



TotalTemp Technologies, Inc.

Independent Thermal Failsafe System



Rev. 3 10/12/2020

Introduction

Thank you for purchasing your new Independent Thermal Failsafe System from TotalTemp Technologies, Inc.

This product was designed to provide years of efficient trouble free operation. Please read and understand this manual plus the controller manual for safe and best use of this product.

This manual also starts with some general safety guidelines for thermal platforms.

Safety

Safety Symbols:

The following symbol on equipment indicates the existence of a hazard that is explained in more detail in the manual.



The following symbol on the equipment indicates there is danger of electric shock if the indicated panel is removed while the product is connected to power.



General Warnings:

This device employs line voltage connected components and caution should always be used to avoid electrical hazards.

Always use caution around devices capable of extreme temperatures. Burns from either extreme hot or cold conditions may result.

Controller Compatibility:

This unit is intended to supply power to and protect any temperature chamber, thermal platform, device or other thermal system from adjustable ranges of high and low extreme temperatures. The default range setting is +2000°C to -100°C in this case. The limit of the temperature range is primarily due to the insulation on the sensor. This thermal failsafe system will protect the system plugged into it by shutting down power to the 120v AC outlets on the rear of the unit.

There is a duplex 15A. outlet on the rear panel that is protected by the thermal protection capability of this system and additionally current protected by rear panel mounted 15A. circuit breaker.

Special capabilities and limitations:

Temperature sensing: The thermocouple of this system must be physically attached to the heating and cooling area at all times to be protected. The heating/cooling system of course must be powered by plugging it into this unit. Default sensor is good for the range of +200°C to -100°C

Versions of this product using 100 ohm or 500 ohm RTD are possible.

Remote Communication: See Addendum and information on CD/Thumbdrive for information regarding RS-232 or RS485 remote communication.

Watlow module is larger 'PM6' version for system with RS-232 Modbus communication.

Basic Controls:

Power switch/Circuit breaker at rear enables power to the system and anything plugged into it.

The Silence switch disables the audible alarm but the red lamp on the panel will still indicate when the system has performed a shut-down.

The 15A. breaker on the rear panel protects the entire system from over current.

The type K thermocouple provided or similar must be plugged into front panel in the yellow connector and either directly secured to the device requiring thermal protection. Alternatively the sensor of the thermocouple can be secured in the airstream of a temperature chamber to be protected.

At the rear panel the circuit breakers for both of the pairs of outlets should be pressed in and latched for operation.

Limit Controller Settings:

There are four buttons on the front of the included Watlow limit controller.

The green **sequence button** with arrows sequences between the for preset available screens

- 1) Current temperature plus Safe/Fail Status (Main Screen)
- 2) LL.S - Limit Low Setting
- 3) LH.S - Limit High Setting
- 4) iCA - Calibration offset

When any of the above screens other than the Status screen is showing, the Up Arrow and Down Arrow buttons control the setting for the indicated parameter.

The **(RESET)** Button will manually clear the latched condition of failsafe tripping. Additionally

this button will exit from the other setting modes to the main screen.

Pressing the up arrow and down arrow simultaneously will allow access to several additional setup parameters such as maximum and minimum temperature settings. Knowledge of the consequences, good amount of patience and access to the manufacturer's documentation is recommended, before making adjustments to these parameters. Below is link to full manual for limit controller.

<http://www.watlow.com/downloads/en/manuals/PMExp%20Rev%20E%20Limit.pdf>

- EZ Zone PM Limit

Failsafe Tripped Indication:

Red Lamp flashes and alarm will chirp for two seconds at power up as part of self test and verification that audible is or is not enabled.

Red Lamp on front panel will always indicate failsafe tripped condition. The Audible alarm will also sound unless the Silence switch is in 'Silence' position (Down).

Troubleshooting:

After reading the operation manual, if problem persists or a clear solution is not provided, please consult the factory for resolution of the problem. Offices are open 8-5 Pacific time, weekdays.

Storage:

Store in a dry environment. Normal safe packing procedures should be followed if the unit is to be shipped. Controllers must be stored in a non condensing environment,

Parts: Contact the factory for any needs involving maintenance or accessory parts.

Service:

TotalTemp Technologies, Inc

3630 Hancock St. Ste A.

San Diego, CA 92110

www.TotalTempTech.com

Support@TotalTempTech.com

(888) 712-2228 x1



Warranty: Following page

TotalTemp Technologies, Inc.
2 Year Domestic Warranty
(U.S.A. & Canada)

WARRANTY

TotalTemp Technologies, Inc. (TotalTemp) warrants their standard Thermal Platform Systems (Platform *and* Temperature Controller) to be free from defects in material and workmanship for a period of one year from shipment date of product. If a defect is discovered in the product, TotalTemp will replace the failed component at their option. The replacement of failed components does not include labor for diagnosing the problem, or repairs and installation. In the event that TotalTemp will provide the warranty replacement components, TotalTemp will pay the least expensive transportation costs to the original sale destination of the product. The customer will be responsible for the costs and labor for installation of the new component. If the customer wishes, for purposes of diagnosing the problem, TotalTemp will provide a reasonable amount of technical assistance to the customer via email or telephone. The purpose of which is to help both parties provide the fastest solution possible at a reasonable cost to the customer.

EXCLUSIONS

This warranty covers defects in manufacturing discovered while using the product as recommended by the manufacturer. This warranty does not cover loss or theft, nor does coverage extend to damage caused by misuse, abuse, unauthorized modification, repair, or shipping of the product, improper storage conditions, or natural disasters. This warranty does not cover parts that are subject to normal wear and tear such as cryogenic solenoid valves.

LIMITS OF LIABILITY

Should the product(s) fail, TotalTemp will provide replacement components, at their discretion, as described in the preceding paragraphs. TotalTemp cannot be held liable for any damage that results from the failure of this product. Damages excluded include, but are not limited to the following: lost profits, lost savings, lost data, damage to other equipment, and incidental or consequential damages arising from the use, or inability to use this product. In no event, under any circumstances, will TotalTemp be liable for more than the amount of the original purchase price, excluding tax, shipping and handling charges.

This warranty only applies with product remaining at original shipped to destination. Relocation of product without prior arrangements and agreement from TotalTemp will void the Warranty.

By installing or using this product, the user accepts all terms described herein.
Venue for enforcement of this warranty rests in San Diego County, California, U.S.A.