Active Power Stations

Buying Guide

Choose NCore if:

- you have to power more than 8 devices and you don't want to connect more than one device on a single port;
- the total load of all devices to power exceeds 1600W;
- you plan to expand your installation or you prefer a modular system;
- you want to be able to hot-replace all modules, incuding the Command and the Battery Charger Modules.

NCORE

Choose NCore Lite if:

- you have to power up to 8 devices or you can connect more than one device on a single port;
- the total load of all devices to power does not exceed 1600W;
- you have limited space, NCore Lite is only 1U;
- you prefer an all-in-one system.

NCORE LITE

NCORE

1 OUT Modules

2 Battery Charger

3 INPUT Modules

4 CMD Module

NCORE

1

OUT Modules

Determine the number and type of OUT Modules you need.
Each module can operate at a different output voltage, all ports of the same module have the same voltage and can be controlled individually for switching on and off.

2

Battery Charger Module

Add the Battery Charger Module if you want to have a backup power source in case of a power outage.
You can connect lead and lithium batteries. We suggest using LiFePO4 batteries that guarantee excellent performance and resistance to high temperatures.

3

INPUT Modules

Ensure the right power supply to your Active Power Station.
You can choose between AC (110/220VAC) and DC (36-75VDC) sources.
You can also opt for a mixed solution, for example by connecting AC sources and DC solar panels at the same time.

4

CMD Module

Connect the CMD Module and start configuring your NCore.
You have a simple and immediate Graphic User Interface, where all the data and commands are exactly where you want them to be.
You can also connect to the Ncore via SNMP and CLI.

NCORE

1

OUT Modules

NCORE-OUT Modules

The OUT module ouput is 54V during normal operation. During the battery power supply, the output voltage will be equal to the battery voltage.

NCORE-OUT-12V Modules

You need 12V OUT Module if you need to power devices that require 12V.

NCORE-OUT-ADJ Modules

You need the ADJ Module if you:

- have to power devices that require 29V;
- must power devices that do not support more than 48V;
- want a constant output voltage even during battery power;
- want an isolated output;
- want to be able to decide later on the output voltage for maximum installation flexibility.

NCORE

2

Battery Charger Module

Choose the battery capacity

Calculate the total consumption of your system, multiply it by the desired hours of autonomy. Multiply the result by 2 if the battery is Lead, by 1.2 if the battery is Lithium.

$$Ah = \frac{[\text{Total consumption in Watts}]}{[\text{Battery Voltage}]} * [\text{hours of autonomy}] * [\text{2: Lead, 1.2: Lithium}]$$

Choose the charging speed

For Lead batteries the maximum charging current is 1/10 of the battery capacity.
If the batteries are Lithium this parameter can be higher.
The batteries charging time can be calculated with the formula:

$$Ct = \frac{[\text{Ah battery}] * [\text{1.2: Lead, 1: Lithium}]}{[\text{charging speed in Amps: 1A, 5A o 10A}]} + [\text{4h: Lead, 0: Lithium}]$$

Determine the power required to charge the batteries

Charging Speed (Amps)	Power Requirement (Watts)
1	60
5	300
10	600

NCORE

3

INPUT Modules

Calculate the total power

Sum the power of all devices to be powered. The total power is equal to the devices supply voltage (V) multiplied the current absorbed (I). Then add the power requirement calculated for the Battery Charger.

total power = Σ(V*I) + battery charger power requirement

Determine how many INPUT Modules you need

Total Power (Watts)	Minimum Configuration	Redundant Configuration
up to 800	1 module	2 modules
from 800 to 1600	2 modules	3 modules
more than 1600	3 modules	-

NCORE

4

CMD Module

Add the CMD Module

Ncore could work even without CMD Module, but you wouldn't be able to:

- change the configuration;
- remotely monitor the operating status;
- send on/off commands and schedule charge and discharge cycles;
- read the system logs.

NCORE

Ordering Guide

Product name	Description
NCORE-BASE	NCore Base Unit
NCORE-OUT	NCore Output Module, 4 Ports
NCORE-OUT-12V	NCore Output Module 12V, 4 Ports
NCORE-OUT-ADJ	NCore Output Module, Adjustable Output Voltage 29V-48V-54V, 4 Ports
NCORE-BATTERY	NCore Battery Charger Module
NCORE-ACDC	NCore ACDC Input Module 800W
NCORE-DCDC	NCore DCDC Input Module 800W
NCORE-CMD	NCore Command Module

NCORE LITE

4 CMD Unit

1 OUT Ports

2 Battery Charger

3 INPUT Modules

NCORE LITE

1

Integrated OUT Ports

Add Expansion Modules

The 8 ports of Ncore Lite are divided into 3 Groups. During purchasing process you can add Expansion Modules to Groups 1 and 2.

Group 1		Group 2		Group 3			
Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
Expansion Module not present NCL-EM-ADJ 29/48/54V NCL-EM-12V 12V		Expansion Module not present NCL-EM-ADJ 29/48/54V NCL-EM-12V 12V		54V or battery voltage			

Group 1 and Group 2 ports without Expansion Module and Group 3 ports output voltage is 54V during normal operation. During the battery power supply, the output voltage is equal to the battery voltage.

You need the Expansion Module ADJ if you:

- have to power devices that require 29V;
- must power devices that do not support more than 48V;
- want a constant output voltage even during battery power;
- want an isolated output;
- want to be able to decide later on the output voltage for maximum installation flexibility.

You need 12V OUT Module if you need to power devices that require 12V.

NCORE LITE

2

Integrated Battery Charger

Choose the battery capacity

Calculate the total consumption of your system, multiply it by the desired hours of autonomy. Multiply the result by 2 if the battery is Lead, by 1.2 if the battery is Lithium.

$$Ah = \frac{[\text{Total consumption in Watts}]}{[\text{Battery Voltage}]} * [\text{hours of autonomy}] * [\text{2: Lead, 1.2: Lithium}]$$

Choose the charging speed

For Lead batteries the maximum charging current is 1/10 of the battery capacity.
If the batteries are Lithium this parameter can be higher.
The batteries charging time can be calculated with the formula:

$$Ct = \frac{[\text{Ah battery}] * [\text{1.2: Lead, 1: Lithium}]}{[\text{charging speed in Amps: 1A, 5A o 10A}]} + [\text{4h: Lead, 0: Lithium}]$$

Determine the power required to charge the batteries

Charging Speed (Amps)	Power Requirement (Watts)
1	60
5	300
10	600

NCORE LITE

3

INPUT Modules

Calculate the total power

Sum the power of all devices to be powered. The total power is equal to the devices supply voltage (V) multiplied the current absorbed (I). Then add the power requirement calculated for the Battery Charger.

total power = Σ(V*I) + battery charger power requirement

Determine how many INPUT Modules you need

Total Power (Watts)	Minimum Configuration	Redundant Configuration
up to 800	1 module	2 modules
more than 1600	2 modules	-

NCORE LITE

4

Integrated CMD Unit

CMD unit is integrated

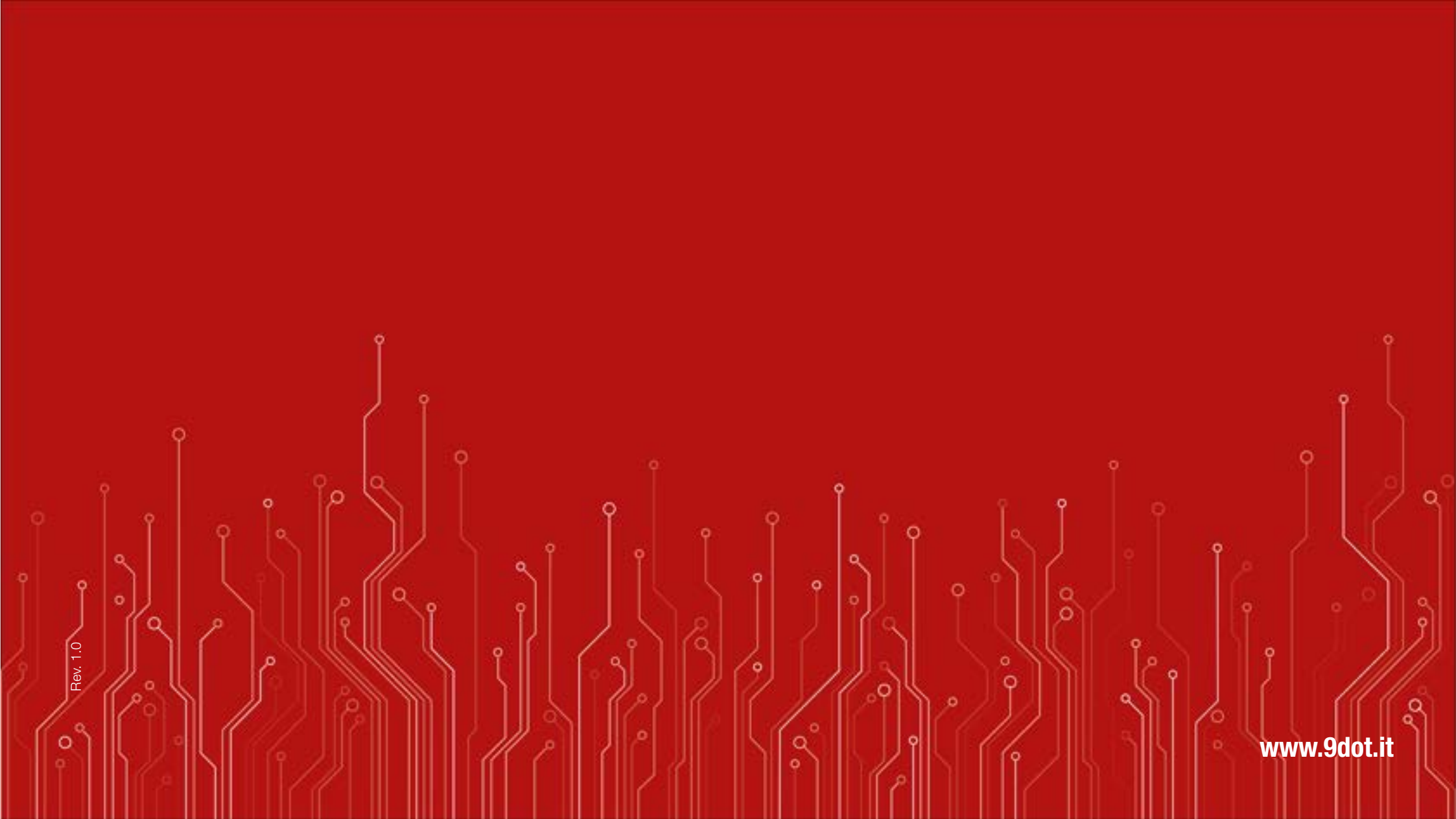
Connect the ethernet connector on the rear to:

- change the configuration;
- remotely monitor the operating status;
- send on/off commands and schedule charge and discharge cycles;
- read the system logs.

NCORE LITE

Ordering Guide

Product name	Description
NCORE-LITE	Ncore-Lite, 8 Ports
NCORE-LITE-ADJ	NCore-Lite, 8 Ports, OUT Group 1 NCL-EM-ADJ
NCORE-LITE-12V	NCore-Lite, 8 Ports, OUT Group 1 NCL-EM-12V
NCORE-LITE-ADJ-ADJ	NCore-Lite, 8 Ports, OUT Group 1 NCL-EM-ADJ, OUT Group 2 NCL-EM-ADJ
NCORE-LITE-ADJ-12V	NCore-Lite, 8 Ports, OUT Group 1 NCL-EM-ADJ, OUT Group 2 NCL-EM-12V
NCORE-LITE-12V-12V	NCore-Lite, 8 Ports, OUT Group 1 NCL-EM-12V, OUT Group 2 NCL-EM-12V
NCORE-ACDC	NCore ACDC Input Module 800W
NCORE-DCDC	NCore DCDC Input Module 800W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