Metal Enclosed Capacitor Bank: ABBACUS B-Series
Enhancing power quality and energy efficiency of your electrical network

Power quality is a major concern for transmission and distribution utilities, industries, and transport and infrastructure sectors. Poor power quality affects grid reliability, productivity, leads to higher operating costs and penalties for non-compliance with grid codes.

ABB is a technology leader with a wide range of products, systems and services that improve power quality across the power value chain for low, medium and high-voltage applications, helping to shape a stronger, smarter and greener grid.

ABB’s ABBACUS range of metal enclosed capacitor banks (MECB) are a ‘one stop shop’ solution for maintaining power quality in medium voltage networks by compensating reactive power, improving power factor of the network or by passively mitigating harmonics.

ABB’s ABBACUS B-Series MECB provides an affordable and compact reactive power solution. It combines primary components with secondary control and protection in a compact modular enclosure. The system can be configured as a fixed or switched solution, with the switched bank consisting of single or multiple steps which can be automatically controlled to improve power factor.

The ABBACUS B-Series MECB is available in a range of configurations that is suitable for up to 12 kV applications. It is fully assembled and factory tested.

ABBACUS B-Series MECB
- Single or three phase capacitors
- Inrush reactors
- 1 kV to 12 kV
- Maximum output - 1 Mvar/ module
- IP31 indoor mild steel enclosure
- Fixed or switched

Optional Items include
- Fuse failure indication
- Full cable entry incomer or side entry box
- Isolator switch
- Earth switch
- Surge arresters
- Unbalance protection
- Interlocking

The design of the ABBACUS B-Series MECB provides a highly economical solution, suitable for both heavy and light industry applications.
### Technical data

#### General
- **Voltage**: Up to 12 kV
- **Maximum output**: 1 Mvar/module, 6 Mvar total (6 steps)
- **Frequency**: 50 or 60 Hz
- **Location**: Indoor
- **Ambient temperature**: -10/ +40°C
- **Humidity**: Maximum 90% RH non-condensing
- **Insulation level**: Up to 75 kV BIL
- **Short circuit current**: Up to 25 kA for 1 second
- **Bank configuration**: Fixed, switched single or multi-step
- **Interlocking (optional)**: Mechanical or solenoid
- **Busbar**: Hard drawn copper (tinned)
- **Standards**: IEC, IEEE/ ANSI, CSA or equivalent

#### Enclosure
- **Material**: Mild steel
- **Base frame**: Mild steel
- **Protection**: Up to IP31 indoor
- **Door locking**: With padlock swing handle and interlock option
- **Installation**: Base fixing
- **Handling**: Lifting eye bolts
- **Cable entry**: Bottom or optional side wall

#### Capacitors
- **Type**: Single, three phase
- **Fusing**: Internal or unfused
- **Discharge resistor**: Built-in
- **Losses**: <0.15 W/ kvar including resistors
- **Dielectric**: Polypropylene film
- **Container**: Stainless steel
- **Bushings**: Grey porcelain, one, two or three

#### Inrush reactors
- **Type**: Single phase, air core

#### Contactors
- **Type**: Vacuum contactor
- **Phase**: Three
- **Current rating**: 250 A capacitive

#### Isolator and earth switch
- **Type**: Air-insulated
- **Phase**: Three
- **Current rating**: 630 A

#### Fuses
- **Rated current**: Up to 250 A
- **Short time current**: 63 kA (max)

#### Power factor controller
- **Microprocessor-based system for single or three phase system**: Insensitive to harmonics
- **Control voltage**: 100 VAC to 240 VAC
- **Power factor setting**: 0.7 inductive to 0.7 capacitive

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1 Higher ratings available on request
2 Lower ratings available on request