Today, harmonics is a growing concern in the management of electrical systems. Designers are required to pay more and more attention to energy savings and improved electricity availability.

As a leader in the field of power quality, Schneider Electric offers the products and services needed to ensure that the most reliable and cost effective solution is applied within your facility. We can help you select the right solution for your application, for greenfield or brownfield projects.

schneider-electric.us/powerandenergy
Use the chart below to help choose the right power quality equipment for your facility.

### What is the purpose of the equipment?

#### Improve Power Factor

- Are there any rapidly fluctuating loads? **Yes** → VarSet Hybrid*  
  - Are there any harmonic generating loads? **No** → VarSet Standard
  - Are there many small motors/loads? **Yes** → VarSet Fast

- Are there any rapidly fluctuating loads? **No** → SagFighter SureVolt

#### Reduce Harmonics

- Are there any rapidly fluctuating loads? **Yes** → VarSet Hybrid*
  - Are there any harmonic generating loads? **Yes** → VarSet Detuned
  - Is > 15% of the total load harmonic generating? **Yes** → VarSet Fast
  - Is > 50% of the total load harmonic generating? **Yes** → VarSet Hybrid1

- Are there any rapidly fluctuating loads? **No** → AccuSine PCS+
  - Are there any loads sensitive to transients? **Yes** → VarSet Hybrid2

#### Reduce Voltage Issues and Sags

- Are there any rapidly fluctuating loads? **Yes** → VarSet Hybrid*
  - Are there any harmonic generating loads? **Yes** → VarSet Detuned
  - Is > 15% of the total load harmonic generating? **Yes** → VarSet Fast

- Are there any rapidly fluctuating loads? **No** → AccuSine PCS+
  - Are there any loads sensitive to transients? **Yes** → VarSet Hybrid2

* Available as special engineered to order products
1 VarSet Detuned + AccuSine PCS+
2 VarSet Fast + AccuSine PCS+
A complete range of power quality improvement products for any application

AccuSine+ Active Harmonic Filtering and Electronic VAR Control
AccuSine™ PCS+/PFV+ provide a simple and effective way to mitigate harmonics and reduce process related voltage fluctuations. AccuSine PFV+ can eliminate leading or lagging power factor, reduce voltage fluctuations, enhance equipment operating life, and improve system power capacity. AccuSine PCS+ is a flexible, high performance, cost-effective solution to stabilize electrical networks by providing harmonic mitigation, power factor correction, and load balancing.

VarSet Standard Capacitor Banks
The VarSet™ standard capacitor banks provide an easy way to maintain your facility’s power factor at an ideal level for maximum system efficiency and savings. Designed for easy installation, this range of wall-mounted capacitor banks has a small footprint, provides you with power factor improvement and improved reliability while saving valuable space. This range is available from 75 kVAR to 300 kVAR.

VarSet Detuned Capacitor Banks
The VarSet detuned capacitor banks provide power factor correction in electrical distribution networks with moderate levels of harmonic content. The series capacitor and reactor combination is tuned below the first dominant harmonic order (usually the 5th). This prevents resonance and harmonic amplification. This range is available from 75 kVAR to 800 kVAR. Other ratings are available on request.

VarSet Fast Capacitor Banks
The VarSet Fast detuned capacitor banks are suitable for nearly all electrical networks and are ideal for correcting poor power factor in electrical networks with a high concentration of electronic loads. Traditional electromechanical contactor switching of capacitors generates voltage transients that can impair the operation of sensitive process equipment. The VarSet Fast features an advanced controller to precisely activate electronic switching elements to connect capacitor stages and avoid the creation of transients. Transient-free switching also reduces wear on capacitors and will result in a longer life for the overall capacitor system. With a response time of less than 1 second to load changes, the VarSet Fast reduces the kVA demand on the transformer and will eliminate utility imposed penalties for low power factor. This range is available from 450 kVAR to 1200 kVAR. Other ratings are available on request.
**VarSet Hybrid System**

VarSet Hybrid provides real-time power factor correction, voltage support, and harmonic suppression in networks with highly cyclical load profiles. The system integrates conventional power factor correction systems and the latest IGBT-based solutions to provide rapid response and infinitely variable kVAR control never before seen in a power factor correction product. Specifically designed for the instantaneous support required by welding equipment, the VarSet Hybrid eliminates voltage sags and flicker while increasing system capacity, providing energy savings, and improving weld quality. It also provides current inrush support for applications such as large horsepower motor starting.

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**SureVolt Automatic Voltage Regulator**

The SureVolt™ provides continuous power conditioning and a broad range of protection to guard against voltage fluctuations that can cause issues with equipment and cost money in damages and lost productivity. It delivers clean power, keeping equipment up and running with maximum efficiency. The SureVolt provides high overload capacity for loads with large inrush current requirements. At the same time, it provides consistent voltage regulation and fast correction without regular maintenance or moving parts.

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**SagFighter Active Voltage Conditioner**

The SagFighter™ protects critical production equipment against random voltage sags typically caused by transmission line disturbances or weather related events. It uses ultrafast correcting technology to ride through deep voltage sags common to both urban and remote industrial areas. Unlike computer-grade products or uninterruptible power supplies (UPS), the SagFighter is designed for frequent high inrush current and low power factor loads without the need to oversize the product.

Learn how to correct power quality issues to improve business performance, email powersolutions@schneider-electric.com

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