



L'Énergie Sans Limite !  
Safe Energy for Life !



## Renewable Energies



From 1000 to 5000 VA

**C3 MPPT inverter charger is the perfect solution to provide a temporary or permanent electric autonomy to places suffering long electric power shortage, such as unstable environment, boats, RVs...**

### A smart solution with an optimal solar efficiency

C3 MPPT is a versatile inverter/charger equipped with the MPPT technology, allowing to control the solar charger in order to maximize and regulate the current from a PV installation. Batteries can be loaded thanks to the solar panels or the mains. With its compact and optimized design, C3 MPPT provides a reliable current conversion.

### A reliable and performant technology

C3 MPPT offers some of the best technical performances on the market, such as:

- High-Frequency Technology with Galvanic Isolation: the battery (DC) remains isolated from the output (AC) by a transformer.
- Selectable input voltage to be adapted to various uses: domestic appliances, informatical equipment...
- Wide voltage input range.
- Compatible with generators and inductive charges: engine, air-conditioning, microwave ovens, refrigerators, pumps, laser-printers, compressors, TV...
- Solar charger with embedded DSP control.
- High charging power from the photovoltaic array: up to 60A for C3+ MPPT models. Batteries charging power from the mains up to 30A.
- High solar efficiency thanks to the MPPT technology.
- Photovoltaic UPS for isolated places.

C3 MPPT offers a maximum security level and a guaranteed reliability under any circumstance. Several protections against overload, overheating, short circuit and polarity inversion are integrated.

### A friendly and functional design

This product was designed for an easy and useful installation and use, thanks to its wall fixing:

C3 MPPT is user-friendly and easy to use:

- LCD screen to adjust the parameters to any type of needs,
- Intelligent charger to optimize the performances of the batteries,
- Cold start with the batteries in case the mains input is missing,
- Automatic reboot when the mains is back,
- Parallel installation available up to 6 devices for C3+ MPPT 4K and 5KVA.



Pure sine wave



LCD screen



High efficiency of the solar charger (98%)



Remote control Software



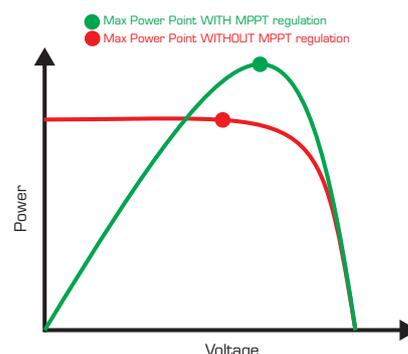


## MPPT Technology

C3 MPPT supports the connection to one or several photovoltaic panels that will supply current to the batteries and the connected loads depending on the available luminosity.

MPPT Technology (Maximum Power Point Tracking), which standing for the tracking of the maximum power point of the DC/DC inverter (Photovoltaic Panel / Batteries charger), constantly adjusts the electric parameters, thus providing an optimal efficiency of the connected systems, whether they be photovoltaic panels systems or batteries.

## Efficiency with the MPPT Technology



### Adjustable batteries and backup time

When they are connected externally, the type and amount of batteries can be modified to provide different backup time lengths.

Model	Load (VA)	Number of batteries	Backup time @ 12Vdc 100Ah (min)*	Backup time @ 12Vdc 200Ah (min)*
1KVA-24V	50%	2	266	635
	100%	2	112	269
1KVA-48V	50%	4	482	1035
	100%	4	186	471
2KVA-24V	50%	2	112	269
	100%	2	50	112
2KVA-48V	50%	4	268	615
	100%	4	106	257
3KVA-24V	50%	2	68	164
	100%	2	28	67
3KVA-48V	50%	4	159	402
	100%	4	63	155
4KVA	50%	4	112	269
	100%	4	50	112
5KVA	50%	4	90	215
	100%	4	40	90

\* For information purposes only

### Choice of the type of batteries

Depending on the use, it is possible to connect standard batteries (AGM type) or cyclic batteries. Setting the parameters of C3 MPPT can then be done according to the connected batteries in order to optimize their use and increase their backup capacity.

### Charging current of the batteries

In order to optimize the available power, and depending on the use (standard or cyclic), C3 MPPT can be set in order to adjust the charging current of the batteries.

### Choosing the main source with the LCD screen

The interface on the LCD screen allows to conveniently set the main source of input power, and the main source of output power.

**Main charging source:** When the mains and solar supply are both available, one of the two sources can be selected to charge the batteries in priority. If the priority goes to the solar source, but that the weather conditions do not allow the batteries to be loaded, the mains will take the turn automatically to proceed to loading the batteries.

**Priority output source:** It is possible to chose whether the outputs are supplied by solar or mains energy. If the priority is given to the solar source, in case of a lack of capacity to supply energy, the battery will automatically proceed to backing up the outputs (and then the mains). On the contrary, if the priority is given to the mains, but that a power shortage occurs, the solar source will automatically back the output up (and then the batteries).

### Selecting the type of input

C3 MPPT allows to set the mains input voltage range depending on the needs of the connected equipment:

- If some domestic appliances are supplied by C3 MPPT, the domestic mode will set a wider input voltage range in order to maintain the devices functioning even if the voltage drops importantly.

- For other uses, the UPS mode will provide a smaller input voltage range so that the batteries can back the appliances up without damaging sensitive appliances such as computers.

### A user-friendly LCD screen

The LCD screen and its keyboard provide easy access to set all the parameters. The user will be able to customize the loading of the batteries, the priority between the AC charger and the solar charger, the type of installed batteries and the acceptable input voltage range according to the needs of the equipment.



## USE CASES EXAMPLES



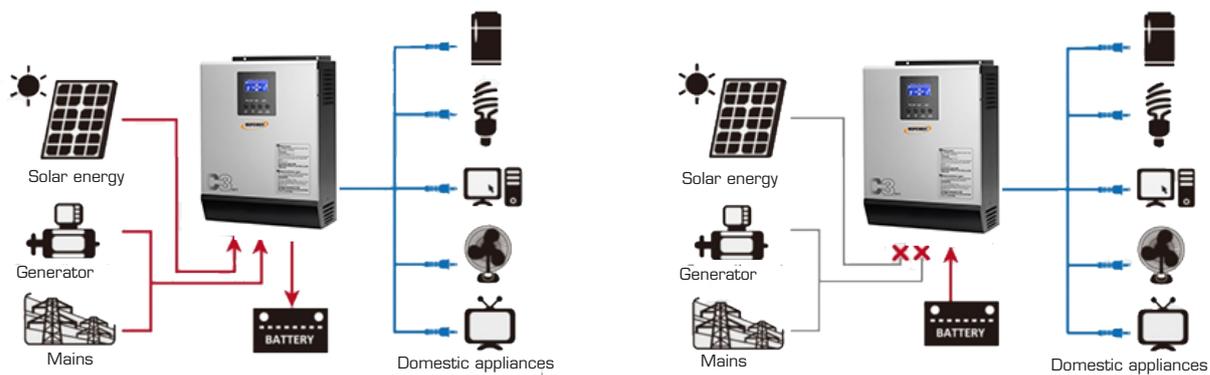
### Ideal solution for nautical or nomad use

Boats and leisure vehicles such as RVs and trailers have strong electric consumption needs. Installing a C3 MPPT with batteries and a photovoltaic panel, for example, will allow the use of any type of electric device such as a refrigerator, a microwave oven, a DVD player, a hair-dryer or other machines. C3 MPPT can easily convert your 12V or 24V into 230V / 50 Hz.

C3 MPPT allows to recharge the batteries thanks to a solar panel or a generator (or on the mains during a supply break), in order to use any kind of appliance in full autonomy and independence from the mains.

## WORKING DIAGRAM

### 2 working steps: load and restitution



## PARALLEL INSTALLATION AND 3-PHASE CONFIGURATION

### Parallel installation up to 6 inverters

4k and 5k versions can be set in parallel up to 6 inverters, giving the possibility of reaching a total output from 24k VA to 30k VA. The most demanding devices and appliances can then be supplied in full independence from the mains through C3 MPPT.

### 3-phase configuration for industrial applications

4k and 5k versions can be configured and installed into several combinations, allowing to choose between a single-phase and a three-phase configuration. Industrial equipment with a critical need for energy can therefore be protected from any interruption of the mains power supply in the most isolated environments.



#### Communication

With the RJ45 port and the RS 232 protocol, C3 MPPT inverter can remain connected and be remotely controlled from a computer in order to optimize its use.

The SolarPower management software is provided within the packaging C3 MPPT:

- User-friendly interface: allows to visualize the state of the system, measurement levels, events history...
- Monitoring of the energy production.
- Text messaging to remain constantly informed of the state installation and the production.

#### Remote control panel

A remote control panel is available as an option for an easy and comfortable use of C3 MPPT.

The panel can be installed in a living room from where it allows to manage C3 MPPT when the inverter/charger is located in a spot where access is complicated.

This option allows to reduce the noise generated by the installation in frequented rooms, and also to minimize the space occupied by C3 MPPT, while still benefiting from the same setting possibilities.

## USE CASE EXAMPLES



### Guaranteeing backup time in demanding technical environments

C3 MPPT can be the ideal solution to provide backup time to places that can not suffer any power shortage.

Laboratories specialized in medical analyses or refrigerators/freezers of pharmacies or grocery stores have a constant need of electrical supply. C3 MPPT is the most flexible and economic solution that can be set in order to ensure an uninterrupted power supply. The number and type of batteries are adjustable, and a solar panel can be added to the array to increase autonomy.

## CONNECTIONS

1. AC input
2. AC output
3. Photovoltaic input
4. Battery input
5. Fuse
6. Communication port
7. On / Off
8. Parallel port (option)



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From 1000 to 5000 VA

## Communication solutions and remote management

USB & RS 232 (for 4k & 5k VA models) communication ports.

- Software:
- Inverter start/stop programming
  - Data and events saving allowing a daily maintenance
  - E-mail messaging to manage the status of the inverter at any time through the local network.
  - Free download on the Internet website

## TECHNICAL SPECIFICATIONS

C3 MPPT 1000-24V	C3 MPPT 1000-48V	C3 + MPPT 2000-24V	C3 + MPPT 2000-48V	C3 + MPPT 3000-24V	C3 + MPPT 3000-48V	C3 + MPPT 4000	C3 + MPPT 5000
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### GENERAL SPECIFICATIONS

Power (VA)	1000 VA	1000 VA	2000 VA	2000 VA	3000 VA	3000 VA	4000 VA	5000 VA
Power (W)	800W	1000W	1600W	1600W	2400W	2400W	3200W	4000W
Power factor	0,8	1			0,8			

### PHYSICAL CHARACTERISTICS

Standard version	Dimensions H x L x W (mm)	Net weight (kg)
	100 x 272 x 355	6,8
	140 x 295 x 479	11,5
	140 x 295 x 540	12,5
		13,5

### INPUT

Voltage	230V
Voltage range	170-280 VAC (for personal computers) 90-280 VAC (for home appliances)
Frequency range	50 Hz/60 Hz (auto detection)
Phase	Single-phase or Triple-phase (thanks to the parallel option)

### OUTPUT

Voltage	230 VAC ± 5 %
Surge Power	2000VA
Efficiency	90% ~ 93%
Transfer time	10 ms (for personal computers) 20 ms (for home appliances)

### BATTERY

Battery voltage	24 VDC	48 VDC	24 VDC	48 VDC	24 VDC	48 VDC	48 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC	27 VDC	54 VDC	27 VDC	54 VDC	54 VDC	54 VDC
Overcharge Protection	31 VDC	62 VDC	31 VDC	62 VDC	31 VDC	62 VDC	60 VDC	60 VDC

### SOLAR AND AC CHARGERS

Maximum PV Array Power	600W	900W	1500W	3000W	1500W	3000W	3000W	3000W
MPPT range @ operating voltage	30VDC ~ 66VDC	60VDC ~ 88VDC	30VDC ~ 115VDC	60VDC ~ 115VDC	30VDC ~ 115VDC	60VDC ~ 115VDC		
Maximum PV Array Open Circuit Voltage	75 VDC	102 VDC	145 VDC					
Maximum solar charge current	25A	18 A	60A					
Maximum charge current	10A / 20A	10A / 15A	20A / 30A	10A / 15A	20A / 30A	10A / 15A	60A	
Maximum efficiency	98%							
Standby power Consumption	2W							

### DISPLAY AND ALARMS

LCD screen	Yes
Sound alarms	Yes

### ENVIRONMENT

Humidity	5% to 95% of relative humidity (without condensation)
Working mode temperature	From 0°C to 55°C
Storage temperature	From -15°C to +60°C

### COMMUNICATION

Standard	USB	RS232 & USB
Option	WatchPower software (supported by Windows 7, 8 & 10, Linux, Unix & MAC) SNMP	

### NORMS

Standard	CE RoHS
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### COMMERCIAL INFORMATION

Warranty	2 years							
PN	63210	63211	63212	63213	63214	63215	63216	63217

## Packaging content

- C3 MPPT / C3+ MPPT
- USB Cable
- User's manual
- Management Software CD

## Options

- Remote control panel
- Parallel installation kit (4k & 5k VA models)
- External SNMP Box

## Warranty

Full 2 years warranty for any manufacturing defect when used normally and respecting the caution warning held within the user's manual. Warranty to be activated on the website within 10 days after the purchase.



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