

HIGH POWER RECTIFIERS

Compact Rectifier - Air Cooled Series

Reliable DC Power



—
01 PowerIT Compact
Rectifier CRA Series

The Main Features (CRA - Series)

The Compact Rectifiers are complete all-in-one, cabinet-mounted rectifier units including LV-transformer, rectifier, cooling, controller and operator panel facilities.

Compact Rectifiers of the CRA-series are air-cooled with standard enclosure protection class of IP20. The unit with it's digital control is pre-engineered, ready for fast and simple installation, start-up and operation.

ABB Compact rectifiers are manufactured on highest quality standards based on proved designs and a long history of rectifier experience. All components are carefully selected for maximum efficiency and lifetime. The heart of the Compact Rectifier is ABB's well known DC-drive technology DCS 800 controller for full digital control and protection. Interface signals and various serial communication protocols are available and allow easy integration into existing plant automation, remote operation and diagnosis.

Whenever needed, whatever your industry is and wherever you are located, ABB's worldwide services are at your disposal by our power-electronics and converter specialists in your country.

CRA Series:

100A to 25kA, 10V to 400V

Air-cooled rectifiers for industrial applications with fully digital control for regulation, protection and communication

ABB Compact Rectifiers are the right choice to reliable and economical dc-power supplies in your plant

Technical Summary

Basic Data

| | |
|-----------------------|-----------------------------------|
| Rated supply voltage: | Up to 690 Vac 3-ph |
| Rated frequency: | 50 Hz or 60 Hz |
| DC current range: | See table 'Range of CRA-Series' |
| DC voltage range: | See table 'Range of CRA-Series' |
| Output: | Unipolar |
| Ripple: | < 5 % at full output power |
| Control: | Current / Voltage |
| Number of pulses: | 6 |
| Cooling: | Air-cooling |
| Degree of protection: | IP20 |
| Controller: | ABB DCS family digital controller |

Operating Conditions

| | |
|----------------------|---------------------------|
| Ambient temperature: | 0 to 40°C (32 to 104°F) |
| Relative humidity: | 5 to 95%, no condensation |

Indication and Operation

| | |
|--------------------|---|
| Meters: | Analogue dc-current and dc voltage |
| Switches / Button: | On/Off, Reset, Emergency Stop |
| Indication: | On/Off, Ready, Trip, Alarm |
| Control: | Current reference setting via potentiometer |

Protections and Alarms

- Automatic mains breaker or Contactor on ac side for protection against ac and dc overload
- RC-snubber circuits parallel connected to input line and to semiconductors for protection against surge voltage
- SCR firing pulse suppression device (fast overload)
- Temperature thermostats placed on SCR heat sinks and in the main transformer windings
- Automatic circuit breakers or Contactors independently protect auxiliary circuits and devices
- Wrong phase sequence and phase loss protection

Options

| | |
|--|--|
| • Control: | Input Panel |
| • Meters: | Analogue or Digital |
| • AC Meters: | AC current and AC voltage meter |
| • Remote control: | Signals 4 - 20 mA Potential free contacts |
| • On request | (please consult manufacturer) |
| • Rated supply voltage: | Medium Voltage |
| • Degree of protection: | IP54 with water-recooling of internal air-circuit |
| • Number of pulses: | 12 |
| • Output: | Bipolar operation |
| • Ripple: | Smoothing filter for ripple < 5% |
| • Communication: | Modbus, Profibus or others |
| • Soft start to avoid large inrush currents | |
| • DC current ramp | |
| • Cooling | Water cooled rectifier with air-recooling (IP20) or water-recooling (IP54) |
| • Other / Higher Current and Voltage ratings available | |

| DC Voltage \ DC Current | 10 | 16 | 25 | 35 | 60 | 100 | 300 | 400 |
|-------------------------|----|----|----|----|----|-----|-----|-----|
| 100 | | | | | | | • | • |
| 300 | | | | | • | • | • | • |
| 750 | | | | | • | • | • | • |
| 1,000 | • | • | • | • | • | • | • | • |
| 2,000 | • | • | • | • | • | • | • | • |
| 3,000 | • | • | • | • | • | • | | |
| 4,000 | • | • | • | • | • | • | | |
| 8,000 | • | • | • | • | • | • | | |
| 10,000 | • | • | • | • | | | | |
| 12,000 | • | • | • | | | | | |
| 20,000 | • | • | • | | | | | |
| 25,000 | • | • | • | | | | | |

NB: Actual products might vary from pictures shown

