systems, cooking appliances etc.

#### What is my typical daily power consumption?

• Knowledge of overall power consumption for your home is important for deciding which battery capacities and system modes to use.

#### What size solar system do I need to support the Genius system?

• The size of the solar array required to support the Genius system will depend on the battery storage selected and the normal loads of the system.

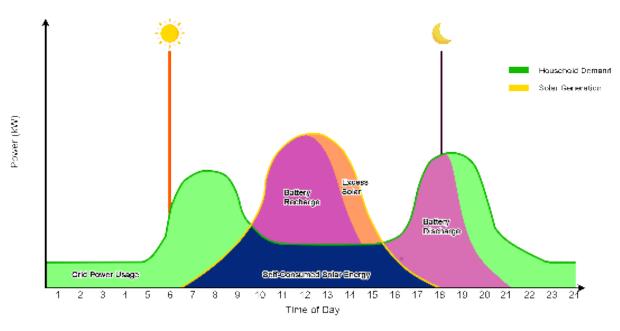
#### What appliances should I assign as backup and normal loads?

• The Genius Inverter is a hybrid inverter which allows for partial house loads. For economical reasons, appliances such as fridges, lights, some outlets and electrical hot-water systems are prioritized for back-up loads.



#### Typical energy demand graph:

The graph below illustrates the typical household power usage throughout a day, as well as average solar generation for a sufficient PV system supplemented with grid power. This matches with the self-consume operation mode of the Genius series.



#### Typical appliance wattage examples:

Below are examples of average appliance wattages. The left, black wattage is the starting watts. The right, red wattage indicates the running watts. These are useful for simple estimates for the amount of power a household will draw. Wattages will vary based on appliance load.

#### Essentials:



LED Lighting 8W 8W Optionals:



Fridge/Freezer 2200W 700W



Washing Machine 2250W 1150W



Microwave - 1000W 1000W 1000W

Wi-Fi Router

Garage Door

Opener

10W

10W



Home security system 500W 500W

\$\$\$

Central AC- 20,000 BTU

2500W

3300W



65" Television 170W 170W Luxuries:



Electric Water Heater 4000W 4000W



Desktop Setup 600W 600W



Bathroom Heated Flooring 1200W 1200W



Game Console 350W 350W



Swimming pool Heat pump 4500W 4700W



#### Daily consumption for typical households:

To make an informed decision about the Genius model selected, it is helpful to relate your situation to a common scenario. The table below details a few common scenarios, which will be elaborated on in the next section:

**Appliance Usage** 

**Power Usage** 

| A | Double-story<br>3-bedroom | 4 | Essentials +<br>Optionals +<br>Luxuries | 35kW/per day   |
|---|---------------------------|---|---|----------------|
| В | Single-story<br>2-bedroom | 2 | Essentials +<br>Optionals               | 20kW/ per day  |
| С | Single-story<br>1-bedroom | 1 | Essentials                              | 15 kW/ per day |

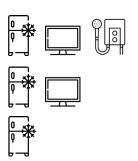
#### Battery + Mode Selection for typical households

Occupants

Household A:

- Household A has high daily power usage requirements, and would therefore benefit from a larger capacity battery, such as the 15kW or 20kW Genius Kits. Any of the available modes will suit this household, as long as grid power is available.
- As the power requirement is too high to maintain operation for an entire day, self-consume mode will maximize savings and utilize the battery effectively.





**E**AVOL

**C**AVOL



Household

Size



#### Household B:

- Household B has average daily power usage requirements, and would therefore benefit differently from both low and high capacity kits. A higher capacity 15kW or 20kW kit will allow for higher savings and potential for off-grid living with a sufficient PV system. Battery priority mode will provide efficient power for a period of time in the case of grid failure.
- Smaller capacities, such as the Genius 5 and 10kW kits can be utilized in peak-shift mode to increase savings.



**C**AVOL

#### Household C:

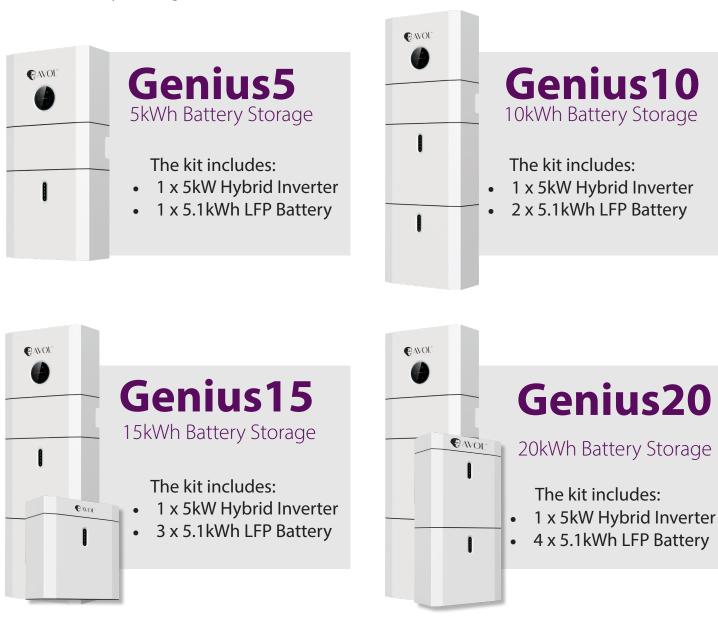
 Household C has relatively low daily power usage, and can potentially run off-grid with a high capacity kit and a sufficient PV system. Smaller capacity kits will work well with this household in self-consume and battery priority modes when operating connected to the grid.



## **Genius Hybrid Energy Storage**

Deliver scalable energy storage capacities of up to 20kWh for residential homes and buildings. The solution can be set-up as a new PV system with solar battery storage, or retro-fit in an existing PV system.

- Ideal for residential & small commercial businesses fit kits with your own solar panels
- Convert the current PV system to include battery energy storage of up to 20kWh
- Each kit includes installation accessories necessary.



#### AVOL Battery Storage Kits

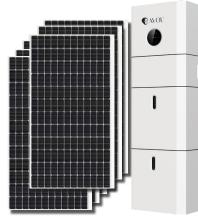


## **Genius Complete Kit**

With it's comprehensive solution, the AVOL Genius + Solar range of systems can provide power during an power outage (up to 20kWh battery storage) and also offer a range of benefits, including a 5 year warranty and simple installation. Genius + Solar 3kW Kits

• Generates 3800kWh per year

- Suitable for smaller households (1-2 ppl)
- Perfect for use as a dedicated backup system



## Genius5, Genius10 + Solar

5 or 10 kWh Battery Storage + 3kW Solar Panels

#### PWRSLR-P3I5B5,PWRSLR-P3I5B10

The kit includes:

- 1 x 5kW Hybrid Inverter
- 1-2 x 5.1kWh LFP Battery
- 7 x 430W Flexible Solar Panels

#### Genius + Solar 6kW Kits

- Generates 7600kWh per year
- Suitable for larger households (3+ People)
- Perfect for use with self-consumption modes, off-grid living possible



## Genius15, Genius20 + Solar

15 or 20 kWh Battery Storage + 6kW Solar Panels

#### PWRSLR-P3I5B15,PWRSLR-P3I5B20

The kit includes:

- 1 x 5kW Hybrid Inverter
- 3-4 x 5.1kWh LFP Battery
- 14 x 430W Flexible Solar Panels

#### Accessories

| Product                    | Product Number                                 |
|----------------------------|--|
| Connection Kit             | AVOL-GENIUS-EXP0510 (10kWh) / -EXP0520 (20kWh) |
| DC Isolator                | SLR-DCISO-1000V                                |
| DC Isolator Cover          | SLR-DCISOCOV                                   |
| MC\$ Connector             | SLR-CON-MC4                                    |
| 100M Dual Core Solar Cable | SLR-CBL4.6MM                                   |





## **Reliable PV energy for home and business**

#### Genius Series: Ultra-lightweight and flexible 430W mono-crystalline solar panels

The Genius Series: 430W Flexible Solar Panel is the pinnacle between cutting-edge technology and usability, designed to be durable and more lightweight than traditional solar panels. The solar panels are approved for grid connect making them ideal to be fitted on residential buildings (metal only), motor-homes and other applications.

- Lightweight mono-crystalline modules
- Quick bonding requires no penetration
- High bond double-sided adhesive tape
- Wind speed & wind load rating: 24000 Pa

Home & Business Ready



Adhesive Mounting Solution

- Power output range: 425-430W
- Easy transportation and install 7.3kgs
- Clean Energy Council (CEC) accredited
- 5 year warranty



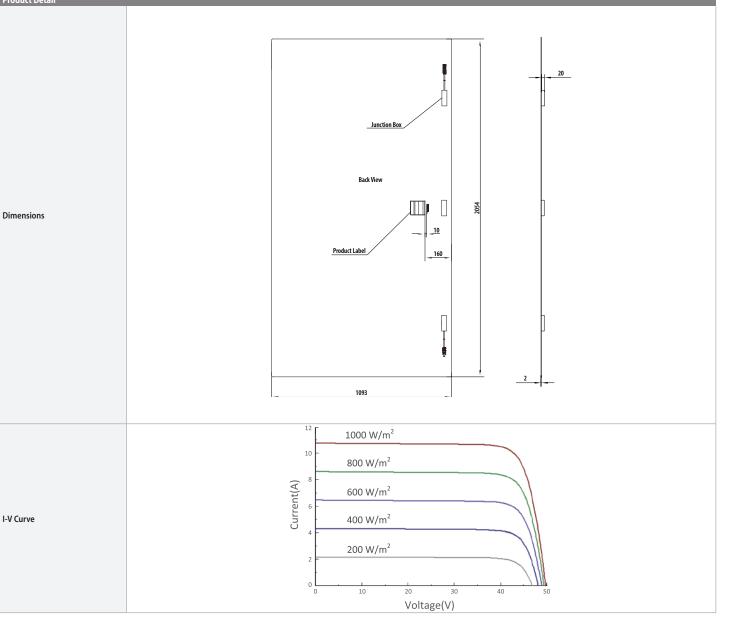
Lightweight & Durable



#### **OGP-G SERIES | OFF GRID POWER SYSTEMS**

#### Series Specifications

| Model                       | SLR-SP430W  |  |  |
|-----------------------------|---|--|--|
| Series Name                 | Genius Series: 430W Flexible Solar Panel                  |  |  |
| General                     |   |  |  |
| Туре                        | Monocrystalline silicon (166mm half cell)                 |  |  |
| Number of cells             | 144 (12x12)   |  |  |
| Dimensions                  | 2054 x 1093 x 2mm   |  |  |
| Weight                      | 7.3kg   |  |  |
| Operating Environment       | -40 °C to 85 °C   |  |  |
| Back-sheet                  | White   |  |  |
| Frame                       | Frameless   |  |  |
| Junction box                | IP 68 rated   |  |  |
| Output Cables               | Photovoltaic technology cable 4.0 mm2, (+)150 / (-)450 mm |  |  |
| Connector                   | MC4 compatible  |  |  |
| Manufacturer Country        | China   |  |  |
| Electrical                  |   |  |  |
| Maximum Wattage Output      | 430W  |  |  |
| Maximum Power Voltage (Vmp) | 42.0  |  |  |
| Maximum Power Current (Imp) | 10.24   |  |  |
| Open-circuit Voltage (Voc)  | 49.8  |  |  |
| Short-circuit Current (Isc) | 10.74   |  |  |
| Module Efficiency           | 19.2%   |  |  |
| Max. System Voltage         | 1000 V DC (IEC)   |  |  |
| Max. Series Fuse Rating     | 20 A  |  |  |
| Application Class           | Class A   |  |  |
| Power Tolerance             | 0/+5 W  |  |  |
| Product Detail              |   |  |  |







## **Advanced energy management simplified**

#### **Genius Series: Single Phase 5kW Hybrid Inverter**

The Genius Series: Single Phase 5kW Hybrid Inverter offers flexibility and simplicity in solarpowered systems and battery storage installations. The hybrid inverter sends DC electricity generated by solar system directly back to the battery, without additional power conversion or equipment, and has a range of features enable full control over energy management.

- Built-in customised energy management modes (on-grid / off-grid)
- Connects solar energy to household & feeds back into grid
- Power output: 5000W
- High maximum efficiency: 97.6%
- Dual MPPT's for higher energy harvest
- Remote access mobile app available



**Smart Remote Access** 

Redirect energy to the grid



#### Series Specifications

| Series NumGenus Series SW Hybrid Solar Power InverterFor Strip1597Input Strip (bylinge1597Maximum Input Power5897Maximum Input Power65000%Nominal CVIntoge9807Nominal Voltage9807Winder of APP Tracker8807Maximum Input Control APP Tracker8807Actionau Input Power8807Actionau Input Power9807Maximum Input Control APP Tracker8807Maximum Input Control APP Tracker9807Maximum Input Control APP Tracker9807Maximum Info Control APP Tracker9807Maximum AC Apparent Power9807Ac Output Control9807Maximum AC Apparent Power9807Maximum AC Apparent Power9807Battery Unput Dever1004Battery Unput Dever1004Maximum Charge / Discharge (urent)9807Battery Unput Dever9807Maximum Charge / Discharge (urent)9807Maximum Charge / Discharge (urent)9807Maximum Charge / Discharge (urent)9807Maximum Charge / Discharge (urent)9807Maximum Charge / Discharge (urent)9807Max Output Control9807Max Output Control9807M   | Model                       | AVOL-GENIUS-IA5   |
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| THDBattery TypeLPP (LifePOA)Nominal Battery Voltage Charging VoltageRangeAdo Columna Charge / Discharge GurrentMaximun Charge / Discharge GurrentBattery TypeCarging Strategy for Li-lon BatteryObage Ado Strategy for Li-lon BatteryDependant on the BMSColumnati GatteryDependant on the BMSColumnation Strategy for Li-lon BatteryDependant on the BMSColumnation Strategy for Li-lon BatteryMax. Output Apparent PowerMax. Output KrequencyOutput Life Output VoltageOutput Life Output VoltageDowninal Output FrequencyOutput Life Output VoltageOutput Life Output VoltageStrategy EditionsProtectionDressen ColumnationsOutput Dependent On Strategy EditionsOutput Over CurrentOr Serie Output Life Output IbleOutput DectionNet Columnation DectionNet Columnation DectionNet Columnation DectionOutput DectionOutput DectionColumnation DectionNotalion DectorionNotalion DectorionOther Solut Appendict Dection <td></td> <td></td>  |                             |   |
| Battery Input      ILP (LiFePO4)        Nominal Battery Voltage Charging Voltage      48V        Range      40-60V        Maximum Charge / Discharge Current      100A        Battery Charging Voltage Charging Voltage Current      100A        Battery Charge / Discharge Current      00A        Charging Strategy for Li-ion Battery      Dependant on the BMS        AC Output (Backup)      200A        Max: Output Requent Power      5000VA        Max: Output Voltage      20A        Nominal Output Voltage      230V        Nominal Output Voltage      230V        Output Voltage      97.6%        Euro PV Efficiency      276%        Euro PV Efficiency      97.6%        Euro PV Efficiency      280        Output Over Current      Yes        Ot Switch      Bipolar DC Switch (125A/Pole)        Acti-Shading Prot  |                             |   |
| Battery TypeLFP (LiFePO4)Nominal Battery Voltage Charging Voltage48VRange48VRange48VMaximum Charge / Discharge Current100ABattery Capacity100-400AhCharging Strategy for Li-ion BatteryDependant on the BMSAC Output (Backup)Dependant on the BMSAC Output (Backup)200AMax. Output Current20ANominal Output Voltage300V/AMax. Output Current20AOutput Hequency50/60HzOutput The30VMax. PV Efficiency97.6%Euro, PV Efficiency97.0%ProtectionYesOutput ThoYesOutput Over CurrentYesOutput Over CurrentYesDC Switch ID SchrollYesConvert ID Over CurrentYesDC Switch ID SchrollYesConvert ID Over CurrentYesDC Switch ID SchrollYesCharding ProtectionYesCharding ProtectionYesCharding ProtectionYesCharding ProtectionYesCharding Ervicut ProtectionYesConstraint ProtectionYes </td <td></td> <td><pre>\sigma at rated power</pre></td>  |                             | <pre>\sigma at rated power</pre>                        |
| Nominal Battery Voltage Charging Voltage48VRange40-60VRange / Joischarge Current00ABattery Capacity100-400AhCharging Strategy for Li-lon Battery0Cottignt Edeckop)0Mas. Output Apparent Power0Mas. Output Voltage0Ominal Output Voltage0Nominal Output Voltage0Mas. Output Voltage0Nominal Output Voltage0Nominal Output Voltage0Output TRD230VNominal Output Frequency0Output TRD0Cottignt Edecord0Bas. Put Efficiency0Potection0Protection0Output Over CurrentYeisOtuput Over CurrentYeisOtuput Over CurrentYeisString Fault Detection0Isualiation DetectionYeisAC/Sort Circuit ProtectionYeisACS String Fault Detection54/0 ×59/0 ×240mmWeight032/ligOperating Environment54/0 ×59/0 ×240mmWeight032/ligOperating Environment54/0 ×59/0 ×240mmWeight032/ligOperating Environment22/ligCotting Totection32/ligOutput Corrent0Cotting Environment0Output Circuit Protection54/ligCotting Environment32/ligCotting Environment32/ligCotting Environment32/lig <t< td=""><td></td><td></td></t<>  |                             |   |
| Range40-60VMaximun Charge / Discharge Current100ABattery Capacity100ACharging Strategy for Li-ion BatteryDependant on the BMSAC Otiput (Backup)Image Strategy for Li-ion BatteryMax. Output Reacting5000VAMax. Output Voltage20AMominal Output Voltage20ANominal Output Voltage20AVoltage Strategy for Li-ion Battery20AMax. Output TPG20AMominal Output Voltage20ANominal Output Voltage20AVoltage Strategy for Li-ion Battery20AMax. Dutput FrequencySolfohrizOutput TPDControl FrequencySolfohrizOutput TPDControl Frequency97.6%Euro. PV Efficiency97.6%Euro. PV Efficiency97.6%Euro. PV EfficiencyYesO Control FrequencyYesO Uput U Vort CurrentYesO Control FrequencyYesO Control Frequ  |                             |   |
| Maximum Charge / Discharge Current100ABattery Capacity100-400AhCharging Strategy for Lion BatteryDependant on the BMSAC Output (Backup)Max. Output Reparent Power000VAMax. Output Vapparent Power200AMax. Output Voltage200ANominal Output Voltage200AOutput THD300(OHzOutput THD300(OHzOutput THD300(OHzDescription97.6%Euro. PV Efficiency97.6%Description96.6%Description96.6%Description96.6%Description96.6%Description96.6%Description96.6%Description96.6%Description96.6%Description <t< td=""><td></td><td></td></t<>   |                             |   |
| Battery Capacity100-400AhCharging Strategy for Li-ion BatteryDependant on the BMSAC Output (Backup)Dependant on the BMSAC Output (Backup)SoutovAMax. Output Apparent PowerSoutovAMax. Output VotrageSoutovANominal Output VotageSoutovAOutput FrequencySolofobHzOutput THDSoutovAEfficiencySoutovAMax. PV Efficiency97.6%ProtectionSoutovADC Switch (125A/Pole)Anti-Islanding ProtectionOutput Over CurrentYesOutput Over CurrentYesCollipce FortectionYesDC Switch (125A/Pole)Anti-Islanding ProtectionCollipce FortectionYesCollipce FortectionYesDC Switch ThotectionYesString Fault DetectionYesCollipce FortectionYesInsulation DetectionYesGeneralSoutovActionOutput Over CurrentSoutovActionInsulation DetectionSoutovActionMax FortectionSoutovActionOutput Over CurrentSoutovActionInsulation DetectionYesColimensionsSoutovActionWeightSoutovActionWeightSoutovActionWeightSoutovActionWeightSoutovActionOutput Output Outpu   |                             |   |
| Charging Strategy for Li-ion Battery  Dependant on the BMS    AC Output (Backup)    Max. Output Apparent Power  S000V/A    Max. Output Voltage  20A    Nominal Output Voltage  230V    Nominal Output Voltage  33W (Linear Load)    Output THD  <3W (Linear Load)  |                             |   |
| AC Output (Backup)      Max. Output Apparent Power      S000VA      Max. Output Vappatent Power      20A      Nominal Output Voltage      23OV      Nominal Output Voltage      20V      Nominal Output Voltage      20V      Nominal Output Voltage      20V      Nominal Output Voltage      20V      Nominal Output Voltage      0utput THD      Costing Environment      0utput ThD      Costing Environment      0utput Over Comment      DC Switch      Adding Protection      Output Over Current      Output Over Current      Output Over Current      Ves      AC/OC Surge Protection      AC/OC Surge Protection      Norge Protection      Ves      AC/OC Surge Protection      Not Construct Protection      Ves      AC/OC Surge Protection      Not Suff Solut Detection      Neise (dB)      Output Over Current      Dimensions      S40x S90x 240mm      Weight  |                             |   |
| Max. Output Apparent Power5000VAMax. Output Current20ANominal Output Voltage20ANominal Output Frequency2030VOutput THO2030VOutput THO30%(Linear Load)Efficiency97.6%Euro. PV Efficiency97.6%Portection97.0%DC SwitchBipolar DC Switch (125A/Pole)Antt-Islanding ProtectionYesOutput Over CurrentYesOutput Over CurrentYesCo Reverse Polarity ProtectionYesString Fault DetectionYesString Fault DetectionYesGeneralYesOlico Suitch Circuit ProtectionYesOther Circuit ProtectionYesOutput Over CurrentString Fault DetectionMax DetectionYesOutput Or Circuit ProtectionYesOutput Or Circuit ProtectionYesOutput Or Circuit ProtectionYesOutput Or Circuit ProtectionYesObjet (Gib)String Fault Circuit ProtectionOinensionsString Fault Circuit ProtectionOutput Or Circuit ProtectionString Fault Circ   |                             | Dependant on the BMS                                    |
| Max. Output Voltage20ANominal Output Voltage20NNominal Output Yequency230VOutput ThO50/60HzOutput ThD<3% (Linear Load)Efficiency7.6%Euro. PV Efficiency97.6%D C SwitchBipolar DC Switch (125A/Pole)Anti-islanding ProtectionYesOutput ThorettonYesO C Reverse Polarity ProtectionYesString Fault DetectionYesAc/DC Surge ProtectionYesString Fault DetectionYesG Reverse Polarity ProtectionYesString Fault DetectionYesMax DetectionYesC Reverse Polarity ProtectionYesString Fault DetectionYesMax DetectionYesMax DetectionYesOutput TrotectionYesO System ConstructionYesO String Fault DetectionYesO DetectionYesO DetectionStar String Fault ProtectionDimensionsSda String Fault ProtectionDimensionsSda String Fault ProtectionWeightStar String Fault ConstructionWeightStar String Fault ConstructionWeightStar String Fault ConstructionOutput String Fault ElectionStar String Fault Construction  |                             |   |
| Nominal Output Voltage230VNominal Output Frequency230VOutput THO50/60HzOutput THO<3% (Linear Load)Efficiency97.6%Euro. PV Efficiency97.0%Protection97.0%Protection97.0%Output Over CurrentBipolar DC Switch (125A/Pole)Output Over CurrentYesDC Reverse Polarity ProtectionYesString Fault DetectionYesAC/DC Surge ProtectionYesGeneralYesDimensionsYesOgenerating Environment540 x 590 x 240mmWeight32kgOperating Environment-25°C ~460° CNoise (dB)Course CourectionCooling TypeNatural Convection   |                             |   |
| Nominal Output FrequencyS0/60HzOutput THDS0/60HzEfficiencyS0/60HzMax. PV Efficiency97.6%Euro. PV Efficiency97.0%Protection97.0%D C SwitchBipolar DC Switch (125A/Pole)Anti-islanding ProtectionYesOutput Over CurrentYesD C Reverse Polarity ProtectionYesString Fault DetectionYesAC/DC Surge ProtectionDC Type II/AC Type IIIInsulation DetectionYesGeneralYesDimensionsS40 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)Natural Convection   |                             |   |
| Output THD<3% (Linear Load)EfficiencyMax. PV EfficiencyBax. PV EfficiencyFortectionProtectionDC SwitchAnti-islanding ProtectionOutput Over CurrentDC Reverse Polarity ProtectionString Fault DetectionAct/DC Surge ProtectionCS SwitchDC SwitchDC Reverse Polarity ProtectionDC Reverse Polarity ProtectionString Fault DetectionString Fault DetectionCC Surge ProtectionDC Surge ProtectionDC Surge ProtectionString Fault DetectionYeesAC/DC Surge ProtectionDetectionYeesAC Short Circuit ProtectionString Fault DetectionYeesAC Short Circuit ProtectionString Fault DetectionYeesCorearalDimensionsDimensionsString Environment-25° C= +60° CNoise (dB)Cooling TypeNatural Convection  |                             |   |
| Efficiency        Max. PV Efficiency      97.6%        Euro. PV Efficiency      97.0%        Protection      97.0%        Protection      000000000000000000000000000000000000   |                             |   |
| Max. PV Efficiency97.6%Euro. PV Efficiency97.0%ProtectionDC SwitchBipolar DC Switch (125A/Pole)Anti-islanding ProtectionOutput Over CurrentOutput Over CurrentYesDC Reverse Polarity ProtectionYesString Fault DetectionYesAC/DC Surge ProtectionDC Type II; AC Type IIIInsulation DetectionYesGeneralYesGeneralStar String String EnvironmentDimensionsS40 x 590 x 240mmWeightSakgOperating Environment-25° C~ +60° CNoise (dB)Catlest Convertion   |                             | <3% (Linear Load)                                       |
| Euro. PV Efficiency    97.0%      Protection    Bipolar DC Switch (125A/Pole)      Anti-islanding Protection    Yes      Output Over Current    Yes      DC Reverse Polarity Protection    Yes      String Fault Detection    Yes      AC/DC Surge Protection    Yes      AC/DC Surge Protection    DC Type II, AC Type III      Insulation Detection    Yes      AC Short Circuit Protection    Yes      General    Yes      Dimensions    540 x 590 x 240mm      Weight    32kg      Operating Environment    -25° C~ +60° C      Noise (dB)    <25  |                             |   |
| ProtectionDC SwitchBipolar DC Switch (125A/Pole)Anti-islanding ProtectionYesOutput Over CurrentYesDC Reverse Polarity ProtectionYesString Fault DetectionYesAC/DC Surge ProtectionDC Type II; AC Type IIIInsulation DetectionYesAC Short Circuit ProtectionYesGeneralSting Sult DetectionDimensionsS40 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25   |                             |   |
| DC SwitchBipolar DC Switch (125A/Pole)Anti-islanding ProtectionYesOutput Over CurrentYesDC Reverse Polarity ProtectionYesString Fault DetectionYesAC/DC Surge ProtectionOC Type II; AC Type IIIInsulation DetectionYesAC Short Circuit ProtectionYesDimensionsS40 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25Cooling TypeNatural Convection  |                             | 97.0%   |
| Anti-islanding ProtectionYesOutput Over CurrentYesDC Reverse Polarity ProtectionYesString Fault DetectionYesAC/DC Surge ProtectionDC Type II; AC Type IIIInsulation DetectionYesAC Short Circuit ProtectionYesGeneralSting S40 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25   |                             |   |
| Output Over CurrentYesDC Reverse Polarity ProtectionYesString Fault DetectionYesAC/DC Surge ProtectionOC Type II; AC Type IIIInsulation DetectionYesA C Short Circuit ProtectionYesGeneralYesDimensionsS40 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25Cooling TypeNatural Convection   |                             |   |
| DC Reverse Polarity ProtectionYesString Fault DetectionYesAC/DC Surge ProtectionDC Type II; AC Type IIIInsulation DetectionYesAC Short Circuit ProtectionYesGeneralJumensionsDimensions540 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25Cooling TypeNatural Convection   |                             |   |
| String Fault DetectionYesAC/DC Surge ProtectionDC Type II; AC Type IIIInsulation DetectionYesAC Short Circuit ProtectionYesGeneralYesDimensions540 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25   |                             |   |
| AC/DC Surge ProtectionDC Type II; AC Type IIIInsulation DetectionYesAC Short Circuit ProtectionYesGeneralYesDimensions540 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25Cooling TypeNatural Convection  |                             |   |
| Insulation DetectionYesAC Short Circuit ProtectionYesGeneralYesDimensions540 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25Cooling TypeNatural Convection   |                             | Yes   |
| AC Short Circuit Protection  Yes    General  540 x 590 x 240mm    Dimensions  540 x 590 x 240mm    Weight  32kg    Operating Environment  -25° C~ +60° C    Noise (dB)  <25    Cooling Type  Natural Convection  | AC/DC Surge Protection      | DC Type II; AC Type III                                 |
| General        Dimensions      540 x 590 x 240mm        Weight      540 x 590 x 240mm        Operating Environment      32kg        Noise (dB)      <25  | Insulation Detection        | Yes   |
| Dimensions540 x 590 x 240mmWeight32kgOperating Environment-25° C~ +60° CNoise (dB)<25Cooling TypeNatural Convection  | AC Short Circuit Protection | Yes   |
| Weight      32kg        Operating Environment      -25° C~ +60° C        Noise (dB)      <25        Cooling Type      Natural Convection   | General                     |   |
| Operating Environment      -25° C~ +60° C        Noise (dB)      <25   | Dimensions                  | 540 x 590 x 240mm                                       |
| Noise (dB)      <25  | Weight                      | 32kg  |
| Cooling Type Natural Convection  | Operating Environment       | -25° C~ +60° C  |
|  | Noise (dB)                  | <25   |
| Max Operation Altitude   | Cooling Type                | Natural Convection                                      |
|  | Max. Operation Altitude     | 2000m   |
| Operation Humidity 0~95% (No Condensation)   | Operation Humidity          | 0~95% (No Condensation)                                 |
| IP Class IP65  | IP Class                    | IP65  |
| Topology Battery Isolation   | Topology                    | Battery Isolation                                       |
| Communication RS485/CAN2.0/WIFI/4G   |                             |   |
| Display LCD/APP  | Display                     | LCD/APP   |
| Warranty 5 Years   |                             | 5 Years   |
| Manufacturer Country China   |                             |   |
| IEC/EN 62109-1&2;1EC/EN61000-6-1;1EC/EN61000-6-2;EN61000-6-3; IEC/EN61000-6-4;   | -                           |   |
| Certification & Standard IEC/EN61000-3-11; EN61000-3-12; IEC60529; IEC60068; IEC61683; IEC61727; EN50549-1;  | Certification & Standard    |   |
| AS 4777.2;NRS 097;VDE-AR-N-4105;CEI0-21;G98;G99;C10/C11  |                             | AS 4777.2;NRS 097;VDE-AR-N-4105;CEI0-21;G98;G99;C10/C11 |





### Up to 20kWh scalable battery solution

#### **Genius Series: 5.1kWh LFP Battery Pack**

The Genius Series: 5.1kWh LFP Battery Packs are modular designed to store and provide energy during the day and night when used with a PV system. Lithium Iron Phosphate Batteries (LiFePO4 / LFP) used in the Genius Battery pack features longer life span, zero maintenance, ultra-safe, lightweight, improved charge and discharge efficiency.

- Modular, robust design delivers excellent levels of safety and performance
- Cells produced by the world's industry leading partner Contemporary Amperex Technology Co., Limited



**Simple Installation** 



Long-lasting energy storage

- Up to 4 modules in a single PV system
- Up to 20kWh of energy storage
- 10,000 cycles at 90% depth of discharge
- IP65 weather rated, 5 year warranty





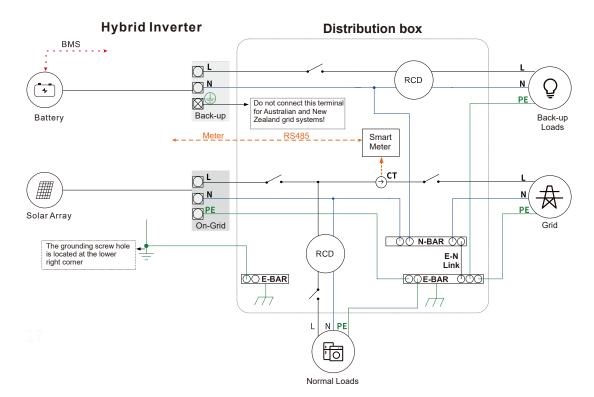
#### **Series Specifications**

| Model                              | AVOL-GENIUS-BA5  |
|------------------------------------|--|
| Series Name                        | Genius Series: 5.1kWh LFP Battery Pack   |
| General                            |  |
| Battery type                       | Lithium Iron Phosphate (LiFePO4 / LFP)   |
| Weight                             | 54kg   |
| Dimension                          | 540 x 490 x 240mm  |
| IP Protection                      | IP65   |
| Warranty                           | 5 Years  |
| Manufacturer Country               | China  |
| Electrical                         |  |
| Energy Capacity                    | 5.12kWh  |
| Usable Capacity                    | 4.6kWh   |
| Depth of Discharge (DoD)           | 90%  |
| Nominal Voltage                    | 51.2V  |
| DC Circuit Breaker                 | 125A   |
| Operating Voltage Range            | 44.8-56.5V   |
| Internal Resistance                | <20mO  |
| Cycle Life                         | 10,000 cycle   |
| Operation                          |  |
| Maximum Charge / Discharge Current | 50N80A   |
| Rated DC power                     | 4096W  |
| Max. Charge / Discharge Power      | 2825W / 4096W  |
| Operating Temperature Range        | 0 to 50°C charging / -10 to 50°C discharging   |
| Humidity                           | 0~95% (No condensation)  |
| BMS                                |  |
| Modules Connection                 | Max.4  |
| Capacity                           | 100-400Ah  |
| Power Consumption                  | <2W  |
| Communication                      | CAN & RS485  |
| Monitoring Parameters              | System voltage, current, cell voltage, cell<br>temperature, PCBA temperature measurement |
| Certificate                        |  |
| Safety(Cell)                       | Pack: IEC/EN 62619;UN38.3<br>Cell: IEC/EN 62619;UN38.3;UL 1973                           |

\* Maximum 4 battery pack in parallel.

#### Wiring Diagram:

In accordance with Australian safety regulations, the neutral cables of the on-grid side and the back-up side must be connected together, otherwise the back-up function will not work.



Contact your local supplier for full warranty details.



Contact your local AVOL reseller:

