

Chloride® FP Range

Configured to order with industrial options
Pre-defined blocks for shorter lead time



Benefits

Improved reliability provided by a fully controlled SCR bridge and a reduced quantity of components.

Adaptability thanks to a selection of industrialized options and an easy parameter settings for quick onsite adjustments.

Simplicity of the product design to improve MTBF and to reduce MTTR.

Key Features

Low Voltage Ripple to optimize battery life.

Low inrush current < 8In not to oversize mains power supply (3-phase).

Compact design with the capability to integrate the battery in the charger cabinet.

Human-Machine Interface (HMI) to deliver appropriate information level to the user.

Ingress protection up to IP55 for harsh environmental conditions.

Compatibility with nickel-cadmium and lead-acid batteries, vented or gas-recombination types.

Galvanic isolation between input and output.

Digital control and monitoring

Wide choice of configurations and options.

The Chloride® FP40R industrial rectifier is the result of engineering research in product simplification to offer an SCR based standardized design with adaptability to industrial requirements

Range Overview

Chloride® FP40R rectifier is available from 25 A to 100 A in single-phase input configuration, and up to 400 A in three-phase input configuration. It offers a wide range of output voltages, from 24 Vdc to 220 Vdc.

Chloride® FP40R is suitable for use either as a battery charger, a rectifier or as a DC power supply. It features a microprocessor control which offers exceptional stability and allows adaptability for different application requirements.

To further improve load availability and process reliability, Chloride® FP40R is able to operate in dual parallel configuration.

Applications

- Power transmission and distribution
- Continuous process industries
- Petrochemical and chemical industries
- Water and wastewater industries



Example of Chloride® FP40R-CR1888

Technical Data

Input		
Model	FP40R10 (1 phase)	FP40R30 (3 phase)
Input voltage (other voltage on request)	230 VAC ± 10%	400 VAC ± 10%
Inrush current	< 15 I _n	< 8 I _n
Power factor	0.7 (typical)	0.8 (typical)
Frequency range	From 47 to 63 Hz	

Output					
Available rating	See ratings table				
Nominal DC voltage	24 V	48 V	110 V	125 V	220 V
Static regulation	1 %				
Voltage ripple 1-ph	Disconnected battery (< 2.5 %)				
Voltage ripple 3-ph	Disconnected battery (< 0.7 %)				

Supervision	
Charger status and alarms on displaying Unit	
Displayed values: output voltage, output current, battery Current	
Remote signaling with 4 dry contacts	
Event log up to 100 events	

Battery	
Type	Lead acid or nickel cadmium, vented or recombination
Autonomy	From few minutes to several hours, as required

General data	
Rectifier efficiency	From 83 % to 94 % (according to model)
Operating temperature	From 0 to 40 °C (without system derating)
Storage temperature	From -20 °C to +70 °C (battery excluded)
Relative humidity	< 95 % non condensing at 20 °C
Operating altitude	1000 m (without system derating)
Cooling	Natural or fan-assisted (according to rating)
External ingress protection	IP20
Internal protection	Protection against unintentional direct contacts, as per IEC 60950-1
Noise (at 1m in front of the unit)	≤ 60 dB
Isolation	Input - Output 2500 VAC / 1 minute
Frame colour	RAL 7035 or RAL 7032
Dimensions	Varying according to ratings and options (consult us)

Compliance

General data	
IEC/NF EN 60146-1-1: 2009	Semiconductor converters - Part 1-1: Specification of basic requirements
IEC/NF EN 61000-6-2: 2006	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
IEC/NF EN 61000-6-4: 2007 AMD1: 2011	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standards for industrial environments
IEC/NF EN 61439-1: 2012	Low voltage switchgear and controlgear assemblies - Part 1: General rules
IEC/NF EN 60950-1: 2013 AMD2: 2014	Information technology equipment - Safety - Part 1: General requirements
NF C58-311: 1990	Procedure for type tests for rectifier-battery charger and batteries

Ratings

Output current (A) vs Output voltage (Vdc)				
	24 Vdc	48 Vdc	110-125 Vdc	220 Vdc
Ratings with 1-phase input	-	-	25	25
	-	40	40	-
	-	60	60	-
	100	100	100	-
Ratings with 3-phase input	35	35	35	35
	65	65	65	65
	100	100	100	100
	160	160	160	160
	220	220	220	220
	300	300	300	300
	400	400	400	-

Options	
Charger	Input circuit breaker or molded case circuit breaker (16 kA or 36 kA) Position contact on AC input circuit breaker Paralleling diode Dropping diode DC earth fault monitor Customer connection on terminal blocks Ultra low voltage ripple < 0.1 % (48 V) Measurements of AC input voltage, current and frequency
Battery	Battery protection (fuses or circuit breaker with contact) Protection against battery reversed polarity Battery Low Voltage Disconnection (LVD) Temperature sensor for battery charge compensation Test battery presence or test battery capacity
Mechanical	Operating temperature up to 55 °C (with system derating) External ingress protection IP21, 23, 40, 41, 43, 55* Space heater with hygostat and/or thermostat Internal lighting 100 mm or 200 mm base frame Lifting eyes
DC Load	DC output protection (fuses or circuit breaker with contact) Distribution board (circuit breaker with or without contact)
Communication	Modbus RS485 Remote alarm up to 8 additional relays

* available according to ratings

Special request	
Configuration	Single rectifier with no battery Dual charger in single cabinet Dual charger with shared battery
Battery	Batteries in charger cabinet (on shelves or drawers)
Mechanical	Other RAL painting colour

European directives	
Low voltage directive	2006/95/EC (before April 2016) 2014/35/EU (after April 2016)
EMC directive	2004/108/EC (before April 2016) 2014/30/EU (after April 2016)

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