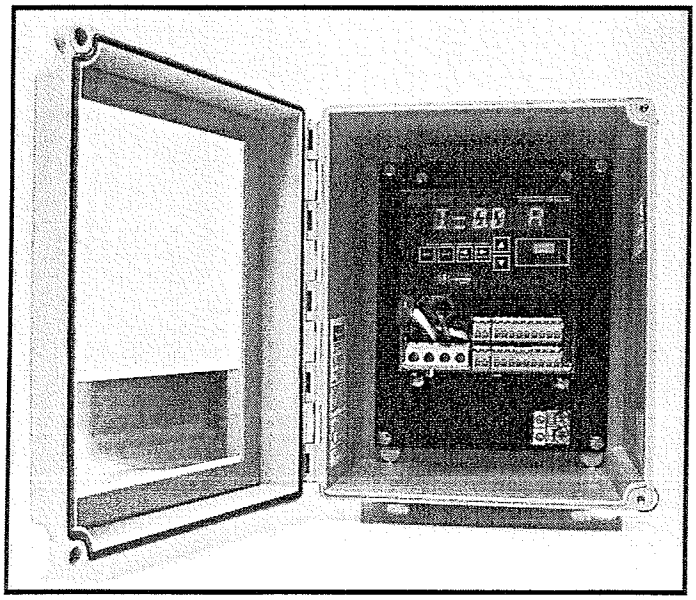
DigiTrace™ 910 Series Single Point Heat Trace Controller



FULLY FEATURED

- Compact, fully featured single point Heat-trace Controller
- Compatible with ALL types of heating equipment and cables
- Computer monitoring eliminates need for preventative maintenance
- Full GFI protection - independent Alarm and Trip settings

COST EFFECTIVE

- Per point costs similar to larger multi-point panels
- No need for additional GFI protection devices

VERSATILITY

- Double pole Solid-state or Electro-mechanical relay switching
- Supports both single and 2 pole configurations to a full 30 Amps

RELIABILITY

- Excellent corrosion protection (conformally coated circuitry)
- State of the art surface mount technology

DigiTrace™

Proven performance and technology for all of your heat trace control applications.

DigiTrace™ 910 Series Heat Trace Controller

HIGHLIGHTS

EVERYTHING YOU NEED IN A SINGLE POINT CONTROLLER:
Each 910 Controller supports one individual heat trace circuit. Terminals are included for low-level signals such as RTDs, alarming and communications, as well as for power wiring.

CHOICE OF OUTPUT DEVICES:
The 910 Series HTC is available in two output types:

- electro-mechanical relay (EMR) output for use in ordinary (non-hazardous) areas, and
- solid-state relay (SSR) output for use in either ordinary or Class I, Div. 2 / Zone 2 hazardous locations.

Ratings of 30A, 120 to 277Vac are standard for both types.

UNIVERSAL DESIGN:
The Controller incorporates a universal power supply (100-277Vac), 50/60Hz support, voltage, current, and ground fault sensing. No other components are required.

INTEGRAL CONSOLE:
Large, easy to read alpha-numeric characters and menu-driven interface eases configuration and eliminates the need for an external programmer. All monitored parameters, programmed values and alarming information are available to the user.

OPTIONAL COMMUNICATIONS:
Communications modules are available for remote monitoring and configuration. A modem version maintaining compatibility with all existing Pyrotenax heat trace controls and upstream devices (GCCs, HHPs, and PyroMaster™ software) may be chosen, or other industry-standard interfaces such as RS-485 and RS-232 may be specified.

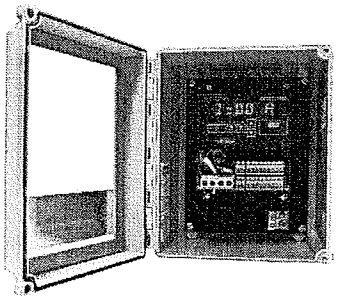
VERSATILE MONITORING AND ALARMING:
The Controller monitors and alarms on high or low temperature, voltage, resistance, or load current at user defined levels. Two separate temperature inputs are standard, and both are monitored for open or shorted sensors. The 910 Series Controller also monitors ground fault currents and is suitable for meeting the latest NEC, CEC, and IEEE equipment protection requirements. The user may program separate ground fault alarm and trip levels.

RESISTANCE MONITORING:
This feature provides enhanced functionality over the standard low current alarming when using tracing with constant resistance. The Controller calculates trace resistance in real-time, minimizing nuisance low current alarms when the line voltage fluctuates. This makes for more reliable detection of heating zone loss for constant wattage heating cables.

AUTO-CYCLE™:
The controller will momentarily energize the circuit at a user defined interval. Circuit alarms will be generated at the time of auto-cycle, rather than only when heat is required. This feature essentially eliminates the requirement for preventative maintenance checks.

REMOTE ENABLE/DISABLE:
In applications where the designer wishes to disable individual or grouped Controllers directly, a remote contact can force the unit(s) into an idle state, where temperature control is disabled, but trace monitoring and alarming functions remain active.

HARSH ENVIRONMENT OPERATION:
Wide temperature range operation plus conformally coated circuitry permits installation in almost any environment. Suitable for use in Class I, Division 2 and Zone 2 hazardous areas (Solid-state output versions only) as well as ordinary (non-hazardous) locations.



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SPECIFICATIONS AND FEATURES

GENERAL:

Operating Ambient: -40 to +60°C (-40 to +140°F)
Universal 100-277Vac 50/60Hz operation

APPROVALS:

c UL us Indicates certification of products meeting both U.S. and Canadian standards
Ordinary locations (SSR and EMR versions)
Class I, Div. 2, Groups A,B,C,D and Ex nA IIA,IIB,IIC (SSR version only) , T-code: T4

TEMPERATURE CONTROL:

(2) 3-wire 100 ohm Platinum (α=0.00385$\Omega/\Omega/°C$) RTD inputs
Also supports 2- or 3-wire 100 ohm Nickel-Iron RTD
Open/shorted sensor alarm, lead resistance compensated to 20 ohms per lead
-60 to +570°C (-76 to +1058°F) measurement range
Proportional / Deadband, adjustable from 1 to 50°C (2 to 122°F)
8 Temperature Control Modes
Remote Inhibit/Override Operation

OUTPUT CONTROL:

SSR: 2-pole, 30A @ 120 to 277Vac nominal., 80A 1sec. in-rush, 625A 1 cycle in-rush
EMR: 2-pole, 30A @ 120 to 277Vac nominal.
Adaptive Soft-StartingTM (In-rush current-Limit), Breaker Trip, Output Switch Protection
Programmable Power Limiting, Overcurrent Trip Feature
Adjustable Ground Fault Trip
4 Switch Control Modes including Proportional Ambient Control

AC MEASUREMENTS:

Voltage measurement range: 80 to 295Vac
Current measurement range: 0.3 to 100A (limited by output device)
Ground Fault Current range: 20 to 250ma

ALARMING:

Adjustable HI/LO Temperature, Current, Voltage, and Resistance Alarms
Adjustable HI Ground Fault Alarm
Temperature Sensor, Output Switch, and Communications Failure Alarms
Overcurrent Alarm
Alarm Filtering
Low voltage and Line voltage alarm outputs

OTHER FEATURES:

Power Accumulator (kW-h)
Programmable Alarm Output Contact
Programmable Auto-Cycle™
Random Startup Delay

OPTIONAL COMMUNICATIONS:

HTCBusTM / Modbus (RTU or ASCII)
Optional RS-232 / Isolated Modem / Isolated RS-485 (2-wire)

STANDARD CONSOLE:

Output, Alarm, Communications Status Indicators
Degrees C or F Indication
6 digit Alpha-numeric Display
Wide Temperature Operation
Programming Keypad

Pyrotenax®

ORDERING INFORMATION

910 Series Controller Assemblies are ordered as complete units.

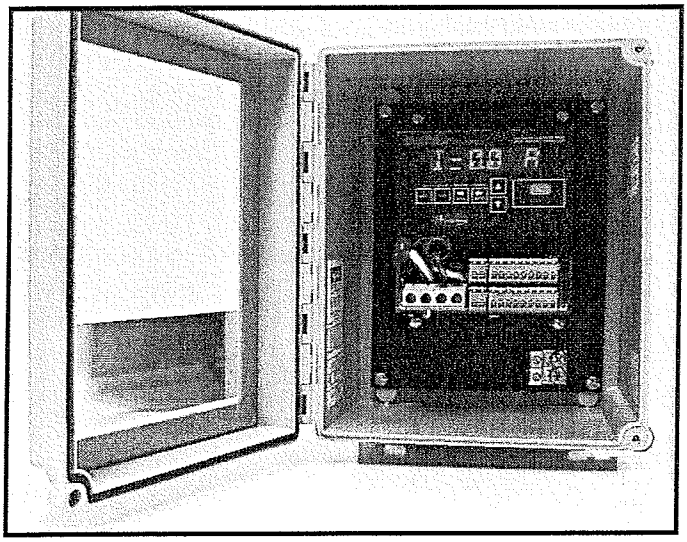
Contact your local representative for other available configurations that are not listed below.

STOCK ENCLOSURE ASSEMBLIES

DESCRIPTION	MODEL CODE
Controller in an 8"x10" FRP Enclosure with window. 2 pole 30A 277V EMR. Controls a single circuit with a 2-pole electro-mechanical relay.	910*E1FWL*EMR2
Controller in an 8"x10" FRP Enclosure with window. 2 pole 30A 277V SSR. Controls a single circuit with a 2-pole solid-state relay.	910*E1FWL*SSR2

AVAILABLE OPTIONS

DESCRIPTION	MODEL CODE
100 ohm Platinum RTD with 10 foot S/S corrugated sheath.	*RTD10CS
Modem communications option	*MDM
Isolated 2-wire RS-485 communications option	*485
RS-232 communications option	*232
Red or Green Pilot Light	*ALR or *ALG
Stainless Steel 8"x10" Enclosure with Window	replace *E1FWL with *E1SW



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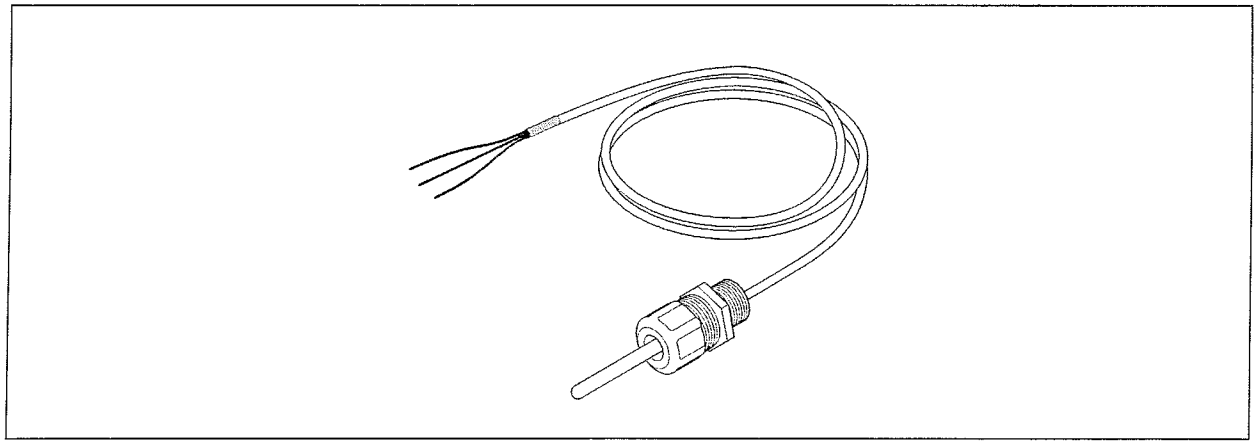
RTD-200

D100 07AT0 011A

RTD temperature sensor for ambient sensing

The RTD-200 is a three-wire platinum RTD (resistance temperature detector) typically used with electronic control systems that require accurate ambient temperature sensing. The RTD-200 comes with a 1/2" NPT fitting that installs to the appropriate conduit box. This allows mounting of the RTD in a typical ambient location. This also allows for splicing of RTD extension wire back to the controller.



Specifications	
Sensor	
Housing	316 stainless steel
Dimensions	3-in (7.6 mm) length, 1/4-in (6 mm) diameter
Accuracy	± 0.3°F (± 0.2°C)
Range	–100°F to 300°F (–73°C to 149°C)
Resistance	100 ohms ± 0.25 ohm at 0°C α=0.00385 ohms/ohm/°C
Extension wire	
Wire size (each of three)	22 AWG
Wire dielectric strength	600 V
Length	6 ft (1.8 m)
Outer jacket	Fluoropolymer
Maximum exposure temperature	300°F (149°C)
Sensor fitting	1/2-in (12.7 mm) NPT with sealing washer and nut

Approvals	Approvals associated with control device. Not to be used in Division 1 areas.