

# Greenergy DC-modular



- Available in 24,48,110,220Vdc
- Nominal power: 1000W-20kW
- hotpluggable rectifier modules
- 19" rackmount
- Interface-module with LCD
- Smart battery management
- +95% efficiency via softswitching

## In General

With the DC-modular platform, Greenergy wants to provide a consolidated solution for a wide variety of applications ranging from infrastructure (substations), to industry, to telecom. Therefore the DC-modular platform is available in all common voltages like 24,48,110,220Vdc within the same product family. It's modular architecture provides an answer to today's demand for 24/7 operation. By using hotpluggable modules, users can obtain a N+1 redundancy by adding a module, and also repair time (MTTR) is kept to a minimum. The intelligent control module maximizes the availability and lifespan of the batteries and detects problems in an early stage.

## Rectifier modules

The hotpluggable rectifier modules come with the latest technology (such as PFC and soft-switching) which results in a market-leading efficiency of 95%, even at a low load such as 10% the efficiency is already at 91%. The coolingfan speed is step-less controlled for less noise and longer lifespan. Each module communicates via RS485 to the master controller.



## Master controller

The master controller has illuminated LCD display with control buttons for displaying voltages, currents, system status and alarms. The smart battery management includes the low voltage disconnect, charge current limitation, temperature compensation of charge voltage, periodical maintenance charge, timekeeper with logging function, etc. Access to the settings is password protected. The controller has standard three dry-alarm contacts for monitoring. An optional SNMP interface is available.



## 19" Subrack and distribution

Up to 100A there's the possibility to use a compact integrated distribution module. The total height is 2U.



A complete system is available with input lightning/surge protection, individual rectifier input breakers, individual battery string breakers, and output breakers. Dry alarm contacts also brought to the front. Total height is 5U



Multiple rectifier racks can be stacked together up to very high power level. Load sharing is very accurate and stable because of the digital communication.



The DC-modular platform can be complemented by matching DC to AC Inverters equipped with static transfer switch for redundancy. Also available in 24,48,110 and 220Vdc input voltage. This is convenient for customers needing both a reliable DC and AC power supply.



## Technical specifications (rectifier modules only)

### Input

Type	48V/50A	24V/70A	220V/10A	110V/20A
Model No.	SET-48V/50A	SET-24V/70A	SET-220V/10A	SET-110V/20A
Input voltage	85-290VAC (Nominal 180-290VAC)			
Input current	11.5A	10A	13.6A	
Input frequency range	45 Hz-65 Hz			
Power Factor	≥ 0.99 at P nom ≥ 75%			

### Output

Nominal output voltage (Vnom)	48VDC	24VDC	220VDC	110VDC
Adjustable output voltage range	42-59Vdc	21V-28Vdc	190-300VDC	95-150VDC
Voltage Stabilization Accuracy	± 0.5%			
Current Stabilization Accuracy	± 1 %			
Nominal output current (Inom)	50ADC@50V	70ADC@24V	10ADC@300VDC	20ADC@150VDC
Efficiency	≥ 94 %			
Charge characteristic line	IU Characteristic according to DIN41772/DIN41773			
Default value of the charging voltage	50V	24V	240V	120V
O/p Overvoltage Vo> (factory set)	60V	29V	302V	151V
Voltage ripple	≤ 200 mV			
Dynamic accuracy of the charging voltage	<3% of Venom at load change from 10% -90%-10% ;Transient time <50 ms			
Short circuit protection	15% - 30% of Inom when in short circuit			
Parallel operation	Yes .Current Sharing ± 3%			

## Mechanical

Communications interface	RS 485
Ambient temperature	Operation: -20° to+55° C , Storage:-40° to +70° C
Humidity	≤ 90 % RH
Cooling	Fan Cooled
Climatic conditions	IEC-68-2-2, IEC-68-2-3, IEC-68-2-6
Max. Installation altitude	≤2000 m
Audible noise	< 50 db
Connections	AC Input DC Output and Signalization at rear
CE conformity	Yes
Compliance to EMC standards	EN61000-4-2, EN-61000-4-6, EN-61000-4-3, EN-61000-4-12
Air Pressure	70-106 Pa
Insulation Resistance	Input Chassis & Output > 10M Ohms at 500VDC
Dielectric strength	2000V between Input, Output & Chassis for 1Min.

## Technical data

Type	48V/50A	24V/70A	220V/10A	110V/20A
Model No.	SET-48V/50A	SET-24V/70A	SET-220V/10A	SET-110V/20A
Weight approx.	2.6KG		2KG	
Dimensions (W/H/D)	103x88x261			
Type of enclosure / Protection class	IP 20			
Color (front panel)	Front Black			