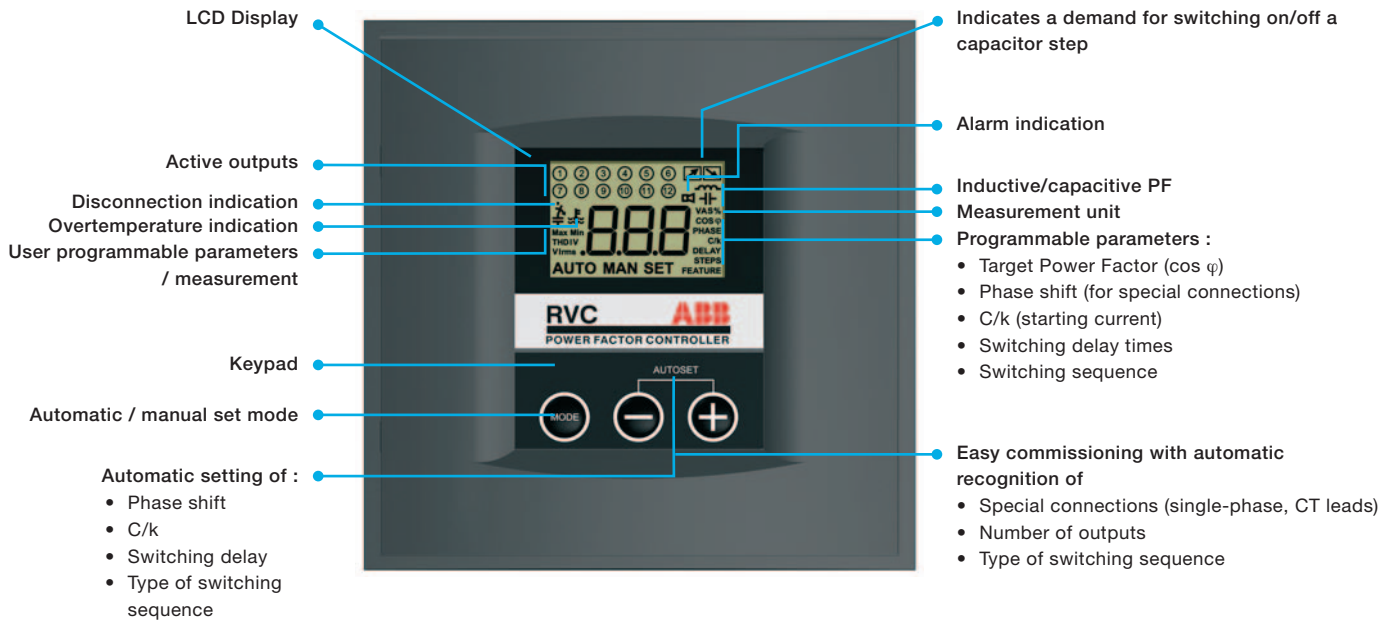




# Power Factor Controller RVC

## The user-friendly PF controller

# RVC: the user-friendly PF controller



## Powerful features

- Common range for all network voltages from 100V to 440V.
- Measurement and display of key parameters like voltage, current, power factor, THDV and THDI.
- Fully programmable switching sequence.
- 1A or 5A current input.
- Easy commissioning.
- Complete auto set-up (starting current-C/k, type of switching sequence, phase shift, special connections).
- Easy to use thanks to a user-friendly interface and ease of access to parameters for manual setting.
- Highly efficient switching strategy combining integral, direct and circular switching.
- This allows to :
  - control the  $\cos \varphi$  in presence of rapidly varying loads,
  - reduce the number of switching,
  - avoid unnecessary intermediary switchings,
  - increase the lifetime of the capacitors and contactors.
- Suitable for hot environments thanks to max. ambient temperature rating of 60°C.
- Not affected by the harmonics.
- Overvoltage / undervoltage protection and protections against harmonic distortion (THDV).
- Alarm : an alarm contact is opened when any of these conditions are reached:
  - the target  $\cos \varphi$  is not reached within 6 minutes after all outputs have been switched on,
  - the internal temperature of the RVC rises above 85°C,
  - overvoltage / undervoltage limits are reached,
  - the power supply is out of range,
  - the THDV exceeds the limits.

# Easy commissioning and programming

## Easy commissioning

The AUTO SET mode allows the RVC commissioning in only 2 simple steps :

### Activation of the automatic setting of :

- Phase shift
- C/k
- Switching sequence

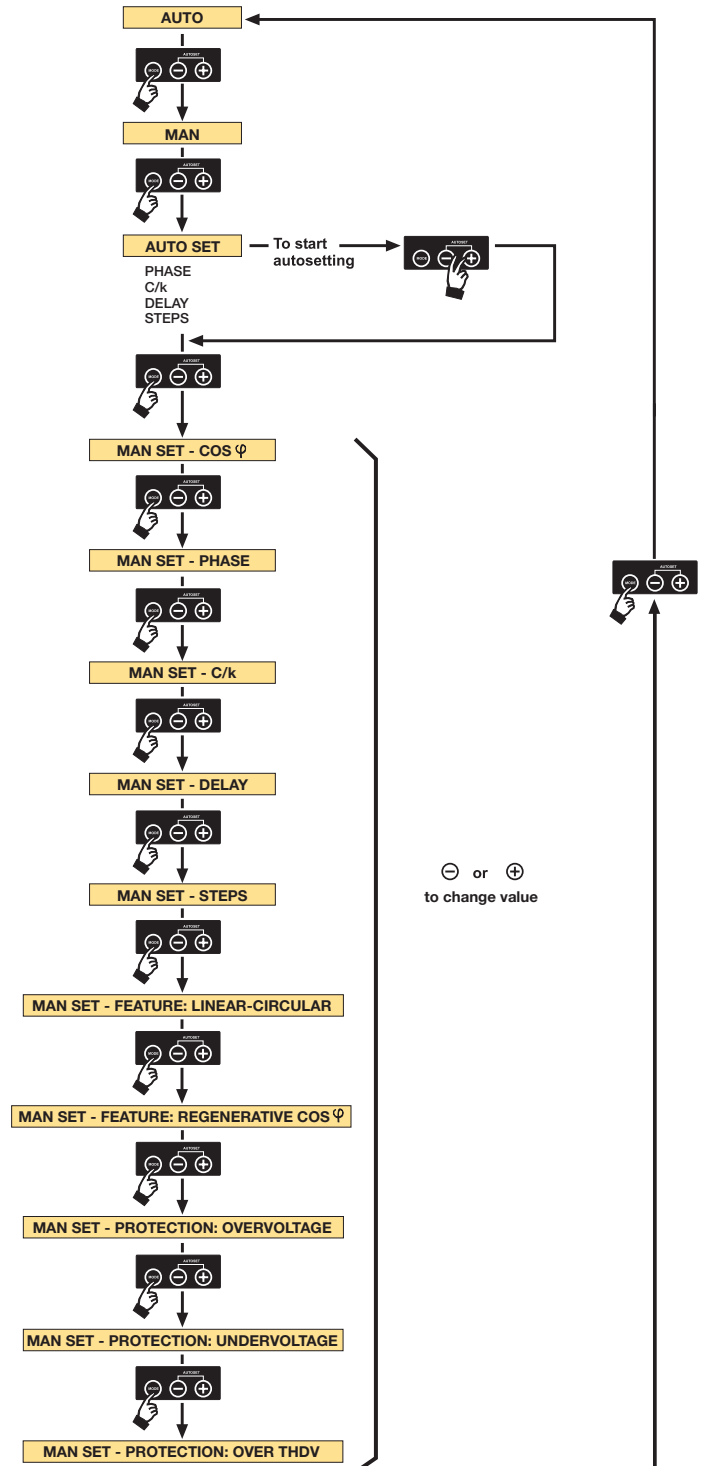


### Setting of the target $\cos \varphi$



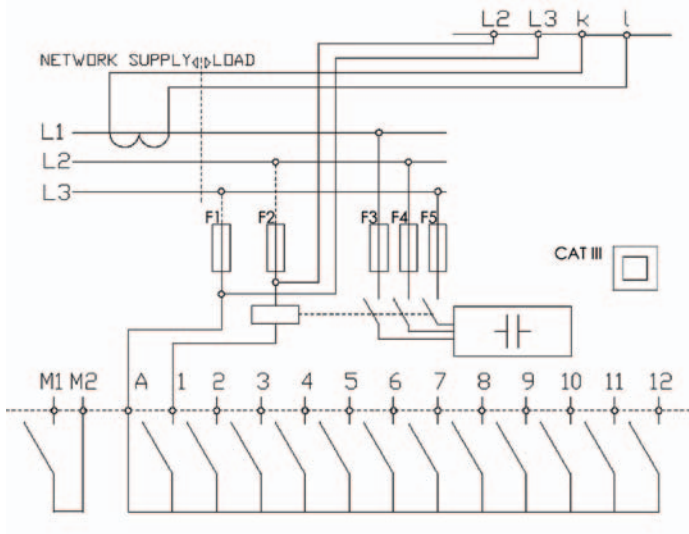
## Easy programming

All parameters are easily accessible for manual setting.



# Wiring diagram

- K, I leads of the current transformer
- L2, L3 2 of the 3 phases (not monitored by the CT)
- M1, M2 leads of the normally open contact
- A output relay common source
- 1-12 outputs



# Technical specifications

## Measuring system:

micro-processor system for balanced three-phase networks or single-phase networks.

**Operating voltage:** 100V to 440V.

**Voltage tolerance:** +/- 10% on indicated operating voltages.

**Frequency range:** 50 or 60 Hz +/- 5% (automatic adjustment to network frequency).

**Measuring circuit terminals (L2, L3 and k, I):** CAT III rated.

**Current input:** 1A or 5A (RMS).

**Current input impedance:** <0.1 Ohm (recommended CT class 1.0, 10 VA min).

**Consumption of the controller:** 8 VA max.

## Output contact rating:

- max. continuous current: 1.5A;
- max. peak current: 5 A;
- max. voltage: 440Vac;
- terminal A is rated for a continuous current of 16A.

## Alarm contact:

- normally open contact;
- max. continuous current: 5 A;
- rated/max. breaking voltage: 250Vac/440 Vac.

**Power Factor setting:** from 0.7 inductive to 0.7 capacitive.

## Starting current setting (C/k):

- 0.01 to 3A.
- automatic measurement of C/k.

## Number of outputs:

- RVC-3: programmable up to 3 outputs
- RVC-6: programmable up to 6 outputs
- RVC-8: programmable up to 8 outputs
- RVC-10: programmable up to 10 outputs
- RVC-12: programmable up to 12 outputs

**Switching time between steps:** programmable from 1s to 999s (independent of reactive load).

**Switching sequences:** user defined.

**Mode of switching:** the mode of switching for all the programmable switching sequences is integral, direct, circular or linear.

**Saving-function:** all programmed parameters and modes are saved in a non-volatile memory.

**Power outage release:** quick automatic disconnection in less than 20ms (50Hz) in case of power outage or voltage drop.

**Power outage reset delay time:** 40 s.

**Overvoltage and undervoltage protection.**

**Autoadaptation to the phase-rotation of the network and the CT-terminals.**

**Not affected by the harmonics.**

**Working with generative and regenerative loads.**

**LCD contrast automatically compensated with temperature.**

**Operating temperature:** -10° C to 60° C.

**Storage temperature:** - 30° C to 85° C.

**Mounting position:** vertical panel mounting.

**Dimensions:** 144x144x80 mm (hxxwd).

**Cut-out dimensions:** 138x138 mm (hxw).

**Weight:** 0.4 kg (unpacked).

**Connector:** spring clamp terminal block.

**Front plate protection:** IP40.

**Relative humidity:** maximum 95%, non-condensing.

**CE marked.**

## Article numbers for ordering:

- RVC-3: 2GCA288098A0050
- RVC-6: 2GCA288097A0050
- RVC-8: 2GCA288096A0050
- RVC-10: 2GCA288095A0050
- RVC-12: 2GCA288094A0050

# Contact us

## **ABB n.v.**

### **Power Quality Products**

Avenue Centrale 10

Zoning Industriel de Jumet

B-6040 Charleroi (Jumet), Belgium

Phone: +32 (0) 71 250 811

Fax: +32 (0) 71 344 007

E-Mail: [Power.Quality@be.abb.com](mailto:Power.Quality@be.abb.com)

[www.abb.com/lowvoltage](http://www.abb.com/lowvoltage)

While all care has been taken to ensure that the information contained in this publication is correct, no responsibility can be accepted for any inaccuracy. We reserve the right to alter or modify the information contained herein at any time in the light of technical or other developments. Technical specifications are valid under normal operating conditions only. We do not accept any responsibility for any misuse of the product and cannot be held liable for indirect or consequential damages.