

APPLICATION STUDY: THE MPA2 HELPS AVOID COSTLY DOWNTIME AND PROTECT YOUR CRITICAL MOTORS IN ONE DEVICE



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BACKGROUND:

The oil refinery industry is one of the most demanding environments for electrical systems, where motors must operate continuously under varying loads and conditions. These motors face significant risks from over current, under voltage, phase imbalances, and other electrical issues that can lead to failures, reduced efficiency, and costly downtime. Ensuring their safe and efficient operation is crucial for maintaining continuous production. The MPA2 Motor Protection Analyzer Relay, a micro-controlled three-phase protection device, is specifically designed to safeguard motors from common current and voltage faults, providing the precision and real-time monitoring needed to ensure their longevity and reliability in such challenging environments.

THE CHALLENGE:

In an oil refinery, any motor failure can have severe consequences, including production halts, safety hazards, and significant financial losses. The MPA2 addresses these challenges by providing comprehensive protection and monitoring for electric motors. It constantly supervises current and voltage levels, and in the event of a fault, it deactivates the motor to prevent damage. The system only allows the motor to restart when conditions return to safe levels and the motor has sufficiently cooled down, thus ensuring safe and efficient operation.

THE SOLUTION:

The **MPA2 Motor Protection Analyzer Relay** delivers a strong and dependable solution specifically designed to meet the unique demands of the oil refinery industry, offering:

- **Comprehensive Protection:** Monitors and protects against overload, undercurrent, over voltage, under voltage, phase reversal, single phasing, and other critical electrical issues.
- **Fault Recovery:** Automatically restores motor operation once fault conditions are resolved and the motor has cooled down, minimizing downtime and protecting equipment.
- **RS485 Modbus RTU Communication:** Integrates seamlessly with SENSERT for remote monitoring and data acquisition as well as existing SCADA and PLC systems for centralized monitoring and control.
- **Advanced Monitoring Capabilities:** Includes real-time measurement of current, voltage, frequency, power factor, reactive power, real power, and energy consumption, ensuring complete visibility of motor performance.

THE FUTURE:

The MPA2 Motor Protection Analyzer Relay will continue to be a vital tool in the oil refinery industry, offering unparalleled protection and monitoring for critical motor-driven systems. Its advanced features, robust design, and compliance with industry standards make it an essential component in safeguarding operations and maximizing efficiency in this demanding sector.