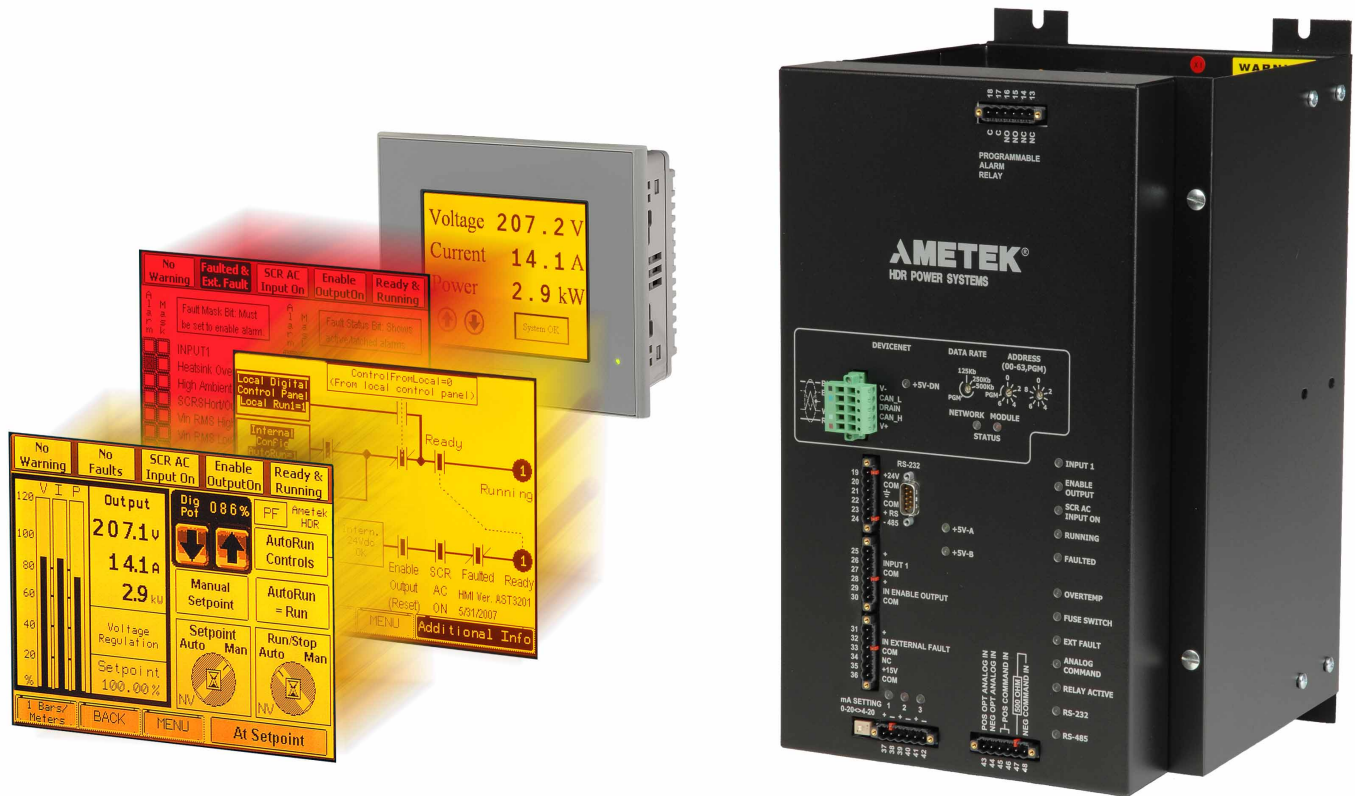


MP1 Single-Phase SCR Power Controller

The MP1 is the latest in cutting edge technology for SCR power controllers from AMETEK HDR. Designed from the ground up specifically for single-phase SCR power controller applications, the MP1 is the culmination of over thirty years of industrial heating and regulating design experience.



The MP1 features a powerful digital signal processor (DSP) enabling advanced system control, communications and diagnostic features. The system can be locally or remotely configured for zero-fire, phase-fire, zero-fire into a transformer or phase-to-zero fire; the ideal solution for a variety of industrial heating & regulating applications.

Remote command and communications interface has been streamlined; the MP1 is the only ODVA certified DeviceNet SCR power controller on the market today assuring communications connectivity and compatibility. Not using DeviceNet or Modbus today but want options in the future? The MP1 is capable of being controlled from traditional analog signals today and digital signals tomorrow.

MP1 Features

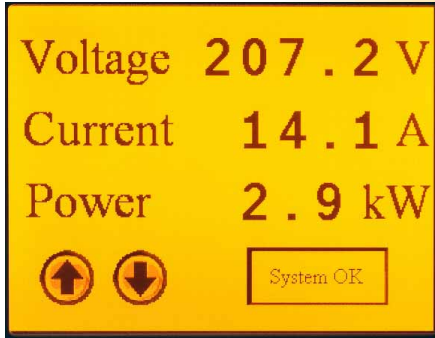
Value Features

- User friendly design focus
- Improved process quality with custom information and accurate control
- Easy digital calibration
- Upgradeable - identical footprint to previous non-digital HDR PF1 power controllers
- Flexible - can be used as a spare or replacement for many models
- Cost effective - link multiple controllers using a single network cable

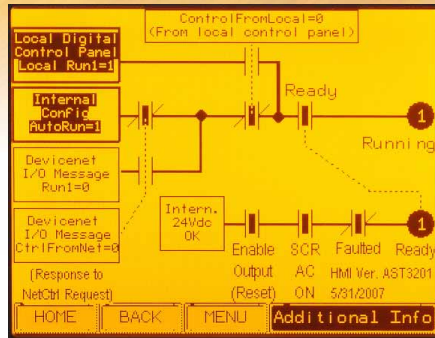


System Features

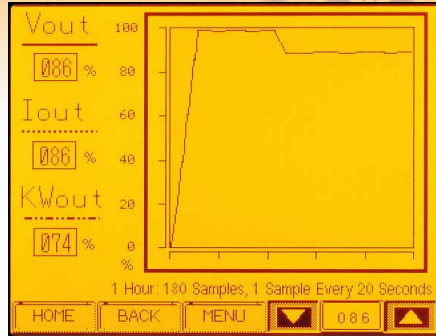
- Configurable for Zero-Fire, Phase-Fire, Zero-Fire into a Transformer and Phase-to-Zero Fire
- Monitor and control voltage, current, power, resistance, and faults
- High speed digital response
- Three programmable analog outputs, typically used for metering voltage, current, and power
- Command input can be from analog input, DeviceNet, and/or serial port
- DeviceNet and Modbus support: RS-232 and RS-485



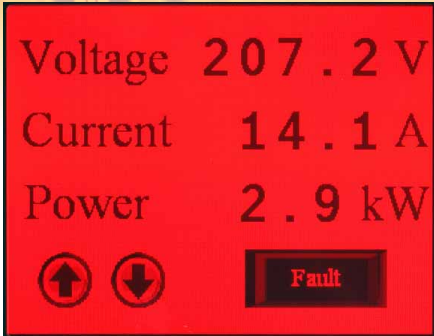
Simplified operational screen. Password protected.



Ladder logic diagram displays instantly the status of control logic.



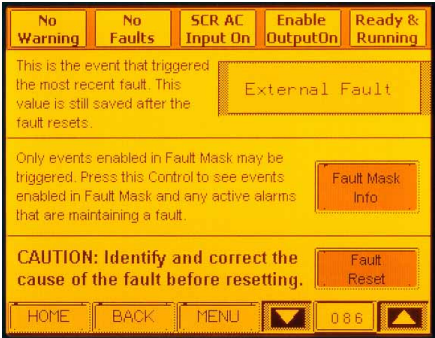
Performance logging trend graph monitors process history.



Screen changes to red for immediate notification of a fault/alarm condition.



The touch screen's HMI software has user configured fault conditions.



Event log tracks and stores important events.

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PANEL MOUNTED TOUCH SCREEN ENABLES ADJUSTMENT, CALIBRATION, AND FAULT CLEARING WITHOUT EXPOSURE TO ENERGIZED PARTS IN ACCORDANCE WITH OSHA STANDARD 1910-335

Technical Specifications

Control Configuration and Method

Two back to back SCR's (1- leg)	PF Phase-Firing ZF Zero-Firing ZFT Zero-Firing into a Transformer PZF Phase-to-Zero Fire
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Voltage and Current Ratings

Voltage	120, 240, 400, 480, 575VAC 46 - 64 Hz (50/60 Hz nominal)
Current	60, 90, 120, 180, 225, 350, 500, 650, 800, 1000, 1200 Amp

Command Setpoint Signal

Controller setpoint can be provided from three sources	Front Panel analog input DeviceNet provided setpoint Front panel serial port setpoint input (two serial ports)
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Digital Communication Ports

Digital Comm Port	DeviceNet (UCMM capable), Modbus RTU (RS-232 and RS485) (One Modbus port will be used by the local HMI panel)
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Analog Command Input

Analog Input (default)	0 - 10Vdc or 4 - 20mA (jumper connected internal 500 ohm resistor included for 20mA input)
Supplemental Analog Input	0 - 10Vdc or 4 - 20mA. Used for external feedback mode or general analog input point. (mA input requires external 500 ohm resistor)

Analog Outputs

Local Analog Output Signals	Three programable analog outputs 0 - 20mA Default configuration is for voltage, current and power (0 - 100%)
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General Data

Discrete (contact) Inputs	Enable Output, External Fault, INPUT 1 (programmable)
Alarm Relay	One Form C programmable relay
HMI Power Output	24Vdc available to power the HDR HMI control panel
Control Power	Customer supplied 120-240VAC, single-phase, 110VA
Fan Power	Customer supplied - 120VAC (standard) or 240VAC - customer must specify
Isolation	2500 volts rms from power circuit to command signal and to ground
Adjustments	Zero, Span, and all calibration are performed digitally (no potentiometers)
Ambient Temperature	Operating: 0 to 50°C, Storage: 10 to 70°C
Relative Humidity	0 to 95% (non-condensing)

Frame Sizes

Frame Size	Height (in/mm)	Width (in/mm)	Depth (in/mm)	Weight (lbs/kg)
60 - 225A	16.25 412.8	9.50 241.3	12.25 311.2	22 10.0
350 - 500A	20.125 511.2	14.75 374.7	8.50 215.9	24 10.9
650A	23.00 584.2	16.75 425.5	11.50 292.1	47 21.3
800 - 1200A	29.00 736.6	16.75 425.5	12.00 304.8	71 32.2
HMI Panel	4.10 104.1	5.12 130.0	1.59 40.3	0.4 0.2