TC-XX-PR-59
Temperature Controller

The PR-59 temperature controller is designed for reversible (cooling/heating) control of thermoelectric assemblies requiring precise temperature control accuracy. The controller not only regulates the temperature, but also features two programmable fan outputs and an alarm output relay. The controller can be used as a stand-alone unit interface with RS-232 to read and control parameters and settings in realtime. An easy-to-use PC software is included for programming and visual review of output parameters. Custom configurations can be accommodated, however MOQ applies.

FEATURES

- Operation in cooling and heating modes
- Regulation mode is user selectable & configurable (PID, ON/OFF, POWER)
- Input power range can accommodate 12- 30 VDC
- Programmable set point (via pc, or potentiometer)
- Outputs are available for fan, thermoelectric module, NTC thermistor or PT1000 sensors, alarm and LEDs
- RS-232 Communication
- Graphical User Interface that runs on Windows

APPLICATIONS

- Medical diagnostics
- Analytical instrumentation
- Photonics laser systems
- Electronic enclosure cooling
- Chillers (liquid cooling)

BENEFITS

- Real-time control of regulator parameters and temperature readings via RS232 interface
- Standalone operation
- Control temperature, from -20°C to +100°C (-4°F to +212°F) with the standard NTC sensor Other temperature range possible with other (NTC, PT1000) sensors
- Configurable alarms
- Temperature resolution of max 0.01°C
- Use NTC or PT1000 sensors
- Pulse width modulation of output: (Base Frequency of 10 kHz)
- Control Stability of ±0.05°C (-20°C to +50°C)
- Two alarm temperature sensor inputs with adjustable alarm set points
- Alarm relay output, normally closed (will open on alarm); 1 A @ 24 VDC/120 VAC
- Adjustable Fan Speed

TECHNICAL SPECIFICATIONS	
Power	
Voltage	12 to 30 VDC
Current	15 A (up to 30 A with additional cooling)
Power	Up to 900 W (with additional cooling)
User Interface	
	Graphical User Interface PC program External Potentiometer (optional)
Sensors	
Temp 1 Sensor	NTC or PT1000
Temp 2 Sensor	NTC
Temp 3 Sensor	NTC
Temp 4 Sensor	NTC (onboard)

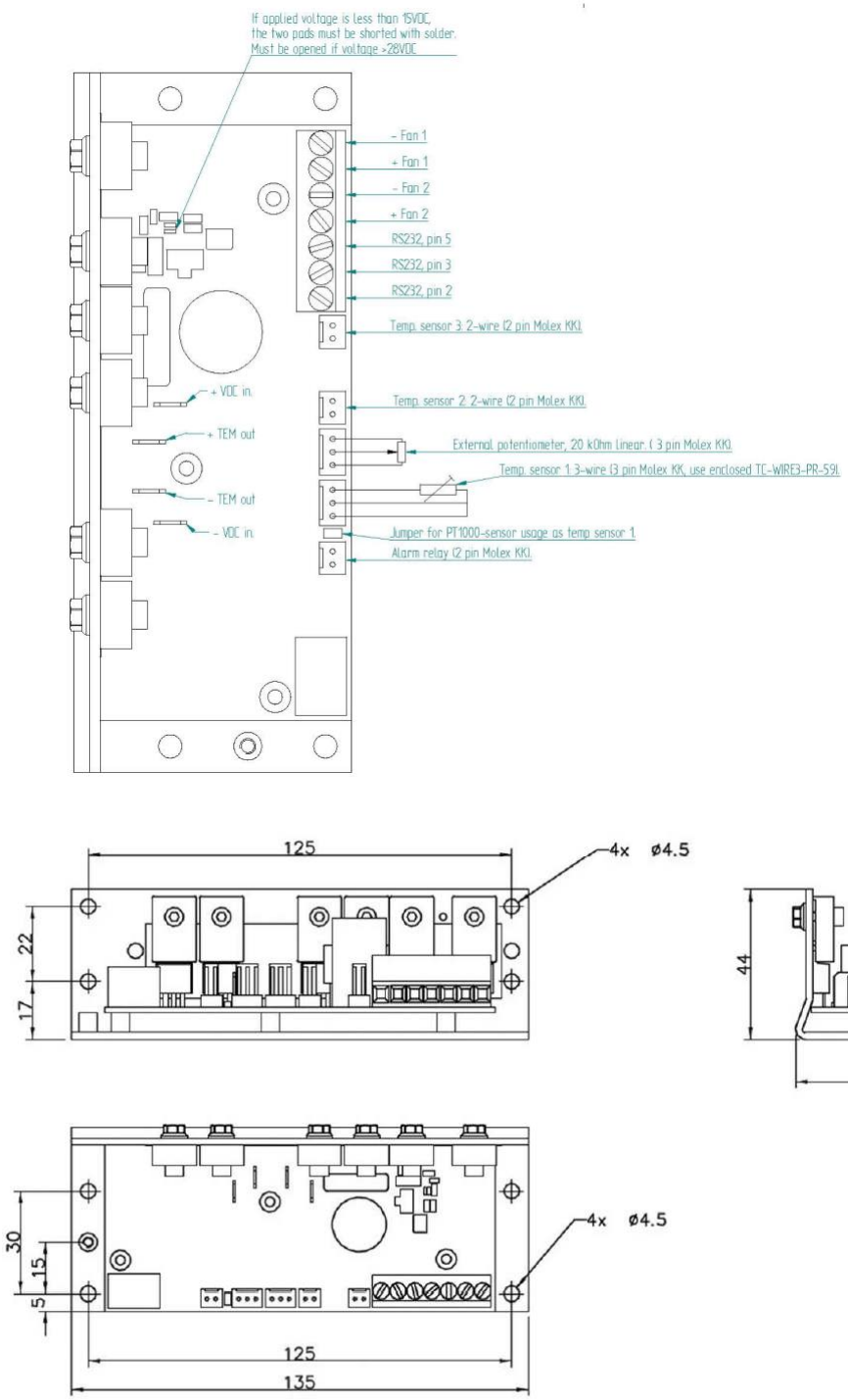
Outputs	
Thermoelectric Module	PWM, 0-Supply Voltage @ <=15 A (30 A with additional cooling)
Fan 1	Linearly Regulated: 0-Supply Voltage @ 2 A
Fan 2	Linearly Regulated: 0-Supply Voltage @ 2 A
Alarm Relay	1 A @ 24 VDC/120 VAC (will open on alarm)
LED	Regulator Voltages, Regulator Activity, Alarm, Relay Status

Alarms	
Low Voltage	If voltage is lower than programmed minimum level the outputs are shut down, the Alarm LED is turned on and the Alarm Relay is opened
High Voltage	If voltage is higher than programmed maximum level the outputs are shut down, the Alarm LED is turned on and the Alarm Relay is opened
Thermoelectric current	
Over	If the Current is higher than the programmed maximum level the outputs are shut down, the Alarm LED is turned on and the Alarm Relay is opened
Under	If the Current is lower than the programmed minimum level the outputs are shut down, the Alarm LED is turned on and the Alarm Relay is opened
Fans 1 & 2 Current	
Over	If the Current is higher than the programmed maximum level the outputs are shut down, the Alarm LED is turned on and the Alarm Relay is opened
Under	If the Current is lower than the programmed minimum level the outputs are shut down, the Alarm LED is turned on and the Alarm Relay is opened
Temp Sensors 1	
Over	If the temperature is higher than the programmed maximum level turn on Alarm LED
Under	If the temperature is lower than the programmed minimum level turn on the Alarm LED
Temp Sensors 2, 3, 4	
Over	If the temperature is higher than the programmed maximum level the outputs are shut down, the Alarm LED is turned on and the Alarm Relay is opened
Under	If the temperature is lower than the programmed minimum level the outputs are shut down, the Alarm LED is turned on and the Alarm Relay is opened

NOTES

1. NTC - 1 thermistor included
2. Mounting hardware is not included. Clearance holes available to accommodate M4 machine hardware or standoffs
3. Mating connectors are not included. For input power connections (SV21,SV31,SV33,SV22) use 0.250” fast-on style terminal For temperature sensors, external potentiometer and alarm relay use Molex KK 2695, 6471, or 7880 Series connectors. Au plating is recommended on mating pin terminals.

ISOMETRIC DRAWINGS



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