



*reducing energy consumption
through power quality*

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The Hershey System corrects up to eight electrical power problems found in industrial, commercial and institutional facilities.

The Hershey System is the culmination of 10 years of power quality experience and was developed by a team of highly qualified electrical engineers. Each system is designed to the client's specific needs and is built to correct and re-cycle losses from up to eight different problems that are found in industrial, commercial and institutional facilities. It is a modular system engineered to effectively and economically optimize power quality, providing guaranteed energy savings, through reductions in power demand and power consumption (KVA/KW AND KWH).

- BALANCING VOLTAGE ACROSS PHASES
- MINIMIZING VOLTAGE FLUCTUATIONS
- BALANCING CURRENT ACROSS PHASES
- POWER FACTOR CORRECTION
- SURGE AND TRANSIENT SUPPRESSION
- BROADBAND HARMONICS MITIGATION
- BROWNOUT PROTECTION
- INTERMITTENT SUPPLY FAILURE PROTECTION

The Hershey System consists of LRC tank circuits and zigzag reactors allowing it to capture and re-cycle losses across all three phases.

It is not a traditional capacitor bank, nor is it an SCR or choke of any kind.

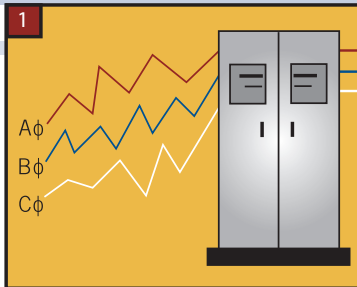
The Hershey System is designed in parallel with multiple impedances.

**GUARANTEED SAVINGS ON ELECTRICAL CONSUMPTION AND DEMAND CHARGES.
EXPECTED SAVINGS FROM 7.5% TO 18%**

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The Hershey Power Quality System STANDARD FEATURES & BENEFITS

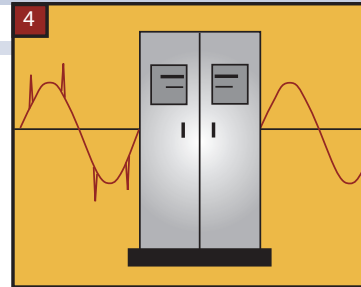
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VOLTAGE STABILITY & IMPROVEMENT

The standard Hershey System will boost the secondary voltage on a given electrical network and in so doing, protect it against undervoltage conditions and intermittent voltage sags that may occur on that network. Furthermore, the Hershey System utilizes a lower impedance value to trap transients and swells and prevents them from harming sensitive equipment on the plant floor.


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SURGE & TRANSIENT PROTECTION

The standard Hershey System will provide a dual layer of protection from lightning generated transients. Our system uses a lower impedance value to trap an infinite number of transients and swells thus protecting plant equipment. Furthermore, all units in the Hershey System are installed with lightning arresters.

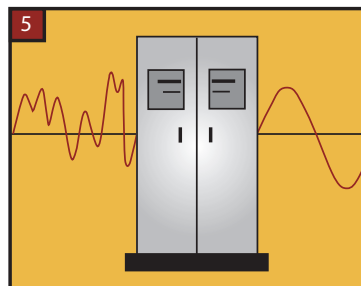
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CURRENT BALANCING & REDUCTION

The standard Hershey System will balance the 3 phases electrically based upon X/R and the impedance of the system, Z, in order to ensure that the current imbalance does not exceed 10% throughout the electrical networks. In addition, the standard Hershey System will reduce the current across all 3 phases by 30-40% thereby reducing the line losses (I^2Z) and accounting for a portion of the guaranteed energy savings.

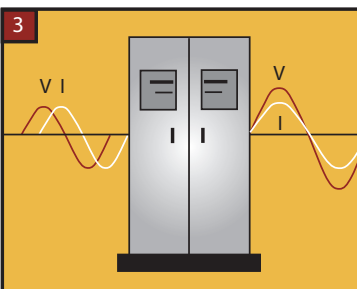
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HARMONIC FILTERING

The standard Hershey System will incorporate broadband harmonic filtering to mitigate the effects of harmonics in the system and render them to a harmless level, thereby helping to release kVA capacity in the transformer, while protecting conductors from overheating, improving the operation of plant equipment and reducing the losses caused by the harmonics.

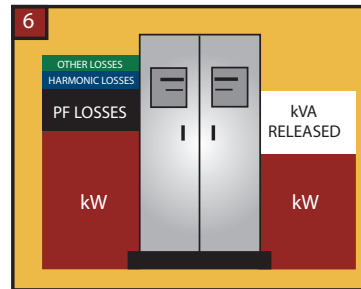
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POWER FACTOR CORRECTION

The Hershey System uses a variable level of capacitance that is load specific to raise the power factor in an electrical network to -95%-100%. This will effectively eliminate any charges assessed by the local utility for low power factor and will prevent the system from going into capacitance (current leads the voltage) during low load situations. Unlike traditional capacitor banks, the Hershey System also incorporates harmonic filters that will eliminate any resonance in the network.

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INCREASED kVA CAPACITY

The standard Hershey System will increase the kVA capacity on a given transformer up to 45-50%, depending upon the pre-existing conditions and inefficiencies on that transformer. The releasing of kVA capacity is a by-product of the standard features of the Hershey System.

The Hershey Power Quality System OPTIONAL FEATURES

1. INTERMITTENT SUPPLY FAILURE PROTECTION: The Hershey System can be designed with the optional 1-second carry through to provide 59/60 cycles of ride-through power during intermittent supply failures.

2. SPECIFIC HARMONIC FILTERING: In cases where harmonics of excessive magnitude exist, optional specific harmonic filtering can be employed at the customer's request.

3. BROWNOUT PROTECTION: Brownout Protection is an optional feature of the Hershey System that will provide for real time voltage improvement and stability to compensate for the undervoltage conditions experienced during an electrical brownout.

4. PHASE LOSS SYNTHESIS: Phase Loss Synthesis is the fourth and final optional feature of the Hershey System. The Hershey System is able to detect the lost phase and, utilizing inductance, capacitance and close-tolerance resistors, can create the lost phase from the remaining two. This can be accomplished indefinitely until the lost phase is restored.

For over 35 years, Hershey Energy Systems has successfully helped businesses throughout the eastern United States save between 10-40% of their total energy costs. We have achieved this through the implementation of various control systems including HVAC controls, heating exchange systems, energy management and building automation systems, solar technologies, and lighting control systems.

Today, Hershey Energy Systems focuses primarily on electrical power quality and provides turnkey solutions to industrial, commercial and institutional facilities. To date, our power quality systems have saved our clients an average of approximately 15% of their total electric usage costs, with guarantees of a minimum of 7.5% savings. In addition to these energy savings, our clients have experienced improved production reliability, reduced maintenance on electrical equipment and protection against harmful electrical disturbances such as voltage surges and transients.

A PARTIAL LIST OF OUR SATISFIED CUSTOMERS IS SHOWN BELOW.

ALLIED MACHINE &
ENGINEERING, OH

ALLIED SIGNAL/HONEYWELL, VA

BEECH-NUT NUTRITION, NY

COLORADO BOXED BEEF, FL

COMCAR/SUPER COOL, FL

DIEMOLDING, NY

ERIE COUNTY WASTEWATER, NY

GOULDS PUMPS, NY

GRAY SYRACUSE, NY

HERSHEY FOODS, PA

HOUGHTON INTERNATIONAL, PA

INVACARE, OH

QUAKER OATS, FL

UTICA CONVERTERS, NY

PROJECTS IN PROGRESS:

AMF BOWLING, NY

BINGAMAN & SON LUMBER, PA

EAM MOSCA, PA

GEISINGER HEALTH SYSTEM, PA

HUB FOLDING BOX, MA

UNIQUE INDUSTRIES, PA

A complete list of references, including contacts and phone numbers, is available upon request. Please contact us today for more information or refer to our website, www.hersheyenergy.com.

