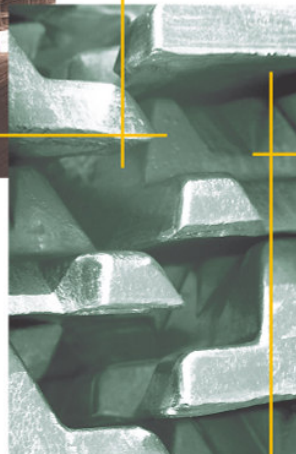


# Power<sup>IT</sup> Compact Rectifier

CRA Series 100A/400Vdc to 25kA/10Vdc

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



## Operation Benefits

- Highly efficient, reliable and fail-safe due to conservative utilisation and first-class quality of components.
- Fully digital control and monitoring with DCS 600.
- Remote communication via data-bus possible.
- Preset delivery for easy Plug&Run installation.
- Local Service & Support through ABB LECs.
- 24 hours Service Hotline.



# Main Features

## Compact, Reliable and Efficient

The Power IT 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; on request available in IP54 protection with water-recooling.

The units with it's digital control are pre-engineered, ready for fast and simple installation, start-up and operation.

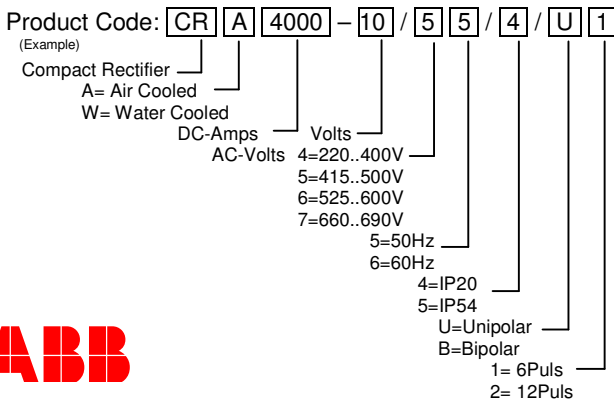
ABB Compact Rectifiers are manufactured on highest quality standards based on proven designs and a long history of rectifier experience. All components are carefully selected for maximum efficiency and lifetime. The heart of the Compact Rectifier is ABB's well-known DC-drive technology DCS 600 control for fully 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 world-wide services are at your disposal by our power-electronics and rectifier specialists - also in your country.

ABB Power <sup>IT</sup> Compact Rectifiers are the right choice for reliable and economic dc-power supplies also in your plant.

## Compact Rectifier Range (CRA-Series)

DC Voltage \ DC Current	10	16	25	35	60	100	300	400
100							•	•
150							•	•
200							•	•
250							•	•
300					•	•	•	•
400					•	•	•	•
500					•	•	•	•
600					•	•	•	•
750					•	•	•	•
1.000	•	•	•	•	•	•	•	•
1.200	•	•	•	•	•	•	•	•
1.500	•	•	•	•	•	•	•	•
2.000	•	•	•	•	•	•	•	•
2.500	•	•	•	•	•	•	•	•
3.000	•	•	•	•	•	•	•	•
4.000	•	•	•	•	•	•	•	•
5.000	•	•	•	•	•	•	•	•
6.000	•	•	•	•	•	•	•	•
8.000	•	•	•	•	•	•	•	•
10.000	•	•	•	•	•	•	•	•
12.000	•	•	•	•	•	•	•	•
15.000	•	•	•	•	•	•	•	•
18.000	•	•	•	•	•	•	•	•
20.000	•	•	•	•	•	•	•	•
25.000	•	•	•	•	•	•	•	•



**Power Electronics**  
High Power Converters

# 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 'Compact Rectifier range'
- DC voltage range: See table 'Compact Rectifier range'
- Output: Unipolar
- Ripple: < 5 % at full output power
- Control: 0 ... 100% of In  
0 ... 100% of Un
- Number of pulses: 6
- Cooling: Air-cooling
- Degree of protection: IP20
- Controller: ABB DCS600 digital controller

## Operating Conditions

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

## Indication and Operation

- Meters: Analogue dc-current and dc-voltage
- Switches/Buttons: On/Off, Reset, Emergency Stop
- Lamps: On/Off, Ready, Trip, Alarm
- Control: I-ref setting via potentiometer

## Protections and Alarms:

- Automatic main breaker on ac side against ac+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
- Auxiliary circuits and devices are independently protected by fuses or automatic circuit breakers.
- Wrong phase sequence and phase loss protection

## Options

- Meters: Digital dc-current and dc-voltage  
Analogue primary ac-current meter  
Analogue primary ac-voltage meter
- Control: U-ref setting via potentiometer
- Remote control: Signals 4 - 20 mA  
Potential free contacts

## On request (consult manufacturer)

- Degree of protection: IP54 with water-recooling of internal air-circuit
- Number of pulses: 12
- Output: Bipolar operation
- Cooling: Water-cooled rectifier with air-recooling (IP20) or water-recooling (IP54)
- Ripple: Smoothing filter for ripple < 5%
- Communication: Modbus, Profibus or others
- Soft start to avoid large inrush currents
- DC current ramp
- Medium voltage supply

## ABB Switzerland Ltd

Baden/Turgi  
Switzerland  
Tel: +41 58 589 38 09  
Fax: +41 58 589 20 90  
E-Mail: pes@ch.abb.com  
Internet: www.abb.com/rectifiers

## ABB South Africa Ltd

Johannesburg/Alrode  
South Africa  
+27 11 617 2000  
+27 11 617 2061