

Chloride® CP70Z – UL



AC Uninterruptible Power Supply System
5 to 250 kVA (1-ph output) / up to 500 kVA (3-ph output)

Chloride® CP Range

Customized to user specification
Full portfolio of industrial options



Benefits

Tailor made systems to comply with most customer's specifications

Ruggedized solutions for demanding environments: high temperatures, vibrations, dust, elevation and moisture

Efficient maintenance:

- Easy front-access to all critical modules
- Enhanced safety thanks to the bypass line segregation in separate enclosure

Smart access to UPS data:

- User interface with large, colour touchscreen
- Embedded event logger (up to 2000 events) and capability to export recorded events via memory stick

Features

Reliability: Unique design which allows the UPS to continuously operate for at least 20 years at full load at 104 °F (40 °C)

On-line double conversion: UPS classified VFI SS 111 as per IEC62040-3 adopted by NEMA PE 1:2012

Robust mechanical design: the system withstands vertical and horizontal acceleration stress tests 0.5g as standard

Galvanic isolation: input and output transformers are included as standard

Remote monitoring solutions: Modbus, Profibus, Ethernet, IEC61850, volt-free contact, monitoring software

Full compatibility with lead acid and nickel cadmium batteries, sealed or vented

Chloride® CP70Z industrial Uninterruptible Power Supply system (UPS) is the flagship product of the Chloride® range. It combines conservative design (SCR/IGBT) with proven digital control to ensure the utmost reliability in any electrical and environmental conditions.

Range Overview

Associated with an industrial stand-by battery, Chloride® CP70Z protects critical industrial AC equipment and processes from the damaging effects of power interruptions and variations.

The UPS uses the patented digital vector control technology which increases the performances of power components, enables an active conditioning of the load and allows personalized system settings. The result is improved reliability for the process and enhanced safety for the personnel.

Chloride® CP70Z systems form a range of single-phase or three-phase output AC UPS systems with a range of ratings from 2.5 kVA to 120 kVA as standard. This range offers a wide choice of DC battery voltages and of output voltages.

A Chloride® CP70Z system can also be customized to meet higher power needs, up to 250 kVA single-phase output or up to 500 kVA three-phase output.

To further improve load availability and process reliability, Chloride® CP70Z is able to operate in dual parallel configuration, with single or dual batteries, with centralized or distributed reserve line, and can include a DC and/or AC bus-tie. .

Applications

- Oil and Gas industries, offshore and onshore
- Refining and petrochemical plants
- Power generation plants
- Rail transport



Technical Data

Ratings Output Power (kVa) vs DC Intermediate Voltage (Vdc)																
110 - 120 Vdc	5	10	20	30	40	50	60	-	-	-						
220 - 240 Vdc	-	10	20	30	40	50	60	80	100	120	160	200	250	320	400	500
400 Vdc	-	-	-	-	40	50	60	80	100	120	160	200	250	320	400	500

Input	
AC voltage	3 x 480 V, 3 x 208 V, 3 x 400 V
Voltage tolerance	+/- 10%
Frequency	60 Hz (50Hz)
Frequency tolerance	+5 %
Inrush current	≤ 15 x In

Intermediate DC Circuit	
Nominal DC voltage	125 / 220 / 400 V
Voltage stability (with input within tolerance)	+/- 1 % in float mode +/- 1.5% for parallel rectifiers
Voltage ripple	≤ 1 % RMS, in float mode, battery disconnected
Rectifier current limitation	I nominal

Output	
Available ratings	See table (at PF 0.8 lagging)
AC Voltage	
• Single phase	1 x 120 V ; 1 x 220 V(4)
• Three phase	3 x 480 V ; 3 x 208 V ; 3 x 400 V(4)
Frequency	60 Hz (50 Hz)
Frequency stability	
• With internal oscillator	+/- 0.05 %
• With reserve synchronism	+/- 3 % (from 1 to 5 % adjustable)
Voltage stability (for 0 to 100 % load variation)	
• Static	+/- 1 % (+/- 2 % for parallel systems)
• Dynamic	+/- 5 %
Inverter overload capability	
• 1 minute	
• 10 minutes	150 % of nominal power 125 % of nominal power
Short circuit clearance (in % of nominal current)	
• 1-ph output	250 % / 100ms - 175% / 5s
• 3-ph output	315 % / 100 ms - 220 % / 5 s
	Ph-N: 190 % / 100 ms - 135 % / 5 s
	Ph-Ph:
Harmonic voltage distortion	
• With 100 % linear load	< 3 %
• With 100 % non-linear load	≤ 5 %
Allowable power factor	0.5 lagging to 0.5 leading(5)
Allowable crest factor	up to 3/1

Options	
<i>Consult us for any other requirements, subject to feasibility</i>	
Rectifier - charger	<ul style="list-style-type: none"> 12-pulse rectifier Harmonic filter on 12P for THDi ≈ 5 % (+/- 1pt) Voltage ripple filter Blocking diode Other input voltage (3 x 190 to 3 x 690 VAC) Inrush current limitation to 5 x In Surge and Lightning protections
Battery line	<ul style="list-style-type: none"> Battery circuit protection box Battery reversed polarity detection Battery low-voltage disconnection contactor (LVD) DC earth fault detection Battery black start Battery room temperature sensor Battery monitoring system (Chloride[®] BMS) Battery cabinet / rack
Inverter	<ul style="list-style-type: none"> Other output voltage (1 x 110 to 3 x 690 VAC) Inverter oversizing
Bypass line	<ul style="list-style-type: none"> Bypass isolator(s) Bypass transformer (H class) Bypass stabilizer (servo-controlled) Backfeed protection
System	<ul style="list-style-type: none"> Parallel configurations Input / intermediate / output isolators AC distribution Earth fault detection or monitoring Internal cabinet lighting Anti-condensation heater UPS cabinet temperature monitor
Mechanical	<ul style="list-style-type: none"> External ingress protection NEMA 2 Top cable entry Specified color of panels Special feet height (7.9 inches or 11.8 inches) Special keylock Non-magnetic gland plate (brass or aluminum) 12 Gauge side panels thickness Specified cabinet identification (tag, nameplate) Anti-seismic design
Communication	<ul style="list-style-type: none"> Front panel analogue meters (2.8x2.8 inches, class 1.5 or class 1) Transducers 4-20mA Additional volt-free contacts Modbus RTU (RS232 or RS485) Modbus / TCP Profibus IEC61850 protocol PPVis monitoring software Mimic panel: <ol style="list-style-type: none"> Passive mimic of the system Active mimic with integrated LEDs Lamp indicator on front panel (0.9 inches diameter)

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Chloride® CP70Z is an industry-leading uninterruptible power supply (UPS) system range that offers maximized power availability for critical process applications. It makes it a system of choice to guarantee the safety of personnel and assets in the most demanding environmental and electrical conditions.

Standards	
UL 1778, fifth edition 2014	Standard for safety - Uninterruptible power systems
NEMA PE1 2012	From few minutes to several hours, on request
Battery current limitation (typical, float & boost modes)	Uninterruptible power systems (UPS) – Specification and performance verification

Battery	
Type	Lead acid or nickel cadmium, vented or recombination
Autonomy	From few minutes to several hours, on request
Battery current limitation (typical, float & boost modes)	0.1 C (lead-acid battery) 0.2 C (nickel-cadmium battery)

General Data	
Operating temperature	32 to 104 °F(4) / 0 to 40 °C(4)
Relative humidity	< 95 % non condensing
Operating altitude	3200 feet / 1000 m, max without derating(4)
Cooling	Forced ventilation
Efficiency	Up to 90 % according to rating
External protection	NEMA 1(4) (IP 20(4) according to IEC 60529)
Noise (at 1m in front of the unit)	60 – 75 dB according to rating
Cabinet colour	Grey RAL 7032(4)
Dimensions	Varying according to ratings and options
Storage temperature	-4 to 158 °F / -20 to +70 °C

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