

**3.3.13 MS-10ADXH0 Control Module (CLASS I, DIV/ZONE 2 AREAS)**

**Temperature Input**

Range: -50°C to +500°C  
 Accuracy: ±2°C  
 Repeatability: ±1°C  
 Sensor: Ten 100 ohm, Platinum, 3-wire RTD; one per point  
 20 ohm maximum lead resistance

**Current Input**

Range: 0.1A to 100A  
 Accuracy: 3%±0.2A  
 Sensor: Ten current transformers; one per point

**GF Input**

Range: 10mA to 1000mA  
 Accuracy: 5%±2mA  
 Sensor: Ten current transformers; one per point  
 Maimum Trip Time: 13.7 seconds

**Heater Switching**

No. of SSR Outputs: Ten  
 SSR Output Rating: 12Vdc@15mA max output for driving external solid-state relays  
 600Vac@100A max.  
 GF CT will allow two conductors of O.D. 0.35" max.  
 Heater Configuration: Single Phase

**Control Power**

Power Requirements: 15VA @ 120Vac, 50 or 60Hz

**Communications**

Communication Ports: (1) Parallel Local Interface connection  
 (2) Serial network connections

**Serial Communications**

Type: RS485  
 Protocol: Modbus® RTU.  
 Transmission Rate: 600, 1200, 2400, 4800, 9600 baud.  
 Interconnect: 2-wire, shielded, twisted pair.  
 Highway Distance: 4,000 feet without repeater.  
 Modules per Highway: (1) Interface and (30) Control Modules.

**Measured Values**

Temperature: -50 to 500°C (-58 to 932°F)  
 Minimum Temperature: -50 to 500°C (-58 to 932°F)  
 Maximum Temperature: -50 to 500°C (-58 to 932°F)  
 Heater Current: 0.1 to 100A  
 Heater Percent Power: 0 to 100%  
 Ground Fault Current: 0.01 to 1.0A  
 Heater Utilization: 0 to 100%  
 Power Consumption: 0 to 1,000 MWh  
 Operating Cost: 0 to \$1,000,000.00

**Environment**

Approval: CSA NRTL/C  
 Class I, Div. II, Groups A, B, C, D  
 Class I Zone 2, Group IIC  
 Operating Range: -40°C to +60°C  
 Conformal Coating: Boards conformal coated for hostile environments

**Alarm**

Alarm Output: Programmable for NO or NC contacts  
 One DC opto-isolated contact  
 One dry mechanical contact  
 Alarm Output Rating:  
 Hazardous Areas: DC contact: 30Vdc/0.1A, 500mW max  
 Dry mech contact: 30Vdc/10mA max  
 250Vac/0.5A max  
 (not subject to a corrosive environment)  
 Ordinary Areas: DC contact: 30Vdc/0.1A, 500mW max  
 Dry mech contact: 120Vac/1.0A max  
 30Vdc/0.1A max  
 Alarm Light Output: LED Indicator: 12Vdc/30mA

**Alarm Messages**

Temperature: High Temperature Alarm  
 Low Temperature Alarm  
 Current: High Current Alarm  
 Low Current Alarm  
 High Current Trip  
 Ground Fault Current: Ground Fault Current Alarm  
 Ground Fault Current Trip  
 Hardware: Self-Check Failure  
 Switch Shorted  
 RTD Open  
 RTD Shorted

**User-Settable Options**

Heater Status: Enable or Disable  
 Heater Name or Tag: 16 Character Alphanumeric  
 Temperature Units: °C or °F  
 Control Strategy: On-Off or Proportional  
 Deadband: 0 to 50C° (0-90F°)  
 StaggerStart: On or Off  
 PowerLimit: 0.5 to 100A  
 Temperature Setpoint: 0 to 500°C (32 to 932°F)  
 High Temp Alarm: 0 to 500°C (32 to 932°F)  
 Low Temp Alarm: -50 to 500°C (-58 to 932°F)  
 High Current Alarm: 0.5 to 100A  
 Low Current Alarm: 0.5 to 100A  
 High Current Trip: 0.5 to 100A  
 Ground Fault Alarm: 0.01 to 1.0A  
 Ground Fault Trip: 0.01 to 1.0A  
 TraceCheck Interval: 1 to 24 hr.  
 RTD Fail-safe: Heater On or Heater Off  
 Master Override Input: On or Off  
 Alarm Contacts: NO or NC for each contact  
 Alarm Light: Alarm on, Alarm off, Flash during alarm then on, Flash during alarm then off  
 GF Test: 1 to 24hrs, test now

Specifications subject to change without notice.