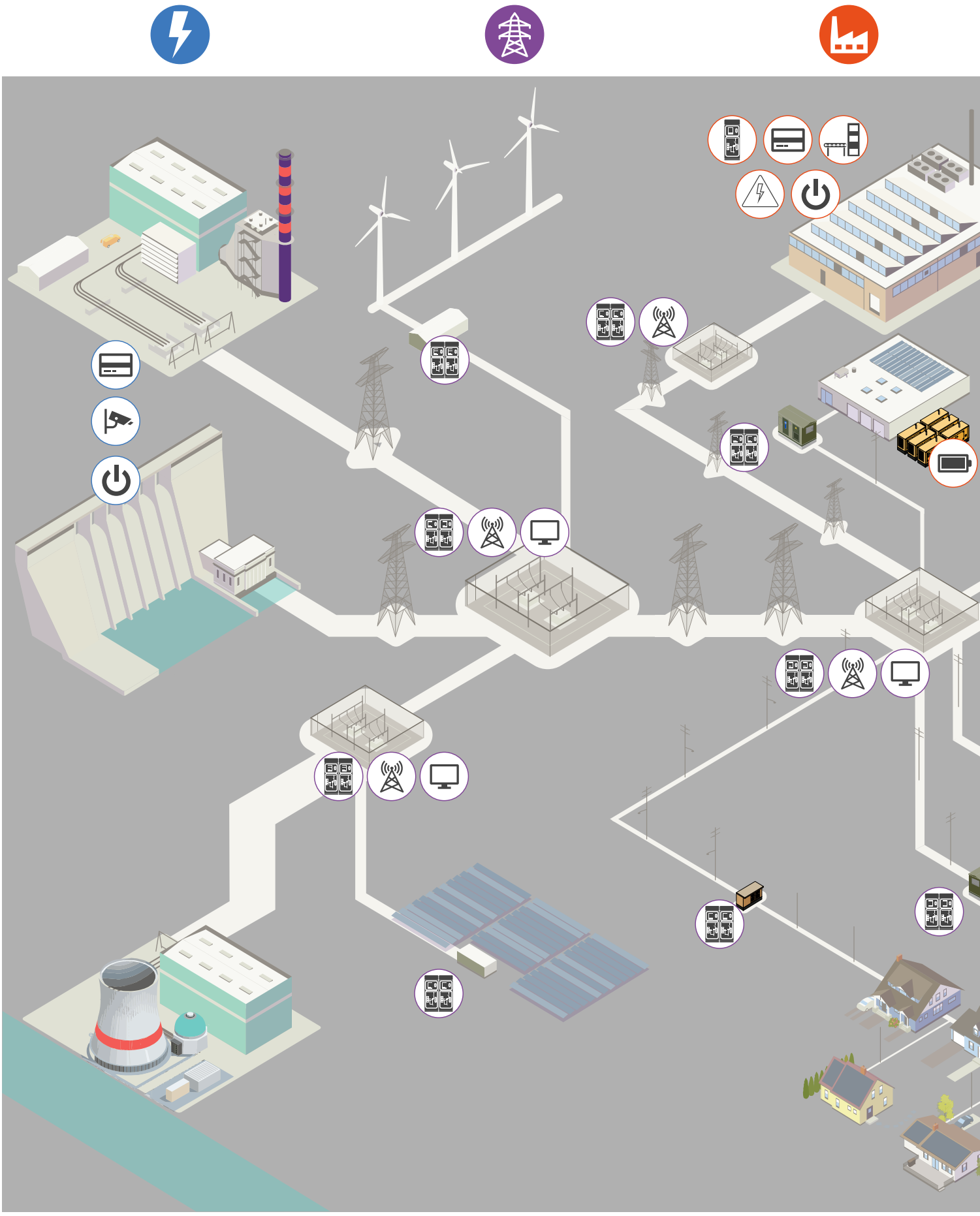
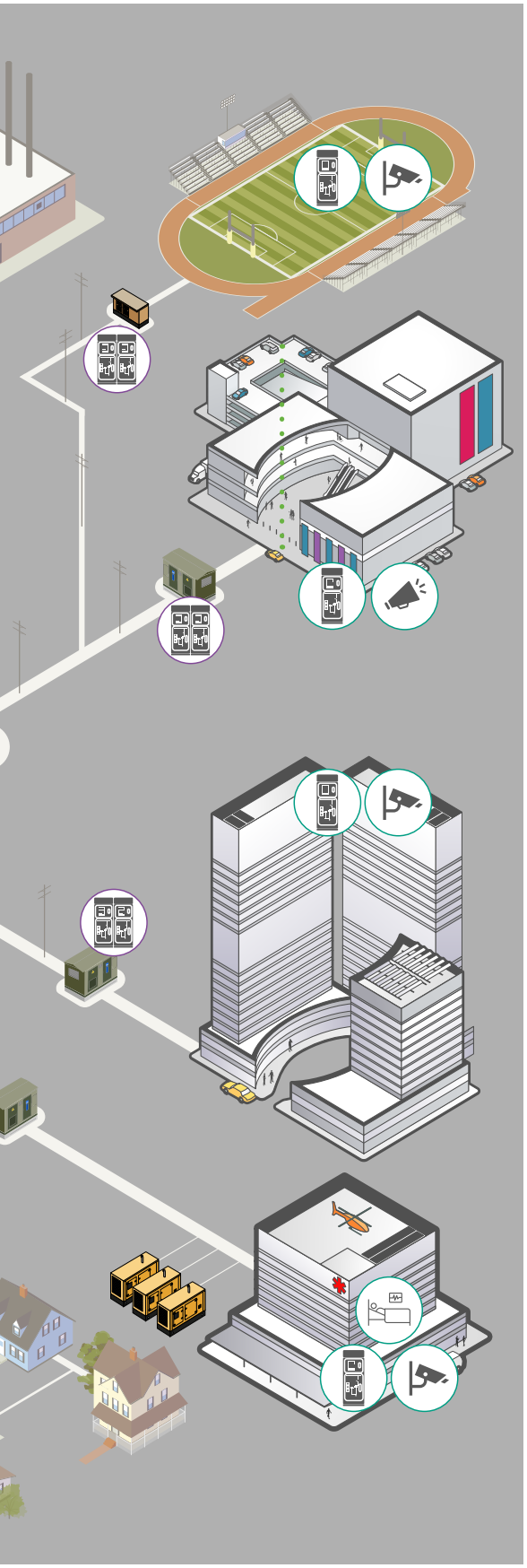
Chloride™
Power to Protect

SECURE YOUR DIRECT CURRENT APPLICATIONS IN INDUSTRY AND INFRASTRUCTURE

Chloride®
standard DC solutions

SECURE YOUR DIRECT CURRENT APPLICATIONS IN INDUSTRY AND INFRASTRUCTURE





GENERATION

- Controlling access to the power station
- Monitoring systems / CCTV
- Powering solenoid valves

TRANSMISSION & DISTRIBUTION

- Auxiliary devices of the HV or MV equipment
- Telecommunications system
- Control rooms
- SCADA

INDUSTRIES AND OEM

- Auxiliary devices of the main low-voltage distribution board
- Relays
- Supplying motors and electromagnets with direct current
- Control systems
- Programmable logic controllers (PLC)
- Powering solenoid valves
- Controlling access to the site
- Starter battery of a power generator

SERVICE INDUSTRY

- Auxiliary devices of the main low-voltage distribution board
- Relays
- Monitoring systems / CCTV
- Audible warning devices
- Operating room surgery lightheads

BETTER UNDERSTAND YOUR DIRECT CURRENT REQUIREMENTS...

The constant growth in electricity consumption, the need for ever greater continuity of operations in the industry, and the increased safety requirements in the industrial and service sectors, make use of direct current systems ubiquitous.

Even though the electrical power generation, transmission and distribution traditionally used direct current to be able to store energy in the stand-by batteries and to supply this energy when the main power source is interrupted; direct current is is also used in many other industries and applications.

More and more devices that make essential part of our everyday lives are powered by direct current, like electronic gadgets, computers, smartphones and LED lighting. The same applies to the industry where we can find more and more automation integrated in the manufacturing processes. Of course, this is also the case in the service industry that has growing requirements in terms of safety and access control.

However, each industry has its own needs that have to be met.

As a company that generates, supplies or distributes electricity, you must:

- Ensure uninterrupted service
- Guarantee the safety of your personnel
- Reduce operating and maintenance costs
- Maintain the reliability and efficiency of your installation

For 70 years, we have ensured the continuity of service of numerous companies providing electrical power throughout the world by supplying them with direct current solutions that are reliable, efficient and innovative.

As an owner or manager of premises that are open to the public, you are obliged to:

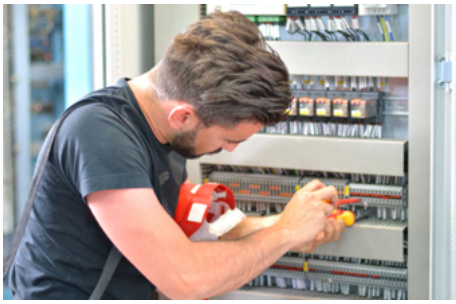
- Guarantee the safety of the public
- Obtain formal approval from the relevant authorities
- Ensure the reliability of your installation
- Reduce operating and maintenance costs

For more than 25 years, our products and DC power packs have guaranteed a reliable uninterrupted power supply for multiple types of sites: commercial buildings, shopping centres, offices, hospitals, cinemas, amusement parks, etc.

As a manufacturer, you strive to:

- Improve productivity
- Ensure the reliability of your installations
- Guarantee the safety of your personnel
- Reduce operating and maintenance costs

Our technical solutions guarantee the continuity of service of numerous industrial sites throughout the world: chemical and petrochemical facilities, aluminium production plants, foundries, cement plants, water treatment plants, automotive and electronics manufacturing, etc.



As a panel builder or installer, you need to:

- Respect your client's specifications
- Ensure the reliability of your client's installation
- Optimise costs
- Respect the client schedule

Our engineers and project managers have gained in-depth knowledge in the field of direct current in order to meet your requirements. Our extensive range of products makes it possible to provide technical and commercial solutions in accordance with your expectations on performance, price and lead time.

Chloride® works with numerous CLIENTS globally, including:

- Canal de Provence
- EDF
- Enedis
- Hazemeyer
- Ormazabal
- RTE
- Lyonnaise des Eaux (Suez)
- APH de Marseille
- CHRU de Lille
- CHU de Montpellier
- ...

- ArcelorMittal
- Ascometal
- Exxon
- GRT Gaz
- Total
- Trapil
- ...
- Paris airport
- Auchan
- Palace of Versailles
- Decathlon
- Disneyland Paris
- Eiffel Tower
- ...

... TO BETTER SERVE YOUR NEEDS

In order serve the variety of different industries and applications, Vertiv Industrial Systems has developed its portfolio in a two-part structure to better satisfy users' requirements and constraints and to better respond to their environment.

CHLORIDE®

Chloride® as as its mission the **creation of value for our clients** by:

- Providing industrial-grade solutions, systems and services that **ensure the safety of people and assets** and ensure the continuity of operations.
- Working in partnership with our clients to understand your requirements, develop customized solutions and **provide support throughout the life cycle**
- Employing the team of **experts to provide solutions and support for our clients**

STANDARD

Industry

Infrastructure

- Power distribution substations
- Power transformer substations, private or public
- Public services
- Railway stations, airport etc.

Heavy and Medium Industries

- Chemical and petrochemical
- Refining
- Process industries
- Electrical equipment manufacturer (gensets, etc.)

Service Industry

- Hospitals
- Office buildings
- Amusement and recreational parks
- Cinemas etc.

Offering

Industrial Standard product offering includes a range of DC products, emergency lighting portfolio, and a range of central battery supply systems.

The portfolio standard DC products comprises:

Standard battery charger/rectifiers and DC power packs

A range of standard energy blocks

A range of accessories

DC-to-DC converters

Products dedicated to specific applications (e.g. cathodic protection, etc.)

The portfolio is characterised by its competitive prices and fast delivery times.

PROJETS

Industry

Infrastructure

- Conventional or nuclear power plants
- Power distribution and transmission substations
- Overhead and underground railway infrstructure
- Airports etc.

Heavy and Medium Industries

- Exploration and production of oil and gas onshore or offshore
- Refining and petrochemical
- Gas liquefaction industry
- Heavy industries with continuous processing (metals and mining, etc.)

Offering

Industrial Project Solutions offering of systems and solutions includes several ranges of products that can be configured, customized or tailor made

We can offer the following solutions executed as industrial projects:

A range of rectifiers/battery chargers/DC uninterruptible power supply systems

A range of DC-to-AC inverters

A range of AC uninterruptible power supply systems

A wide selection of customization options and solutions.

This portfolio is characterised by its ability to satisfy the most stringent requirements.

A DIRECT CURRENT SOLUTION FOR EVERY APPLICATION

Whether you are the end user or the installer, only you know the constraints of your application. By answering these 4 simple questions, you can be sure not to forget anything when identifying your direct current product needs.

What is the intended use?

DIRECT CURRENT POWER SUPPLY

BATTERY CHARGER

POWER PACK or UNINTERRUPTED DIRECT CURRENT POWER SUPPLY

=

What is the power requirement?

ON MAINS POWER

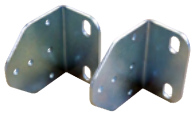
Selection of the rectifier

IN AUTONOMY, IF NECESSARY

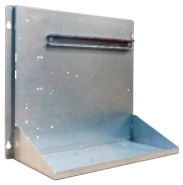
Integrated or external battery

+

What is the intended installation?



On a DIN rail or with installation kit



Chassis

Cabinet

+

Is supervision required?

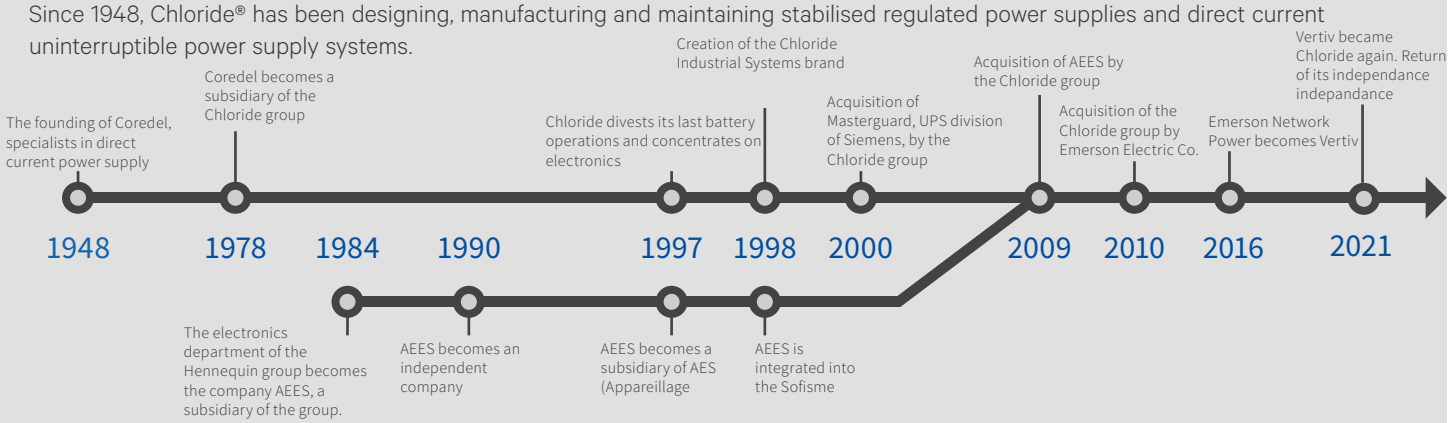
Display on the rectifier or remote display

Display on the cabinet door

Dry signalling contacts and/or serial link

Chloride, FRENCH expert in direct current solutions for 70 years

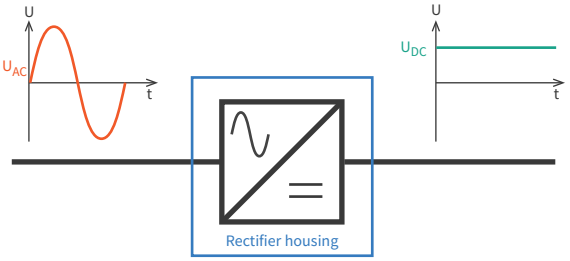
Since 1948, Chloride® has been designing, manufacturing and maintaining stabilised regulated power supplies and direct current uninterruptible power supply systems.



Direct current power supply

When configured for power supply, the rectifiers convert an AC voltage into a DC voltage that is stabilised, regulated and filtered to power the load connected to the output.

The output voltage can be adjusted to correspond as much as possible to the voltage requirements of the load to be powered.



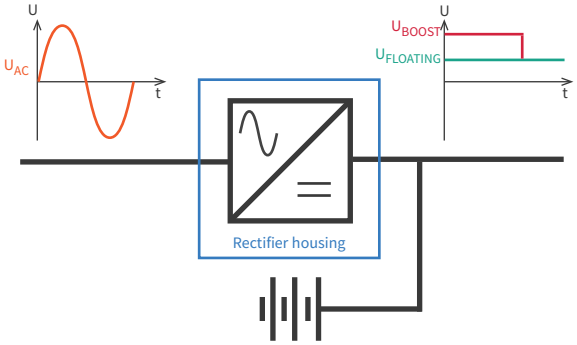
Battery charger

When configured as battery chargers, the rectifiers convert AC voltage into DC voltage that is stabilised, regulated and filtered to recharge or maintain the charge of the connected battery and to power the load connected to the output.

The floating voltage that is used to maintain the charge of the battery, can be adjusted to adapt to the type of battery (lead acid or nickel-cadmium, vented or sealed).

The boost voltage is used to recharge the battery when it has been discharged. The boost voltage cannot be used with all types of battery and is time-limited in order to preserve the batteries.

It is important to ensure that the output voltage of the battery charger is compatible with the connected load. Some direct current loads do not accept the tolerance required to support the output voltage range of the rectifier/battery pair, therefore a DC-to-DC converter must be used that will keep the output voltage in a reduced range tolerated by the load.

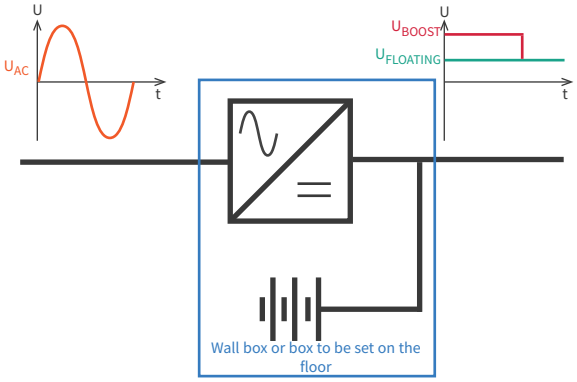


Cabinets, chassis and DC UPS

DC UPS is a direct current uninterruptible power supply system that powers and assures the connected load. It consists of a rectifier configured as a battery charger and of a lead acid battery, which is referred to as maintenance-free.

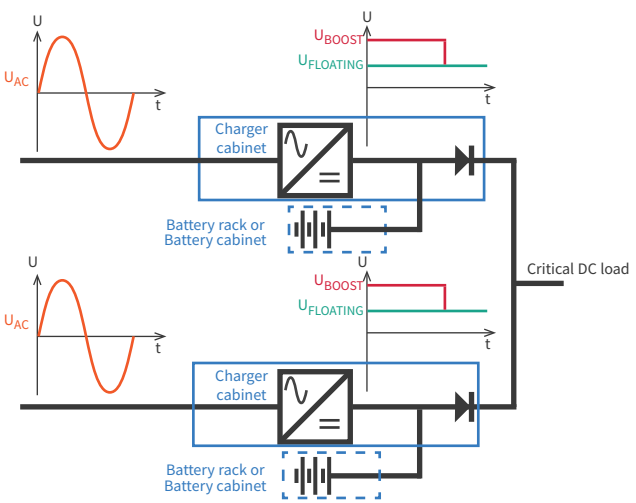
It can be installed in a wall-mounted box for compact wall installation. DC UPS in a bigger cabinet can be set on or fixed to the floor.

The operating principle is the same as that of the battery charger described above.



Redundant direct current systems

- The redundant systems make it possible to increase the reliability of the direct current power supply for supplying very critical loads. Several redundant configurations are possible and depend on the technical specification, maintenance requirements on site, and the budget. The system configurations can be:
- Completely redundant (also referred to as a 1+1 configuration): The charger and the battery are 100% redundant
- 100% redundant on the charger side and 50% on the battery side: In this configuration, each charger provides for a battery sized at 50% of the required autonomy.
- 100% redundant on the charger side (or N+1 configuration) with a battery: In this configuration, the two chargers share a single battery which is sized for 100% of the required autonomy.



THE INDUSTRIAL STANDARD DIRECT CURRENT PORTFOLIO

The range of rectifier-charger modules and converters


≤ 120 W


≤ 300 W


≤ 600 W


≤ 900 W


≤ 1800 W


≤ 150 W


≤ 300 W

	CE-P	DELTA 300	DELTA 600	ALPHA 900	ALPHA 1800	ULTRA 150	ULTRA 300
INPUT	AC INPUT					DC INPUT	
12 Vdc	2.5 - 8 A	10 A	20 A	30 A	60 A	12.5 A	27.5 A
24 Vdc	5 A	10 A	20 A	30 A	60 A	6.3 A	14.6 A
48 Vdc	2.5 A	5 A	10 A	15 A	30 A	NA	7.3 A
110 - 127 Vdc	NA	NA	NA	6 A	12 A	NA	NA
220 Vdc	NA	NA	NA	NA	6 A	NA	NA

The range of wall-mounted power packs (or chassis)


≤ 500 W


≤ 530 W


≤ 620 W


≤ 1450 W

	POWERIS ELT	LUMERIS	ENERIS	POWERIS
12 Vdc	5 A / 7-14 Ah	NA	NA	5 - 30 A / 7-80 Ah
24 Vdc	5 A / 7-14 Ah	5 A / 7-40 Ah	5 - 30 A / 7-48 Ah	5 - 30 A / 7-48 Ah
48 Vdc	2.5 A / 7 Ah	NA	2.5 - 15 A / 7-24 Ah	2.5 - 15 A / 7-24 Ah

The range of DC UPS and systems


≤ 4.5 kW


≤ 35 kW


≤ 66 kW

	FP20R	FP50R	FP40R
12 Vdc	30 - 60 A / 24-120 Ah	NA	NA
24 Vdc	30 - 180 A / 24-600 Ah	25 - 250 A	35 - 400 A
48 Vdc	15 - 90 A / 24-300 Ah	25 - 250 A	35 - 400 A
110 - 127 Vdc	6 - 36 A / 7-150 Ah	25 - 250 A	35 - 400 A
220 Vdc	6 - 18 A / 7-60 Ah	NA	35 - 400 A




GENERATION

TRANSMISSION & DISTRIBUTION

INDUSTRIES AND OEM

SERVICE INDUSTRY

CHLORIDE® CE-P - 30 à 120 W

Rectifier - battery charger - direct current power supply

Chloride® CE-P, a range of universal rectifier-chargers

Chloride® CE-P is a range of low-power rectifiers/battery chargers for local direct current requirements in the industrial and services sectors. Chloride CE-P can be used as a direct current power supply or as a battery charger, and therefore can be easily integrated into a cabinet or panel.

The Chloride® CE-P rectifiers convert a single-phase alternating current source into direct current. Available from 30 to 120W, Chloride® CE-P is intended to charge batteries from 12 V to 48 V with a capacity of 7 to 150 Ah.

Key features

- Rectifier with high-frequency switch mode
- Natural cooling
- Fuse protection on the circuits upstream and downstream of the rectifier
- Very wide input voltage range, from 187 Vac to 305 Vac
- Integrated battery test function to verify the availability of the battery
- Compatible with lead acid and nickel-cadmium batteries
- Boost function can be adjusted for nickel-cadmium or vented lead acid batteries
- LED status signals of the rectifier and an alarm on a dry contact
- Protection rating IP20

ADVANTAGES

Easy to install

- The CE-P rectifiers are clipped onto a DIN rail or screwed onto a vertical support. The screw connectors are keyed and removable to facilitate installation and prevent errors.
- In the IP31 wall box version, the CE-P rectifier can easily be fixed using 4 screws. The connection is made on an integrated terminal block.

Robust and high-performance

- The wide operating temperature range, up to 50°C, allows for the CE-P range to operate in difficult industrial environments.
- The excellent stability of the output regulation is obtained over the entire input voltage range, and this makes it possible for the CE-P to operate with the most challenging power supply networks.

Configurable

- 4 micro-switches make it possible to configure the rectifier as a DC power supply in a single-speed or two-speed battery charger mode.
- A potentiometer allows to adjust the output voltage.

APPLICATIONS

- Maintaining the charge of starter batteries of power generator sets
- Providing a direct current power supply or an uninterrupted power supply for automatons and automated systems (e.g. PLCs)
- Uninterrupted power supply for monitoring, control and signalling circuits
- Uninterrupted power supply for current draw systems, such as relay coils, motors, solenoid valves, etc..

Chloride® CE-P

Table for selecting CE-P rectifiers

OUTPUT VOLTAGE (UN)	12 VDC			24 VDC	30 - 48 VDC
RATING	**2.5 A**	**5 A**	**8 A**	**5 A**	**2.5 A**
SINGLE RECTIFIER					
Name	**CE-P 2.5 12**	**CE-P 05 12/24**	**CE-P 08 12**	**CE-P 05 12/24**	**CE-P 2.5 30/48**
Adjustment range, rectifier output	12V - 15V	12V - 15V	12V - 15V	24V - 30V	30V - 38V 48V - 60V
1 status LED on the rectifier	●	●	●	●	●
Number of statuses of the LED	2	4	4	4	4
1 NO/NC contact for a fault summary	—	●	●	●	●
Battery test function	—	●	●	●	●
Battery boost function (manual stop)	●	●	●	●	●
Battery boost function (auto. stop)	—	●	●	●	●
Protection rating IP20 rectifier	●	●	●	●	●
Installation on DIN rail	●	●	●	●	●
Installation on vertical support (with screws)	●	●	●	●	●
Weight	0.3 kg	0.5 kg	0.5 kg	0.5 kg	0.5 kg
Dimensions (HxLxP) in mm	155x112x65	155x112x65	155x112x65	155x112x65	155x112x65
Reference (rectifier)	**6 011 054**	**6 007 024**	**6 011 060**	**6 007 024**	**6 011 062**
REDRESSEUR + BOX					
Name	—	**CF CE-P 05 12**	—	**CF CE-P 05 24**	**CF CE-P 2.5 48**
Protection rating IP31 (box)	—	●	—	●	●
Installation on the wall (with screws)	—	●	—	●	●
Weight	—	6.2 kg	—	6.2 kg	6.2 kg
Dimensions of box (HxLxD) in mm	—	300x333x203	—	300x333x203	300x333x203
Reference number (box + rectifier)	—	**6 015 807**	—	**6 015 808**	**6 015 809**
RECTIFIER + BOX + DISPLAY UI					
UI function (953)	—	Digital display 3 digits 1/2 on box. Display of the Udc and Idc measurements			
Name	—	**CF CE-P 05 12 UI**	—	**CF CE-P 05 24 UI**	**CF CE-P 2.5 48 UI**
Reference number (box + rectifier + UI)	—	**6 015 810**	—	**6 015 811**	**6 015 812**

Technical data of the rectifier

INPUT	
Supply voltage	Single-phase 230 Vac (208, 220, 277)
Voltage tolerance range	187 - 305 Vac
Input frequency/range	50 - 60 Hz / 47 - 63 Hz

OUTPUT	
Nominal voltage	12 / 24 / 30 / 48 Vdc
Adjustment range	see selection table
Stability	±1 %
Voltage ripple factor	<0.2 % RMS

GENERAL DATA	
Efficiency of the rectifier	≈85 %
Operating temperature	-20 °C / +50 °C
Storage temperature	-45 °C / +85 °C
Relative humidity	< 95% at 20°C non condensing
Operating altitude	1000 m (without derating)
Cooling	By natural convection

Compliance

STANDARDS
NF EN 61204/A1: 2001 (except for CE-P 2.5-12 reference number 6011054)
NF C 58-311: 1990 (except for CE-P 2.5-12 reference number 6011054)
IEC/NF EN 61000-6-2: 2006
IEC/NF EN 61000-6-4: 2007 + AMD1:2011

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/CE (Before April 2016) 2014/35/UE (After April 2016)
EMC directive	2004/108/CE (Before April 2016) 2014/30/UE (After April 2016)
CE Mark	●

● As standard
— Not available

CHLORIDE® DELTA - 300 à 600 W

Rectifier - battery charger - direct current power supply

Chloride® DELTA, a range of functional rectifier-chargers

Chloride® DELTA is a range of rectifiers offering a convenient operating power range and integrated functions that are useful for applications in the industrial and services sectors. Each product from the Chloride® DELTA range can be used as a direct current power supply or as a battery charger and can be easily integrated into a box or panel.

The Chloride® DELTA rectifiers convert a single-phase alternating current source into direct current. Available from 300 to 600W, Chloride® DELTA is intended to charge lead acid or nickel-cadmium batteries from 12 V to 48 V.

Key features

- Rectifier with high-frequency switch mode
- Natural cooling
- Fuse protection of the rectifier on the circuit upstream of the rectifier
- Protection against reversed polarity
- Protection against overload and short circuit at the output by limiting current
- Wide input voltage range from 187 Vac to 264 Vac
- Integrated battery test function to verify the availability of the battery
- Compatible with lead acid and nickel-cadmium batteries
- Adjustable floating and boost functions to match the battery type used (nickel-cadmium or vented lead acid)
- Two LED signals for the rectifier status and an alarm on a dry contact for a fault summary
- Protection rating IP20

ADVANTAGES

Easy to install

- The DELTA rectifiers include removable screw connectors to facilitate installation.
- In the 300 W version, the module is clipped onto a DIN rail or is screwed onto a vertical support using the installation kit.
- In the 600 W version, the module is screwed onto the vertical support. A bracket kit provided helps to ensure lateral mounting or floor mounting.
- In the IP31 wall box version, the DELTA rectifier can be easily fixed using 4 screws. The connection is made on an integrated terminal block.

Configurable

- 4 micro-switches allow to configure the rectifier as a DC power sypply or as a charger.
- Two potentiometers allow to manually adjust the floating and boost voltages.
- The DELTA rectifier offers the opportunity to adjust the output voltage using an external potentiometer (accessory).

Parallélisable

- Up to 3 DELTA rectifiers can be connected in parallel, each equipped with a coupling diode, to help increase power or redundancy.

APPLICATIONS

-
- Providing a direct current power supply or an uninterrupted power supply for automatons and automated systems (e.g. PLCs)
- Uninterrupted power supply for monitoring, control and signalling circuits
- Uninterrupted power supply for systems with high inrush current, such as relay coils, motors, solenoid valves, etc.
- Maintaining the charge of starter batteries of power generator sets.

Chloride® DELTA 300

Chloride® DELTA 600

Table for selecting DELTA rectifiers

OUTPUT VOLTAGE (U_N)	12 VDC		24 VDC		48 VDC	
RATING	**10 A**	**20 A**	**10 A**	**20 A**	**5 A**	**10 A**
SINGLE RECTIFIER						
Name	**DELTA 300 12 10**	**DELTA 600 12 20**	**DELTA 300 24 10**	**DELTA 600 24 20**	**DELTA 300 48 05**	**DELTA 600 48 10**
Integrated adjustment range	12V - 15V	12V - 15V	24V - 30V	24V - 30V	48V - 60V	48V - 60V
Range of adjustment by external potentiometer (with accessory)	o (10V - 15V)	o (10V - 15V)	o (10V - 30V)	o (10V - 30V)	o (15V - 60V)	o (15V - 60V)
2 status LEDs on rectifier	●	●	●	●	●	●
1 NO/NC contact for a fault summary	●	●	●	●	●	●
Battery test function	●	●	●	●	●	●
Battery boost function (auto. stop)	●	●	●	●	●	●
Protection rating IP20 rectifier	●	●	●	●	●	●
Installation on DIN rail	●	—	●	—	●	—
Installation on vertical support (with screws)	o (1)	●	o (1)	•	o (1)	●
Lateral vertical installation (with 2 brackets)	—	●	—	●	—	●
Floor installation (with 2 brackets)	—	●	—	●	—	●
Weight	1 kg	2.6 kg	1 kg	2.6 kg	1 kg	2.6 kg
Dimensions (HxLxD) en mm	135x103x135	282x202x75	135x103x135	282x202x75	135x103x135	282x202x75
Reference number (rectifier)	**6 014 115**	**6 013 112**	**6 014 113**	**6 012 124**	**6 014 114**	**6 012 125**
RECTIFIER ACCESSORIES AND REFERENCE NUMBERS						
DELTA 300 vertical installation kit	6 015 524	—	6 015 524	—	6 015 524	—
External potentiometer kit	6 002 928	6 002 928	6 002 928	6 002 928	6 002 928	6 002 928
RECTIFIER + BOX + DISPLAY UI						
Name	**CF DELTA 300 12 10 UI**	**CF DELTA 600 12 20 UI**	**CF DELTA 300 24 10 UI**	**CF DELTA 600 24 20 UI**	**CF DELTA 300 48 05 UI**	**CF DELTA 600 48 10 UI**
UI function (953)	Afficheur digital 3 digits 1/2 sur coffret. Visualisation des mesures Udc et Idc					
Protection rating IP31 box	●	●	●	●	●	●
Wall installation (with screws)	●	●	●	●	●	●
Weight	11.9 kg	13.5 kg	11.9 kg	13.5 kg	11.9 kg	13.5 kg
Dimensions of box (HxLxD) in mm	450x497x253	450x497x253	450x497x253	450x497x253	450x497x253	450x497x253
Reference number (box + rectifier + UI)	**6 015 816**	**6 015 129**	**6 015 817**	**6 015 130**	**6 015 818**	**6 015 131**
BOX ACCESSORIES AND REFERENCE NUMBERS						
Box base (H=250mm) for placement on the floor	5220 213 761	5220 213 761	5220 213 761	5220 213 761	5220 213 761	5220 213 761

Technical data of the rectifier

INPUT	
Supply voltage	Single-phase 230 Vac (208, 220, 240)
Voltage tolerance range	187 - 264 Vac
Input frequency/range	50 - 60 Hz / 47 - 63 Hz

OUTPUT	
Nominal voltage	12 / 24 / 48 Vdc
Adjustment range	see selection table
Stability	±1 %
Voltage ripple factor	<0.2 % RMS

GENERAL DATA	
Efficiency of the rectifier	83 % - 90 % depending on rating and voltage
Operating temperature	0 °C / +50 °C(2)
Storage temperature	-45 °C / +85 °C
Relative humidity	<95 % à 20 °C, non condensing
Operating altitude	1000 m (without derating
Cooling	By natural convection

Compliance

STANDARDS
NF EN 61204/A1: 2001
NF C 58-311: 1990
NF C 15-100: product TBTS
IEC/NF EN 61000-6-2: 2006
IEC/NF EN 61000-6-4: 2007 + AMD1:2011

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/CE (before April 2016) 2014/35/UE (before April 2016)
EMC directive	2004/108/CE (before April 2016) 2014/30/UE (before April 2016)
CE Mark	●

● As standard
o As an option
— Not available

(1) Requires the vertical installation kit
(2) Except for Delta 600 module: 600W at 40°C, 500W at 50°C

CHLORIDE® ALPHA - 900 à 1 800 W

Rectifier - battery charger - direct current power supply

Chloride® ALPHA, a range of complete rectifier-chargers

Chloride® ALPHA is a range of rectifiers offering advanced functions and a convenient operating power range for applications in the industrial and services sectors. Each product from the Chloride® ALPHA range can be used as a battery charger or as a direct current power supply and can be easily integrated into a box or panel.

The Chloride® ALPHA rectifiers convert a single-phase alternating current source into direct current. Available from 900 to 1800W, Chloride® ALPHA is intended to charge lead acid or nickel-cadmium batteries from 12 V to 240 V.

Key features

- Rectifier with high-frequency switch mode
- Natural cooling
- Operation at 50°C
- Integrated protection against errors and failures (overload, short-circuit, reversed polarity, surges at the output, thermal runaway)
- Wide input voltage range from 187 Vac to 264 Vac
- Integrated double output allowing independent control of the limit on the battery charging current
- Compatible with lead acid and nickel-cadmium batteries
- Adjustable floating and boost functions to match the battery type (nickel-cadmium, lead acid sealed or lead acid vented)
- Static switch function controlled by external dry contact
- LED signals of rectifier status and an alarm on dry contact for a fault summary
- Protection rating IP20

ADVANTAGES

Easy to install

The ALPHA rectifiers include removable screw connectors to facilitate installation.

The rectifiers are fixed using 4 keyholes that facilitates the positioning of the rectifier before tightening

In the IP31 wall box version, the ALPHA rectifier can easily be fixed using 4 screws. The connection is made on an integrated terminal block.

Configurable

4 micro-switches allow to configure the rectifier in a DC power mode or charger mode.

Two potentiometers make it possible to manually adjust the floating and boost voltages.

An external potentiometer (accessory) allows to make fine adjustments to the output voltage.

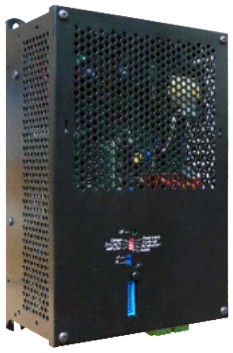
When equipped with the Quartz supervision kit, the ALPHA charger becomes a complete battery charger, integrating all the regulating and signalling functions

Parallel Mode

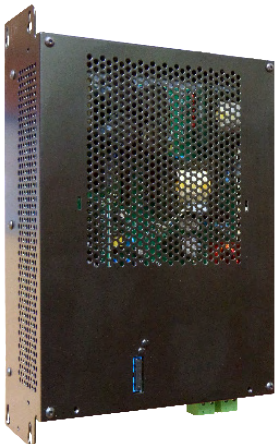
- Up to 3 ALPHA rectifiers can be connected in parallel, each equipped with a coupling diode, to help increase power or redundancy.

APPLICATIONS

- Uninterrupted power supply for monitoring, control and signalling circuits
- Uninterrupted power supply for systems with high inrush current, such as relay coils, motors, solenoid valves, etc.
- Providing a direct current power supply or an uninterrupted power supply for automatons and automated systems (e.g. PLCs)



Chloride® ALPHA 900



Chloride® ALPHA 1800

Table for selecting ALPHA rectifiers

OUTPUT VOLTAGE (UN)	12 VDC		24 VDC		48 VDC		110 VDC		220 VDC
RATING	**30 A**	**60 A**	**30 A**	**60 A**	**15 A**	**30 A**	**6 A**	**12 A**	**6 A**
SINGLE RECTIFIER									
Name	**ALPHA 900 12 30**	**ALPHA 1800 12 60**	**ALPHA 900 24 30**	**ALPHA 1800 24 60**	**ALPHA 900 48 15**	**ALPHA 1800 48 30**	**ALPHA 900 110 06**	**ALPHA 1800 110 12**	**ALPHA 1800 220 06**
Integrated adjustment range	U_N ±5 %	U_N ±5 %	U_N ±5 %	U_N ±5 %	U_N ±5 %	U_N ±5 %	U_N ±5 %	U_N ±5 %	U_N ±5 %
Range of adjustment by external potentiometer (with accessory)	o (0V - 15V)	o (0V - 15V)	o (0V - 30V)	o (0V - 30V)	o (0V - 60V)	o (0V - 60V)	o (0V - 150V)	o (0V - 150V)	o (0V - 300V)
1 status LED on the rectifier	●	●	●	●	●	●	●	●	●
1 NO/NC contact for a fault summary	●	●	●	●	●	●	●	●	●
Battery test function (with quartz)	o	o	o	o	o	o	o	o	o
Battery boost function (manual stop)	●	●	●	●	●	●	●	●	●
Battery boost function (auto. stop)	o (1)	o (1)	o (1)	o (1)	o (1)	o (1)	o (1)	o (1)	o (1)
Indice de protection IP 20 redresseur	●	●	●	●	●	●	●	●	●
Fixation sur support vertical (à vis)	●	●	●	●	●	●	●	●	●
Fixation verticale latérale (à vis)	o (2)	●	o (2)	●	o (2)	●	o (2)	●	●
Poids	5.9 kg	9.8 kg	5.9 kg	9.8 kg	5.9 kg	9.8 kg	5.9 kg	9.8 kg	9.8 kg
Dimensions (HxLxD) in mm	335x211x123	413x261x123	335x211x123	413x261x123	335x211x123	413x261x123	335x211x123	413x261x123	413x261x123
Reference number	**6 007 977**	**6 008 584**	**6 006 455**	**6 008 585**	**6 006 456**	**6 008 586**	**6 006 457**	**6 008 587**	**6 008 588**
RECTIFIER ACCESSORIES AND REFERENCE NUMBERS									
Lateral vertical installation kit	6 007 983	—	6 007 983	—	6 007 983	—	6 007 983	—	—
External potentiometer kit	6 002 928	6 002 928	6 002 928	6 002 928	6 002 928	6 002 928	6 002 928	6 002 928	6 002 928
UIR adjustment kit (adjustment of battery output)	—	6 014 275	—	6 014 275	—	6 014 275	—	6 014 275	6 014 275
Quartz supervision kit	6 009 213	6 009 213	6 009 213	6 009 213	6 007 981	6 007 981	6 007 981	6 007 981	6 007 981
Quartz supervision kit (DC power)	6 011 900	6 011 900	6 011 900	6 011 900	—	—	—	—	—
Battery temperature sensor kit	6 007 982	6 007 982	6 007 982	6 007 982	6 007 982	6 007 982	6 007 982	6 007 982	6 007 982
RS 485 series interface kit	6 011 897	6 011 897	6 011 897	6 011 897	6 011 897	6 011 897	6 011 897	6 011 897	6 011 897
RECTIFIER + BOX + DISPLAY UI									
Name	**CF ALPHA 900 12 30 UI**	—	**CF ALPHA 900 24 30 UI**	—	**CF ALPHA 900 48 15 UI**	**CF ALPHA 1800 48 30 UI**	—	—	—
UI function (953)	Afficheur digital 3 digits 1/2 sur coffret. Visualisation des mesures Udc et Idc								
Protection rating IP31 box	●	—	●	—	●	●	—	—	—
Wall installation (with screws)	●	—	●	—	●	●	—	—	—
Weight	23.1 kg	—	23.1 kg	—	23.1 kg	27.0 kg	—	—	—
Dimensions of box (HxLxD) in mm	600x497x253	—	600x497x253	—	600x497x253	600x497x253	—	—	—
Reference number (box + rectifier + UI)	**5070 100 018**	—	**5070 100 019**	—	**5070 100 020**	**5070 100 021**	—	—	—
BOX ACCESSORIES AND REFERENCE NUMBERS									
Box base (H=250mm) for placement on the floor	**5220 213 761**	—	**5220 213 761**	—	**5220 213 761**	**5220 213 761**	—	—	—

Technical data of the rectifier

INPUT	
Supply voltage	Single-phase 230 Vac (208, 220, 240)
Voltage tolerance range	187 - 264 Vac
Input frequency/range	50 - 60 Hz / 47 - 63 Hz
OUTPUT	
Nominal voltage	12 / 24 / 48 / 110 / 220 Vdc
Adjustment range	see selection table
Stability	±1 %
Votlage ripple factor	<0.1 % RMS
GENERAL DATA	
Efficiency of the rectifier	83%-91% depending on rating and voltage
Operating temperature	0 °C / +50 °C
Storage temperature	-45 °C / +85 °C
Relative humidity	< 95% at 20°C non condensing
Operating altitude	1000 m (without derating)
Cooling	By natural convection

Compliance

STANDARDS	
NF EN 61204/A1: 2001	
NF C 58-311: 1990	
IEC/NF EN 61000-6-2: 2006	
IEC/NF EN 61000-6-4: 2007 + AMD1:2011	
EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)
CE Mark	●

● As standard
o As option
— Not available

(1) Requires the quartz supervision kit
(2) Requires the vertical lateral installation kit

INDUSTRIES AND OEM

SERVICE INDUSTRY

CHLORIDE® ULTRA - 150 et 300 W
Convertisseur DC/DC

Chloride® ULTRA, a range of universal DC-to-DC converters

Chloride® ULTRA is a range of isolated DC-to-DC converters which are designed to convert a variable DC input voltage into a constant DC output voltage despite the variations in voltage at the input and the variations in load at the output. Chloride® ULTRA makes it possible to power critical systems that are sensitive to variations in voltage.

Chloride® ULTRA converters are modules that are ready for use and are designed for the conversion of a variable DC voltage into a different regulated and filtered DC voltage, whilst ensuring galvanic isolation between the input and the output.

Key features

- Module with metal enclosure
- Galvanic isolation
- Wide range of DC input voltage
- Operating temperature range of 0°C to 40°C
- Integrated status LED
- Fuse protection against reversed polarity on the input
- Overload detection and protection of the module by a static switch (Hiccup mode).

ADVANTAGES

Easy to integrate

- The module is installed horizontally or vertically using 2 fixing brackets provided.
- The ULTRA converters include screw connection points.

Integrated protection

- Protection against reversed polarity at the input
- Protection against overload (Hiccup mode) which triggers a static switch-off of the module and restarts it as soon as the fault disappears
- Surge protection

Simple to use

- The Ultra modules do not require any adjustment. They are adjusted to the nominal output values at the factory. However, if the connected load requires a specific voltage, the ULTRA modules have a potentiometer for adjustment.

APPLICATIONS

Providing a direct current power supply for automatons and automated systems (e.g. PLCs)

Powering SCADA and DCS systems with direct current

Chloride® ULTRA 150

Chloride® ULTRA 300

Table for selecting ULTRA DC-to-DC converters

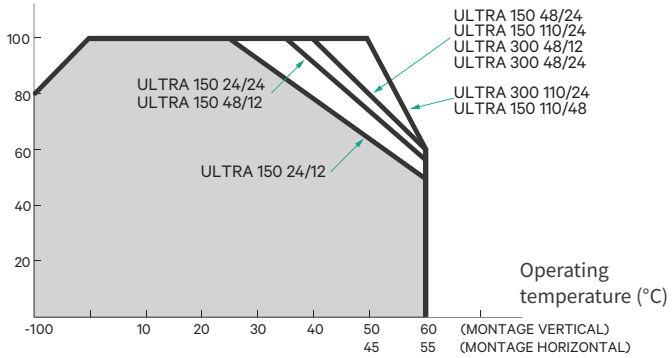
INPUT VOLTAGE	24 VDC		48 VDC				110 VDC		
OUTPUT VOLTAGE	12 VDC	24 VDC	12 VDC		24 VDC		24 VDC		48 VDC
POWER	150 W	150 W	150 W	300 W	150 W	300 W	150 W	300 W	300 W
Name	ULTRA 24/12 150	ULTRA 24/24 150	ULTRA 48/12 150	ULTRA 48/12 300	ULTRA 48/24 150	ULTRA 48/24 300	ULTRA 110/24 150	ULTRA 110/24 300	ULTRA 110/48 300
Input voltage range	19 V - 36 V	19 V - 36 V	36 V - 72 V	36 V - 72 V	36 V - 72 V	36 V - 72 V	72 V - 144 V	72 V - 144 V	72 V - 144 V
Range of adjustment of the output voltage using a potentiometer	11 V - 16 V	23 V- 30 V	11 V - 16 V	11 V - 16 V	23 V - 30 V	23 V - 30 V	23 V - 30 V	23 V - 30 V	43 V - 53 V
Output current	12.5 A	6.3 A	12.5 A	27.5 A	6.3 A	14.6 A	6.3 A	14.6 A	7.3 A
Efficiency	75 %	77 %	77 %	81 %	80 %	81 %	82 %	87 %	89 %
Cooling	VN(1)	VN (1)	VN (1)	VF (1)	VN (1)	VF (1)	VN (1)	VF (1)	VF (1)
Operating temperature at full power									
1 power LED	●	●	●	●	●	●	●	●	●
Metal enclosure	●	●	●	●	●	●	●	●	●
Installation on vertical support (with screws)	●	●	●	●	●	●	●	●	●
Horizontal vertical installation (with screws)	●	●	●	●	●	●	●	●	●
Weight	0.85 kg	0.85 kg	0.85 kg	1.1 kg	0.85 kg	1.1 kg	0.85 kg	1.1 kg	1.1 kg
Dimensions of module (HxLxD) in mm	50x110x199	50x110x199	50x110x199	50x115x225	50x110x199	50x115x225	50x110x199	50x115x225	50x115x225
Dimensions including brackets (HxLxD) in mm	80x112x199	80x112x199	80x112x199	800x117x225	80x112x199	800x117x225	80x112x199	800x117x225	800x117x225
Reference number	**6 006 747**	**1 017 874**	**6 006 748**	**6 006 745**	**6 006 749**	**6 006 542**	**6 006 750**	**6 006 746**	**6 011 425**

Technical Data

GENERAL DATA	
Output regulation	±1% (from 0 to 100% of a load)
Protection against overloads	static switch-off (hiccup mode)
Voltage ripple factor	<0.1 % RMS
Dielectric strength:	
• Input/output	1500 Vac
• Input/earth	1500 Vac
• Output/earth	500 Vac
Insulation resistance	500 Vdc 100MΩ
Efficiency	See selection table
Operating temperature	see curve
Storage temperature	-5 °C / +45 °C (1)
Relative humidity	<95 % à 20 °C, non condensing
Operating altitude	1000 m (without derating)
Cooling	See selection table
Type of enclosure	Metal
Dimensions (HxLxD) in mm	See selection table
Weight	See selection table

COURBE DE DÉCLASSEMENT EN TEMPÉRATURE

Load (%)



Compliance

STANDARDS
NF C 15-211: 2006
IEC/NF EN 60950-1: 2006
IEC/NF EN 61000-4-2, 3, 4, 6, 8: 2006-2010

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)
CE Mark	●

● As standard

(1) VN = natural ventilation / VF = forced ventilation

CHLORIDE® POWERIS ELT - 10 à 500 W

Direct current wall-mounted power pack

≤ 120 W on mains / ≤ 500 W in autonomy

Chloride® POWERIS ELT, a simple and compact wall-mounted power pack

Chloride® POWERIS ELT is a range of compact wall-mounted power packs available in a chassis version or box version. They are designed to backup the DC power supply of critical applications in the industrial and service sectors operating at 12V, 24V or 48V.

The Chloride® Poweris ELT wall-mounted power packs include a charger and a gas recombination lead acid battery. In normal operation mode, the charger unit powers the operation and ensures that the charge of the sealed lead acid battery is maintained. When there is no mains power supply, the battery provides the power required for the continuity of service of the connected loads.

The Chloride® Poweris ELT range can be used to cover the power/autonomy range of 20W for 3 hours and up to 500W for 15 minutes.

Key features

- Available in the chassis version or box version, in 12, 24 and 48 Vdc
- Autonomy of 15 minutes and up to 3 hours
- High-speed switch mode rectifying technology
- Single-phase 230 Vac input, -10%/+20%, makes Poweris ELT compatible with 220 Vac and 240 Vac input voltages
- Operating temperature range of 0°C to 40°C
- LED rectifier status signal and a dry contact alarm for basic communication.
- Protection of the output circuit with a 16A, gG, fuse

ADVANTAGES

Compact design

- Poweris ELT compact designa nf vertical support installation means that there is more space available for the other equipment in the constrained environment.

Easy to integrate

- In the chassis version, Poweris ELT can be easily integrated into an electrical panel.
- In the IP31 box version, Poweris ELT can be installed in any technical location by fixing it to a wall.

Easy to connect

- Removable screw connectors and an integrated terminal block facilitate on site connection.

Easy to commission

- The charger of Poweris ELT is pre-adjusted at the factory to ensure the proper operation of the unit with the associated battery.

Robust

- The charger integrated in the Poweris ELT is cooled naturally and designed to operate at an ambient temperature of 50°C.

Easy to maintain

- Excellent access to all of the components facilitates maintenance and battery replacement operations.

APPLICATIONS

- Uninterrupted power supply for control and signalling circuits
- Uninterrupted power supply for automation (e.g. PLCs)
- Uninterrupted power supply for systems with high inrush current, such as relay coils, motors, solenoid valves, etc.
- Uninterrupted power supply for monitoring systems, audible warning devices, etc.

Chloride® POWERIS ELT

Table for selecting POWERIS ELT wall-mounted power packs

REFERENCE	NAME	OUTPUT VOLTAGE U_N (Vdc)	NOMINAL (A)	BATTERY CAPACITY (Ah)	OUTPUT POWER (W)						WEIGHT (kg)
					MAINS PRESENT* (W)	NO MAINS / AUTONOMY					
						15 min	30 min	60 min	120 min	180 min	
CHASSIS VERSION											
1 022 188	POWERIS ELT 270 12 05 07	12	5	7	60	125	80	50	30	20	8.5
1 022 189	POWERIS ELT 270 12 05 14	12	5	14	50	250	160	100	60	40	11
1 022 190	POWERIS ELT 270 24 05 07	24	5	7	120	250	160	100	60	40	11
1 022 191	POWERIS ELT 270 24 05 14	24	5	14	100	500	320	200	120	80	16.5
1 022 192	POWERIS ELT 270 48 2.5 07	48	2.5	7	100	500	320	200	120	80	16.5
WALL BOX VERSION											
1 022 193	POWERIS ELT 270 12 05 07	12	5	7	60	125	80	50	30	20	9
1 022 194	POWERIS ELT 270 12 05 14	12	5	14	50	250	160	100	60	40	11.5
1 022 195	POWERIS ELT 270 24 05 07	24	5	7	120	250	160	100	60	40	11.5
1 022 196	POWERIS ELT 270 24 05 14	24	5	14	100	500	320	200	120	80	17
1 022 197	POWERIS ELT 2 70 48 2.5 07	48	2.5	7	100	500	320	200	120	80	17

Technical Data

INPUT	
Input voltage	Single-phase 230 Vac
Voltage tolerance range	-10% / +20%
Input frequency	50 / 60 Hz
Frequency range	47 - 63 Hz

OUTPUT	
Nominal voltage	12 / 24 / 48 Vdc
Operating voltage range	-15% / +12.5 %
Nominal output current	voir tableau de choix
Current limitation	de In à In + 5 %
Stability	±1 %
Voltage ripple factor	<0.1 % RMS

SIGNALLING ON THE CHARGER BLOCK	
1 status LED on the rectifier-charger for signalling: • The presence of a mains connection • Low output voltage fault (minimum: m) • High output voltage fault (maximum: M)	●
1 NO contact for a fault summary	●

GENERAL DATA	
Efficiency of the rectifier	≈85 %
Operating temperature	10 °C / +40 °C
Storage temperature	-45 °C / +85 °C (1)
Relative humidity	< 95% at 20°C non condensing
Operating altitude	1000 m (without derating)
Cooling	By natural convection
Protection rating	IP31 (box version and fitted batteries)
Colour of the enclosure	RAL 7035 (in the wall box version)
Dimensions (HxLxD) in mm	263 x 270 x 170
Weight	see selection table

Compliance

STANDARDS
NF C 58-311: 1990
IEC/NF EN 61000-6-2: 2006
IEC/NF EN 61000-6-4: 2007 + AMD1:2011

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)
CE Mark	●

● As standard
o As option

* Permanent power at the output including the charging of the battery (@0.1C10):
Idc = Icharger - Icharge battery

(1) Without battery.

CHLORIDE® LUMERIS – 10 à 530 W

Direct current wall-mounted power pack

≤ 120 W on mains / ≤ 530 W in autonomy

Chloride® LUMERIS, a wall-mounted power pack dedicated to medical applications

Chloride® LUMERIS is a range of wall-mounted power packs which are designed specifically to back up the DC power supply of the surgical lightheads in medical facilities.

The Chloride® Lumeris wall-mounted power packs include a charger and a gas recombination lead acid battery. In normal operation mode, the charger unit powers the operation and ensures that the charge of the sealed lead acid battery is maintained. When there is no mains no mains power supply, the battery provides the power required for the continuity of service of the connected lighting systems.

Key features

- IP31 box
- Integrated autonomy up to 3 hours
- High-speed switch mode rectifying technology
- Rectifier with natural cooling
- Single-phase 230 Vac input with wide range
- Operating temperature range of 0°C to 40°C
- Integrated cyclic test for the presence of a battery
- Integrated monitoring of 4 DC voltage thresholds
- Detection of overloads during the operation with timeouts allowing several brief overloads.
- Integrated supervision with 3 LEDs, 3 dry contacts and a fault acknowledgement function.

ADVANTAGES

Conforms to the standard NF C 15-211

- In the event of a mains failure, the battery immediately takes over to continue powering the load.
- The lead acid battery with gas recombination technology allows to supply power for an hour or more, depending on the power consumption.

Reliability of the backup power

- The electronic battery charger ensures an optimal regulated charge of the integrated batteries
- The control unit controlled by micro-controller cyclically carries out a test for the presence of the battery and notifies of any anomalies.

Integrated safety

- All the circuits (input, output, battery) of the Chloride® Lumeris are protected by a fuse to ensure that any faulty circuit is shut down quickly.

Simple to use

- The digital display and the 3 LEDs give a quick and artificial indication of the status of the backup power supply

APPLICATIONS

In premises used for medical purposes and in particular in hospital environments, Chloride® Lumeris provides an uninterrupted power supply to the following critical systems:

- Surgical lightheads
- Medical lighting systems
- Nurse call systems

Chloride® LUMERIS

Table for selecting LUMERIS wall-mounted boxes

REFERENCE	NAME	OUTPUT VOLTAGE U_N (Vdc)	NOMINAL RATING OF THE CHARGER (A)	BATTERY CAPACITY (Ah)	OUTPUT POWER (W)			DIMENSIONS		WEIGHT (kg)
					NO MAINS / AUTONOMY			CODE HEIGHT	H x L x D (mm)	
					60 min	120 min	180 min			
5070 400 003	LUMERIS 330 24 05 07 C V2	24	5	7	100	60	40	330	330 x 333 x 203	13.5
5070 400 000	LUMERIS 445 24 05 14 C V2	24	5	14	200	120	80	445	450 x 497 x 253	22
5070 400 001	LUMERIS 445 24 05 24 C V2	24	5	24	360	200	160	445	450 x 497 x 253	29
5070 400 002	LUMERIS 445 24 05 40 C V2	24	5	40	530	320	230	445	450 x 497 x 253	43

Technical Data

INPUT	
Supply voltage	Single-phase 230 Vac
Voltage tolerance range	187 - 264 Vac
Input frequency	50 / 60 Hz
Frequency range	47 - 63 Hz

OUTPUT	
Nominal voltage	24 Vdc
Operating voltage range	-15% / +12.5 %
Nominal output current	5 A
Limit current	from In to In +5%
Stability	±1 %
Voltage ripple factor	<0.2 % RMS

SUPERVISION AND SIGNALLING	
INTERNAL ON SUPERVISION CARD (1082)	
3 status LEDs: • Green: Normal • Orange: Battery flat • Red: Fault	●
3 NO/NC contacts for alarm: • RE1 contact: Battery flat • RE2 contact: Low battery voltage • RE3 contact: Summary of faults	●
1 Reset button: Acknowledgement of stored faults	●
EXTERNAL ON DISPLAY	
3 status LEDs: • Green: Normal • Orange: Battery flat • Red: Fault	●
Digital display (3 digits 1/2): • Output voltage • Output current • Fault codes	●
1 Select button: • Selection of the variables to be displayed and commands to be executed	●
1 Reset button: • Acknowledgement of stored faults	●

GENERAL DATA	
Efficiency of the rectifier	≈85 %
Operating temperature	0 °C / +40 °C
Storage temperature	-5 °C / +45 °C (1)
Relative humidity	< 95% at 20°C non condensing
Operating altitude	1000 m (without derating)
Cooling	By natural convection
Protection rating	IP 31
Colour of the enclosure	RAL 7035
Dimensions (HxLxD) in mm	See selection table
Weight	See selection table

Accessories

NAME	REFERENCE
Box base (H=250mm) 445 for placement on the floor	5220213761

Options

DÉSIGNATION	CODE	DESCRIPTION
Key, type 455	S	Addition of a closure with key type 455 to the box.

Conformity

STANDARDS
NF C 15-211: 2006
NF C 58-311: 1990
IEC/NF EN 61000-6-2: 2006
IEC/NF EN 61000-6-4: 2007 + AMD1:2011

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)
CE Mark	●

● As standard

* Permanent power at the output including the charging of the battery (@0.1C10):
Idc = Icharger - Icharge battery

SERVICE INDUSTRY

CHLORIDE® ENERIS - 10 à 620 W

Direct current wall-mounted box

≤ 620 W on mains / ≤ 500 W in autonomy

Chloride® ENERIS, a wall-mounted box for electrical distribution substations.

Chloride® Eneris is a range of wall-mounted boxes which are designed specifically to back up the DC power supply of critical loads operating at 24V or 48V in electrical distribution substations.

The Chloride® Eneris wall-mounted boxes are comprised of a charger and a lead acid battery with gas recombination. In normal operation, the charger block powers operation and ensures that the charge of the lead acid sealed battery is maintained. When there is no mains connection, the battery supplies the power required for the continuity of service of the connected loads.
The Chloride® Eneris range makes it possible to cover a power range/ autonomy of 10W to 500W for 2 hours.

Key features

- Available in the IP31 box version as standard, in 24 and 48 Vdc
- Integrated autonomy of 2 hours as standard
- Rectification technology with high-frequency cut-off
- Single-phase 230 Vac input with wide range
- Operating temperature range of 0°C to 40°C
- Compensation of the load voltage according to temperature (depending on models)
- Integrated test for the presence of a battery
- Integrated monitoring of 4 DC voltage thresholds
- Overload detection during operation
- Integrated supervision with 3 LEDs, 3 dry contacts and a fault acknowledgement function.

ADVANTAGES

Smart C 13-100 function

- In the event of an extended mains failure, the time delay function combined with the permanent monitoring of the battery voltage makes it possible to ensure an energy reserve, irrespective of the consumption by the load.

Energy reserve that can be used at any time

- The use of the restart push button (on the front panel) or of the logic input (on the terminal) makes it possible to use the energy reserve stored on the battery by means of the C 13-100 function.

Can be adapted to isolated sites

- The “long battery autonomy” option ensures continuous service whilst waiting for human intervention on site.
- The “heating resistor” prevents the formation of condensation inside the box (e.g. installation in the wind turbine mast).

Automatic monitoring of the battery

- The periodic battery test makes it possible to keep the battery in ideal operating conditions by regularly verifying its status and by informing the operator in the event of the fault threshold being crossed.

APPLICATIONS

Uninterrupted power supply of the:

- Undervoltage coils of the circuit breakers of the Medium Voltage (MV) Substations
- Systems for motorising the circuit breakers of the cells of the MV substations
- Coils of circuit breakers at the top of the main low-voltage distribution board
- Monitoring relays
- Signalling lamps

Chloride® ENERIS

Table for selecting ENERIS wall-mounted boxes: see next page

Technical Data

INPUT	
Supply voltage	Single-phase 230 Vac
Voltage tolerance range	see selection table
Input frequency	50 / 60 Hz
Frequency range	47 - 63 Hz

OUTPUT	
Nominal voltage	24 Vdc / 48 Vdc
Float voltage	27.3 Vdc / 54.5 Vdc
Nominal output current	See selection table
Overload detection during operation	Nominal rating of the charger +10%
Stability	±1 %
Voltage ripple factor	<0.2 % RMS

BATTERY	
Type	Lead acid with recombination
Capacity	7 to 48 Ah
Autonomy	2 hours Longer autonomy with the xH option
Battery protection	Fuse
Temperature compensation	Compensation of the load voltage(2)

SUPERVISION AND SIGNALING	
3 Status LEDs: • Green : Normal • Orange : Battery flat • Red : Fault	●
Digital display (3 digits 1/2): • Output voltage • Output current • Battery current(1) • Fault codes	●
1 Select button: • Selection of the variables to be displayed and commands to be executed	●
1 Reset button: • Acknowledgement of stored faults	●
1 Function to test for the presence of a battery: • Check of the integrity of the battery circuit	●
1 Battery test function(2) : • Verification of the capability of the battery to supply the power	●
DC voltage monitoring function: • Charger maximum voltage threshold • Charger minimum voltage threshold • Low battery voltage threshold (opening of the DLD) • Battery discharge tefin threshold (opening of the DLD)	●
1 Restart button (C13-100 function): • Manual rearmament, on the charger, of the battery relay	●
• 1 restart dry contact (C13-100 function): • Remote rearmament of the battery relay	o

GENERAL DATA	
Efficiency of the rectifier	85%-91% depending on rating and voltage
Operating temperature	0 °C / +40 °C
Storage temperature	-5 °C / +45 °C
Relative humidity	< 95% at 20°C non condensing
Operating altitude	1000 m (without derating)
Cooling	By natural convection
Protection rating	IP 31
Fixing	Murale
Colour of the enclosure	RAL 7035
Dimensions and weight	see selection table

● As standard
o As option

(1) Availability of the measurement subject to conditions. Please contact us.
(2) Availability depending on the type of charger. Please contact us.

Options

NAME	CODE	DESCRIPTION
Battery test	B	Manual function (via the display) making it possible to verify the capability of the battery to supply power to the operation. Option not available for low powers: 12 V / 5 A; 24 V / 5 A; 48 V / 2.5 A
Distribution to 4 outlets	F ou J	Individual protection of multiple devices connected to the energy block to ensure selectivity. F = distribution to 4 outlets by a fuse J = distribution to 4 outlets by a circuit breaker
Coupling diode	D	Option allowing two Chloride® Eneris energy blocks to be connected in parallel to ensure redundancy or an increase in power.
Key, type 455	S	Addition of a closure with key type 455 to the box.
Remote restart function C13-100	RC	Function making it possible to restart remotely by means of a logic input
Fonction relance C13-100 déportée	BPX	Fonction permettant la relance à distance grâce à une entrée logique
Longer battery autonomy	xH	Longer battery autonomy (configurable at the factory, from 1 hour to 12 hours) making it possible to maintain the power supply of the coils of HV circuit breakers of the isolated sites

Accessories

NAME	REFERENCE
Box base (H=250mm) for placement on the floor	5220213761

Conformity

NORMES
NF C 58-311: 1990
NF C 13-100: 2015
IEC/NF EN 61000-6-2: 2006
IEC/NF EN 61000-6-4: 2007 + AMD1:2011

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)
CE Mark	●

CHLORIDE® ENERIS - 10 à 620 W

Direct current wall-mounted box

≤ 620 W on mains / ≤ 500 Win autonomy

Table fro selecting ENERIS wall-mounted boxes:

NAME	1-PH INPUT VOLTAGE RANGE (VAC)	OUTPUT VOLTAGE UN (VDC)	NOMINAL RATING OF THE CHARGER (A)	BATTERY CAPACITY (AH)	OUTPUT POWER (W)			DIMENSIONS		WEIGHT (kg)
					MAINS PRESENT* (W)	IN AUTONOMY 2 hours (W)	ALLOWABLE PEAK 1 s (A)(1)	CODE	H x L x D (mm)	
ENERIS 330 24 05 07 C V2	187 - 305	24	5	7	103	54	40	330	330 x 333 x 203	11.5
ENERIS 445 24 05 14 C V2	187 - 305	24	5	14	86	108	50	445	450 x 497 x 253	20
ENERIS 445 24 10 14 C V2 B	187 - 264	24	10	14	206	108	50	445	450 x 497 x 253	28
ENERIS 445 24 10 24 C V2 B	187 - 264	24	10	24	182	252	50	445	450 x 497 x 253	35
ENERIS 445 24 20 24 C V2 B	187 - 264	24	20	24	422	252	50	445	450 x 497 x 253	42
ENERIS 645 24 20 40 C V2 B	187 - 264	24	20	40	382	352	50	645	600 x 497 x 253	48
ENERIS 645P 24 30 40 C V2 B	187 - 264	24	30	40	624	352	50	645P	686 x 497 x 253	58
ENERIS 645P 24 30 48 C V2 B	187 - 264	24	30	48	605	504	50	645P	686 x 497 x 253	57
ENERIS 445 48 2,5 07 C V2	187 - 305	48	2.5	7	86	108	40	445	450 x 497 x 253	20
ENERIS 445 48 05 07 C V2 B	187 - 264	48	5	7	206	108	40	445	450 x 497 x 253	28
ENERIS 445 48 05 14 C V2 B	187 - 264	48	5	14	173	216	50	445	450 x 497 x 253	39
ENERIS 445 48 10 14 C V2 B	187 - 264	48	10	14	413	216	50	445	450 x 497 x 253	41
ENERIS 645 48 10 24 C V2 B	187 - 264	48	10	24	365	504	50	645	600 x 497 x 253	57
ENERIS 645P 48 15 24 C V2 B	187 - 264	48	15	24	605	504	50	645P	686 x 497 x 253	62

* Permanent power at the output including the charging of the battery (@0.1C10):
Idc = Icharger - Icharge battery

CHLORIDE® POWERIS - 10 à 1 450 W

Direct current wall-mounted box

≤ 650 W on mains / ≤ 1450 W in autonomy

Chloride® POWERIS, a complete wall-mounted box, on a cover plate or in a box.

Chloride® Poweris is a range of complete wall-mounted boxes which integrate numerous functions. They are designed to backup the DC power supply of the critical applications of the industrial and service sectors operating at 12V, 24V or 48V.

The Chloride® Poweris wall-mounted boxes are comprised of a charger and a lead acid battery with gas recombination. In normal operation, the charger block powers operation and ensures that the charge of the lead acid sealed battery is maintained. When there is no mains connection, the battery supplies the power required for the continuity of service of the connected loads.

The Chloride® Poweris range makes it possible to cover a power range/ autonomy of 10W for 12 hours up to 1400W for 30 minutes.

Key features

- Available in the cover plate version or box version, in 12, 24 and 48 Vdc
- Autonomy of 30 minutes up to 12 hours
- Rectification technology with high-frequency cut-off
- Single-phase 230 Vac input with wide range, from 187 Vac to 264 Vac
- Operating temperature range of 0°C to 40°C
- Compensation of the load voltage according to temperature (depending on models)
- Integrated test for the presence of a battery
- Integrated monitoring of 4 DC voltage thresholds
- Overload detection
- Integrated supervision with 3 LEDs, 3 dry contacts and a fault acknowledgement function.

ADVANTAGES

Compact design

- The compactness of the Poweris and its ability to be fixed to the vertical support make it possible to make m^2 available for other equipment.

Easy to integrate and to connect

- In the cover plate version, Poweris can be easily integrated in a panel.
- In the IP31 box version, Poweris can easily be located in any technical location by fixing it to a wall.
- The removable screw connectors and the integrated terminal facilitate on-site connection.

Easy to commssion

Chloride® Poweris is delivered already tested and configured. It does not require any adjustment.

Robust

- The charger integrated in the Poweris operates in natural convection and is designed to operate at an ambient temperature of 50°C.

Facile à entretenir

- The excellent access to all the components facilitates the maintenance and battery replacement operations.

APPLICATIONS

- Uninterrupted power supply for automatons and automated relay systems
- Uninterrupted power supply for current draw systems, such as relay coils, motors, solenoid valves
- Uninterrupted power supply for control and signalling circuits
- Uninterrupted power supply for monitoring systems, audible warning devices, etc.

Chloride® POWERIS

Table for selecting POWERIS wall-mounted boxes: see next page

Technical Data

INPUT	
Supply voltage	Single-phase 230 Vac
Voltage tolerance range	187 - 264 Vac
Input frequency	50 / 60 Hz
Frequency range	47 - 63 Hz

OUTPUT	
Nominal voltage	12 / 24 / 48 Vdc
Operating voltage range	-15% / +12.5 %
Nominal output current	see selection table (next page)
Limit current	from In to In +5%
Stability	±1 %
Voltage ripple factor	<0.2 % RMS

SUPERVISION AND SIGNALLING	
INTERNAL ON SUPERVISION CARD (1082)	
3 status LEDs: • Green: Normal • Orange: Battery flat • Red: Fault	●
3 NO/NC alarm contacts: • RE1 contact: Battery flat • RE2 contact: Low battery voltage • RE3 contact: Summary of faults	●
1 Reset button: Acknowledgement of stored faults	●
EXTERNAL ON OPTIONAL DISPLAY (947)	
3 status LEDs: • Green: Normal • Orange: Battery flat • Red: Fault	o
Digital display (3 digits 1/2): • Output voltage • Output current • Battery current(1) • Fault codes	o
1 Select button: • Selection of the variables to be displayed and commands to be executed	o
• 1 Reset button: • Acknowledgement of stored faults	o

GENERAL DATA	
Efficiency of the rectifier	≈85 %
Operating temperature	0 °C / +40 °C
Storage temperature	-45 °C / +85 °C (2)
Relative humidity	< 95% at 20°C non condensing
Operating altitude	1000 m (without derating)
Cooling	By natural convection
Protection rating	IP20 (in cover plate version) IP31 (in optional box version)
Fixing	IP20 (in cover plate version) IP31 (in optional box version)
Colour of the enclosure	RAL 7035 (if option C)
Dimensions (HxLxD) in mm	see selection table (next page)
Weight	depending on options, please contact us

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)
CE Mark	●

● As standard
o As option

(1) Availability of the measurement subject to conditions. Please contact us.
(2) Without battery.

Options

NAME	CODE	DESCRIPTION
Battery test	B	Manual function (via the display) making it possible to verify the capability of the battery to supply power to the operation. Option not available for low powers: 12 V / 5 A; 24 V / 5 A; 48 V / 2.5 A
Distribution to 4 outlets	F ou J	Individual protection of multiple devices connected to the energy block to ensure selectivity. F = distribution to 4 outlets by a fuse J = distribution to 4 outlets by a circuit breaker Option not available for boxes with a height of 330.
Coupling diode	D	Option allowing two Chloride® Poweris energy blocks to be connected in parallel to ensure redundancy or an increase in power.
Digital display	V1 ou V2	Visualisation option displaying: • the output variables (voltage and current) • the temperature • the fault codes of the energy block • the status of the energy block by means of the 3 LEDs V1 = display delivered with a flat cable for remote mounting on the front panel of the cabinet, for the Chloride® Poweris versions delivered as a cover plate. V2 = display mounted on the front panel of the box, for the Chloride® Poweris versions delivered as a box.
Wall box	C	Integration of the Chloride® Poweris in the IP31 wall box, colour RAL 7035, with closure by means of a latch.
Key type 455	S	Addition of a closure with key type 455 to the IP31 wall box option. Option not available without the “wall box C” option.
Heating resistor	RC	Function making it possible to prevent condensation inside the energy block. Option recommended during periods of storage or extended shutdown.

Accessories

NAME	REFERENCE
Box base (H=250mm) for placement on the floor	5220213761

Conformity

NORMES
NF C 58-311: 1990
NF C 15-100: Produit TBTS
IEC/NF EN 61000-6-2: 2006
IEC/NF EN 61000-6-4: 2007 + AMD1:2011

CHLORIDE® POWERIS - 10 à 1 450 W

Direct current wall-mounted box

≤ 650 W / ≤ 1450 W in autonomy

Table for selecting POWERIS wall-mounted boxes

NAME	OUTPUT VOLTAGE UN (VDC)	NOMINAL RATING OF THE CHARGER (A)	BATTERY CAPACITY (AH)	OUTPUT POWER (W)							DIMENSIONS	
				MAINS PRESENT* (W)	NO MAINS/AUTONOMY						CODE HEIGHT	H x L x D (mm)
					30 min	1 h	2h	4h	8h	12h		
COVER PLATE VERSION												
POWERIS 330 12 05 07 (1)	12	5	07	52	-	48	27	16	9	-	330 (1)	330 x 333 x 203
POWERIS 330 12 05 14 (1)	12	5	14	43	-	-	54	32	18	13	330 (1)	330 x 333 x 203
POWERIS 445 12 05 24	12	5	24	31	-	-	-	64	34	22	445	450 x 497 x 253
POWERIS 445 12 05 40	12	5	40	12	-	-	-	-	63	39	445	450 x 497 x 253
POWERIS 445 12 05 48	12	5	48	2	-	-	-	-	67	44	445	450 x 497 x 253
POWERIS 445 12 10 07	12	10	07	112	80	48	27	16	9	-	445	450 x 497 x 253
POWERIS 445 12 10 14	12	10	14	103	-	98	54	32	18	13	445	450 x 497 x 253
POWERIS 445 12 10 24	12	10	24	91	-	-	126	64	34	22	445	450 x 497 x 253
POWERIS 445 12 10 40	12	10	40	72	-	-	-	94	63	39	445	450 x 497 x 253
POWERIS 445 12 10 48	12	10	48	62	-	-	-	128	67	44	445	450 x 497 x 253
POWERIS 445 12 10 80	12	10	80	24	-	-	-	-	126	78	445	450 x 497 x 253
POWERIS 445 12 20 14	12	20	14	223	160	98	54	32	18	13	445	450 x 497 x 253
POWERIS 445 12 20 24	12	20	24	211	-	208	126	64	34	22	445	450 x 497 x 253
POWERIS 445 12 20 40	12	20	40	192	-	-	176	94	63	39	445	450 x 497 x 253
POWERIS 445 12 20 48	12	20	48	180	-	-	252	128	67	44	445	450 x 497 x 253
POWERIS 645 12 20 80	12	20	80	144	-	-	-	188	126	78	645	600 x 497 x 253
POWERIS 645 12 30 24	12	30	24	331	360	208	126	64	34	22	645	600 x 497 x 253
POWERIS 645 12 30 40	12	30	40	312	579	322	176	94	63	39	645	600 x 497 x 253
POWERIS 645 12 30 48	12	30	48	302	-	416	252	128	67	44	645	600 x 497 x 253
POWERIS 645 12 30 80	12	30	80	264	-	-	352	188	126	78	645	600 x 497 x 253
POWERIS 330 24 05 07 (1)	24	5	07	103	-	96	54	32	18	-	330 (1)	330 x 333 x 203
POWERIS 445 24 05 14	24	5	14	86	-	-	108	78	36	26	445	450 x 497 x 253
POWERIS 445 24 05 24	24	5	24	62	-	-	-	128	67	44	445	450 x 497 x 253
POWERIS 445 24 05 40	24	5	40	5	-	-	-	-	126	78	445	450 x 497 x 253
POWERIS 445 24 05 48 (2)	24	5	48	223	-	-	-	-	-	88	445 (2)	450 x 497 x 253
POWERIS 445 24 10 07	24	10	07	203	160	96	54	32	18	-	445	450 x 497 x 253
POWERIS 445 24 10 14	24	10	14	206	320	192	108	64	36	26	445	450 x 497 x 253
POWERIS 445 24 10 24	24	10	24	182	-	-	252	128	67	44	445	450 x 497 x 253
POWERIS 445 24 10 40	24	10	40	144	-	-	-	188	126	78	445	450 x 497 x 253
POWERIS 645 24 10 48	24	10	48	125	-	-	-	256	164	88	645	600 x 497 x 253
POWERIS 445 24 20 14	24	20	14	446	320	192	108	64	36	26	445	450 x 497 x 253
POWERIS 445 24 20 24	24	20	24	422	720	416	252	128	67	44	445	450 x 497 x 253
POWERIS 645 24 20 40	24	20	40	382	-	644	352	188	126	78	645	600 x 497 x 253
POWERIS 445 24 20 48 (2)	24	20	48	365	-	-	504	256	134	88	445 (2)	450 x 497 x 253
POWERIS 645 24 30 24	24	30	24	662	720	416	252	128	67	44	645	600 x 497 x 253
POWERIS 645P 24 30 40	24	30	40	624	1158	644	352	188	126	78	645P	686 x 497 x 253
POWERIS 645P 24 30 48	24	30	48	605	1440	832	504	256	134	88	645P	686 x 497 x 253
POWERIS 445 48 2.5 07	48	2.5	07	86	-	192	108	64	36	26	445	450 x 497 x 253
POWERIS 445 48 2.5 14	48	2.5	14	53	-	-	-	128	72	52	445	450 x 497 x 253
POWERIS 645 48 2.5 24	48	2.5	24	5	-	-	-	256	134	88	645	600 x 497 x 253
POWERIS 445 48 05 07	48	5	07	206	320	192	108	64	36	-	445	450 x 497 x 253
POWERIS 445 48 05 14	48	5	14	173	-	-	216	128	72	52	445	450 x 497 x 253
POWERIS 645 48 05 24	48	5	24	125	-	-	-	256	134	88	645	600 x 497 x 253
POWERIS 445 48 10 07	48	10	07	446	320	192	108	64	36	-	445	450 x 497 x 253
POWERIS 445 48 10 14	48	10	14	413	640	384	216	128	72	52	445	450 x 497 x 253
POWERIS 645 48 10 24	48	10	24	365	-	-	504	256	134	88	645	600 x 497 x 253
POWERIS 645 48 15 14	48	15	14	653	640	384	216	128	72	52	645	600 x 497 x 253
POWERIS 645P 48 15 24	48	15	24	605	1140	832	504	256	134	88	645P	686 x 497 x 253

* Permanent power at the output including the charging of the battery (@0.1C10):
Idc = Icharger - Icharge battery

(1) Size 330 only available without options or with the key-operated lock and/or display option(s).
Size 445 with the coupling diode and/or distribution and/or heating resistor option(s).

(2) Size 445 only available without options or with the key-operated lock and/or blocking diode option(s).
Size 645 with the display and/or distribution option(s).


POSTE

CHLORIDE® FP20R - 10 à 4 350 W

Rectifier - battery charger - direct current DC UPS

≤ 3800 W on mains / ≤ 4350 W in autonomy

Chloride® FP20R, a compact cabinet system, with multiple uses.

Chloride® FP20R is a complete range of rectifier-chargers and energy blocks, integrating numerous functions and configurable by means of several options. They are designed to power or assist critical DC systems operating at 12V, 24V, 48V, 110V or 220V in the industrial and services sectors.

Chloride® FP20R is a DC system delivered in a compact cabinet. It consists of 1 to 3 rectifiers and fulfils different functions depending on its operating mode:

- **In the rectifier version**, it ensures the DC power supply to the connected loads.
- **In the single charger version with an external battery**, or in the energy block version, it ensures the continuity of service of the connected critical loads.
- **In the DC UPS version**, Chloride® Poweris makes it possible to cover a power range/autonomy of 30W for 8 hours up to 4000W for 30 minutes.

Key features

- Single-phase 230 Vac input with wide range, from 187 Vac to 264 Vac
- Available in 12, 24, 48, 110 and 220 Vdc
- Autonomy of 30 minutes up to 8 hours
- Rectification technology with high-frequency cut-off and integrated PFC
- Operating temperature range of 0°C to 40°C
- Integrated test for the presence of a battery
- Integrated supervision with 3 LEDs, 3 dry contacts and a fault acknowledgement function.
- Numerous options available.

ADVANTAGES

Compact

- In the energy block version, the battery is integrated in the charger cabinet to make it possible to save substantial space in technical locations.

Flexible

- An extensive selection of output voltages and industrial options makes it possible to meet your specific requirements.

Robuste et fiable

- Cooling by natural convection eliminates the need to replace machine components that are subject to wear.

Facilitated diagnostics

- Chloride FP20R includes a supervisor offering quick reading of the status of the system by means of its LEDs and its integrated display.

High availability

- The integrated test for the presence of a battery automatically and cyclically verifies the availability of the battery to ensure operation backup.

APPLICATIONS

- Providing a direct current power supply or an uninterrupted power supply for automatons and automated relay systems.
- Uninterrupted power supply for current draw systems, such as relay coils, motorisation circuits, solenoid valves.
- Uninterrupted power supply for control and signalling circuits.

Chloride® FP20R

Table for selecting FP20R energy blocks: see next page

Technical Data

INPUT	
Supply voltage	Single-phase 230 Vac
Input tolerance	-20 % / +15 %
Input frequency	50 / 60 Hz
Frequency range	47 to 63 Hz

OUTPUT	
Nominal voltage	12 / 24 / 48 / 110 / 220 Vdc
Operating voltage range	-15% / +12.5 %
Nominal output current	see selection table (next page)
Limit current	In
Stability	±1 %
Voltage ripple factor	<0.1 % RMS

BATTERY (FOR FP20R IN ENERGY BLOCKS VERSION)	
Type	Lead acid with recombination
Capacity	7 to 600 Ah
Autonomy	30 minutes to 8 hours in energy block version See selection table (next page)
Battery protection	Fuse (as standard)

SUPERVISION AND SIGNALLING	
3 status LEDs: • Green: Normal • Orange: Alarm • Red: Fault	●
Alphanumeric display (2 lines of 8 characters): • Output voltage • Output current • Battery current • Alarm or fault messages	●
4 navigation buttons (Up/Down/Esc/Enter): • Selection of the variables to display • Selection of the commands to execute • Acknowledgement of stored faults	●
4 NO/NC alarm contacts: • RE1 contact: Normal • RE2 contact: On the battery • RE3 contact: Alarm • RE4 contact: Fault	●

GENERAL DATA	
Efficiency of the rectifier	85%-91% depending on rating and voltage
Operating temperature	0 °C / +40 °C
Storage temperature	-45 °C / +85 °C (1)
Relative humidity	< 95% non condensing at 20°C
Operating altitude	1000 m (without derating)
Cooling	By natural convection
External protection rating	IP 21
Noise (at 1 m in front of the unit)	≤60 dBA
Colour of the enclosure	RAL 7035
Dimensions (HxLxD) in mm	• In the energy block version: see selection table (next page) • In the configurable version (dimensions to be confirmed depending on the options): CK type (mm): H 850 x L 500 x D 420 CR type (mm): H 1200 (or 1800) x L 800 x D 600
Weight (kg)	Selon configuration et options, nous consulter

● As standard (1) Without battery.

Options

NAME	CODE	DESCRIPTION
Output protection	J	Output protection by 1 main circuit breaker
Integrated distribution		Individual protection of multiple devices connected to the energy block to ensure selectivity:
	4F	4 fuses
	4J	4 circuit breakers (modular)
	4H	4 circuit breakers (modular) + position contact
	6F	6 fuses
	6J	6 circuit breakers (modular)
	6H	6 circuit breakers (modular) + position contact
Battery protection		Protection of the battery line:
	FB	Battery fuse (as standard on the energy blocks; as an option only on the FP20R without an internal battery).
	JB	Battery circuit breaker
	HB	Battery circuit breaker (modular) + position contact
Battery discharge test	B	Manual function (via the display) making it possible to verify the capability of the battery to supply power to the operation (duration of the test: 10 minutes)
Coupling diode	D	Option making it possible to supply the FP20R with single-phase 400 Vac
Single-phase 400 Vac power supply	K	Option making it possible to supply the FP20R with single-phase 400 Vac
Supervision of input circuit breaker	Q	Position contact on the mains circuit breaker
Insulation monitor	I	Option making it possible to check for earth faults on the DC circuit
Battery shutdown	A	Protection of the battery against deep discharges by opening the battery circuit at the end of discharging
Temperature sensor	T	Compensation of the load voltage according to battery temperature
C13-100 function	C	Automation of energy conservation. Programmable between 30 minutes and 24 hours
RS 485 Interface	RS	Modbus communication interface on isolated RS485 serial link

OPTIONS AND SPECIFIC REQUIREMENTS, ON REQUEST	
Battery	• Other types of battery, lead acid or nickel-cadmium, vented or recombination
System design	• Heating resistor making it possible to prevent condensation inside the energy block. • IP41 external protection rating • Internal lighting (depending on the type of cabinet) • Lifting eyes (depending on the type of cabinet)

Conformity

NORMES
NF C 58-311: 1990
IEC/NF EN 60146-1-1: 2009
IEC/NF EN 61000-6-2: 2006
IEC/NF EN 61000-6-4: 2007 + AMD1:2011

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)
CE Mark	●

CHLORIDE® FP20R - 10 à 4 350 W

Rectifier - battery charger - direct current DC UPS

≤ 3800 W on mains / ≤ 4350 W in autonomy

Selection table - FP20R DC UPS version - power/autonomy

NAME	OUTPUT VOLTAGE UN (VDC)	NOMINAL RATING OF THE CHARGER (A)	BATTERY CAPACITY (AH)(1)	OUTPUT POWER (W)						ALLOWABLE PEAKS (A)		CABINET DIMENSIONS CODE**
				MAINS PRESENT* (W)	NO MAINS/AUTONOMY							
					30 min	1 h	2h	4h	8h	10s	1s	
FP20R 12 30 24	12	30	24	331	360	208	126	64	34	60	100	CK
FP20R 12 30 38	12	30	38	312	360	322	176	94	63	60	100	CK
FP20R 12 30 48	12	30	48	302	360	360	252	128	67	60	100	CK
FP20R 12 30 60	12	30	60	288	360	360	270	145	80	60	100	CK
FP20R 12 30 76	12	30	76	264	360	360	352	188	126	60	100	CK
FP20R 12 30 120	12	30	120	216	360	360	360	290	160	60	100	CK
	12	60	24	691	360	208	126	64	34	120	200	CK
FP20R 12 60 38	12	60	38	674	579	322	176	94	63	120	200	CK
FP20R 12 60 48	12	60	48	662	720	416	252	128	67	120	200	CK
FP20R 12 60 60	12	60	60	648	720	470	270	145	80	120	200	CK
FP20R 12 60 76	12	60	76	629	720	644	352	188	126	120	200	CK
FP20R 12 60 120	12	60	120	576	720	720	540	290	160	120	200	CK
FP20R 24 30 24	24	30	24	662	720	416	252	128	68	60	100	CK
FP20R 24 30 38	24	30	38	629	720	644	352	188	126	60	100	CK
FP20R 24 30 48	24	30	48	605	720	720	504	256	134	60	100	CK
FP20R 24 30 60	24	30	60	576	720	720	540	290	160	60	100	CK
FP20R 24 30 76	24	30	76	538	720	720	704	376	252	60	100	CK
FP20R 24 30 120	24	30	120	432	720	720	720	580	320	60	100	CK
FP20R 24 60 24	24	60	24	1382	720	416	252	128	68	120	200	CK
FP20R 24 60 38	24	60	38	1348	1158	644	352	188	126	120	200	CK
FP20R 24 60 48	24	60	48	1325	1440	832	504	256	134	120	200	CK
FP20R 24 60 60	24	60	60	1296	1440	940	540	290	160	120	200	CK
FP20R 24 60 76	24	60	76	1257	1440	1288	704	376	252	120	200	CK
FP20R 24 60 120	24	60	120	1152	1440	1440	1080	580	320	120	200	CK
FP20R 24 60 200	24	60	200	960	1440	1440	1440	940	500	120	200	CR
FP20R 24 60 300	24	60	300	720	1440	1440	1440	1350	810	120	200	CR
FP20R 24 120 200	24	120	200	2400	2880	2880	1730	940	500	168	280	CR
FP20R 24 120 300	24	120	300	2160	2880	2880	2500	1350	810	168	280	CR
FP20R 24 120 450	24	120	450	1800	2880	2880	2880	2100	1220	168	280	CR
FP20R 24 120 600	24	120	600	1440	2880	2880	2880	2810	1630	168	280	CR
FP20R 24 180 300	24	180	300	3600	4320	4320	2500	1350	810	216	360	CR
FP20R 24 180 450	24	180	450	3240	4320	4320	3800	2100	1220	216	360	CR
FP20R 24 180 600	24	180	600	2880	4320	4320	4320	2810	1630	216	360	CR
FP20R 48 15 24	48	15	24	605	720	720	504	256	134	30	50	CK
FP20R 48 15 38	48	15	38	538	720	720	704	376	252	30	50	CK
FP20R 48 15 60	48	15	60	432	720	720	720	580	320	30	50	CK
FP20R 48 30 24	48	30	24	1325	1140	832	504	256	134	60	100	CK
FP20R 48 30 38	48	30	38	1258	1440	1288	704	376	252	60	100	CK
FP20R 48 30 60	48	30	60	1152	1440	1440	1080	580	320	60	100	CK
FP20R 48 30 100	48	30	100	960	1440	1440	1440	940	500	60	100	CR
FP20R 48 30 150	48	30	150	720	1440	1440	1440	1350	810	60	100	CR
FP20R 48 60 100	48	60	100	2400	2880	2880	1730	940	500	84	140	CR
FP20R 48 60 150	48	60	150	2160	2880	2880	2500	4350	810	84	140	CR
FP20R 48 60 200	48	60	200	1920	2880	2880	2880	1880	1000	84	104	CR
FP20R 48 60 300	48	60	300	1440	2880	2880	2880	2810	1630	84	104	CR
FP20R 48 90 100	48	90	100	3840	4320	3278	1730	940	500	108	180	CR
FP20R 48 90 150	48	90	150	3600	4320	4320	2500	1350	810	108	180	CR
FP20R 48 90 200	48	90	200	3360	4320	4320	3450	1880	1000	108	180	CR
FP20R 48 90 300	48	90	300	2880	4320	4320	4320	2810	1630	108	180	CR

* Permanent power at the output including the charging of the battery (@0.1C10):
Idc = Icharger - Icharge battery

(1) The battery capacity given is for a lead acid recombination battery.

** See dimensions in the "General Data" table on the previous page. The height of the CR cabinet depends on the selected options.

NAME	OUTPUT VOLTAGE UN (VDC)	NOMINAL RATING OF THE CHARGER (A)	BATTERY CAPACITY (AH) (1)	OUTPUT POWER (W)						ALLOWABLE PEAKS (A)		CABINET DIMENSIONS CODE**
				MAINS PRESENT* (W)	NO MAINS/AUTONOMY							
					30 min	1 h	2h	4h	8h	10s	1s	
FP20R 110 06 07	110	6	7	583	660	432	243	144	81	12	20	CK
FP20R 110 06 14	110	6	14	506	660	660	486	288	162	12	20	CK
FP20R 110 12 07	110	12	7	1243	800	432	243	144	81	24	40	CK
FP20R 110 12 14	110	12	14	1166	1320	864	486	288	162	24	40	CK
FP20R 110 12 24	110	12	24	1056	1320	1320	1134	576	306	24	40	CR
FP20R 110 12 38	110	12	38	902	1320	1320	1320	846	567	24	40	CR
FP20R 110 12 60	110	12	60	660	1320	1320	1320	1320	720	24	40	CR
FP20R 110 24 38	110	24	38	2222	2640	2640	1584	846	567	33	56	CR
FP20R 110 24 60	110	24	60	1980	2640	2640	2430	1320	720	33	56	CR
FP20R 110 24 100	110	24	100	1540	2640	2640	2640	2100	1120	33	56	CR
FP20R 110 24 150	110	24	150	990	2640	2640	2640	2640	1840	33	56	CR
FP20R 110 36 60	110	36	60	3300	3960	3960	2430	1320	720	43	72	CR
FP20R 110 36 100	110	36	100	2860	3960	3960	3960	2100	1120	43	72	CR
FP20R 110 36 150	110	36	150	2310	3960	3960	3960	3150	1840	43	72	CR
FP20R 120 06 07	120	6	7	636	720	480	270	160	90	12	20	CK
FP20R 120 06 14	120	6	14	552	720	720	540	320	180	12	20	CK
FP20R 120 12 07	120	12	7	1356	800	480	270	160	90	24	40	CK
FP20R 120 12 14	120	12	14	1272	1440	960	540	320	180	24	40	CK
FP20R 120 12 24	120	12	24	1152	1440	1440	1260	604	340	24	40	CR
FP20R 120 12 38	120	12	38	984	1440	1440	1440	940	630	24	40	CR
FP20R 120 12 60	120	12	60	720	1440	1440	1440	1440	800	24	40	CR
FP20R 120 24 38	120	24	38	2424	2880	2700	1760	940	630	33	56	CR
FP20R 120 24 60	120	24	60	2160	2880	2880	2700	1460	800	33	56	CR
FP20R 120 24 100	120	24	100	1680	2880	2880	2880	2340	1250	33	56	CR
FP20R 120 24 150	120	24	150	1080	2880	2880	2880	2880	2030	33	56	CR
FP20R 120 36 60	120	36	60	3600	4320	4320	2700	1460	800	43	72	CR
FP20R 120 36 100	120	36	100	3120	4320	4320	4300	2340	1250	43	72	CR
FP20R 120 36 150	120	36	150	2520	4320	4320	4320	3500	2030	43	72	CR
FP20R 220 06 07	220	6	7	1166	1320	864	486	288	162	12	20	CK
FP20R 220 06 24	220	6	24	792	1320	1320	1320	1152	612	12	20	CR
FP20R 220 06 38	220	6	38	484	1320	1320	1320	1320	1134	12	20	CR
FP20R 220 12 38	220	12	38	1804	2640	2640	2640	1692	1134	17	28	CR
FP20R 220 12 60	220	12	60	1320	2640	2640	2640	2610	1440	17	28	CR
FP20R 220 18 38	220	18	38	3124	3960	3960	3168	1692	1134	21	36	CR
FP20R 220 18 60	220	18	60	2640	3960	3960	3960	2610	1440	21	36	CR

Armoire CK

Armoire CR188

* Permanent power at the output including the charging of the battery (@0.1C10):
Idc = Icharger - Icharge battery

(1) The battery capacity given is for a lead acid recombination battery.

** See dimensions in the "General Data" table on the previous page. The height of the CR cabinet depends on the selected options.

Chloride® FP50R
Industrial Rectifier - Charger

The Chloride® FP50R range of industrial rectifiers and chargers has been designed to provide a simple, fast and cost effective solution for DC power requirements. Its 100% industrialised design based on configurable sub-assemblies reduces costs and manufacturing time to meet even the most urgent requirements.

Overview of the range

The Chloride® FP50R range is available over a wide range of input voltages in single phase from 220 to 240Vac and three phase from 3x208Vac to 3x480Vac. It can supply from 10A to 250A at 24Vdc, 48Vdc, 110Vdc and 125/127Vdc.

The Chloride® FP50R rectifier-charger can be used as a battery charger or rectifier. It is equipped with a microprocessor control system that provides output voltage regulation of less than 1% and allows it to meet a variety of application requirements.

In order to guarantee the availability of the load backed up by the Chloride® FP50R rectifier-charger, it can easily operate in a dual parallel configuration. Its electronic control system has been designed to communicate easily with other Chloride® FP50R electronics via a simple CAN bus link.

The Chloride® FP50R range, with its fully industrialised options, has been specifically developed for the secondary transmission and power distribution markets, as well as for the process industries.

Benefits

- **More reliable** : thanks to the proven thyristor technology that Chloride® has mastered for over 70 years.
- **More robust** : with a natural cooling design throughout the range. No risk of fan-related failures.
- **Less maintenance** : due to the use of long-life components.
- **Easier to use** : with its human-machine interface featuring a large, high-contrast display. The display shows the rectifier diagram and indicates any faults, which are also indicated by summary LEDs.
- **Faster availability** :thanks to its design in 100% industrialised configurable sub-assemblies. The Chloride® FP50R charger-rectifier can be available in only 6 to 8 weeks.

Power Transmission and Distribution

Motorised circuit breakers, control rooms, SCADA, automatic controllers

Energy Production

Safety systems, SCADA, automatic controllers

Process Industries

Control systems, SCADA, automatic controllers

Chloride® FP50R

Technical Specifications

Range	1-Phase					3-Phase					
	10 Adc	25 Adc	40 Adc	60 Adc	100 Adc	25 Adc	40 Adc	60 Adc	100 Adc	160 Adc	250 Adc
Input											
Rated voltage	230VAC (220,240)					400VAC (380, 415) / 208VAC					
Input voltage tolerance	± 10%										
Frequency	47Hz / 63Hz										
Frequency tolerance	± 5%										
Inrush current	< 15 In					< 10 In					
Output											
Rated voltage DC	24V (17V-34V), 48V (34V-68V), 110-125V (88V-179V)										
Voltage stability (in stabilised floating mode, input within tolerances)	Single system: ± 1% (1) Dual system: ± 1% to ± 2% (1)										
Voltage ripple rate	≤ 5 % à 100 %										

(1) May vary depending on DC output voltage and system configuration

Battery		
Type	Lead-Acid or Nickel-Cadmium, VLA or VRLA	
Autonomy	From a few minutes to several hours, on request	
	Plomb	NiCd
24V - Number of battery cells	12	18 - 20
48V - Number of battery cells	24	36 - 44
110V - Number of battery cells	54	82 - 92
125V - Number of battery cells	60	91 - 105

General Data	
Operating temperature	0 to 40°C (2)
Storage temperature range	-20 to 70°C (excluding battery)
Relative humidity	< 95% non-condensing at 20°C
Altitude	1000m (2) (without downgrading the system)
Technologie redresseur	SCR, 2-pulses thyristors
Cooling	Natural convection
External protection class	IP21 to IEC 60529 (other protection classes available: IP41 / IP42)
Internal protection	Protection against unintentional direct contact according to IEC 62477-1
Cable entry	Bottom
Cabinet colours	Grey RAL 7035 / Grey RAL 7032
Dimensions	Varies according to size and options

(2) Other values on request

Monitoring	
Local, on the front panel	Graphic display with navigation buttons (75mm x 45mm)
List of relay alarms	Standards: general alarm, mains failure, battery charging, end of discharge Options: ground fault, boost mode, overvoltage, undervoltage
Alarm relays, contact characteristics	Changeover contact, switching capacity in accordance with DIN VDE 0660/IEC 60947: 1 A (24 V (DC13)), 0.2 A (110 V, DC13), 0.1 A (220 V, DC13) 3 A (24 V, AC15), 3 A (120 V, AC15), 3 A (230 V, AC15)
Remote control (optional)	RS485, TCP-IP, IEC 61850, SNMP, PROFIBUS

Normes	
IEC 61000-6-2 : 2016	Electromagnetic compatibility (EMC) - Part 6-2: General requirements - Emission for industrial environments
IEC 61000-6-4 : 2018	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission for industrial environments
IEC 61000-6-5 : 2015	Electromagnetic compatibility (EMC) - Part 6-5: Generic standards - Emission for equipment used in power plant and substation environments
IEC 62477-1 : 2022	Safety requirements for electronic power conversion systems and equipment - Part 1: General
IEC 60146-1-1 : 2009	Semiconductor converters - General requirements and mains switched converters - Part 1-1: Specification of basic requirements
IEC 60529 : 2013	Degrees of protection provided by the enclosures (IP Code)

CHLORIDE® FP40R – 2 500 à 66 000

Rectifier - battery charger - direct current DC UPS

Chloride® FP40R, a system which can be configured for industrial

Chloride® FP40R is a complete range of rectifier-chargers with highly reliable thyristors. The Chloride® FP40R systems are designed to power or assist critical DC systems operating at 12V, 24V, 48V, 110V or 220V in industrial sectors.

Chloride® FP40R is a DC industrial system delivered in a metal cabinet. It consists of an input transformer, a bridge with thyristors and a microprocessor control which makes it possible to meet the requirements of the industrial sector relating to reliability.

Key features

- Single-phase or three-phase input
- Rectification technology with thyristors
- Galvanic isolation between the AC input and the DC output
- Low inrush current < 8 In (3-ph)
- Low voltage ripple factor to optimise the service life of batteries
- Operating temperature range of 0°C to 40°C without derating
- Integrated supervision with 3 LEDs, and digital display
- Wide selection of configurations and options
- Protection rating up to IP55(3) to respond to extreme environmental conditions.

ADVANTAGES

Reliable

- The simple design improves the MTBF and reduces the MTTR to the minimum
- The rectification technology with a fully monitored bridge with thyristors, known for its reliability, provides great stability in the long term.

Flexible

- An extensive selection of input and output voltages and industrial options improves flexibility
- Chloride® FP40R is compatible with lead acid and cadmium-nickel, vented or recombination batteries
- The integrated microprocessor makes it possible to configure the system to the requirements of the application.

Compact

- Chloride® FP40R makes it possible, as an option, to integrate the battery in the charger cabinet in order to save space in technical locations.

APPLICATIONS

Uninterrupted power supply of:

- Relay systems of substations for the transmission and distribution of electricity
- Current draw systems, such as relay coils, circuits for motorising substations
- Circuits for monitoring and controlling substations, and for substation telecommunications.
- Automatons and automated systems from the chemical and petrochemical industries.

Chloride® FP40R

Range of ratings

OUTPUT CURRENT (A)/OUTPUT VOLTAGE (VDC)	24 VDC	48 VDC	110 VDC	220 VDC
Ratings with single-phase input:	—	—	25	25
	—	40	40	—
	—	60	60	—
	100	100	100	—
Ratings with three-phase input:	35	35	35	35
	65	65	65	65
	100	100	100	100
	160	160	160	160
	220	220	220	220
	300	300	300	300
	400	400	400	—

Technical Data

INPUT		
Model	FP40R10 (single-phase)	FP40R30 (three-phase)
Input voltage (other voltages on request)	230 Vac ±10%	400 Vac ±10%
Inrush current	< 15 In	< 8 In
Input frequency	50 / 60 Hz	
Frequency range	47 - 63 Hz	

OUTPUT	
Available ratings	See table
Nominal voltage	24, 48, 110, 220 Vdc
Static control	1 %
Voltage ripple factor	< 2.5% RMS, disconnected battery (1-ph) < 1% RMS, disconnected battery (3-ph)

BATTERY	
Type	Lead acid or cadmium-nickel, vented or recombination
Autonomy	A few minutes to a few hours, depending on the specification

SUPERVISION AND SIGNALLING	
Common commands: • Switching charger on/off • Adjusting the date/time/backlight • Boost control • Test for the presence of a battery • Battery capacity test	● ● ● ● ●
3 status LEDs: • Green: Normal • Orange: Alarm • Red: Fault	●
Alphanumeric display (4 lines of 20 characters): • Mains variables • Output variables • Battery variables • Alarm or fault messages	 o ● ● ●
6 navigation buttons (Up/Down/Left/Right/Set/Reset): • Selection of the variables to display • Selection of the commands to execute • Acknowledgement of stored faults	●
Event summary function: • Recording the last 100 time-stamped events • Reading the recorded events	●
Restricted access area (requires a password): • Adjusting specific operating parameters	●
4 NO/NC alarm contacts: • RE1 contact: Normal • RE2 contact: On the battery • RE3 contact: Alarm • RE4 contact: Fault	●
Additional NO/NC contacts: • 4 +4 additional contacts	o+o
8 LED indicators with specific messages	o
RS485 Modbus external communication	o

● As standard
o As option

(1) Availability of the measurement subject to conditions. Please
(2) Without battery.
(3) Depending on rating and options, please contact us.

GENERAL DATA	
Efficiency of the rectifier	From 83% to 94% (depending on the model)
Operating temperature	From 0 to 40°C (without derating the system)
Storage temperature	From -20°C to +70°C(2)
Relative humidity	< 95% non condensing at 20°C
Operating altitude	1000 m (without derating the system)
Cooling	Natural or by assisted ventilation (depending on rating)
Protection rating	IP 21
Noise (at 1m in front of the unit)	≤ 60 dB
Colour of the enclosure	RAL 7035
Dimensions	Following ratings and options (please contact us)

Options

OPTIONS	
Charger	• Diode for connection in parallel • Voltage-dropping diode • DC earth fault check • Client connection on remote terminal • Ripple voltage filter < 0.1% (48 V) • Isolated communication interface, RS485, Modbus • Measurements of AC input frequency voltage current
Battery	• Protection against a reversed polarity of the battery • Disconnection of the battery at the end of discharging • Batteries in the charger cabinet (on trays or drawers) • Temperature sensor for compensating charging of the battery • Test for the presence of a battery or battery capacity test
Mechanics	• External protection rating IP21, 23, 40, 41, 43, 55(3) • Heating resistor • Internal protection rating with open door IP20 • Anti-condensation heater with hygrostat and/or thermostat • Internal lighting • Other RAL colour available • Base 100 mm or 200 mm • Lifting eyes
DC load	• Integrated distribution (circuit breaker with or without contact)
Communication	• Modbus RS485 • Remote alarm up to 8 additional relays

SPECIFIC REQUIREMENTS ON REQUEST	
Configuration	Single rectifier without a battery Dual charger in the same cabinet Dual charger with a battery line
Operation	Derating according to temperature or altitude
Batterie	Battery fitted in the charger cabinet (on tray or drawer)
Mechanics	Different colour from the RAL colour chart

Conformity

STANDARDS
IEC/NF EN 60146-1-1: 2009
IEC/NF EN 61000-6-2: 2006
IEC/NF EN 61000-6-4: 2007 + AMD1:2011
IEC/NF EN 61439-1:2012
IEC/NF EN 60950-1:2013 + AMD2:2014
IEC/NF EN 60529:1989 + AMD1:1999
NF C 58-311: 1990

EUROPEAN DIRECTIVES	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)
CE Mark	●

CHLORIDE® SERVICES

Make your product a turnkey solution by means of a complete portfolio of services.

By choosing the manufacturer's maintenance, you are choosing the expert who is best qualified to keep your equipment running, giving you peace of mind.

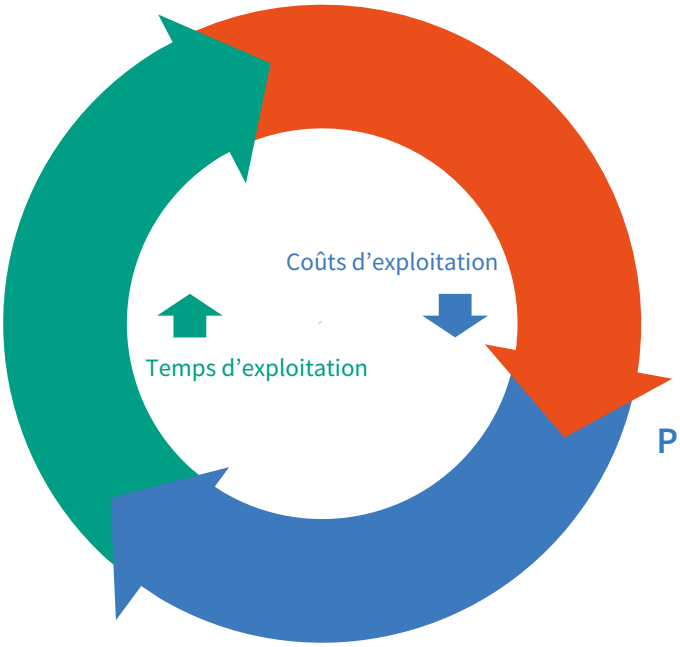
Proactive equipment maintenance reduces downtime of the equipment and extends its service life, which in turn optimises the return on investment and improves the availability of the system.

With its complete portfolio of services, Chloride® takes charge of all the critical infrastructures, thus improving the availability of the system and ensuring peace of mind, 24 hours a day, 7 days a week.

Installation support, start-up, commissioning, training, evaluating sites, battery maintenance, replacements, upgrades, ensuring conformity to regulations, the 24/7 emergency service and remote assistance are only some of the services that contribute to ensuring vital continuity.

Evaluation
Audit
Simulation
Configuration
Upgrading
Development

Study
Design
Planning
Intégration
Comissioning
Project management



Contracts
Repairs
Spare parts

Preventive / Corrective
Maintenance
Remote services
Replacing parts

ADVANTAGES

Authorisation

Technicians who are trained and authorised to carry out work on any type of site:

- Electrical risks (B2 H0V)
- Chemical risks (Levels 1 and 2)
- TRV permits (airport sites)
- Risks in nuclear facilities

Telephone support

Technical experts available on our hotline:

- During office hours on working days
- At all times, 24 hours a day and 7 days a week, thanks to our maintenance contracts

Environmental responsibility

- Products and systems conforming to the requirements of the REACH, RoHS and “Conflict Minerals” regulations
- Recycling and disposal of your equipment at the end of its service life according to the WEEE Directive

The portfolio of services for ensuring continuity of service

In order to optimise the operating time on site and thus ensure continuity of service, Vertiv proposes a complete range of services:

- Installation support
- Commissioning
- Training in use and operation
- Telephone support
- Repairing equipment returned to the factory
- Repair on site
- Battery maintenance
- Maintenance contracts
- Sale of spare parts
- Clean-up
- Battery recycling

Maintenance contracts

To allow you to optimise your ownership and operating costs, you can opt for a maintenance contract.

	CONTRACT TYPE			
OBJECTIVES	BASIC	ESSENTIAL	PREFERRED	PREMIER
Annual visit(s) for preventive maintenance	●	●	●	●
Information from the security logbook	●	●	●	●
Report on technical intervention	●	●	●	●
Measurement sheet, balance sheet and sheet of manufacturer’s recommendations	●	●	●	●
Priority intervention on site for urgent repairs	●	●	●	●
Priority intervention on site with a reduced time-limit (to be defined)	o	o	o	o
Telephone support during office hours on working days	●	●	●	●
Telephone support 24 hours a day, 7 days a week	o	o	o	o
Management of the obsolescence of spare parts and defined tariff advantages	●	●	●	●
Managing the labour for intervention in repairs		●	●	●
Managing the spare parts			●	●
Managing the batteries				●

Our maintenance contracts are clearly adapted to your pool of machines and thus can be tailored according to your requirements and expectations.

Tailor-made services

To meet your specific requirements, ours services sales team can provide you with tailor-made services or contracts, such as:

Audit

You want you know the precise status of your equipment and its operational condition. We can offer you an audit service, during which we will identify and examine all your equipment on site. We will then prepare a report on the condition of the premises, then write a list of recommendations, integrating the preventive actions and the maintenance operations to undertake.

"Framework and key accounts" contract

You want to manage your pool of machines distributed across multiple facilities or companies in a centralised manner. We can offer you a maintenance contract of the ‘framework agreement’ type, which integrates an offer of equivalent services across all the sites.

● As standard
o As option

THE 'INDUSTRIAL PROJECTS' SYSTEMS AND SOLUTIONS PORTFOLIO

The architecture of the range of Chloride® systems

	CHLORIDE FP	CHLORIDE CP	CHLORIDE NP	CHLORIDE XP
	A range of configurable products consisting of standard functional blocks and predefined, industrial options to meet most requirements.	A range of tailor-made systems, based on interchangeable sub-assemblies and a complete list of options to satisfy the strictest technical requirements.	A portfolio of systems developed for qualification, then tailor-made to meet the electrical and seismic requirements of nuclear power stations.	A portfolio of systems developed for approval, then tailor-made to meet the requirements of electrical installations in an explosive atmosphere.
Key Markets				
	Conventional power stations, dams, wind turbines T&D Transmission T&D Distribution		Nuclear power stations, classified area	
		Offshore and Onshore Pipelines, LNG Refining and Petrochemistry		Offshore area ATEX, IECex
	Tramway, LRT High-speed lines, underground systems Railway stations, airports			
		Transporting and processing water Chemistry Mining and Metals		

The range of rectifier-chargers


≤ 66 kW


≤ 290 kW


≤ 440 kW


≤ 220 kW


≤ 1.2 kW


≤ 25 kW

	FP40R	CP70RC	CP70R	NP90R	XP20R	XP90R
24 Vdc	35 - 400 A	200 - 1200 A	25 - 2500 A	25 - 2500 A	15 - 50 A	125 - 500 A
48 Vdc	35 - 400 A	200 - 1200 A	25 - 2400 A	25 - 1200 A	15 - 20 A	125 - 500 A
110 - 127 Vdc	25 - 400 A	200 - 1200 A	25 - 2400 A	25 - 1200 A	NA	NA
220 Vdc	25 - 300 A	200 - 1300 A	25 - 2000 A	25 - 1000 A	NA	NA

The range of AC Uninterruptible Power Supply systems


≤ 250 kVA


≤ 500 kVA


≤ 500 kVA


≤ 80 kVA

	FP60Z		CP70Z		NP90Z		XP90Z
E/S / Ubatt	3ph/1ph	3ph/3ph	3ph/1ph	3ph/3ph	3ph/1ph	3ph/3ph	3ph/1ph
110 Vdc	5 - 20 kVA	5 - 20 kVA	5 - 60 kVA	5 - 50 kVA	2.5 - 60 kVA	5 - 50 kVA	2.5 - 15 kVA
220 Vdc	10 - 60 kVA	10 - 60 kVA	10 - 120 kVA	20 - 120 kVA	10 - 120 kVA	15 - 100 kVA	40 kVA
400 Vdc	40 - 160 kVA	40 - 250 kVA	40 - 320 kVA	40 - 500 kVA	40 - 320 kVA	40 - 500 kVA	80 kVA

ABOUT US

Chloride®

Since 1948, Chloride® has been a world leader in the design, manufacture and maintenance of industrial UPS systems to secure the supply of critical equipment in all industries. From secure access points to nuclear reactors and turbine lubrication pumps, Chloride products protect people and property. Headquartered in Lyon, France, Chloride® is a truly global company working with electrical engineers from all over the world and has an installed base in over 150 countries. Today, Chloride®'s teams of engineers and consultants are developing new and innovative solutions to support our customers in their energy transition and build a safer environment for all.

Notes

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