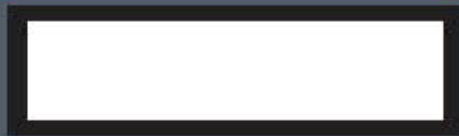


Power Factor Controller

Accurate control and monitoring of capacitor banks



- S1
- S2
- S3
- S4
- S5
- S6
- S7
- S8

ABB Power factor controller has become synonymous with automatic capacitor bank controllers in many markets worldwide thanks to its distinct design, ease of use, reliability and versatile functions.

Thanks to the user interface upgrade with graphical icons, it is possible to commission the RVC without a manual. A slimmer casing requires less space in the capacitor bank panel. The Controller is an easy-to-install, easy to use, smarter power factor controller and an ideal companion of your automatic capacitor banks.

Powerful features

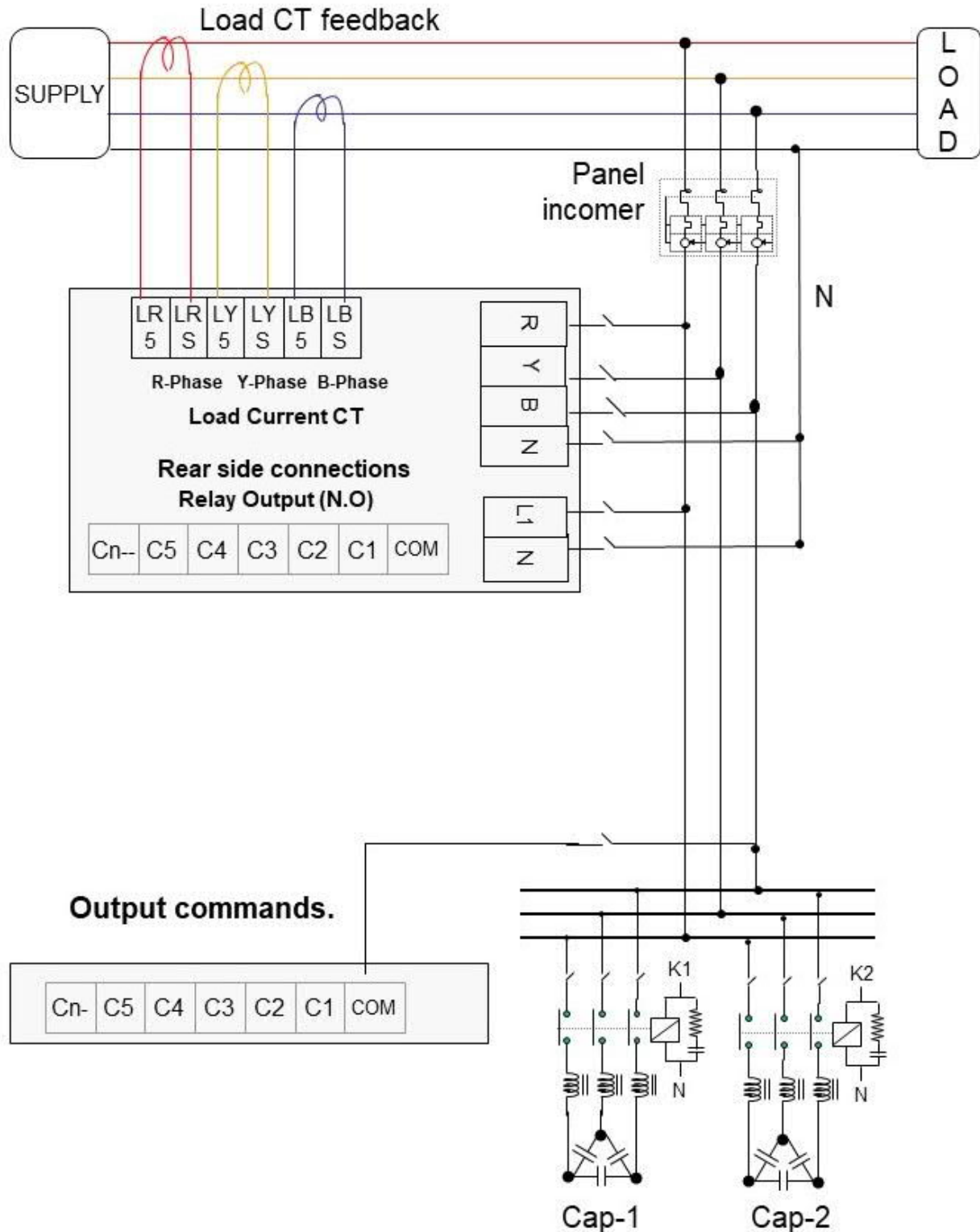
- Common range for a broad network voltage from 100V to 440V.
- Measurement and display of key parameters like voltage, current, power factor, THDV and THDI.
- Fully programmable switching sequence.
- 1A or 5A current input.
- Easy commissioning.
- Complete auto set-up (starting current-C/k, type of 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 thereby
 - to control the $\cos \phi$ in presence of rapidly varying loads,
 - to reduce the number of switching,
 - to avoid unnecessary intermediary Switchings,
 - to increase the lifetime of the capacitors and contactors.
- Suitable for hot environments due to maximum ambient temperature rating of 70°C.
- Not affected by 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 $\cos \phi$ 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.

Technical Specifications

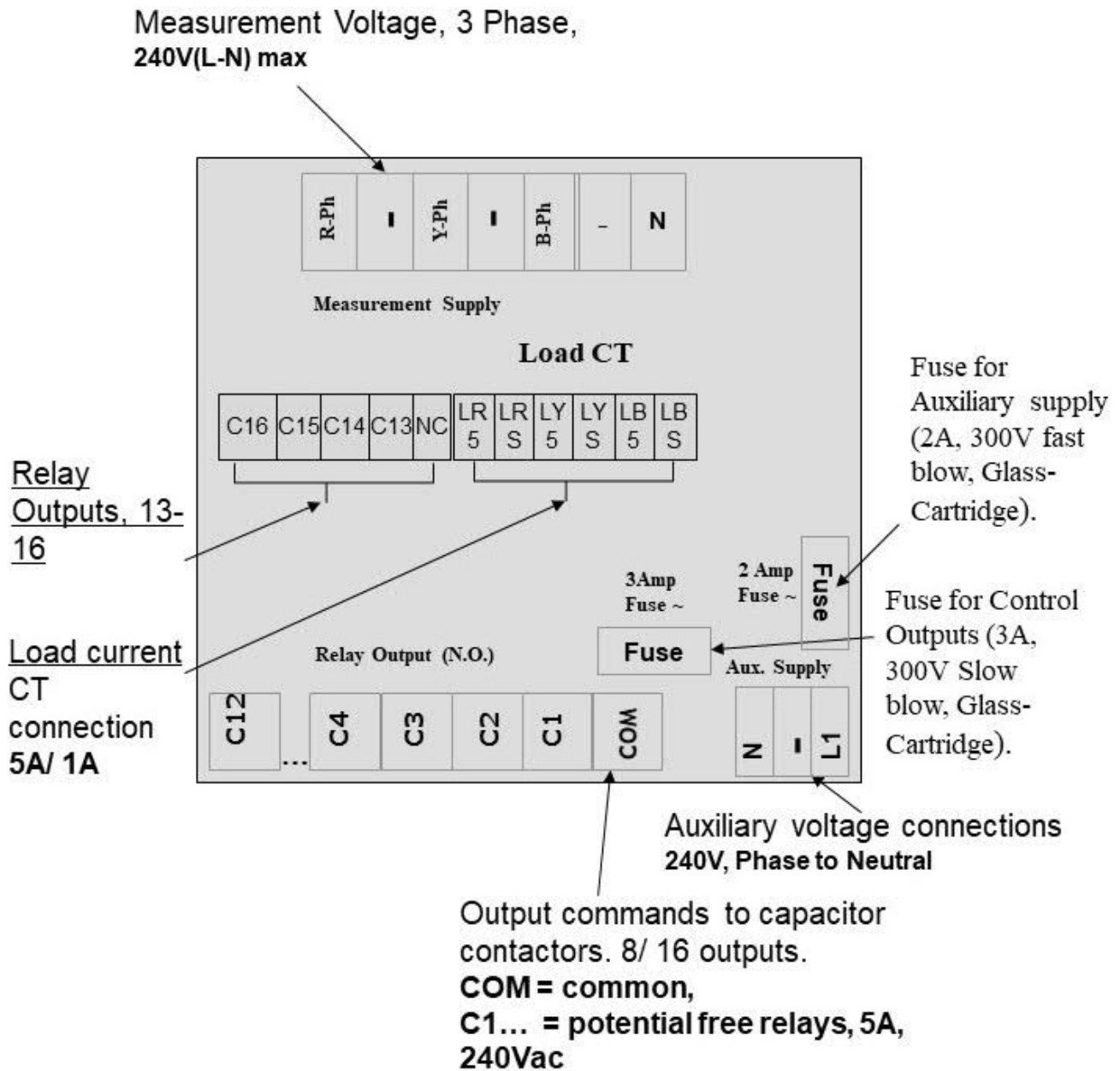
A)	Features
1	Auxiliary Supply – 230VAC(+/-10%)
2	Measurement Supply: 3 phase, 4 wire, 230VAC(L-N). PTs provided for ensuring complete Isolation. Current measurement is carried out on all 3 phases. This Power Factor Controller works effectively and has additional features of a built-in Real Time Clock and data logging.
3	Line Frequency: 45 Hz to 55 Hz
4	Voltage Surge: $\pm 0.5\text{kV}$ to $\pm 4\text{kV}$ as per IEC 61000-4-5
5	Dielectric withstand – 2.5kV rms, 50Hz for 1minute
6	Voltage burden: 6VA for Aux. Supply, less than 0.5VA for measurement supply
7	CT - Current range: 1A / 5A selectable internally
8	Minimum sensing current – 10mA for 1A and 40mA for 5A
9	Over current: 10A rms for 1Sec, non-recurring
10	Current Burden: less than 1VA for Load CT per phase
11	CT Amplitude Error < 0.2%
12	CT Phase Error < 0.5%
13	Accuracy of Measurement - 1% \pm digit for Voltage & Current
14	Minimum Switching Time – 1 Sec.
15	Real Time Clock provided
B)	Display
1	16 X 2 Character Large LCD Display with Yellow/ Green Backlight
2	Active power, Reactive power & Apparent power
3	RMS values of voltage & current
4	Average values of voltage & current
5	Frequency
6	Active Energy, Reactive Energy, Apparent Energy
7	PF display to 3 rd decimal (0.999)
C)	Fault / Monitoring
1	Over / under Voltage
2	Over / under Load
3	Over Temperature (internal)
4	Capacitor health monitoring
5	RTC Battery Low
D)	Outputs
1	Total 8/ 16 Relay outputs available
2	Output Relay rating – 5 A Resistive Load, 220 VAC
E)	Operating Condition
1	Operating temperature for the controller is: 0 ^o C to 60 ^o C
2	Maximum Operating Humidity - Upto 95%, non-condensing

F)	Communication
1	RS485, Standard MODBUS RTU
G)	Data-logging
1	2 months of Data Logging Provision with 1 hour interval
H)	Dimensions, Weight and Termination
1	Dimensions - 144 X 144 mm Front Fascia, 95 mm Depth, cutout 138 X 138 mm Weight - 1.5 kg(approx.)
2	Casing – ABS/ Polycarbonate housing
2	Protection class - Front IP54, Rear IP20
3	Terminals - Screw-type, pluggable, max. 2,Sqmm
I)	Article Numbers for Ordering
	8 stage APFC with Communication port 1HYC418009-026 16 Stage APFC with Communication port 1HYC418009-024

Typical wiring diagram for PF correction



Rear side terminals – measurement voltages, measurement currents, auxiliary voltage.



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