

CHLORIDE® CP60Z - UL

AC Uninterruptible Power Supply System
5 to 60 kVA (1-ph or 3-ph output)



CHLORIDE® CP RANGE

Customized to user specification
Full portfolio of industrial options

BENEFITS

Energy savings: Improved efficiency means reduced power consumption and smaller air conditioning system

Project savings: Higher input power factor and lower inrush current allow smaller upstream transformer, switchgear and cables and reduce line current and losses in the cables

Safe and easy maintenance: Segregated manual bypass and front access to major components improve safety and reduce MTTR (Mean Time To Repair)

Smart access to UPS data:

- Large graphical user interface with touch screen
- Embedded event logger (up to 2000 events) and capability to export the recorded events via USB stick

FEATURES

Low voltage ripple to reduce battery stress and optimize its lifetime

Low inrush current (< 4In in 12-pulse) not to oversize mains power supply

SCR-based rectifier, 6 or 12 pulses, with improved operation to significantly reduce the mains' pollution (THDi) and the input RMS current

Galvanic isolation: input and output transformers are standard on the complete range

Ingress protection NEMA 2 / IP42 is provided as standard to operate in the most demanding environments

Chloride® CP60Z industrial Uninterruptible Power Supply (UPS) system meets the latest industrial requirements and embeds the latest R&D innovations for an improved efficiency and reduced operating costs.



Range Overview

Chloride® CP60Z is available from 5 to 60 kVA in single-phase or three-phase output configuration (from 1 x 120 V to 3 x 480 V) and offers 125 Vdc, 220 Vdc, and 400 Vdc battery voltages.

The UPS uses patented digital Vector Control technology which increases the performances, enables active conditioning of the load and allows personalised system settings.

Chloride® CP60Z can be adapted for project-specific requirements. A wide choice of industrialized extras allows system customization according to the most demanding technical specifications.

To further improve load availability and process reliability, the system is able to operate in dual parallel configuration, centralized or distributed, with single or dual batteries, and can include AC bus-tie.

Applications

- Oil & Gas, offshore and onshore
- Refining and Petrochemical industries
- Water infrastructures
- Mining
- Rail transport



Example of Chloride® CP60Z-30KVA+by-pass

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Technical Data

RATINGS

OUTPUT POWER ⁽¹⁾ (kVA) vs BATTERY VOLTAGE (Vdc)	5	10	20	30	-	-	-
125 Vdc	5	10	20	30	-	-	-
220 Vdc	5	10	20	30	40	50	60
400 Vdc	-	-	-	-	40	50	60

INPUT

AC voltage	3 x 480 V, 3 x 208 V, 3x400 V ⁽²⁾
Voltage tolerance	+/- 10 %
Frequency	60 Hz (50 Hz)
Frequency tolerance	+/- 5 %
Inrush current	< 10 x I _n (6-pulse version) < 4 x I _n (12-pulse version)
Power factor	Up to 0.94

BATTERY 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	0.25 % RMS, in float mode, battery disconnected
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
• Three phase	3 x 480 V ; 3 x 208 V ; 3 x 400 V
Frequency	60 Hz (50 Hz)
Frequency stability	
• With internal oscillator	+/- 0.05 %
• With reserve synchronism	+/- 3 % (from 1 to 5% adjustable)
Voltage stability (for 0-100% load variation)	
• Static	+/-1 % (+/-2 % for parallel systems)
• Dynamic	+/-5 %
Inverter overload capability	
• 1 minute	150 % of nominal power
• 10 minutes	125 % of nominal power
Short circuit clearance (in % of nominal current)	
• 1-ph output	250 % / 100 ms - 175 % / 5 s
• 3-ph output	Ph-N: 315 % / 100 ms - 220 % / 5 s Ph-Ph: 190 % / 100 ms - 135 % / 5 s
Harmonic voltage distortion	
• With 100% linear load	< 3 %
• With 100% non-linear load	≤ 5 %
Allowable power factor	0.5 lagging to 0.5 leading ⁽³⁾
Allowable crest factor	Up to 3/1

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 ⁽²⁾ / 0 to 40 °C ⁽²⁾
Storage temperature	-4 to 158 °F / -20 to +70 °C
Relative humidity	<90 % non condensing
Operating altitude	3200 feet / 1000 m, max without derating ⁽²⁾
Cooling	Fan-assisted with redundant fans
Efficiency	Up to 90% according to rating and configuration
External ingress protection	NEMA 2 (IP 42 according to IEC 60529)
Internal protection	Protection against unintentional direct contacts, as per IEC 60950-1
Noise (at 1m in front of the unit)	Less than 66 dB
Cabinet colour	Grey RAL 7032 ⁽²⁾
Dimensions	Varying according to ratings & options

OPTIONS

Rectifier	<ul style="list-style-type: none">• 12-pulse rectifier• Other input voltage (up to 3x690Vac)• Surge and/or lightning protections• Input circuit breaker
Battery line	<ul style="list-style-type: none">• Battery circuit protection box• Battery reversed polarity detection• Battery low-voltage disconnection contactor• DC earth fault detection• Battery black start• Battery room temperature sensor• Battery monitoring system (Chloride® BMS)• Battery cabinet / rack
Output	<ul style="list-style-type: none">• AC earth fault detection• Output switch or circuit breaker
Bypass line	<ul style="list-style-type: none">• Bypass input circuit breaker• Bypass transformer (H class)• Bypass stabilizer (servo-controlled)• Backfeed protection
System	<ul style="list-style-type: none">• Parallel configurations• AC distribution• Internal lighting• Auxiliary power socket• Anti-condensation heater• UPS cabinet temperature monitor
Mechanical	<ul style="list-style-type: none">• 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)• Lifting eyes• 12 Gauge side panels thickness• Specified cabinet identification (tag, nameplate)
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 on front:<ul style="list-style-type: none">• Passive mimic of the system• Active mimic with integrated LEDs• Lamp indicator on front panel (0.9 inches diameter)

STANDARDS

UL 1778, fifth edition 2014	Standard for safety - Uninterruptible power systems
NEMA PE1 2012	Uninterruptible power systems (UPS) - Specification and performance verification

(1) at power factor 0.8 lagging
(2) other available on request
(3) derating may apply

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