



# VARIVAR

Dynamic Capacitor Bank/Passive Harmonic Filter

## Three Phase AC Capacitor Bank

VARIVAR is a dynamic capacitor bank designed to provide power factor correction with high resolution compensation, harmonic filtration, and built-in surge protection.

The unit reduces additional current in the system through reactive power compensation and offers voltage support through long wire feeds.

The VARIVAR is incorporated with internal components that actively monitor the power of the system and adjusts itself to the system's needs.



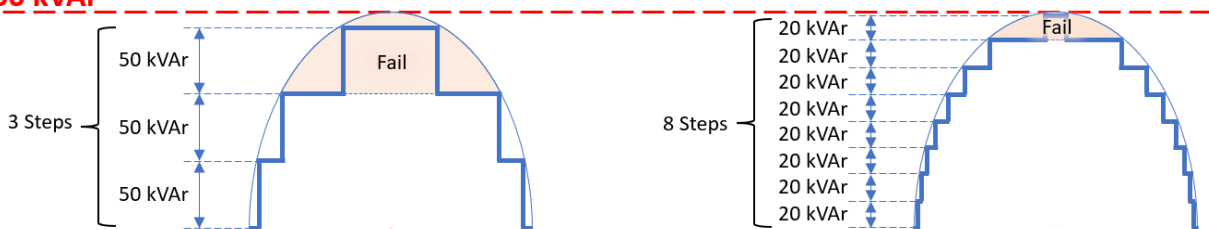
## General Specifications

Parameter	Value
Nominal Voltage	480 VAC $\pm$ 10%
Rated Current	200 A
Suggested Breaker Current	300 A (3-pole)
Frequency	50 – 60 Hz
Number of Phases	3
Number of Steps	8
Total Reactive Power	150 – 166 kVAr
Reactive Power Per Step	20.85 kVAr
Capacitor Tolerance	$\pm$ 5%
Shipping Weight	230 lbs (104.3 kg)
Temperature Range (operational)	-25°C – 85°C
Temperature Range (storage)	-40°C – 55°C
Enclosure Type	NEMA-4, Aluminum
Complies with	UL 508A, E212591

## Harmonic Filter

Our reactors are rugged and robust, allowing high harmonic filtration and following the IEEE 519-2022 standard. This reactor is tuned to absorb electrical load disturbances and prevents harmonic distortion from affecting other sensitive equipment. This add-on offers a solution that reduces nuisance tripping, reduces harmonic distortion, and minimizes line losses.

## 166 kVAR



Conventional capacitor banks have larger step sizes, limiting the performance of reactive power compensation due to the large increments. A major concern for this design is that if one step fails, the system will be short by 50 kVAR, which is a large chunk of reactive power missing.

In the example above, a 150 kVAR capacitor bank is roughly between 700 – 1,000lbs and a little over 6 ½ feet tall.

VARIVAR, on the other hand, weighs roughly 230lbs and has the same kVAR output. It is enclosed within a 3ft by 3ft cabinet. Additionally, it comes with a surge protection device to protect the equipment.

With smaller step sizes, but more steps in the design, the VARIVAR can match the same demand profile with higher precision. In the case of a step failing, there will be 7 other steps to provide reactive power.

VARIVAR is also capable of being a passive harmonic filter, but a power quality study is required to size/tune the filter appropriately.

Feature	Description
Product Name	VARIVAR – 150 kVAR
Manufacturer	Basic Power, Inc.
Product Type	Energy Management System (EMS)
Power Factor Regulation	Measures and corrects power factor in the electrical service to enhance electrical power efficiency
Alarm System	Built-in alarm system to notify faulty capacitor step
Harmonic Filter	Optional integrated passive harmonic filter to mitigate damaging harmonic distortion within the electrical service
Voltage Support	Provides voltage support for electrical loads across long electrical feeds
Surge Protection Device (SPD)	Designed to mitigate surges from entering the building, protecting against voltage spikes and transient events
Other Features	<ul style="list-style-type: none"> <li>- Phase Balancing Capacitors</li> <li>- Improved Voltage Profile</li> <li>- Sag Mitigation</li> <li>- kVAR/kVA Reduction</li> <li>- Reduce Carbon Footprint</li> </ul>
Benefits	<ul style="list-style-type: none"> <li>- Reduced Reactive power</li> <li>- Enhanced power quality</li> <li>- Voltage Stability</li> <li>- Equipment Protection</li> <li>- Energy Savings</li> </ul>



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## Dimensions [inches]:

