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.
### Technical Data

#### INPUT

**AC Uninterruptible Power Supply System**

- **CHLORIDE® CP70Z**
- 5 to 250 kVA (1-ph output) / up to 500 kVA (3-ph output)

**Technical Data**

<table>
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<tr>
<th>RATINGS</th>
<th>OUTPUT POWER (kVA) vs DC INTERMEDIATE VOLTAGE (Vdc)</th>
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<tr>
<td>110-120 Vdc</td>
<td>5</td>
</tr>
<tr>
<td>220-240 Vdc</td>
<td>-</td>
</tr>
<tr>
<td>400 Vdc</td>
<td>-</td>
</tr>
</tbody>
</table>

**AC voltage**: 3 x 400 V (380, 415) V

**Voltage tolerance**: +/- 10 %

**Frequency**: 50 Hz (60 Hz)

**Frequency tolerance**: +/- 5 %

**Inrush current**: <= 15 x In

#### INTERMEDIATE DC CIRCUIT

**Nominal DC voltage**: 110-120 / 220-240 / 400 V

**Voltage stability**
- With input within tolerance: +/- 0.05 %
- With reserve synchronism: +/- 3 % (from 1 to 5 % adjustable)

**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 230 V (220, 240) ; 1 x 110 V (115, 120) V
- **Three phase**: 3 x 400 V (380, 415) ; 3 x 220 V (200, 208, 230) V

**Frequency**: 50 Hz (60 Hz)

**Frequency stability**
- With internal oscillator: +/- 0.05 %
- With reserve synchronism: +/- 3 % (from 1 to 5 % adjustable)

**Voltage (for 0 to 100 % load variation)**
- **Static**: +/-1 % (+/-2 % for parallel systems)
- **Dynamic**: VFI SS 111 as per IEC/EN 62040-3, class 1

**Inverter overload capability**
- 1 minute: 150 % of nominal power
- 10 minutes: 125 % of nominal power

**Short circuit clearance**
- 1-ph output: 250 % / 100 ms - 175 % / 5 s
- 3-ph output: Ph-Ph: 315 % / 100 ms - 220 % / 5 s

**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, 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**: 0 to 60 °C
- **Storage temperature**: -20 to +70 °C
- **Relative humidity**: < 95 % non condensing
- **Operating altitude**: 1000 m max without derating
- **Cooling**: Forced ventilation
- **Efficiency**: Up to 90 % according to rating
- **External protection**: IP 20 according to IEC 60529
- **Noise (at 1m in front of the unit)**: 60 – 75 dB according to rating
- **Cabinet colour**: GreyRAL 7032
- **Dimensions**: Varying according to ratings and options

#### STANDARDS

<table>
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<th>Standard</th>
<th>Description</th>
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<td>IEC62040-1:2008</td>
<td>Uninterruptible power systems (UPS) - Part 1:2-General safety and performance requirements</td>
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<td>IEC62040-2:2006</td>
<td>Uninterruptible power systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements</td>
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<td>Uninterruptible power systems (UPS) - Part 3: Method of specifying the performance and test requirements</td>
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<td>IEC61439-1:2011</td>
<td>Low voltage switchgear and controlgear assemblies - Part 1: General rules</td>
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<td>IEC60529:1989</td>
<td>Degrees of protection provided by enclosures</td>
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<tr>
<td>+AMD1:2013</td>
<td>Power transformers – Part 1: Dry type transformers</td>
</tr>
</tbody>
</table>

#### CONFORMITY

- **Low voltage directive**: 2006/95/EC and 2014/35/EU
- **EMC directive**: 2004/108/EC and 2014/30/EU
- **CE Mark**

Consult us for any other requirements, subject to feasibility.

### Options

**Rectifier-charger**
- 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**
- Battery circuit protection box
- Battery reversed polarity detection
- Battery low-voltage disconnect contactor (LVD)
- DC earth fault detection
- Battery black start
- Battery room temperature sensor
- Battery monitoring system (Chloride® BMS)
- Battery cabinet / rack

**Inverter**
- Other output voltage (1 x 110 to 3 x 690 VAC)
- Inverter oversizing

**Bypass line**
- Bypass isolator(s)
- Bypass transformer (H class)
- Bypass stabilizer (servo-controlled)
- Backfeed protection

**System**
- Parallel configurations
- Input / intermediate / output isolators
- AC distribution
- Earth fault detection or monitoring
- Internal cabinet lighting
- Anti-condensation heater
- UPS cabinet temperature monitor

**Mechanical**
- External ingress protection up to IP42
- Top cable entry
- Specified color of panels
- Special foot height (200m or 300mm)
- Special keylock
- Non-magnetic gland plate (brass or aluminum)
- 2 mm side panels thickness
- Specified cabinet identification (tag, nameplate)
- Anti-seismic design

**Communication**
- Front panel analogue meters
- Transducers 4-20mA
- Additional volt-free contacts
- Modbus RTU (RS232 or RS485)
- Modbus / TCP
- Profibus
- IEC61850 protocol
- PPIs monitoring software
- Mimic panel:
  - Passive mimic of the system
  - Active mimic with integrated LEDs
  - Lamp indicator on front panel (22 mm diameter)

**STANDARDS**

- IEC62040-7:2008
- IEC60529:1989
- IEC61439-1:2011
- IEC62040-2:2006
- IEC62040-3:2011
- IEC61439-1:2011
- IEC60529:1989
- +AMD1:2013
- IEC60076-11:2004

VertivCo.com/chloride | Global & Europe, Vertiv Industrial Systems SAS, 35, Avenue Montgolfier BP 90 - 69684 Chassieu - France T: +33 (0)4 78 40 13 56 IndustrialPower@VertivCo.com

To find contact in your region, please visit www.VertivCo.com

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