

# N CORE



**20** Output ports  
**2400** Watt typ load  
**10** Ampere charger  
**OUT** Voltage selectable  
**2** Priority system

## Active Modular Energy System 2400W

### Active Power and Control

The NCore processors on board constantly monitor the operating status and all the voltage, absorption, temperature and battery charge status parameters. The software operates proactively by analyzing the applied loads and intervening to ensure maximum operating life for the priority devices.

### Hot Swap Modularity

Each module can be added and removed when warm, allowing to operate continuously while ensuring maximum reliability and safety.

### Hi Speed Switch

All actuators and protection diodes have been replaced with low resistance mosfets ensuring instant switching times, efficiency and minimum heat dissipation.

### Dual Processor

NCore is equipped with 2 processors. One is dedicated to monitoring and functioning of the hardware part, the other is used for front-end management. This division makes the system immune from attacks from outside.



# DCDC Input Module

## Hi Efficiency

The DCDC Input module is an 800W high efficiency isolated converter with 54V output voltage. With an extended input voltage range between 36V and 75V, it can easily be powered by batteries, DC microgrids or solar panels.

## Always on

It can be combined with load sharing ACDC Input modules or used as the only power source. In case of overload or insufficient input, it goes into protection to ensure battery takeover.

### Electrical Specifications

Operating Voltage	36 - 75 V DC
Max power	800 W
Power Connector	16 mm <sup>2</sup> wires terminal blocks
Indicators	DC IN good / DC OUT good
Active Protection	Short Circuit Protection, Overvoltage control, Overload control
I/O isolation	2250 V
Output	54 V DC
Efficiency	95% Typ

### Environmental

Operating Temperature	-10°C to +55°C
Humidity	0 - 95% non condensing

### Mechanical Specifications

Dimensions (LxWxD)	227 x 86 x 40 mm
Weight	1.1 Kg
Material	Varnished Iron

### Compliance & Warranty

RoHS compliant	Yes
Certifications	CE - FCC
Warranty	consult with the nearest distributor



TERMS OF USE: This device must be professionally installed. Shielded ethernet cable and earth grounding must be used as conditions of product warranty. All specifications in this document are subject to change without notice. For further information please visit [www.9dot.it](http://www.9dot.it).



# ACDC Input Module

## Hi Efficiency

The ACDC Input module is an 800W high efficiency rectifier with 54V output voltage. Specially designed for Datacom and Telcom applications, it is characterized by an insulation factor of 1500 V.

## Always on

In the event of an overload, the module does not interrupt its operation by gradually reducing the output voltage and allowing the battery module to take over without causing interruption of service.

### Electrical Specifications

Operating Voltage	90 - 264 V AC
Max Power	800 W
Power Connector	VDE
Indicators	AC good / DC good
Active Protection	Short Circuit Protection, Overvoltage control, Overload control
I/O isolation	1500 V
Output	54 V DC
Efficiency	88% Typ

### Environmental

Operating Temperature	-10°C to +70°C
Humidity	0 - 95% non condensing

### Mechanical Specifications

Dimensions (LxWxD)	227 x 86 x 40 mm
Weight	1.1 Kg
Material	Varnished Iron

### Compliance & Warranty

RoHS compliant	Yes
Certifications	CE - FCC
Warranty	consult with the nearest distributor



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# Battery Charger Module

## Advanced Battery Charger

The charger module is compatible with lead or lithium strings. The charging current can be selected via software. In the event of a power failure or insufficient input, the system intervenes to ensure the operation of the connected devices by reducing the charging speed.

## Proactive Mode

The system performs programmable loading and unloading cycles during which it verifies the effective efficiency of the batteries and calculates the real autonomy in relation to the loads applied.

### Electrical Specifications

Typical charging voltage	48V
Maximum charge voltage	56,8V
Charge Current	1 / 5 / 10 A (software selectable)
Power Connector	16 mm <sup>2</sup> wires terminal blocks
Indicators	Charging phase / Fault / Battery presence / switch status

### Environmental

Operating Temperature	-10°C to +55°C
Humidity	0 - 95% non condensing

### Mechanical Specifications

Dimensions (LxWxD)	227 x 86 x 40 mm
Weight	0.4 Kg
Material	Varnished Iron

**ATTENTION:** Do not connect a battery whose charge voltage is lower than the maximum charge voltage of the NCore. Doing so could cause the battery to explode.  
(See "Technical Specifications" section in the NCore Manual)

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### Compliance & Warranty

RoHS compliant	Yes
Certifications	CE - FCC
Warranty	consult with the nearest distributor



# DC Output Module

## Full Managed

It is possible to enable and disable each of the 4 ports independently. Each port is equipped with a current sensor.

## Voltage selection

4 models of this module are available: without conversion, it draws directly from the voltage present on the main Rail (from the battery if discharging), fixed at 12 V/24 V or at variable voltage 28/48 / 54V selectable by software.

### Electrical Specifications

Operating Voltage	Rail or Battery Voltage / 36 - 72 V DC
Max Power	Check table
Power Connector	3.3 mm <sup>2</sup> wires terminal blocks, 4 connectors
Indicators	Voltage / Load percentage
Active Protection	Overvoltage control, Overload control
I/O isolation	1500V
Output	Rail or Battery Voltage / 12 V DC / 24 V DC/ 28 - 48 - 54V DC software selectable
Efficiency	94% Typ

### Environmental

Operating Temperature	-10°C to +55°C
Humidity	0 - 95% non condensing

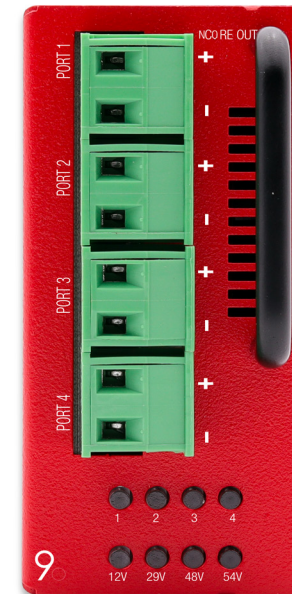
### Mechanical Specifications

Dimensions (LxWxD)	227 x 86 x 40 mm
Weight	1.7 Kg
Material	Varnished Iron

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### Compliance & Warranty

RoHS compliant	Yes
Certifications	CE - FCC
Warranty	consult with the nearest distributor



# Limits and Specifications

<b>NCORE-OUT</b>	-	<b>Typical</b>
<b>Current per port</b>	[A]	3
<b>Voltage</b>	[V]	40 - 54
<b>Power per module</b>	[W]	640

<b>NCORE-OUT-ADJ</b>	-	<b>29v</b>	<b>48v</b>	<b>54v</b>
<b>Current per port</b>	[A]	3	3	3
<b>Power per module</b>	[W]	230	380	400

<b>NCORE-OUT-12V</b>	-	<b>Typical</b>
<b>Current per port</b>	[A]	3
<b>Power per module</b>	[W]	150

<b>NCORE-OUT-24V</b>	-	<b>Typical</b>
<b>Current per port</b>	[A]	3
<b>Power per module</b>	[W]	250

<b>POWER SUPPLIES</b>	-	<b>ACDC</b>	<b>DCDC</b>
<b>Maximum current</b>	[A]	14.82	14.82
<b>Nominal input voltage</b>	[V]	90 to 264	36 to 75 [DC]
<b>Nominal output voltage</b>	[V]	54	54
<b>Maximum power per module</b>	[W]	800	800



# Controller Module

## Independent CPU

The NCoreOS operating system performs all the interfacing functions with the user through the dashboard accessible via the web interface. It is also possible to interrogate and configure the system using SNMP and API protocols.

## On the Fly Update

During software updates, the system maintains the set functionality status without interrupting the voltage supplied to the connected devices. This module is also interchangeable in hot swap.

### Electrical Specifications

Operating Voltage	5 V DC
Ethernet Connector	Shield RJ45 Jack
Indicators	Module activity / Wi-Fi status / power type / operating mode
Transmission Speeds	10BaseT; 100BaseT; 1000BaseT

### Environmental

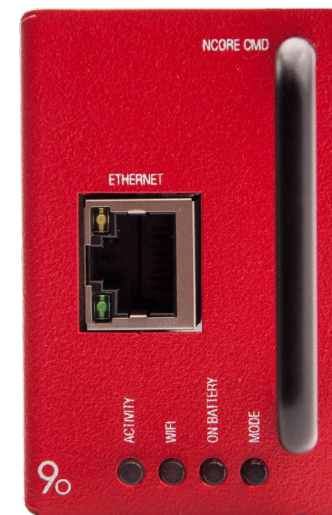
Operating Temperature	-10°C to +55°C
Humidity	0 - 95% non condensing

### Mechanical Specifications

Dimensions (LxWxD)	227 x 56 x 40 mm
Weight	0.3 Kg
Material	Varnished Iron

### Compliance & Warranty

RoHS compliant	Yes
Certifications	CE - FCC
Warranty	consult with the nearest distributor



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