



300 & 1200 AutoBank

ABB 300 & 1200 Automatic banks

ABB provides the complete solution to automatic power factor correction by packaging proven ABB components. ABB capacitors, contactors, power factor controllers, circuit breakers, fusible disconnects, and ABB pushbuttons together provide a system of the highest quality. ABB capacitors provide exceptional performance using an environmentally safe dry type design. ABB provides a complete range of contactors designed for capacitor switching. ABB's power factor controller offers an easy-to-use microprocessor-based controller with built-in power factor meter. A variety of disconnect options are available, including ABB circuit breakers, fusible and non-fusible switches.

• Modularity

The modular design allows for the installation of additional power and switch modules as well as various options. Additional units may be connected in parallel. The number of capacitors and contactors included in the power modules depends on the automatic capacitor bank total power and the possible requirement for anti-resonance reactors.

• Options

Anti-resonance reactors, filters, blown fuse indication, push to test blown fuse indication, non-fused and fused disconnect switches and circuit breakers are optional equipment items that can be factory installed in the automatic capacitor bank.

• Approvals

ABB AutoBanks can be UL Panel Listed (UL File # E105450) per application.

• High reliability

The ABB AutoBank incorporates the well-proven features of ABB dry type power factor correction capacitor technology. The use of an ABB power factor controller and endurance-tested ABB contactors ensure the highest reliability of the equipment.

• Very low losses

Capacitor total losses are less than 0.5 watts per kvar. AutoBank total losses (without reactors), including accessories such as power factor controller and contactors are less than 1.5 watts per kvar.

• Complete environmental acceptability

ABB capacitors have a dry type dielectric with no free liquid and do not pose any risk of leakage or pollution of the environment.

• Unique sequential protection system

3 phase ABB capacitors are included with AutoBank products. These ABB capacitors utilize a patented Sequential protection System which ensures that each individual capacitor element is selectively and reliably disconnected from the circuit at the end of its life.

• Long life

Low losses and the self-healing properties of ABB capacitor elements help to ensure long operating life.

General information

Autobanks

Catalog number explanation

• Safety

ABB capacitors are manufactured with vermiculite, a nonflammable and nontoxic material. The dry vermiculite safely absorbs any energy produced within the capacitor enclosure and prevents any fire hazard in case of failure. Unique cooling fins are fitted to surround each capacitor element providing effective heat dissipation.

• ABB power factor controller

ABB microprocessor-based and programmable Power Factor Controllers (PFCs) provide for the setting of the target power factor and the sensitivity of the system regulation. The PFCs maintain the selected power factor by switching on or off one or more capacitor steps depending on the load conditions of the system.

• Compact design ensures quick installation

The AutoBank has compact overall dimensions, top or bottom cable entry access, and lifting eyes aid in fast, efficient handling and installation.

Harmonic effect on capacitors

Combinations of capacitors and system reactances form series and parallel tuned circuits at certain frequencies. When harmonic sources are added to the system, this can result in higher than rated currents or higher than rated voltages on the system components.

AutoBanks can be designed to operate in harmonic environments. Tuning reactors are added to keep the capacitor currents within rated values and keep system voltages to desired levels. Tuning frequencies of the AutoBank can be designed to suit your system requirements. Please consult factory.

Contents

Standard ABB AutoBank products include:

- 1 to 12 capacitor steps, three phase
- Incoming line termination (unless other disconnecting means is specified)
- Capacitor stage indicator lights
- Power on light
- One ABB power factor controller equipped with:
 - Programmable thresholds which allow protection of the capacitor bank from over and undervoltage, overtemperature and excessive harmonic distortion
 - Full graphics LCD display
 - Manual/automatic control
 - Indication of capacitive or inductive load and the number of steps energized
 - Measures and monitors kW, kVA, kVAr, Vrms, Arms, Temperature, THDV(%), THDI(%), Hz, power factor, voltage harmonics V2-V49(%), current harmonics I2-I49(%), alarm
 - Customizable switching sequence, linear or circular - normal or integral - direct or progressive switching strategies available
 - Automatic adaptation to network phase rotation and C.T. terminals
- ABB contactors
- Discharge resistors
- Power fuses
- Control fuses
- Multi-tap CT range 500/5 – 4000/5 in 500/5 increments. Window size 4" x 7"

Technical data

Rated voltage: 240 – 600V, 50/60 Hz, 3 phase

Standard kvar steps: 25, 50 & 100 kvar (other kvar step sizes available)

Control voltage: 120V, 60 Hz

Power factor setting: Between 0.70 capacitive and 0.7 inductive

C/k setting: Between 0.05 and 1A

Operation: Automatic or manual with step indication. LED indication of the number of capacitors energized and the capacitive or inductive demand.

Discharge resistors included

Dielectric losses: Less than 0.2 watt/kvar

Capacitor total losses: Less than 0.5 watt/kvar

Automatic bank total losses (without reactors) including accessories such as contactors and PF controller: Less than 1.5 watt/kvar

ABB dry type self-healing capacitors

Capacitor dielectric test:

- Between terminals and container: 3.0 kV, 60 seconds.

Capacitor automatic bank test:

- Functional test
- Dielectric test

Enclosures:

- NEMA 1, 3R and Dustproof (RAL 7032, Beige)

Top or bottom cable entry

Dimensions: Per application

Ambient temperature: -40°C to +40°C

Installation: Lifting eyes are provided. Installation instructions are supplied with each unit.

NOTICE

Placement and orientation of the current transformer are very important for the correct operation of the automatic capacitor bank.

A 4 G 600 C 6 A 2 P

ABB capacitor catalog numbering system

F = blown fuse indication, P = BFI with push to test

Harmonic tuning (Consult factory)

Switching sequence: A 1:1:1:1, B 1:2:2:2, C 1:2:4:4, D-1:1:2:2

Number of capacitors

Disconnecting means – B = terminal, C = circuit breaker,

D = non-fused disconnect switch, F = fused disconnect switch

kvar rating

Enclosure type – G = indoor, R = outdoor, D = dust proof

Voltage – 2 = 240, 4 = 480, 6 = 600

Model – A = 1200, AA = 300