

# WRM30+ [MPPT]

Code  
WRM30+: 015500



## Descrizione prodotto

Il **WRM30+** è un regolatore per la carica di batterie da modulo fotovoltaico da impiegare in grandi impianti stand-alone. È adatto per sistemi a 12V/24V/48V con batterie al piombo o litio e può gestire una potenza fotovoltaica fino a 1,8kW.

Il **WRM30+** è specificatamente progettato per applicazioni industriali, quali alimentazioni di ponti radio/TV, segnaletica stradale o alimentazione di intere abitazioni completamente stand-alone.

La particolarità di questo prodotto è la presenza di due canali distinti di ricarica e quindi un doppio ingresso per i moduli FV. Ciò permette la gestione di due stringhe indipendenti, ad esempio nel caso siano composte da moduli con caratteristiche diverse o esposti su due falde. Con stringhe identiche, i canali possono essere parallelati ottimizzando al massimo l'efficienza.

## [eng] Product description

**WRM30+** is a PV charge controller for big off-grid systems. It is suitable for 12V/24V/48V systems with lead acid and lithium-ion batteries and it can handle a photovoltaic power up to 1.8kW.

**WRM30+** has been properly designed for industrial applications such as the power supplying of either TV/radio relays, road signs, or whole houses completely stand-alone.

Special feature of this product is the presence of two separated charging channels and, therefore, a double input for PV modules. This allows the management of two independent strings, for example in the case they are composed of modules with different features or exposed on two slopes, or, with identical strings, channels can be paralleled thus optimizing efficiency.

The load output can be activated according to se-

## [fra] Description du produit

Le dispositif **WRM30+** est un contrôleur permettant de charger des batteries à partir d'un module photovoltaïque pour une utilisation dans de grands systèmes autonomes. Il convient aux systèmes à 12 V/24 V/48 V avec des accumulateurs au plomb ou au lithium et il peut gérer une puissance photovoltaïque allant jusqu'à 1,8 kW.

Le dispositif **WRM30+** est spécialement conçu pour les applications industrielles telles que les alimentations de ponts radio/TV, la signalisation routière ou l'alimentation de maisons complètes de manière totalement autonome. La particularité de ce produit est la présence de deux canaux de recharge distincts et donc une double entrée pour les modules PV. Cela permet la gestion de deux chaînes indépendantes, par exemple si elles sont composées de modules avec des caractéristiq-

## Caratteristiche prodotto



2 Independent MPPT PV inputs



12V/24V/48V battery  
auto-detect voltage

Internal blocking diode

IP20 metal box

## [eng] Product features

Max PV module power:  
450W for 12V battery  
900W for 24V battery  
1800W for 48V battery

LCD graphic display user  
interface

Protections:  
Low voltage load disconnect  
Over-temperature  
Battery polarity inversion  
Output overload protection

WBUS protocol with RS485  
communication port

20 programs to manage  
the load

WRD SYSTEM MONITOR ready

Pb-lead acid, Pb-AGM,  
Pb-gel batteries  
and Lithium batteries

|                                                   |                    | 12V<br>Nominal battery voltage |                                  |        | 24V<br>Nominal battery voltage |                                  |        | 48V<br>Nominal battery voltage |                                  |        |
|---------------------------------------------------|--------------------|--------------------------------|----------------------------------|--------|--------------------------------|----------------------------------|--------|--------------------------------|----------------------------------|--------|
|                                                   |                    | Min                            | Typ                              | Max    | Min                            | Typ                              | Max    | Min                            | Typ                              | Max    |
| Battery voltage                                   | V <sub>batt</sub>  | 10.0V                          | 12.0V                            | 16.0V  | 20.0V                          | 24.0V                            | 32.0V  | 40.0V                          | 48.0V                            | 64.0V  |
| Max PV open circuit voltage                       | V <sub>pan</sub>   | -                              | -                                | 180V   | -                              | -                                | 180V   | -                              | -                                | 180V   |
| Max PV current for each MPPT channel              | I <sub>pan</sub>   | -                              | -                                | 13A    | -                              | -                                | 13A    | -                              | -                                | 13A    |
| Max PV power for each channel                     | P <sub>chMax</sub> | -                              | -                                | 225W   | -                              | -                                | 450W   | -                              | -                                | 900W   |
| Battery charge current                            | I <sub>ch</sub>    | -                              | -                                | 30A    | -                              | -                                | 30A    | -                              | -                                | 30A    |
| Load output voltage                               | V <sub>LOAD</sub>  | -                              | V <sub>batt</sub>                | -      | -                              | V <sub>batt</sub>                | -      | -                              | V <sub>batt</sub>                | -      |
| Load output current                               | I <sub>LOAD</sub>  | -                              | -                                | 15A    | -                              | -                                | 15A    | -                              | -                                | 15A    |
| Charge voltage at 25°C - SEAL program             | V <sub>EoC</sub>   | -                              | 14.4V                            | -      | -                              | 28.8V                            | -      | -                              | 57.6V                            | -      |
| Charge voltage at 25°C - FLOOD program            | V <sub>EoC</sub>   | -                              | 14.8V                            | -      | -                              | 29.6V                            | -      | -                              | 59.2V                            | -      |
| Charge voltage for Li program                     | V <sub>EoC</sub>   | 14.0V                          | -                                | 14.7V  | 28.0V                          |                                  | 29.4V  | 56.0V                          | -                                | 58.8V  |
| Battery V <sub>EoC</sub> temperature compensation | V <sub>tadj</sub>  | -                              | -0.024V/°C                       | -      | -                              | -0.048V/°C                       | -      | -                              | -0.096V/°C                       | -      |
| Float phase voltage at 25°C                       | V <sub>flt</sub>   | -                              | V <sub>EoC</sub> -0.6V           | -      | -                              | V <sub>EoC</sub> -1.2V           | -      | -                              | V <sub>EoC</sub> -2.4V           | -      |
| Absorption phase time length (adjustable)         | T <sub>abs</sub>   | 1h                             | 4h (default)                     | 8h     | 1h                             | 4h (default)                     | 8h     | 1h                             | 4h (default)                     | 8h     |
| Low battery voltage load disconnect (adjustable)  | V <sub>lb</sub>    | 10.80V                         | 11.60V (default)                 | 12.56V | 21.60V                         | 23.20V                           | 25.12V | 43.20V                         | 46.40V (default)                 | 50.24V |
| Low battery voltage load reconnect at 25°C        | V <sub>elb</sub>   | 12.72V                         | V <sub>EoC</sub> -0.2V (default) | 13.68V | 25.44V                         | V <sub>EoC</sub> -0.4V (default) | 27.36V | 55.88V                         | V <sub>EoC</sub> -0.8V (default) | 54.72V |
| Night detection voltage (adjustable)              | V <sub>night</sub> | 2.00V                          | 4.56V (default)                  | 5.84V  | 2.00V                          | 4.56V                            | 5.84V  | 2.00V                          | 4.56V (default)                  | 5.84V  |
| Day detection voltage                             | V <sub>day</sub>   | -                              | 8.40V                            | -      | -                              | 8.40V                            | -      | -                              | 8.40V                            | -      |
| Self-consumption                                  | I <sub>q</sub>     | -                              | 34mA                             | -      | -                              | 21mA                             | -      | -                              | 12mA                             | -      |
| Operating temperature                             | T <sub>amb</sub>   | -40°C                          | -                                | 50°C   | -40°C                          | -                                | 50°C   | -40°C                          | -                                | 50°C   |
| Max power loss                                    | P <sub>loss</sub>  | -                              | -                                | 40W    | -                              | -                                | 56W    | -                              | -                                | 66W    |
| Efficiency                                        | η                  | 90%                            | -                                | 92%    | 93.5%                          | -                                | 95.2%  | 96.0%                          | -                                | 97.2%  |
| Battery wires cross section                       |                    | 35mm²                          |                                  |        |                                |                                  |        |                                |                                  |        |
| PV module wires cross section                     |                    | 10mm²                          |                                  |        |                                |                                  |        |                                |                                  |        |
| Load output wires cross section                   |                    | 4mm²                           |                                  |        |                                |                                  |        |                                |                                  |        |
| Weight                                            |                    | 2Kg                            |                                  |        |                                |                                  |        |                                |                                  |        |
| Protection degree                                 |                    | IP20                           |                                  |        |                                |                                  |        |                                |                                  |        |
| Dimensions                                        |                    | 178x283x84mm                   |                                  |        |                                |                                  |        |                                |                                  |        |