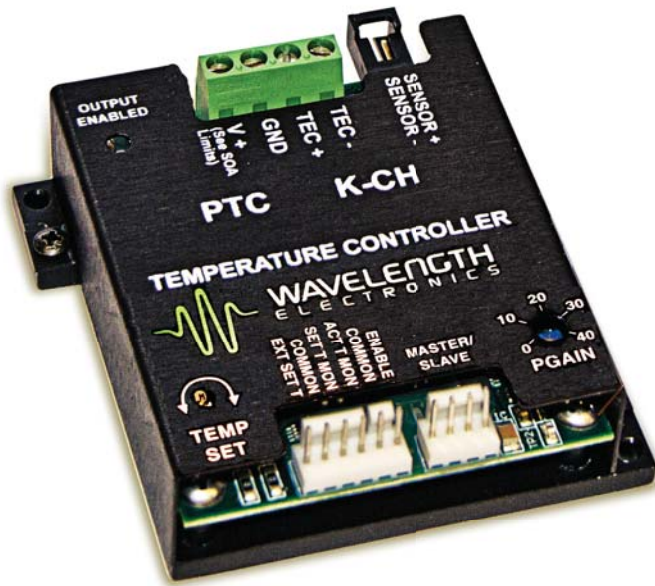


# PTCxK-CH Series

## Chassis-Mount Temperature Controller



### FEATURES

- Three models: 2.5, 5.0, 10 A output current
- Single supply operation: 5 – 30 VDC
- Linear Stability of 0.0012°C
- Use with a variety of temperature sensors
- TTL-Compatible Remote Enable input
- Versatile on-board adjustments
  - » Remote or local setpoint control
  - » Current limit trimpot
  - » PI Control with “Smart Integrator”, adjustable proportional gain
- Monitor Outputs
  - » Temperature Setpoint voltage
  - » Actual Temperature voltage
- Use with TECs or Resistive Heaters
- Master / Slave capable for drive current up to  $\pm 20$  A
- Molex-connectorized cables included
- Easily computerized with the USBKIT
- PCB-mount models also available
- Factory-modifications available to customize the controller for your application

### TIME-TESTED RELIABILITY

The PTC-CH Series Chassis Mount Temperature Controllers deliver the precision performance and long-term reliability you expect from a Wavelength Electronics temperature controller.

PTC-CH Series controllers are found in such diverse applications as particle and droplet measurement, manufacturing machine vision systems, biomolecular interaction analysis, and more.

### VERSATILE AND EASY TO USE

The PTC-CH controllers operate from a single power supply between 4.5 V and 30 V, and a selection of models allows you to optimize the current output level for your application. The linear bipolar controller drives a Peltier thermoelectric cooler or a resistive heater, and the chassis-mount package integrates easily into OEM applications.

PTC-CH controllers interface with a variety of temperature sensors, and the bias current is adjustable in order to maximize controller sensitivity and stability for your application.

The compact chassis-mount design simplifies heatsinking and requires minimal space. PTC-CH controllers are quick to configure for your prototype project, and there are no surprises when it's time to integrate the controller into the final design.

### PRACTICAL FEATURES FOR REAL-WORLD CONDITIONS

Built-in features make your product more robust to real-world operating conditions and minimize your electronics overhead:

- If the optional remote temperature setpoint signal is lost, the controller defaults to a standard “safe” temperature setpoint (25°C when a 10 k $\Omega$  thermistor is used). The safe temperature can be changed at the factory; call for details.
- An on-board trimpot is used to set the output current limit to prevent over-driving the TEC, and helps protect your load from thermal runaway situations.
- Proportional gain is easily adjusted with an on-board trimpot.
- Low temperature coefficient design remains stable across a wide range of ambient conditions.

When used with Wavelength's laser drivers, such as the PLD Series, these temperature controllers provide stable and reliable performance that sets your system apart from your competitors' and keeps your customers satisfied.

### COUNT ON WAVELENGTH ELECTRONICS

Our experienced Sales Engineers are available to help you decide which temperature controller is right for your application. Call today or visit our website to find out how Wavelength Electronics can help you to be successful.

# PTCxK-CH Series

## Chassis-Mount Temperature Controller

### PTCXK-CH CONTROLLER SPECIFICATIONS

DRIVER OUTPUT CURRENT	PTC2.5K	PTC5K	PTC10K	UNIT	NOTE
Max Output Current	± 2.5	± 5	± 10	A	
Short Term Stability, 1 hr	< 0.0012			°C	Off-ambient
Short Term Stability, 1 hr	< 0.0014			°C	On-ambient
Long Term Stability, 24 hr	< 0.002			°C	Off-ambient
Temperature Coefficient	< 100			ppm / °C	
Compliance Voltage	V <sub>DD</sub> - 1.5	V <sub>DD</sub> - 2.2	V <sub>DD</sub> - 4.5	V	
External Setpoint Range (V <sub>EXT</sub> )	0 – 5.0			V	Damage limits -0.5 < V <sub>EXT</sub> < 6.5 V
TEMPERATURE SENSORS	PTC2.5K	PTC5K	PTC10K	UNIT	NOTE
Sensor Compatibility	Thermistor, RTD, Linear Sensors				
Sensor Compliance Voltage	3.7 (V <sub>DD</sub> = 5 V) or 5.5 (V <sub>DD</sub> > 7 V)			V	
Sensor Bias Current Range	0.01, 0.1, 1.0, 10			mA	
Sensor Voltage Range	Smaller of (0 to 5) or (V <sub>DD</sub> - 1.4)			V	
Setpoint vs. Actual Accuracy	< 1			mV	
POWER SUPPLY REQUIREMENTS	PTC2.5K	PTC5K	PTC10K	UNIT	NOTE
Supply Voltage (V <sub>DD</sub> )	4.5 – 30			VDC	
Quiescent Current	50			mA	
Maximum Internal Power Dissipation	60			W	Derating begins at 55°C
ABSOLUTE MAXIMUM RATINGS	VALUE	UNIT	NOTE		
Supply Voltage (V <sub>DD</sub> )	30	VDC			
Case Operating Temperature	-40 to 85	°C			
Case Storage Temperature	-65 to 125	°C			
Weight	4.3	oz	122 g		
Size	3 x 3.2 x 1.1	inches	76.2 x 81.3 x 27.9 mm		

Additional specifications are available in the product datasheet; download at [www.teamWavelength.com/products/product.asp?part=164](http://www.teamWavelength.com/products/product.asp?part=164)

### ORDERING INFORMATION

PART NUMBER	DESCRIPTION
PTC2.5K-CH	2.5 A Temperature Controller
PTC5K-CH	5.0 A Temperature Controller
PTC10K-CH	10.0 A Temperature Controller
PTC10K-SL	10.0 A Slave Unit (use with PTC10K-CH)
USBKIT	USB Interface kit, with software

Free, effective, and responsive technical support is available to simplify integration of Wavelength products into your OEM design. Standard product can be modified to meet your unique application requirements.

[Sales@teamWavelength.com](mailto:Sales@teamWavelength.com)

