

Chloride CP-70Z

AC UPS System

5 to 250 kVA (1-ph output) / up to 500 kVA (3-ph output)

The Chloride CP-70Z industrial Uninterruptible Power Supply system (UPS) is the flagship product of Chloride Industrial Power. It combines conservative design topology with proven digital control technology to offer the best performances in any electrical and environmental condition.

The Chloride CP range is designed to meet the stringent electrical and mechanical requirements in industrial environments. Each Chloride CP system is based on interchangeable sub-assemblies to allow full customization, in compliance with client's technical specification and with project documentation requirements.

Applications

The Chloride CP-70Z AC UPS System range suits applications such as:

- Oil and Gas offshore and onshore
- Refining and petrochemical plants
- Power generation plants
- Transportation (rail, metro, tramway)

Benefits

- **Tailor made** systems to comply with all customer's specifications
- **Ruggedized solutions** for demanding environments: high temperatures, vibrations, dust, elevation, dripping water and moisture
- **Efficient maintenance:**
 - Easy front-access to all critical modules
 - Removable ID Cards to safeguard the UPS parameters and facilitate control board replacement
- **Smart access to UPS data:**
 - Large colour LCD touch-pad for user interface
 - Embedded event logger (up to 2000 events) and capability to export recorded events via memory stick

Key Features

- **Reliability:** Unique design which allows the UPS to continuously operate for at least 20 years at full load at 40°C
- **On-line double conversion:** UPS classified VFI SS 111 as per IEC62040-3
- **Robust mechanical design:** the system withstands vertical and horizontal acceleration stress tests 0.5g as standard
- **Galvanic isolation:** input and output transformers as standard
- **Remote monitoring capabilities:** Modbus, Profibus, ethernet, volt-free contact, monitoring software
- **Full compatibility** with lead-acid and nickel-cadmium batteries, sealed or vented

Custom-designed AC UPS systems to secure critical industrial processes

Associated with an industrial stand-by battery, the Chloride CP-70Z protects critical industrial AC equipments and processes from the damaging effects of power interruption and losses. It uses the patented digital Vector Control technology which increases the performances of power components and enables an active conditioning of the load. The result is improved reliability for the process and enhanced safety for the personnel.

The CP-70Z is a range of three-phase input / single-phase output or three-phase output AC UPS systems available from 2.5kVA to 120kVA. It offers a wide choice of DC battery voltages and of output voltages.

The CP-70Z range can be customized to meet higher power needs, up to 250kVA single-phase output or 500kVA three-phase output.

To further improve load availability and process reliability, the CP-70Z 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.



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Ratings - Output Power⁽¹⁾ (kVA) vs DC Bus Voltage (Vdc)

125Vdc	5	10	20	30	40	50	60 ⁽²⁾	-	-	-
220Vdc	-	10 ⁽²⁾	20	30	40	50	60	80	100	120 ⁽²⁾
400Vdc ⁽³⁾	-	-	-	-	40	50	60	80	100	120

⁽¹⁾ at power factor 0.8 Lagging

⁽²⁾ 1-ph Output only

⁽³⁾ Up to 250 kVA 1-ph Output or up to 500kVA 3-ph Output on Request

Technical Data

Input	
AC voltage	3 x 400V (380, 415) ⁽⁴⁾
Voltage tolerance	+/- 10%
Frequency	50Hz (60Hz)
Frequency tolerance	+/- 5%
Intermediate DC Circuit	
Nominal DC voltage	110-120 / 220-240 / 400 V
Voltage stability	+/- 1% in float mode, input within tolerance +/-1.5% for parallel rectifiers
Voltage ripple	1% RMS, in float, battery connected
Output	
Available ratings	see table (at PF 0.8 lagging)
AC Voltage	1 x 230V (220, 240) ; 1 x 110V (115, 120) ⁽⁴⁾ 3 x 400V (380, 415) ; 3 x 220V (200, 208, 230) ⁽⁴⁾
Frequency	50Hz (60Hz)
Frequency stability	
with internal oscillator	+/- 0.05%
with reserve synchronism	+/-4% (from 1.2 to 6% adjustable)
Voltage stability (for 0-100% load variation)	
static	+/-1% (+/-2% for parallel systems)
dynamic	VFI SS 111 as per IEC/EN 62040-3, class 1
Overload inverter	
1 minute	150% of nominal power
10 minutes	125% of nominal power
Short circuit clearance	
100 ms	250% (1ph) or 315% (Ph-N; 3ph) of nominal current
5 s	175% (1ph) or 220% (Ph-N; 3ph) of nominal current
Harmonic voltage distortion	
With 100% linear load	< 3%
With 100% non-linear load	SS as per IEC/EN 62040-3
Allowable power factor	0.5 lagging to 0.5 leading
Allowable crest factor	up to 3/1
Battery	
Type	Lead Acid or Nickel Cadmium vented or recombination
Autonomy	From few minutes to several hours, as per customer's requirement
Battery current limitation (typical, float & charge modes)	0.1C (Lead Acid battery) 0.2C (Nickel Cadmium battery)
Battery current limitation (typical, boost mode)	0.05C (Lead acid battery) 0.1C (Nickel Cadmium battery)
General Data	
Operating temperature	0 to 40°C ⁽⁴⁾
Storage temperature	-20 to +70°C
Relative humidity	<95% non condensing
Operating altitude	1000 m max without derating ⁽⁴⁾
Cooling	Forced ventilation
Efficiency	Up to 90% according to rating
External protection	IP 20 ⁽⁴⁾ according to IEC 60529
Noise (at 1m in front of the unit)	60 – 75 dB according to rating
Frame colour	Grey RAL 7032 ⁽⁴⁾
Dimensions	Varying according to ratings & options

⁽⁴⁾ other available on request

Standards

Compliance	IEC 62040-1:2008+AMD:2013 - Uninterruptible power systems (UPS) – Part 1: General and safety requirements for UPS IEC 62040-2:2006 – Uninterruptible power systems (UPS) – Part 2: Electromagnetic compatibility (EMC) requirements IEC 62040-3:2011 - Uninterruptible power systems (UPS) - Part 3: Method of specifying the performance and test requirements IEC 60529:1989+AMD1: 1999 – Degrees of protection provided by enclosures (IP Code) IEC 61439-1:2011 – Low voltage switchgear and controlgear assemblies – Part 1: General rules IEC 60076-11:2004 – Power transformers – Part 11: Dry type transformers
Conformity	Low voltage directive: 2006/95/EC and 2014/35/EU EMC directive: 2004/108/EC and 2014/30/EU CE Mark

Options

Rectifier	12-pulse rectifier Harmonic filter (THDi ≈ 5%) Ripple filters Blocking diode Other input voltage (3x190 to 3x690VAC) Inrush current limitation to 8In Surge and Lightning protections
Battery	Battery circuit protection box Battery cabinet Low-voltage disconnect contactor Battery Management System Battery room temperature sensor
System	Dual configurations Input / intermediate / output isolators AC distribution Earth fault monitoring Internal lighting Anti-condensation heater Enclosure temperature monitor Special cabinet identification Reserve transformer Reserve stabilizer
Mechanical	Up to IP42 external Top cable entry Special frame colour Special feet height Special keylock Special gland plate Lifting eyes 2mm panels thickness Anti-seismic design
Communication	Front-panel analog meters (72x72 class 1.5) Transducers Additional Volt-free contacts Remote monitoring via Modbus Remote monitoring via other protocol PPVis monitoring software Passive or active mimic panel

Consult us for any other requirements.

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