Chloride® CP70i

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

Chloride™
Power to Protect

Chloride® CP Range

Customized to user specification

Full portfolio of industrial options

Benefits

Unrivalled adaptability to existing site conditions, thanks to the wide input DC voltage range:

- Compatibility with any battery configuration already installed on site
- Optimum operation with DC bus having a wide voltage excursion

Technical and budgetary optimization of the battery: On greenfield or brownfield projects where battery may represent an important part of the system total price, the wide input DC voltage range allows:

- Optimization of the number of battery cells as per the input tolerance of the loads to be secured
- Optimization of the battery capacity and therefore the price, as per the required autonomy

Smart access to inverter data:

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

Features

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

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

Galvanic isolation: output transformer is included as standard

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

The industrial inverter Chloride® CP70i is a DC/AC converter combining IGBT/PWM technology with proven digital control to offer the best performances under any electrical and environmental conditions.

Range Overview

Chloride® CP70i inverter converts a DC input voltage (from batteries or from a DC bus) into a perfect sinusoidal output voltage to provide power to critical AC loads.

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

Chloride® CP70i range offers a wide choice of DC input voltages (from 110 Vdc to 240 Vdc) and of output voltages. It is available from 5 kVA to 250 kVA in single-phase output configuration, and from 5 kVA to 320 kVA in three-phase output configuration.

Chloride® CP70i inverter is also available with 400 Vdc input. This configuration can be combined with a CP70R or a CP70RC rectifier-charger in order to design specific high ratings double conversion AC UPS systems, up to 500 kVA.

To further improve load availability and process reliability, Chloride® CP70i is able to operate in dual parallel configuration, with centralized or distributed reserve line, and can include an AC bus-tie.

Applications

- Power generation plants
- Transmission and Distribution substations
- Oil & Gas industries, offshore and onshore

Example of Chloride® CP70i-60kVA-220Vdc-230Vac 1ph

Chloride® CP70i

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

Technical Data

Input			
DC voltage	110-120 V	220-240 V	400 V
Input voltage range	88-156 V	176-305 V	296-507 V

Output		
AC voltage		
• Single-phase		1 x 230 V (220, 240) ; 1 x 110 V (115, 120)[3]
• Three-phase		3 x 400 V (380, 415) ; 3 x 220 V (200, 208, 230)[3]
Frequency		50 Hz (60 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		VFI SS 11 as per IEC/EN 62040-3:2021, class 1
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	Ph-N:	250 % / 100ms - 180% / 5s
• 3-ph output	Ph-N(ik1):	315 % / 100 ms - 220 % / 5 s
	Ph-Ph(ik2):	190 % / 100 ms - 135 % / 5 s
	Ph-Ph(ik3):	225 % / 100 ms - 135% / 5 s
Harmonic voltage distorsion		
• 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[4]
Allowable crest factor		Up to 3/1

General data	
Operating temperature	0 to 40 °C[3]
Storage temperature	-20 to +70 °C
Relative humidity	< 95 % non condensing
Operating altitude	1000 m max without derating[3]
Cooling	Forced ventilation
Efficiency	Up to 94 % according to rating
External protection	IP 21[3] according to IEC 60529
Internal protection	Protection against unintentional direct contacts, as per IEC 60950-1
Noise (at 1m in front of the unit)	60-72 dB according to rating
Cabinet color	Grey RAL 7032[3]
Dimensions	Varying according to ratings and options

Standards

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IEC62040-1:2017 +AMD1:2013	Uninterruptible power systems (UPS) - Part 1-2: General and safety requirements for UPS in restricted access locations
IEC62040-2:2016	Uninterruptible power systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements
IEC62040-3:2017	Uninterruptible power systems (UPS) - Part 3: Method of specifying the performance and test requirements
IEC61439-1:2011	Low voltage switchgear and controlgear assemblies - Part 1: General rules
IEC60529:1989 +AMD1:1999	Degrees of protection provided by enclosures (IP Code)
IEC60076-11:2004	Power transformers – Part 11: Dry type transformers

Ratings

Output power (kvA)* vs DC Input voltage (Vdc)

Vdc Input \ AC Output	1ph		3ph		
	110V 115V 120V	220V 230V 240V	3x190V 3x200V 3x280V	3x220V 3x230V 3x240V	3x380V 3x400V 3x415V
110VDC	0-60KVA**				
220VDC	0-160KVA	0-250KVA	0-320KVA		
400VDC	0-160KVA	0-250KVA	400KVA	450KVA	500KVA

* ratings given at FP0.8 lagging
** 61...120KVA on demand

Options	
Consult us for any other requirements, subject to feasibility	
Inverter	• Automatic precharge of capacitors • Other output voltage (1 x 110 to 3 x 690 VAC) • Inverter oversizing
By pass line	• Input bypass breaker(s) - Isolator(s) in standard • Bypass transformer (H class)[3] • Bypass stabilizer (servo-controlled) • Backfeed protection (standard option)
System	• Inverter with or without bypass line • CParallel configurations • Input / output breakers (Isolators in standard) • Aditional AC Distribution board • Earth fault detection or monitoring • Internal lighting • Anti-condensation heater • Cabinet temperature monitor
Mechanical	• External ingress protection up to IP42 • Top cable entry • Specified color of panels • Special feet height (200mm or 300mm) • Special keylock • Non-magnetic gland plate (brass or aluminum) • Lifting eyes • 2 mm side panels thickness • Specified cabinet identification (tag, nameplate) • Anti-seismic design on demand

Communication	• Front panel analogue meters (72x72, class 1.5 or class 1)
	• Transducers 4-20mA
	• Additional volt-free contacts, 5 in standard, up to 20 in option
	• Modbus RTU (RS232 or RS485)
	• Modbus / TCP
	• Profibus
	• IEC61850 protocol
	• PPVis monitoring software
	• Mimic panel on front:
	  ◦ Passive mimic of the system
	  ◦ Active mimic with integrated LEDs
	• Lamp indicators on front panel (22 mm diameter)

Conformity	
Low voltage directive	2006/95/EC and 2014/35/EU
EMC directive	2004/108/EC and 2014/30/EU
CE & UKCA Mark	

(1) at power factor 0.8 lagging
(2) 3-ph ouput only
(3) other available on request
(4) derating may apply

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