

DigiTherm Digital Temperature Controller

Instruction manual



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WARNING

Read and understand this manual before operating the controller. Failure to understand instructions and safety precautions could result in an accident causing injury or be fatal.

Introduction

The DigiTherm temperature controller is a durable, compact and very easy to use temperature controller for precise temperature adjustment.

The digital temperature controller is in a compact design and easy to mount to the desired element.

The temperature controller can be used to control temperature on a large variety of products, e.g. Industrial Heating Blankets, Drum Heaters and IBC Container Heaters.

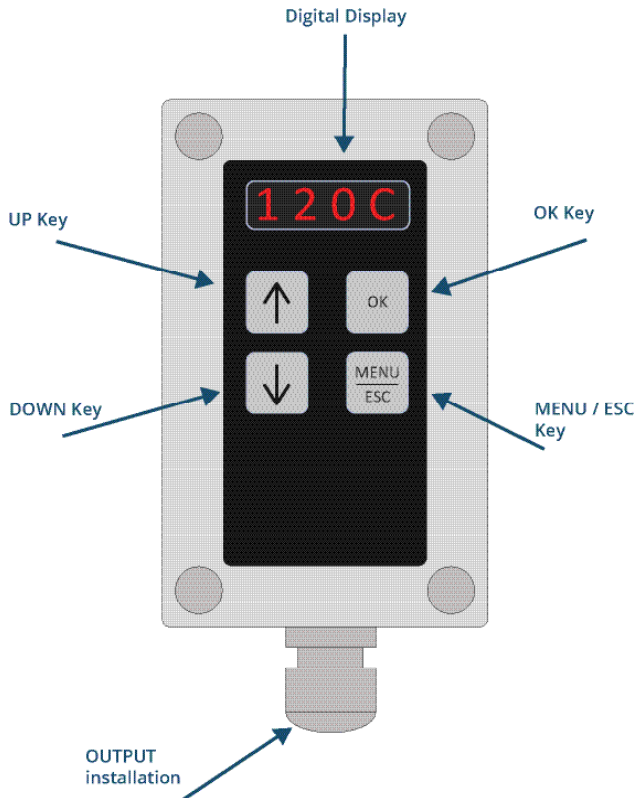
Important safety instructions

- Always inspect the controller before use.
- Never handle the installed heater while in operation. Always disconnect the power before handling.
- Never immerse the heater or controller into liquids.
- Do not try to repair damaged or faulty controllers.
- Disconnect the heater when not in use.



Failure to operating under the above instructions may result in injuries and can be fatal.

Overview



Parameter	Specification	Additional information
Display	4 digit 7-segments	see more information below
UP/Down Key	Changes data setting	see more information below
OK Key	Selects data setting	see more information below
MENU/ESC Key	Selects menu or escapes.	see more information below
Input temperature	Temperature input signal.	Thermostat device
Output to heating element.		AC Power control.

Specifications

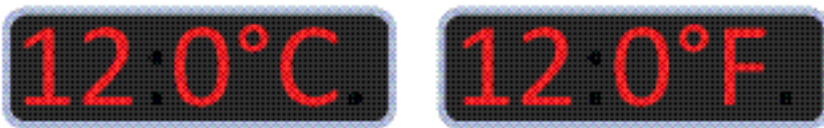
Control cycle and updating data

Item	Min.	Typ.	Max.	Unit
Display refresh rate	30	-	60	Hz
Display blink	-	2	-	Hz
Scan Key	-	10	-	ms
Key hold, Key timeout	-	5	-	s
Read temperature	-	1	-	s
Load on/off	-	10	-	ms
Hysteresis	-	3	-	°C

Display

Temperature

The temperature supports both °C and °F mode. The displays are shown as the following.



Timer

The timer is displayed as a format hh:mm that means hour unit separate with colon and then minute unit.



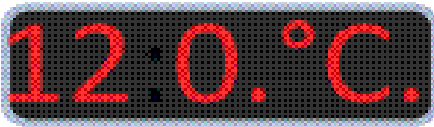
Heating element is on

While the heating element is on the last dot in the display must be on. A normal data which depends on operating mode, might be temperature value or timer value still be displayed as shown below.



Current temperature

While the current temperature is showed the dot under the degree symbol will show.



Please note! When externally measuring surface temperature while using a heating blanket or drum heater, can result in a large temperature spread compared to the temperature shown on the digital display.

This is due to heating wires inside the blanket or drum heater. The heated wires are located throughout the blanket and when a temperature sensor is placed close to the wire, the temperature shown will be significantly higher than on the display. This is normal and not an error.

Keys

Description

Key	Description
	Selects the operation menu (see "User menu" below for details).
	Enters the current menu or confirms the current setting
	Change current data that show on screen [menu/setpoint/timer/...]

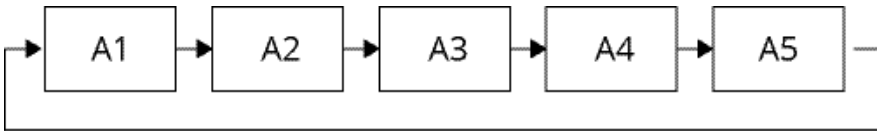
User menu

Menu	Description
A1	Set temperature setpoint 1.
A2	Not in use.
A3	Set timer. Disable by setting 00:00.
A4	Set delta temperature. Disable by setting 0.0.
A5	Set Unit °C (Celcius) or °F (Fahrenheit).

Operation

Common operation

Press  and select a menu by pressing  



Press  to enter the menu.

Press arrow buttons to changes the current data for each menu. The display shows in a flashing mode.

Press  to confirm the current data or press  to cancel.

Sensor operation

Press  and move to the A1 menu and press 

Press arrow buttons up or down to set temperature for setpoint (sensor threshold).

Press  to confirm the current data or press  to cancel.

Timer operation

Set a timer timeout to the heating process and the controller will automatically power off when the timer finishes countdown.

Setting timer to 00:00 equals disabled.

Press  and move to the A3 menu and press 

Press arrow buttons up or down to set the timer (HH:MM).

Press  to confirm the current data or press  to cancel.

Delta operation (Ramp-up rate per minute)

The delta temperature is used to help temperature rise at a certain speed per minute. Setting the value to 0.0 disables the timer.

Press  and move to the A4 menu and press 

Press arrow buttons up or down to set delta temperature.

Press  to confirm the current data or press  to cancel.

Celsius/Fahrenheit display switch

Press  and move to the A5 menu and press 

Press arrow buttons up or down to select Celcius or Fahrenheit.

Press  to confirm the current data or press  to cancel.

Troubleshooting



Error code	Description
00	Relay broken.
01	Over temperature.
11	Temperature sensor is open (no connection).
12	Temperature sensor is short-circuited to GND.
14	Temperature sensor is short-circuited to supply voltage (VCC).
21, 22, and 24	Internal controller error.

Notes:

