

## 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