TRANS-HEAT, LLC.
heat tracing specialists

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Romans 10:11 For whosoever believes on Him shall not be ashamed.

MS2000

TEMPERATURE CONTROLS

Controls

DESCRIPTION

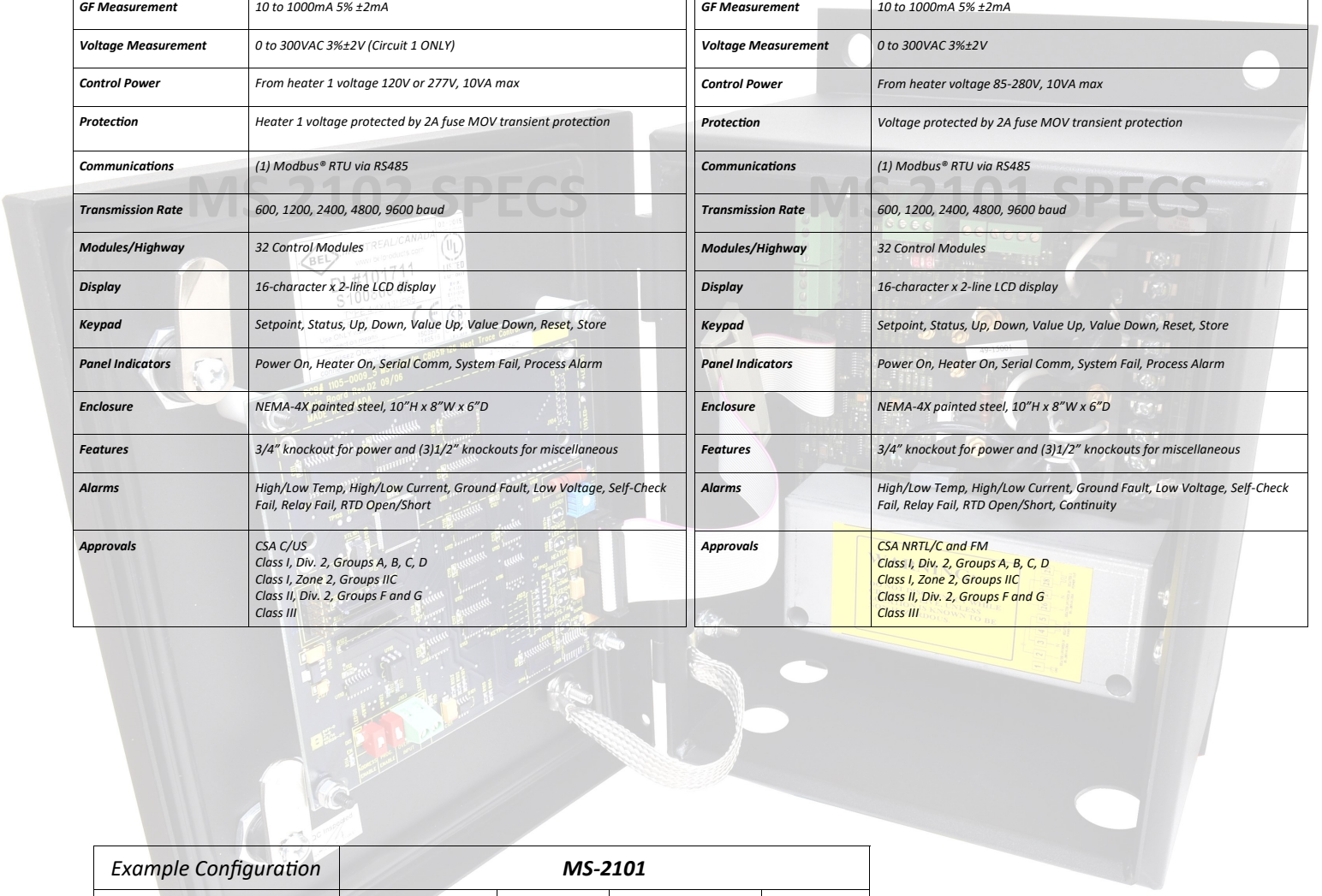
The MS-2100 series controllers are a microprocessor based heat trace control system designed for use in ordinary and hazardous locations. They control and monitor most types of heat trace. The MS-2100 series can switch up to 30A and accept up to two RTD inputs for redundancy or high-limit. These RTD inputs are user-settable with fail-safe features and can be configured to operate using only one, with the second as a backup. Alternatively, they can be configured to act as a high temperature cutout, or both can be used to control heat tracing based on values of the highest, lowest, or average of the two readings. The MS-2100 have both ON/OFF Control, with adjustable deadband, and Proportional Control that will maximize the performance and reliability of self-regulating and other types of heat trace. The master override input provides external control for load shedding or ambient temperature override. The PowerLimit feature reduces high inrush current associated with self-regulating cables, eliminating the requirement for over-sized breakers, and allows the operator to set the maximum average heater current level of each circuit. The MS-2100 has the capability of networking with other MasterTrace controllers providing the most flexible and cost effective solutions for existing and future heat trace needs. The MS-2100 continuously monitors all important heat trace variables such as temperature, current, voltage and ground fault detection and alerts operators of possible problems before they occur. All user-selectable alarm levels are independent of the trip levels and additionally, the MS-2100 performs a self-check and monitors the RTD and switches. To ensure that your heat tracing system operates 24-7, 365 days/year, TraceCheck periodically energizes and checks for alarm conditions on all dormant signals. The MS-2100 also logs minimum and maximum values and energy usage.

Range	*-50 to +500°C (-58 to 932°F)*
Accuracy/Repeatability	*±2°C, ±1°C*
RTD Input	*(2)Single 100Ω platinum, 3-wire 20Ω maximum lead resistance*
Configuration	*(2) Single-pole control circuits 800A 1 cycle inrush*
Ratings	*120V or 277V, 30A continuous, 50-60Hz*
Current Measurement	*0.1 to 30A 3%±0.2A*
GF Measurement	*10 to 1000mA 5% ±2mA*
Voltage Measurement	*0 to 300VAC 3%±2V (Circuit 1 ONLY)*
Control Power	*From heater 1 voltage 120V or 277V, 10VA max*
Protection	*Heater 1 voltage protected by 2A fuse MOV transient protection*
Communications	*(1) Modbus® RTU via RS485*
Transmission Rate	*600, 1200, 2400, 4800, 9600 baud*
Modules/Highway	*32 Control Modules*
Display	*16-character x 2-line LCD display*
Keypad	*Setpoint, Status, Up, Down, Value Up, Value Down, Reset, Store*
Panel Indicators	*Power On, Heater On, Serial Comm, System Fail, Process Alarm*
Enclosure	*NEMA-4X painted steel, 10"H x 8"W x 6"D*
Features	*3/4" knockout for power and (3)1/2" knockouts for miscellaneous*
Alarms	*High/Low Temp, High/Low Current, Ground Fault, Low Voltage, Self-Check Fail, Relay Fail, RTD Open/Short*
Approvals	*CSA C/US Class I, Div. 2, Groups A, B, C, D Class I, Zone 2, Groups IIC Class II, Div. 2, Groups F and G Class III*

MS-2102 SPECS

Range	*-50 to +500°C (-58 to 932°F)*
Accuracy/Repeatability	*±2°C, ±1°C*
RTD Input	*Dual 100Ω platinum, 3-wire 20Ω maximum lead resistance*
Configuration	*One dual-pole control circuit 800A 1 cycle inrush*
Ratings	*120V-277V, 30A continuous, 50-60Hz*
Current Measurement	*0.1 to 30A 3%±0.2A*
GF Measurement	*10 to 1000mA 5% ±2mA*
Voltage Measurement	*0 to 300VAC 3%±2V*
Control Power	*From heater voltage 85-280V, 10VA max*
Protection	*Voltage protected by 2A fuse MOV transient protection*
Communications	*(1) Modbus® RTU via RS485*
Transmission Rate	*600, 1200, 2400, 4800, 9600 baud*
Modules/Highway	*32 Control Modules*
Display	*16-character x 2-line LCD display*
Keypad	*Setpoint, Status, Up, Down, Value Up, Value Down, Reset, Store*
Panel Indicators	*Power On, Heater On, Serial Comm, System Fail, Process Alarm*
Enclosure	*NEMA-4X painted steel, 10"H x 8"W x 6"D*
Features	*3/4" knockout for power and (3)1/2" knockouts for miscellaneous*
Alarms	*High/Low Temp, High/Low Current, Ground Fault, Low Voltage, Self-Check Fail, Relay Fail, RTD Open/Short, Continuity*
Approvals	*CSA NRTL/C and FM Class I, Div. 2, Groups A, B, C, D Class I, Zone 2, Groups IIC Class II, Div. 2, Groups F and G Class III*

MS-2101 SPECS



ORDERING INFO

Example Configuration	***MS-2101***			
P/N	*System Voltage*	*No. Poles*	*No. HT Circuits*	*Weight*
9004-0101	*120V-277V*	*2*	*1*	*15 Lbs.*
9004-0107	*120V/277V*	*1*	*2*	*15 Lbs.*
**9005-XXXX*	*208V/240V*	*2*	*2*	*15 Lbs.*

** 9005-XXXX is a built-to-order controller. Please specify either 208V or 240V when ordering.*