APPLICATION STUDY: THE VCFP96M OPTIMIZES CAPACITIVE LOAD BANK MANAGEMENT WITH ADVANCED DIGITAL METERING











Division of the Marsh Bellofram Group of Companies 8019 Ohio River Blvd. Newell, WV 26050 USA Phone: 800-727-5646 Fax: 304-387-1212 www.atcdiversified.com

BACKGROUND:

THE CHALLENGE:

THE SOLUTION:

THE FUTURE:

Capacitive load banks are vital for maintaining the reliability of power systems by altering the phase angle between the voltage and current wave forms. Accurate measurement and monitoring of electrical parameters such as voltage, current, power factor, and energy are crucial to know when to implement power factor correction to improve Power Quality and ensure optimal performance. The VCFP96M Multifunction Meter offers a comprehensive digital metering solution for load banks, with advanced features for three-phase systems. Its versatility makes it suitable for a wide range of applications, including low, medium, and high voltage control panels, generators, building management systems, and power management systems. Traditional metering solutions often lack the flexibility and precision needed for modern load bank applications, creating a demand for a more advanced and user-friendly alternative.

To effectively monitor and maintain power systems, capacitive load banks are used to counteract undesirable changes in the phase shift between the voltage and current waveforms correcting less than ideal Power Factor caused by real world inductive loads. This requires precise monitoring of a wide range of electrical parameters, seamless integration with existing systems, and adaptability to various configurations. TheVCFP96M addresses these challenges by providing a com-prehensive and versatile metering solution that enhances the accuracy, reliability, and efficiency of load bank operations.

The **VCFP96M Multifunction Meter** offers a robust and adaptable solution for capacitive load bank management, featuring:

- **Comprehensive Parameter Monitoring:** Measures voltage, current, power (active, reactive, apparent), power factor, energy, frequency, and harmonic distortion for precise load management.
- **CT Polarity Error Detection:** Automatically detects the polarity of CTs to ensure proper installation and accuracy.
- Total Harmonic Distortion (THD) Monitoring: Measures harmonic distortion up to the 31st level, helping to identify and mitigate power quality issues.
- Modbus RTU Communication (RS485): Facilitates seamless integration with PC, PLC, RTU, data loggers, and SCADA systems for comprehensive data management and analysis.
- Neutral Current Measurement: Monitors neutral current to ensure balanced load conditions.

The VCFP96M Multifunction Meter will continue to play a pivotal role in capacitive load bank management, offering reliable and versatile metering solutions. Its advanced features, precision, and robust performance make it an essential tool for optimizing load bank operations and ensuring the reliability and efficiency of power systems across diverse applications.