

853 DIGITAL SCR

Power Controller

Spang Power Electronics

The 853 Digital SCR Power controller from Spang Power Electronics offers the latest in Digital Signal Processing (DSP) technology and software. The 853 controller is designed for three-phase applications and has the capability to fire into either direct or transformer coupled loads. The embedded DSP allows for a wide range of options built into one standard package. Spang's configuration tool software provides the versatility of choosing different regulation modes, control strategies and load types. Interfacing the 853 digital signal power controller with a computer allows the controller to be truly customized for any industrial heating application.

Features & Benefits

- **Flexibility:** Unlike analog designs, which require a separate control amplifier for each firing mode, the 853 Digital SCR Power Controller allows a single amplifier to operate in any of three modes: Phase-angle fired; Zero-crossover fired; and Zero-crossover fired into a transformer. This also provides the added benefit of common spare parts in a multi-furnace facility.
- **Computerized Setup and Calibration:** Customer-provided computer allows for in-plant adjustments on the line. The digital setting of parameters makes for precise and rapid setup and calibration.
- **On-Board Diagnostics:** Fault memory allows the user to record problems and, through the use of a computer, observe trends that could indicate a need for process modification, troubleshooting or preventive maintenance.
- **Advanced Process and Fault Monitoring:** Allows for real-time readings of voltage, current, power and fault conditions, and for real time changes to the set point that adjusts power to process requirements. Changes can be made in four ways:
 - Locally, using an analog control signal.
 - Locally, using a customer –supplied computer.
 - Locally, with optional Local Digital Control feature.
 - Remotely, with optional Network Communication feature.
- **Configurable Analog Input for Control Reference:** Digital controller can be used with a local temperature controller, the output of which can be any industry standard matched to the power controller's user-configurable analog input.
- **Touch-Proof Mechanical Design:** This advanced packaging feature prevents unintentional contact with hazardous voltage, allowing for safer service and maintenance.



Additional Benefits of Digital Power Control

Improved management of processing operations through the use of the 853 Digital SCR Power Controller, which provides real-time information on process parameters.

Improved productivity through faster startups and reduced downtime.

Lower installation and wiring costs result from an optional local digital controller replacing panel meters, selector switches and pushbuttons.

Allows for real-time changes to process and control settings.

Optional Features

- **Network Communications:** Allows for remote control and monitoring of 853 digital power controllers with a PLC or industrial computer through connection to a communication network (DeviceNet, Ethernet, etc.).
- **Local Digital Control:** User has a 4-digit LED display, 12 independent-status LEDs and 4 pushbuttons, which allow local control of the power controller. The user can control unit output, as well as monitor voltage, current and power on the LED display. The Local Digital Control also allows for monitoring of faults for troubleshooting. The local digital display is available mounted directly on the unit (as shown), or it can be shipped loose with a cable connector for mounting on the panel door.
- **Separate Fuse Kits:** Kit includes fuse holder and a properly sized semiconductor fuse.
- **Custom Configurations** are available to meet specific mounting and cooling requirements, packaging and higher than standard ratings.

Specifications

Phase:	Three-phase, six SCR switch
Input Voltages:	24 to 600 volt RMS
Input Frequency:	50/60 \pm 2 Hz.
Ambient:	50°C/120°F maximum
Ratings:	40, 90, 175 & 350 amp standard current ratings (open chassi ratings up to 1300 amp)
Regulation:	\pm 1% (configurable for voltage, current, or power)
Local Analog Input Signal:	Programmable to accept various input signals such as 0 to 20 mADC or 0 to 5 VDC
Local Analog Output Signal:	Programmable to output various control signals such as 0 to 20 mA or 0 to 5 VDC
Control Power:	Customer-supplied 85 to 265VAC, single-phase

