TC-2 Temperature Controller, 2-Zone

The TC-2 is a Two Zone Temperature Controller with Manual Standby. The TC-2 is configured to control the temperature of **t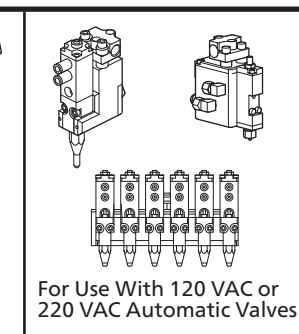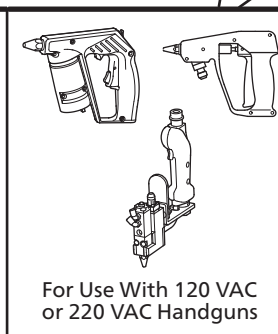wo (100Ω) RTD monitored zones independently.** Manual Standby reduces the zone temperatures by 50% with the push of a button. TC-2 Temperature Controllers are available in either 120 VAC or 220 VAC.

| For Use With 120 VAC or 220 VAC Heated Hoses | For Use With 120 VAC or 220 VAC Handguns | For Use With 120 VAC or 220 VAC Automatic Valves | Electrical Service 120 VAC, 10 A, 1 ph | Electrical Service 220 VAC, 10 A, 1 ph |
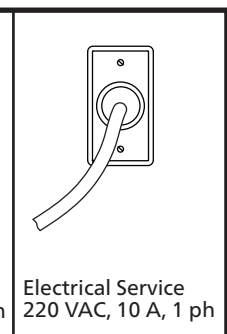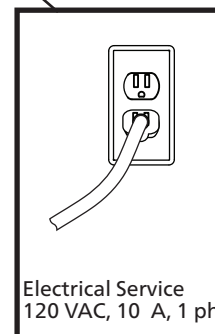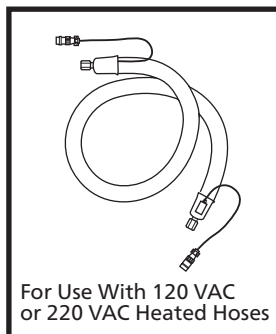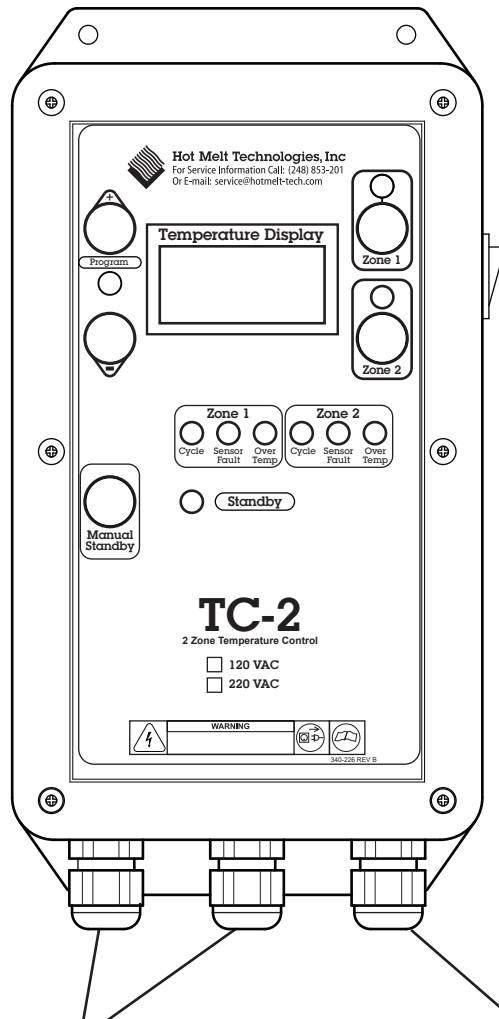
Maximum Current: 5 Amps per Zone

TC-2 Programming Guide

Reverse Side of Face Panel

1 **Power On/Off**

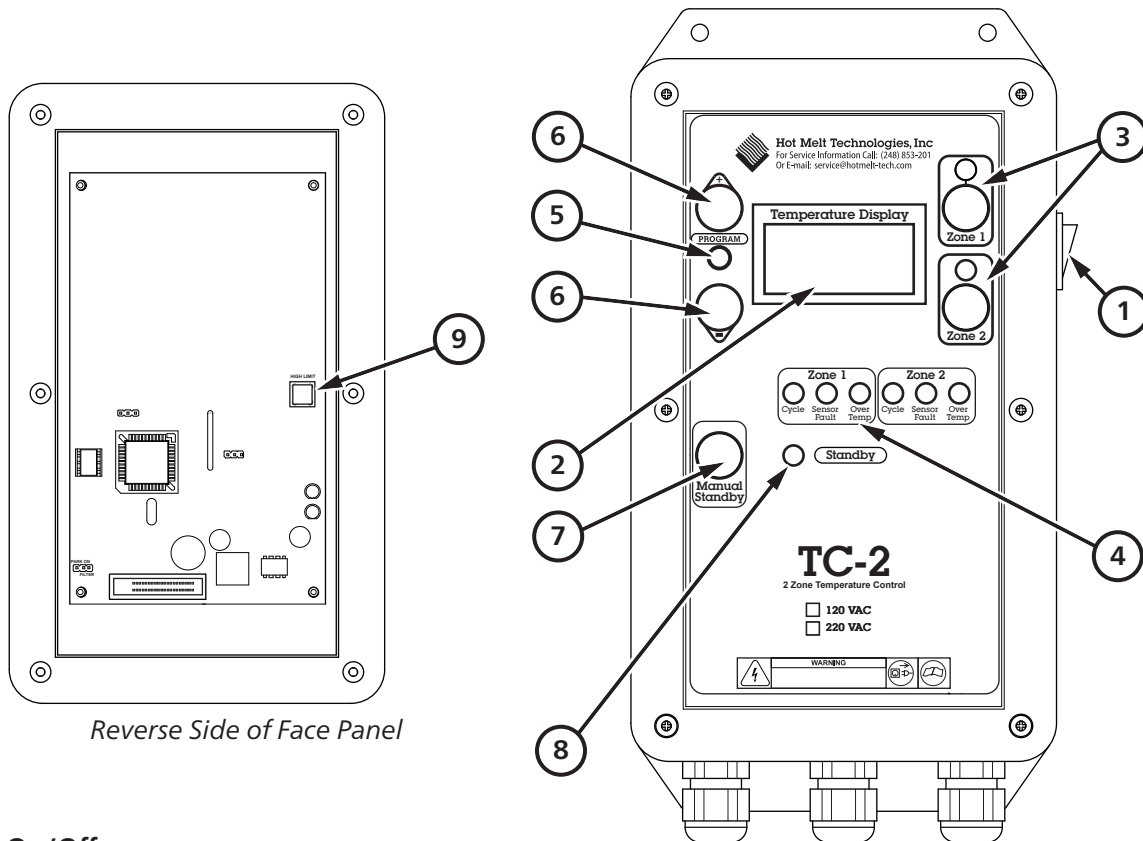**2** The **Temperature Display** shows the actual temperature of the zone illuminated or the corresponding set temperature when either zone button is depressed. In Program Mode the Temperature Display shows the set temperature and any adjustment that is being made to the set temperature.

3 **Zone 1** and **Zone 2** contain a button and an LED. The buttons can be used to toggle between Zone 1 and Zone 2. While depressed the Temperature Display will show the set temperature of the corresponding zone. When released the actual temperature of the zone is displayed. Temperatures shown on the Temperature Display correspond to the Zone LED that is lit.

4 The **Zone 1** and **Zone 2 Status LEDS** indicate the current state of the zone.
Cycle LED:
If this LED is lit the zone heater is active.
Sensor Fault LED:
Illuminates if an RTD is either not connected to the zone or in a fault condition.
Over Temp LED:
Illuminates when zone temperature exceeds the High Limit by 25º F. When an Over Temp occurs both zones become inactive. TC-2 must be shut off and turned back on to resume operation.

5 The **Program LED** illuminates when the TC-2 is in Program Mode. Zone Set Temperatures can be adjusted in Program Mode Only. To initiate Program Mode hold down either the Zone 1 or Zone 2 button for 3 seconds. With the Zone 1 or Zone 2 Button still depressed use the +/- buttons to adjust the set temperature for the respective zone. When the zone button is released the TC-2 will exit Program Mode.

6 **+/- Buttons** adjust the set temperature while in Program Mode or the High Limit.

7 The **Manual Standby Button** places both zones into Standby when depressed. Standby automatically reduces the operating temperature to 50% of the set temperature.

8 The **Standby LED** illuminates when the TC-2 is in Standby Mode.

9 The **High Limit** function prevents users from exceeding a maximum temperature and can be set using the Hi Limit Button located on the reverse side of the face panel. Simply press and hold the Hi Limit Button and use the +/- Buttons to adjust the setting (100º F to 475º F). Over Temp status is 25º F above the Hi Limit.
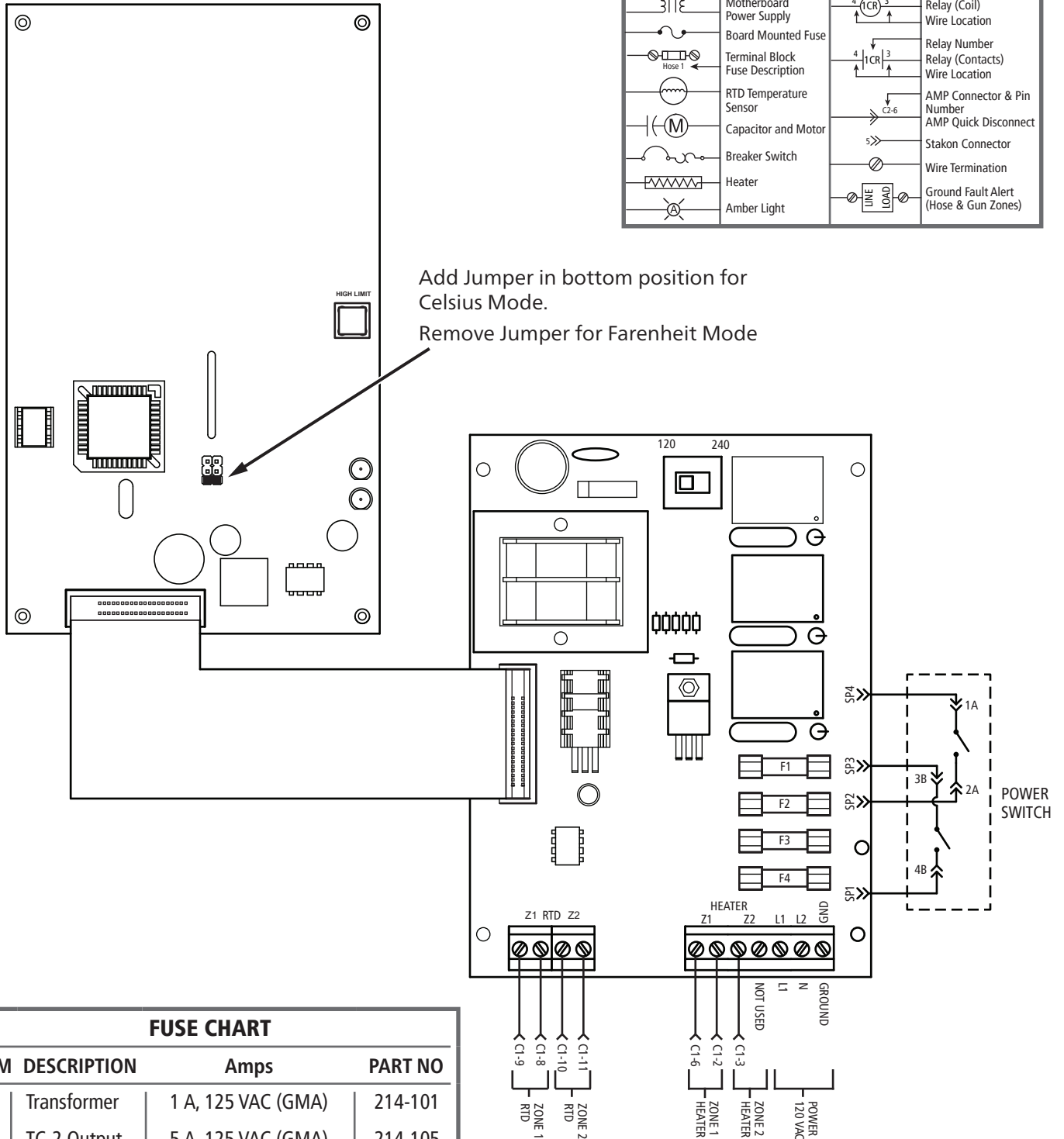
TC-2-2, Wiring Schematic, 120 VAC

SYMBOL LEGEND

24V Transformer Motherboard Power Supply		4 1CR 3	Relay Number Relay (Coil) Wire Location
Board Mounted Fuse		4 1CR 3	Relay Number Relay (Contacts) Wire Location
Hose 1	Terminal Block Fuse Description	C2-6	AMP Connector & Pin Number AMP Quick Disconnect
RTD Temperature Sensor		5	Stakon Connector
M	Capacitor and Motor		Wire Termination
Breaker Switch		LINE LOAD	Ground Fault Alert (Hose & Gun Zones)
Heater			
A	Amber Light		

HIGH LIMIT

Add Jumper in bottom position for Celsius Mode.

Remove Jumper for Farenheit Mode

120   240

SP4   1A
SP3   3B   2A
SP2
SP1   4B

POWER SWITCH

F1
F2
F3
F4

Z1 RTD Z2   HEATER Z1   Z2   L1 L2 GND

NOT USED   L1   N   GROUND

C1-9   C1-8   C1-10   C1-11   C1-6   C1-2   C1-3

RTD — ZONE 1   RTD — ZONE 2   ZONE 1 HEATER   ZONE 2 HEATER   POWER 120 VAC

FUSE CHART

ITEM	DESCRIPTION	Amps	PART NO
F1	Transformer	1 A, 125 VAC (GMA)	214-101
F2	TC-2 Output	5 A, 125 VAC (GMA)	214-105
F3	Transformer	1 A, 125 VAC (GMA)	214-101
F4	TC-2 Output	5A, 125 VAC (GMA)	214-105

TC-2-2, Wiring Schematic, 220 VAC

SYMBOL LEGEND

Symbol	Description	Symbol	Description
	24V Transformer Motherboard Power Supply	1CR	Relay Number Relay (Coil) Wire Location
	Board Mounted Fuse	1CR	Relay Number Relay (Contacts) Wire Location
Hose 1	Terminal Block Fuse Description	C2-6	AMP Connector & Pin Number AMP Quick Disconnect
	RTD Temperature Sensor	5	Stakon Connector
M	Capacitor and Motor		Wire Termination
	Breaker Switch	LINE LOAD	Ground Fault Alert (Hose & Gun Zones)
	Heater		
A	Amber Light		

HIGH LIMIT

Add Jumper in bottom position for Celsius Mode.

Remove Jumper for Farenheit Mode

LED 19

LED 16

120   240

F1
F2
F3
F4

SP4   1A
SP3   3B   2A   POWER SWITCH
SP2
         4B
SP1

Z1 RTD Z2   Z1   Z2 L1 L2 GND
HEATER

C1-8 C1-9 C1-10 C1-11   C1-2 C1-3 C1-5 C1-4
ZONE 1 RTD   ZONE 2 RTD   ZONE 1 HEATER ZONE 2 HEATER POWER 220 VAC

L2 L1 GROUND

FUSE CHART

ITEM	DESCRIPTION	Amps	PART NO
F1	Transformer	1 A, 125 VAC (GMA)	214-101
F2	TC-2 Output	5 A, 125 VAC (GMA)	214-105
F3	Transformer	1 A, 125 VAC (GMA)	214-101
F4	TC-2 Output	5A, 125 VAC (GMA)	214-105