

Power Quality

Product Brochure

AVC Active Voltage Conditioner



25kVA to 75kVA, High Performance Digital Voltage Conditioning Solution



The ABB Active Voltage Conditioner (AVC) is an inverter based system that protects sensitive industrial and commercial loads from voltage disturbances.

It provides fast, accurate voltage sag correction as well as continuous voltage regulation and load voltage compensation. It has been optimally designed to provide the required equipment immunity from the level of voltage sags expected on the AC supply network.

The AVC is available in load capacities of 25kVA - 75kVA and has an operating efficiency exceeding 98%. It offers extremely fast response to three-phase sags down to 50%, and single-phase sags down to 25% on the ac supply network.

All AVC models provide continuous regulation within -10% of the nominal mains voltage and remove voltage unbalance from the supply. Optionally models can be configured to remove flicker and harmonic voltages from the supply.

System Benefits

- Three-phase sag correction down to 50%
- Single-phase sag correction down to 25%
- Continuous regulation
- Unbalanced voltage correction
- User adjustable set point
- Fast (sub-cyclic) response
- Modern IGBT based inverter
- Full digital implementation
- Simple user controls
- Plain English 4x20 character LCD display
- Rugged overload capability
- Fuse clearing ability
- Short circuit protected
- Extensive diagnostics
- Fault log
- Voltage event log

Options

- 208Vac 60Hz Supply
- 600Vac 60Hz Supply
- Consult factory for larger options
- Flicker correction
- Keyboard display option
- 40% correction

Technical Specifications

Load Capacity

- | | |
|---------|-------|
| 480V | 400V |
| • 25kVA | 21kVA |
| • 50kVA | 42kVA |
| • 75kVA | 63kVA |

Rated Voltage

Nominal Supply Voltage

- 380/400/415/440V, 50Hz
- 208/480/600V, 60Hz
- 3 phase, 3 wire plus ground

Maximum Supply Voltage

- 110% of nominal supply voltage

Minimum Supply Voltage

- 50% of nominal (running)
- 75% of nominal (starting)

Correction

- +30% three-phase, +45% single-phase back to 100% for 30 sec plus
- +10% three-phase continuous

Voltage Regulation

- +/- 1%, up to 10% correction continuously
- +/- 2.5% at 30% correction
- voltage set point adjustable

Response (to sag event)

- initial correction provided within 1ms, remainder over the next 1/2 cycle.

Efficiency

- 98 - 99%

Environment

- Operating temperature: 0 - 40°C (50°C maximum with 20% derating)
- Cooling: Forced ventilation
- Relative humidity 0 - 90% (non condensing)

Bypass

AVC Load rating (kVA)*

- 125% for 10 minutes
- 150% for 1 minute
- inverter to bypass <0.5ms

* The AVC provides continuous correction and only transitions to and from bypass under fault or overload conditions, or when manually starting and stopping.

Protection

- Inverter input semiconductor fuses
- Inverter and transformer thermal protection
- Input voltage out of tolerance protection
- Output overload protection
- Output short circuit protection

Controls

With optional Keyboard

- 4 line LCD with input and output voltage and current (3phase average) displayed
- Full parameter control from keypad
- Voltage set point adjustable in 0.1% steps

Standard Features

- RUN control to start and stop converter
- Clean contacts indicating fault, run and overload status
- External customer enable

Standards Compliance

- AS/NZS 2065 level A
- AS/NZS3100
- CISPR II level A

Standards Models

- | | | |
|---------------|------|------|
| • AVC-1-21kVA | 400V | 50Hz |
| • AVC-1-42kVA | 400V | 50Hz |
| • AVC-1-63kVA | 400V | 50Hz |
| • AVC-1-25kVA | 480V | 60Hz |
| • AVC-1-50kVA | 480V | 60Hz |
| • AVC-1-75kVA | 480V | 60Hz |

All specifications are subject to change without prior notice.

Technical Dimensions and Block Diagram

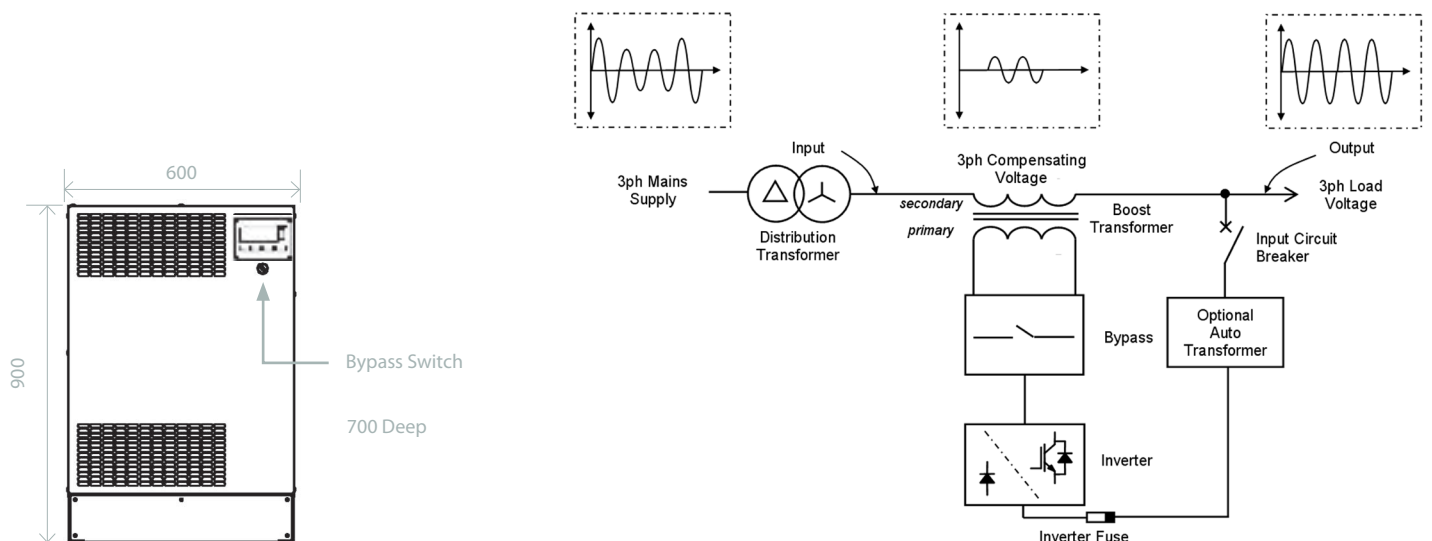




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