



Industrial Crusher, Grinder, Chipper, and Shredder Control With the SEL-2411 PAC

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INTRODUCTION

Industrial crushers, grinders, shredders, and chippers are very rugged machines exposed to extreme vibration and potentially dramatic temperature fluctuations. These harsh conditions wreak havoc on control components, leading to increased service requirements and warranty repair work. This application note discusses valuable features of the SEL-2411 Programmable Automation Controller (PAC) when used to control industrial crushers, grinders, shredders, and chippers. A single SEL-2411 PAC allows for powerful, reliable, and economical machine control.

SEL SOLUTION

Rugged Hardware

SEL-2411 PAC hardware is designed and tested to exceed stringent IEC and IEEE protective relay standards, far beyond requirements for industrial PLCs (programmable logic controllers). The SEL-2411 PAC has a temperature operating range of -40° to $+85^{\circ}\text{C}$ and exceeds IEC 60255-21 standards for shock and vibration. All SEL products are backed by a best-in-class, worldwide, ten-year product warranty.

Built-In HMI (Human-Machine Interface)

You can program the customizable HMI display and LEDs (light-emitting diodes) to notify the operator of a machine fault or required routine maintenance. The operator can then clear faults or notifications with the programmable pushbuttons.



Figure 1 SEL-2411 PAC Front Panel Illustrating Programmable Display, LEDs, and Pushbuttons

Built-In Digital I/O

Configure the SEL-2411 PAC with up to 32 local digital I/O and the ability to control 128 additional remote digital I/O. The digital inputs available are 24 through 250 Vac/Vdc. The digital outputs are rated at 300 Vdc and 30 A.

Intuitive Programming

The included ACSELERATOR QuickSet[®] SEL-5030 Software simplifies the configuration and programming of the SEL-2411 PAC. Controller programming no longer requires expensive software, extensive training, or multiple calls to technical support, which are typically experienced during PLC programming. With built-in logic, math, timer, and counter functions, the SEL-2411 PAC can be programmed to handle any control application.

AC Metering for Motor Overload and Stall Detection

With an optional ac current metering card, it is easy to monitor the current consumption and quickly disable the motor in the event of an overloaded or stalled motor.

