





# 7EM Temperature Controllers

## Specifications (continued)

### Standard Ranges

Input	Ranges		
L	0 to 800 °C	0 to 999 °F	DIN 43710-1977
J	0 to 800 °C	0 to 999 °F	IEC 584-1
K	0 to 999 °C	0 to 999 °F	IEC 584-1
N	0 to 999 °C	0 to 999 °F	IEC 584-1
RTD Pt 100	-19.9 to 99.9 °C		DIN 43760
RTD Pt 100	-199 to 500 °C	-199 to 999 °F	DIN 43760

### Current Transformer Input for OUT 1 Heater Breakdown Detection (Optional)

This feature allows measurement of the load current by means of a current transformer and signals an alarm condition when the current is below a pre-programmed threshold value.

<b>Input Range:</b>	50 mAac.
<b>Scaling:</b>	Configurable from 10 Amps to 100 Amps (with a 1 Amp step).
<b>Resolution:</b>	- for full scale up to 20 Amps: 0.1 Amp. - for full scale from 21 Amps to 100 Amps: 1 Amp.
<b>Active Period:</b>	- for relay output: NO or NC configurable. - for SSR output: logic level 1 or 0 configurable.
<b>Minimum On Time to perform the measurement:</b>	50 ms.

### Outputs

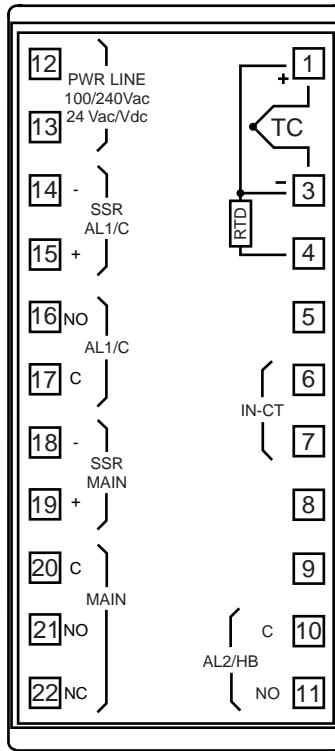
<b>Main Output:</b>	(Heating) Relay or SSR (jumper selectable) <ul style="list-style-type: none"><li>- Relay SPDT, contact rating 3 Amps @ 250 Vac on resistive load.</li><li>- Logic output for SSR, 700 Ω maximum load, short circuit protected.</li></ul> Logic Level 1: <ul style="list-style-type: none"><li>14 Vdc ±20% @ 20 mA max.</li><li>24 Vdc ±20% @ 1 mA max.</li></ul> Logic Level 0: <ul style="list-style-type: none"><li>Less than 0.5 Vdc</li></ul>
<b>Output 2</b>	(Cooling or Alarm 1) Relay or SSR (jumper selectable) <ul style="list-style-type: none"><li>- Relay SPST, contact rating 2 Amp @ 250 Vac on resistive load.</li><li>- Logic output for SSR, 700 Ω maximum load, short circuit protected.</li></ul> Logic Level 1: <ul style="list-style-type: none"><li>14 Vdc ±20% @ 20 mA max.</li><li>24 Vdc ±20% @ 1 mA max.</li></ul> Logic Level 0: <ul style="list-style-type: none"><li>Less than 0.5 Vdc</li></ul>
<b>Output 3</b>	(Alarm 2 or Heater breakdown) <ul style="list-style-type: none"><li>- Relay SPST, contact rating 2 Amp @ 250 Vac on resistive load. (normally open contact only)</li></ul>



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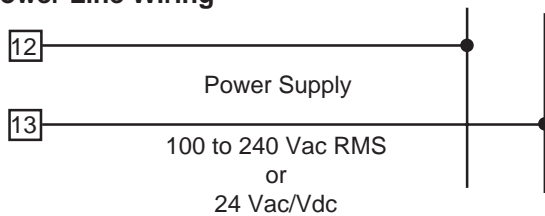
## Wiring

### Rear Terminal Block



### Controller Wiring

#### Power Line Wiring



**NOTE:** Connect neutral to terminal 12.

Before connecting power to the instrument, make certain the line voltage corresponds to the model number.

To avoid electric shock, connect the power line at the end of the wiring procedure.

24 Vdc supplies are not polarity sensitive.

