Current Power Solutions builds electrical power and automation equipment for the mining and oil and gas industries. Draglines and Shovels for mining operate in difficult and challenging environments.

The drives, switchgear, controls, and other equipment are specifically designed for the environments found in mines. They are built to survive extreme temperatures and humidity, high vibration, airborne dust, and limited space requirements.

The design, manufacturing, and testing meet the requirements of major mining entities including the NEC and MSHA, and the applicable standards for electrical power equipment as specified by ANSI and IEEE.

All systems are built to the highest standards of safety and reliability.
Mining Capabilities:
- Dragline and Shovel Control Systems
- Variable Frequency Drives & Motors
- Switchgear & Switchboards
- Operator and Maintenance Training
- Engineering Studies

DRAGLINE AND SHOVEL CONTROL SYSTEMS

CPSI Dragline/Shovel Control Systems use standard PLCs, I/O modules, and HMI touchscreens. The hardware is fully redundant, including processors, communication links, and power supplies. The Control Systems are developed to meet the specific application, and any customer and regulatory requirements. The systems are designed with operator functions on HMI touchscreens in the operator’s cab(s) that are simple and intuitive to use. Additional functionality is available for maintenance personnel in the Power Control Room. Typical automation functions include:

- Motion Controls – Hoist, Drag/Crowd, Swing, and Propel
- Alarm system and management
- Power management systems
- Special boom lowering screen controls
- Machinery and auxiliary alarm and management
- Alarm, data, and event logging
VARIABLE FREQUENCY DRIVES & MOTORS

Current Power Solutions manufactures high-power motor drives that are designed for reliability and maintainability. Air-cooled and water-cooled Variable Frequency Drives are available with ratings up to 4.5 MW (6000HP).

The power bridges are modular for ease of serviceability. The drives are supplied with digital controllers that are programmed to suit each application including the specific requirements of dragline hoist, drag, swing, and propel motions and shovel hoist, crowd, swing, and propel.

If you need more information about Current Power Solutions, simply give us a call or visit our website.
SWITCHGEAR & SWITCHBOARDS

Our switchgear and switchboards are built to customer specifications and application requirements. The switchboards are fabricated to meet the requirements of the environment and a variety of electrical standards (e.g. NEC, IEC, CSA, ANSI, IEEE). The switchboards are available with ratings as follows:

- Voltages up to 38kV
- Current ratings up to 8000A
- Fault current ratings up to 100kA
- Supply frequencies of 50Hz and 60Hz
- MCC equipment supplied to customer requirements

OPERATOR & MAINTENANCE TRAINING

Customer operator and maintenance personnel training is available to meet the level of need at the mine site.

Typically this is accomplished at start-up and at scheduled call back visits by CPSI service personnel.

ENGINEERING STUDIES

Engineering studies include short circuit analysis, load flow studies, protective device coordination, bus bracing, and harmonic analysis.

These studies address the needs of local power companies in addressing the generation of harmonics in AC drive systems in mining applications.

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