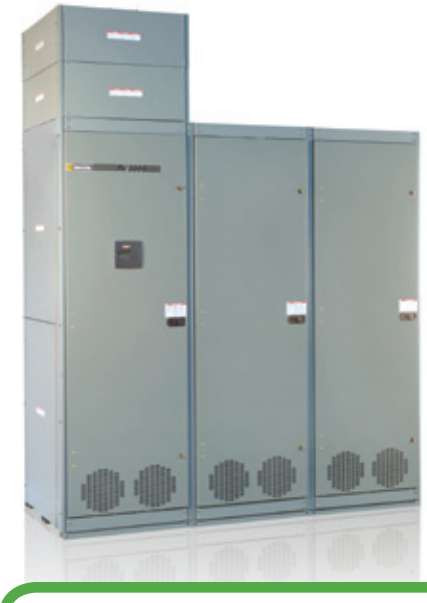
ReactiVar Automatic Low-voltage Capacitor Banks



Streamline Your Electrical Network's Capacity

A growing number of utilities are charging for peak electrical demand in kVA on each month's electric bill. As a result, customers are paying demand charges on both kW and kVAR peak operating loads. Most utilities will offer an incentive to customers to keep efficiency high (measured by power factor) by reducing the kW and kVAR usage, thus minimizing the demand charges.

PRODUCT AT A GLANCE

- Voltage rating range from 208 V to 600 V
- Capacity available up to 1000 kVAR at 600 V
- Capacitor-switching rated contactor with proven reliability
- Sophisticated power factor controller options
- Backlit display on controller shows current power factor, stage status, load and reactive currents, THD values, alarm conditions and more
- QED switchboard-style section constructed of 12-gauge steel frame covered with removable 16-gauge steel panels
- Standard section dimensions of 30 in. W x 36 in. D x 90 in. H
- CSA and CSA-US listed

Energy Savings Benefits and Process Control

Power factor correction capacitors supply the reactive power (kVAR) required by inductive loads. By correcting poor power factor ratings, capacitors reduce kVA demand thus off-loading transformers, switchgear and other equipment. The reduced kVA demand results in lower utility power bills, cooler equipment operation and longer equipment life.

Our ReactiVar™ AV5000 low-voltage capacitor systems provides the benefits of a centralized solution at an attractive cost for most small to medium industrial, commercial and institutional users. An advanced power factor controller switches capacitor modules to match the load fluctuation to maintain a target power factor. It is a flexible and effective reactive power compensation system in low voltage networks where current and voltage harmonic distortion levels are minimal.

Issue		Application		Benefit
Utilities impose a penalty if power factor is below target	→	Power factor correction	→	Reduces the penalty expense
Distribution system capacity needs to be increased	→	Power factor improvement	→	Frees up transformer capacity without capital expenditure

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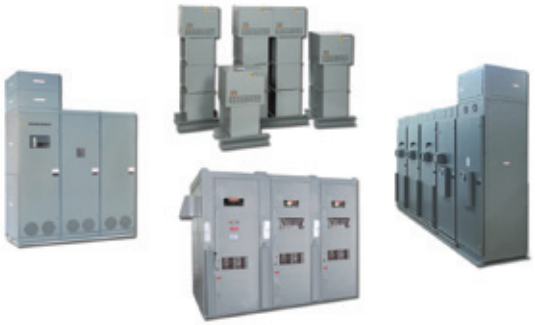
ReactiVar Automatic Low-voltage Capacitor Banks (continued)

AV5000: Selection Guide

There are special considerations when applying capacitors to a network containing highly cyclical or harmonic producing loads. The following information is needed to ensure proper equipment selection:

- 12 months of utility billing information
- Location of utility metering
- A single-line diagram of the network showing nature of loads
  - Examples: 150 HP FVNR starters; 200 HP VFD; etc.
- Transformer(s) kVA rating, percent impedance (%Z), primary and secondary voltages
- Current and voltage harmonic spectrum (magnitudes for each harmonic frequency) or TDD* and THD(V)** reading at point of the compensation
- Size and location of any existing capacitors



Energy efficiency and power quality are related and a holistic approach is required to optimize solutions. In addition to power factor correction, Schneider Electric offers a variety of solutions and products to save energy and help identify and correct power quality problems. Call us and start saving today.

Specifications

Type	Enclosed Automatic Capacitor Bank
Capacitor Dielectric	Metalized polypropylene film, no liquid dielectrics
Internal Connection	3-phase, Delta
Tolerance on Capacitance	0% / +15%
Discharge Mechanism	Polycarbonate resistor, 1 per phase
Discharge Time	One minute to less than 50 V
Expected Life - 5% reduction in rated k VAR near the end of life is typical	≤ 130,000 hours Nominal voltage and current, 0% THD (V)
Rated Voltage (U_n)	208 V, 240 V, 480 V, 600 V. Other voltage available
Rated Frequency	60 Hz. 50 Hz available
Insulation Level	3 kV rms / 15 kV crest
Interrupting Rating (maximum)	50 kA AIC Symmetrical at 600 V 65 kA AIC Symmetrical at 480 V
Continuous Overvoltage	1.1 x U n
Continuous Overcurrent	1.35 x I n
Max. Recommended Harmonic Current (I h)	1.05 x I n
Max. Recommended Harmonic Voltage (V h)	1.05 x V n
Ambient Temperature Range > Highest Mean: 24 Hours > Highest Mean: 1 Year	-10° C to +40° C (14° F to +104° F) +40° C (+104° F) +30° C (+86° F)
Other Conditions	Consult Schneider Electric
Altitude	< 1800 m (6000 ft) without de-rating
Standards	CSA C22.2 No. 190, UL 810
Paint Finish	ASA 49 (Indoor) ASA 61 (Outdoor)
Enclosure	NEMA Type 1, Type 3R

For more information, call 1-888-778-2733 or visit us at www.schneider-electric.us/go/services or www.schneider-electric.us/go/reactivar

*TDD (Total Demand Distortion) – Measures total harmonic current limit per IEEE519-1992
**THD(V) (Total Harmonic Voltage Distortion) – Measures total harmonic voltage limit

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