

3.3.9 MS-10ADIN2 (NON-HAZARDOUS 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

Heater Switching

Number of Switches: Ten dual pole
 Switch Rating: 30A @ 280Vac max
 Current Measurement: 0.1 to 30A 3%±0.2A
 GF Measurement: 10 to 1000mA 5%±2mA

Control Power

Power Requirements: 50VA @ 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
 Ground Fault Current: 0.01 to 1.0A
 Power Consumption: 0 to 1,000 MWh
 Heater Utilization: 0 to 100%
 Operating Cost: 0 to \$1,000,000.00

Ground Fault

Maximum Trip Time: 24.5 seconds

Environment

Approval: CSA NRTL/C for Ordinary areas
 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: 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
 Deadband: 0 to 50C° (0-90F°)
 StaggerStart: On or Off
 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 30A
 Low Current Alarm: 0.5 to 30A
 High Current Trip: 0.5 to 30A
 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.