# MultiPlus-II Inverter/chargers for ESS use in Australia

48/3000/35-32 230V AU, 48/3000/35-32 230V GX AU, 48/5000/70-50 230V AU, 48/5000/70-50 230V GX AU



MultiPlus-II



MultiPlus-II GX

## The MultiPlus-II and ESS (Energy Storage System) functionality

The MultiPlus-II is a multifunctional inverter/charger with all the features of the MultiPlus, plus an external current sensor option which extends the PowerControl and PowerAssist function to 50A resp. 100A.
The MultiPlus-II is ideally suited for professional marine, yachting, vehicle and land based off-grid applications.
It also has built-in anti-islanding functionality, and an increasingly long list of country approvals for ESS application. Several system configurations are possible. For more detailed information see the ESS Design and configuration manual.

## The MultiPlus-II GX

The MultiPlus-II GX model integrates a MultiPlus-II inverter/charger and a GX device with a 2x16-character display and the VE.Can, VE.Direct, USB and Ethernet ports.

## PowerControl and PowerAssist - Boosting the capacity of a generator

A maximum grid or generator current can be set. The MultiPlus-II will then take account of other AC loads and use whatever is extra for battery charging, thus preventing the generator from being overloaded (PowerControl function).
PowerAssist takes the principle of PowerControl to a further dimension. Where peak power is so often required only for a limited period, the MultiPlus-II will compensate for insufficient generator power with power from the battery. When the load reduces, the spare power is used to recharge the battery.

## Solar energy: AC power is available even during a grid failure

The MultiPlus-II can be used in off grid as well as grid connected PV and other alternative energy systems. It is compatible with both solar charge controllers and grid-tie inverters.

## Two AC Outputs

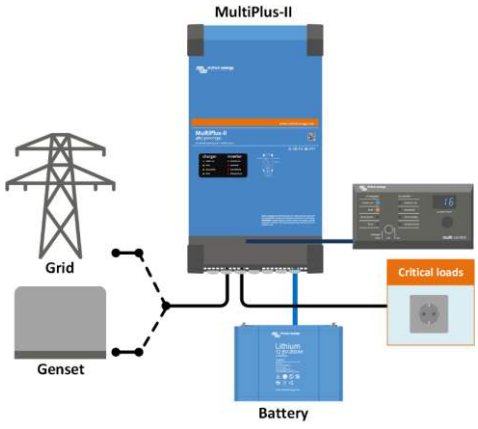
The main AC output features no-break functionality. Upon grid disconnection the MultiPlus-II takes over the load supply in under 20ms, ensuring uninterrupted operation of computers and electronics.
The second AC output is active only when grid power is available on the AC input. Use this to connect non-critical loads that should not deplete battery, e.g., water heater or air conditioner.

## Virtually unlimited power thanks to parallel and three-phase operation

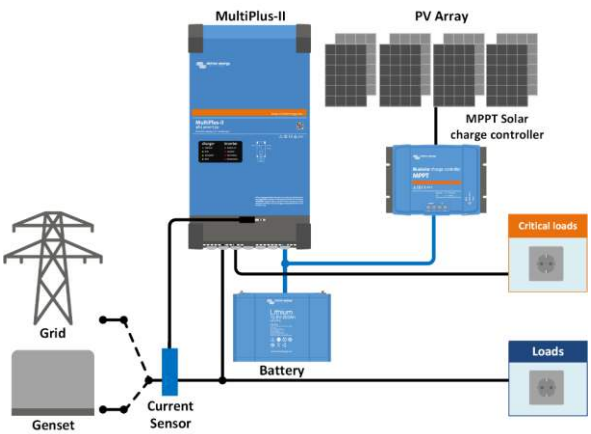
Up to six units can operate in parallel to achieve higher power output. Six 48/5000/70 units, for example, will provide 25kW / 30kVA output power with 420A charging capacity.
In addition to parallel connection, three units of the same model can be configured for three-phase output. But that's not all: up to six sets of three units can be parallel connected for a 75kW / 90kVA inverter and more than 1200A charging capacity.
For parallel and three-phase setups, you can create a multi-unit system with one GX unit and other non-GX units.

## Configuring, monitoring and control

Settings can be changed in a matter of minutes with the VictronConnect app or VEConfigure software (computer or laptop and MK3-USB interface needed) or via the VRM portal.
Use the MultiPlus-II GX or add a Cerbo GX or Ekrano GX to a MultiPlus-II for local or remote connectivity.
Operational data can be stored and displayed on our VRM (Victron Remote Management) website, free of charge.
When connected to the internet, systems can be accessed remotely, and settings can be changed.
Other monitoring and control options are available as well, like the VictronConnect app together with a VE.Bus Smart dongle, a Battery Monitor or the Digital Multi Control Panel.




Standard application




Grid parallel topology with MPPT solar charge controller





**Ekrano GX or Cerbo GX**
Provides intuitive system control and monitoring and enables access to our free remote monitoring website: the VRM Online Portal.
Note: not required the MultiPlus-II GX unit, as these have an in-built GX device.



**VRM Portal**
Our free remote monitoring website (VRM) will display all system data in a comprehensive graphical format. System settings can be changed remotely via the portal. Alarms can be received by e-mail or push notification.



**VRM app**
Monitor and manage your Victron Energy system from your smart phone and tablet. Available for both iOS and Android.



**Current Transformer**
To implement PowerControl and PowerAssist and to optimize self-consumption with external current sensing. Maximum current: 100A



**Interface MK3-USB**
Needed to configure the MultiPlus, Can be used with the VictronConnect app or VE.Configure software. The interface connects to the MultiPlus via an RJ45 UTP cable and plugs into a USB port.

| MultiPlus-II | 48/3000/35-32 230V AU | 48/3000/35-32 230V GX AU | 48/5000/70-50 230V AU | 48/5000/70-50 230V GX AU |
|---|---|---|---|---|
| PowerControl & PowerAssist | Yes | | | |
| Transfer switch | 32 A | | 50 A | |
| Maximum AC input current | 32 A | | 50 A | |
| **INVERTER** | | | | |
| DC Input voltage range | 38 – 66 V | | | |
| AC Output voltage | 230 V ± 2% | | | |
| AC output frequency | 50 Hz ± 0,1% [1] | | | |
| AC output current | 11 A | | 19 A | |
| Cont. output power at 25°C [3] | 3000 VA | | 5000 VA | |
| Cont. output power at 25°C | 2400 W | | 4000 W | |
| Cont. output power at 40°C | 2200 W | | 3700 W | |
| Cont. output power at 65°C | 1700 W | | 3000 W | |
| Max apparent feed-in power | 3000 VA | | 5000 VA | |
| Peak power | 5500 W | | 9000 W | |
| Maximum output fault current | 32A for 1s | | 53A for 1s | |
| Max. output overcurrent protection | 32 A | | 53 A | |
| Overvoltage category for all ports | OVC III | | | |
| Active anti-islanding method | Frequency Shift method | | | |
| Maximum battery discharge current | 75 A | | 110 A | |
| Maximum efficiency | 95% | | 96% | |
| Zero load power | 11 W | | 18 W | |
| Zero load power in AES mode | 7 W | | 12 W | |
| Zero load power in Search mode | 2 W | | 2 W | |
| Inverter topology | Isolated | | | |
| **CHARGER** | | | | |
| AC Input voltage range | 187-250 V | | | |
| AC Input frequency range | 45 – 65 Hz | | | |
| Charge voltages | Absorption: 55.6 V, Foat: 55.2V, Storage: 52.8V | | | |
| Max. battery charge current [4] | 35 A | | 70 A | |
| Battery temperature sensor | Yes | | | |
| Compatible battery chemistries | Lead-acid, Lithium, Zinc-Bromine and others [5] | | | |
| **GENERAL** | | | | |
| Auxiliary AC output | Yes (32A) | | | |
| External AC current sensor (optional) | 50A | | 100A | |
| Programmable relay [6] | Yes | | | |
| Protection [2] | a – g | | | |
| Inbuilt GX device | No | Yes | No | Yes |
| VE.Bus communication port | Yes | | | |
| VE.Can port | No | Yes | No | Yes |
| VE.Direct port | No | Yes | No | Yes |
| USB port | No | Yes | No | Yes |
| Ethernet port | No | Yes | No | Yes |
| WiFi | No | Yes | No | Yes |
| General purpose communication port | Yes, 2x | | | |
| Remote on/off terminal | Yes | | | |
| Operating temperature range | -20 to +65°C (fan assisted cooling) | | | |
| Rated short-time withstand current | 6 kA (Icw) | | | |
| Environmental category | Indoor conditional | | | |
| Pollution degree | 2 | | | |
| Humidity (non-condensing) | max 95% | | | |
| Maximum altitude | 2000m | | | |
| Country of manufacture | China | | India | |
| **ENCLOSURE** | | | | |
| Material & Colour | Steel, blue RAL 5012 | | | |
| Protection category | IP21 | | | |
| Battery-connection | M8 bolts | | | |
| AC connections | Screw terminals for wire up to 13mm² (6 AWG) | | | |
| Weight | 18 kg | 18 kg | 29 kg | 29 kg |
| Dimensions hxwxd (mm) | 506 x 275 x 147 | 506 x 275 x 147 | 565 x 320 x 148 | 565 x 320 x 148 |
| **STANDARDS** | | | | |
| Safety | EN-IEC 60335-1, EN-IEC 60335-2-29, EN-IEC 62109-1, EN-IEC 62109-2 AS 62477.1:2016, AS/NZS.2:2020 Inc A1 | | | |
| Emission, Immunity | EN 55014-1, EN 55014-2 EN-IEC 61000-3-2, EN-IEC 61000-3-3 IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3 | | | |

1) Can be adjusted to 60Hz
2) Protection key:
a) output short circuit
b) overload
c) battery voltage too high
d) battery voltage too low
e) temperature too high
f) 230Vac on inverter output
g) input voltage ripple too high

3) Non-linear load, crest factor 3:1
4) Up to 25°C ambient
5) Other chemistries are possible as well, providing the charger is configured confirm the battery manufacturer's specifications.
6) Programmable relay which can be set for general alarm, DC under voltage or genset start/stop function. AC rating: 230V / 4A, DC rating: 4A up to 35VDC and 1A up to 60VDC

Victron Energy B.V. | De Paal 35 | 1351 JG Almere | The Netherlands
E-mail: sales@victronenergy.com | **www.victronenergy.com**