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***6-Way Lowboy Console***

Standard Features Are:

73FC Transformer  
125 Amp 3 Phase Circuit Breaker  
Primary 3-Phase Input Tapping options of 480/575v, 3ph, 60hz.  
Secondary Output Voltage 80 Volt  
6 Channel Contactor Switching  
Individual Neon Indicators per Channel  
Eurotherm Ramp Temperature  
Controllers Size: 36" high x 34" deep x 24" wide  
6" Heavy Duty Casters  
4 Eye Hooks



### **Read Carefully before operating**

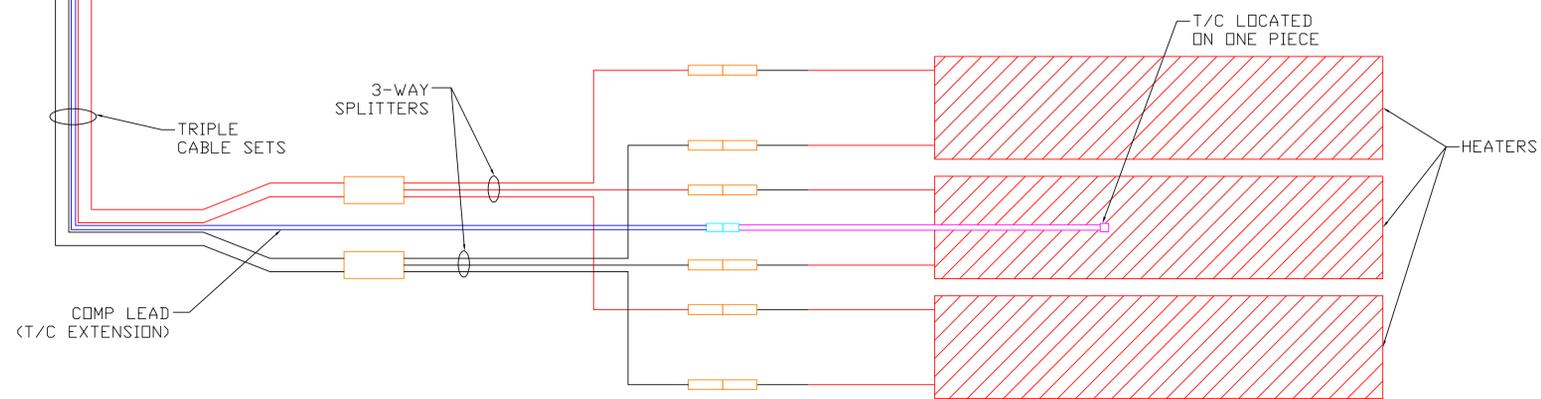
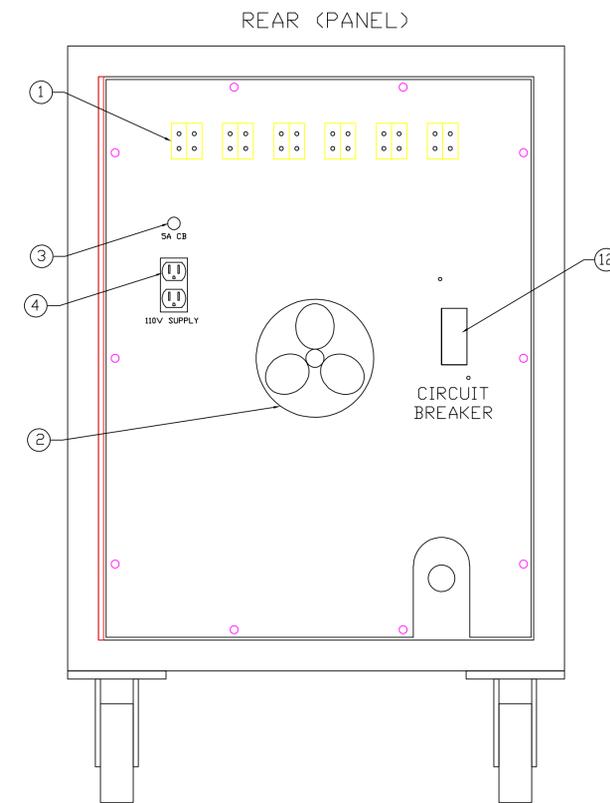
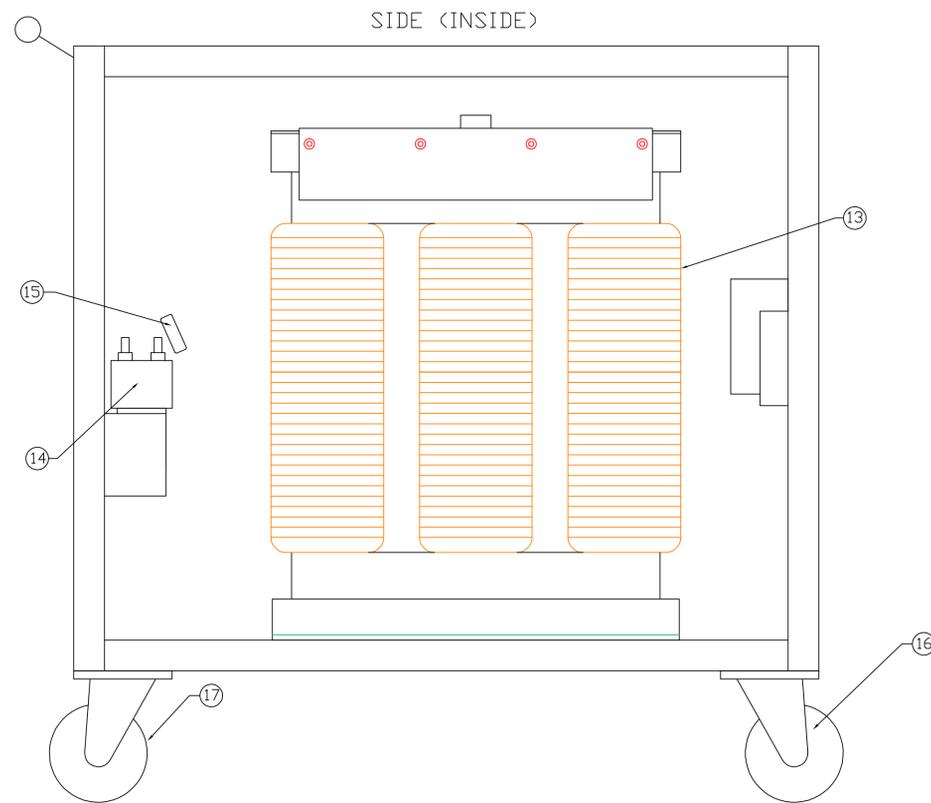
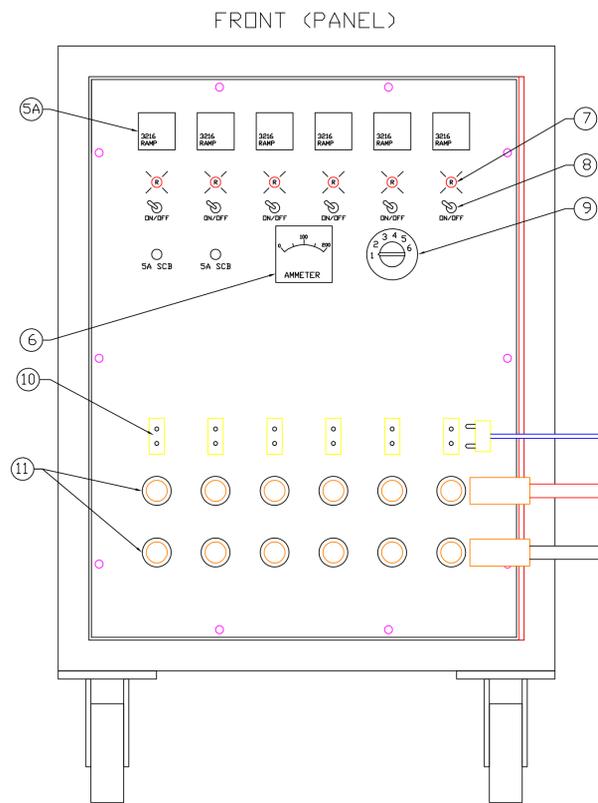
- 1) Upon receipt of your new power console visually inspect it for any damage that might have occurred during shipment. If there are any signs of damage, please call EHS immediately so a damage claim can be processed.
- 2) The power console weighs approximately 960 pounds. Be very careful when loading and unloading using a fork-lift.
- 3) Never operate the power console with the sides or the top removed. Serious electrical shock can occur if care is not taken.
- 4) Always use a primary cable of #4 AWG minimum. We recommend using #2 AWG minimum for runs over 25 ft. Do not use anything smaller in size. The cable must be 4-Wire and the power console must be grounded at all times during use.
- 5) Make sure the primary input taps have been connected in the correct orientation for the voltage you will be using i.e. 440/480/575 Volts.
- 6) Make sure the secondary taps have been connected in the correct orientation for the heaters you will using i.e. 80 Volts.
- 7) If you should have any questions please call us 24 hours a day, 7 days a week, at our office # (609) 588-0900.

### **Getting Started set up Procedure**

- 1) Make sure that all primary power connections are tightened and properly connected. Make sure that the unit is grounded and that the supply power is connected to the correct input taps.
- 2) Connect the triple cable sets to the output camlocks, and see that the corresponding thermocouples (T/C) are plugged into the proper T/C jacks.

**NOTE !!** When attaching the thermocouples to the work-piece or reattaching a broken thermocouple, it is very important to temporarily disconnect the T/C from the jack on the console and the jack on the recorder. The electrical spark of the TAU may travel through the T/C wire and cause damage to the recorder and/or the controller.

- 3) Turn power on to the console.



BILL OF MATERIALS			
#	QTY	P/N	DESCRIPTION
1	1	25249	REPLACEMENT T/C PANEL MOUNTED JACKS (DOUBLE)
2A	1	21334	REPLACEMENT CONSOLE 6" FAN
2B	1	21335	REPLACEMENT GUARD FOR 6" FAN
3	3	21413	SUPPLEMENTARY CIRCUIT BREAKER PANEL MOUNT
4A	1	21258	120 VOLT RECEPTACLE GFCI (OUTLET ONLY)
4B	1	21259	120 VOLT RECEPTACLE COVER GRAY
5A	6	21429	EHS "RAMP" CONTROLLER MODEL "3216"
5B	-	21430	EHS SLAVE CONTROLLER MODEL "3216"
6	1	21256	DIGITAL AMMETER 0-200 AMPS AC
7	6	21332	110 VOLT REPLACEMENT RED LAMP
8	6	21330	SPST ON/OFF TOGGLE SWITCH FOR CONSOLE
9A	1	21342	SIX POSITION SELECTOR SWITCH
9B	1	21344	REPLACEMENT KNOB FOR ROTARY SWITCH
10	6	21340	REPLACEMENT T/C PANEL MOUNTED JACKS (SINGLE)
11	12	24502	300 AMP FEMALE PANEL MOUNTS
12A	1	21260	125 AMP CONSOLE BREAKER
12B	-	21261	175 AMP CONSOLE BREAKER
12C	1	21262	BREAKER SHUNT TRIP
13	1	CUSTOM	73 kVA TRANSFORMER
14	6	21250	ALBRIGHT CONTACTORS SPST SW200, 250 AMP RATED
15	6	21337	CURRENT TRANSFORMER RATIO: 200:5AAC ID: 1.10"
16	2	21238S	REPLACEMENT SWIVEL 6" WHEEL
17	2	21238F	REPLACEMENT FIXED/RIGID WHEEL
18	4	21702	SHOULDER PATTERN EYE BOLT

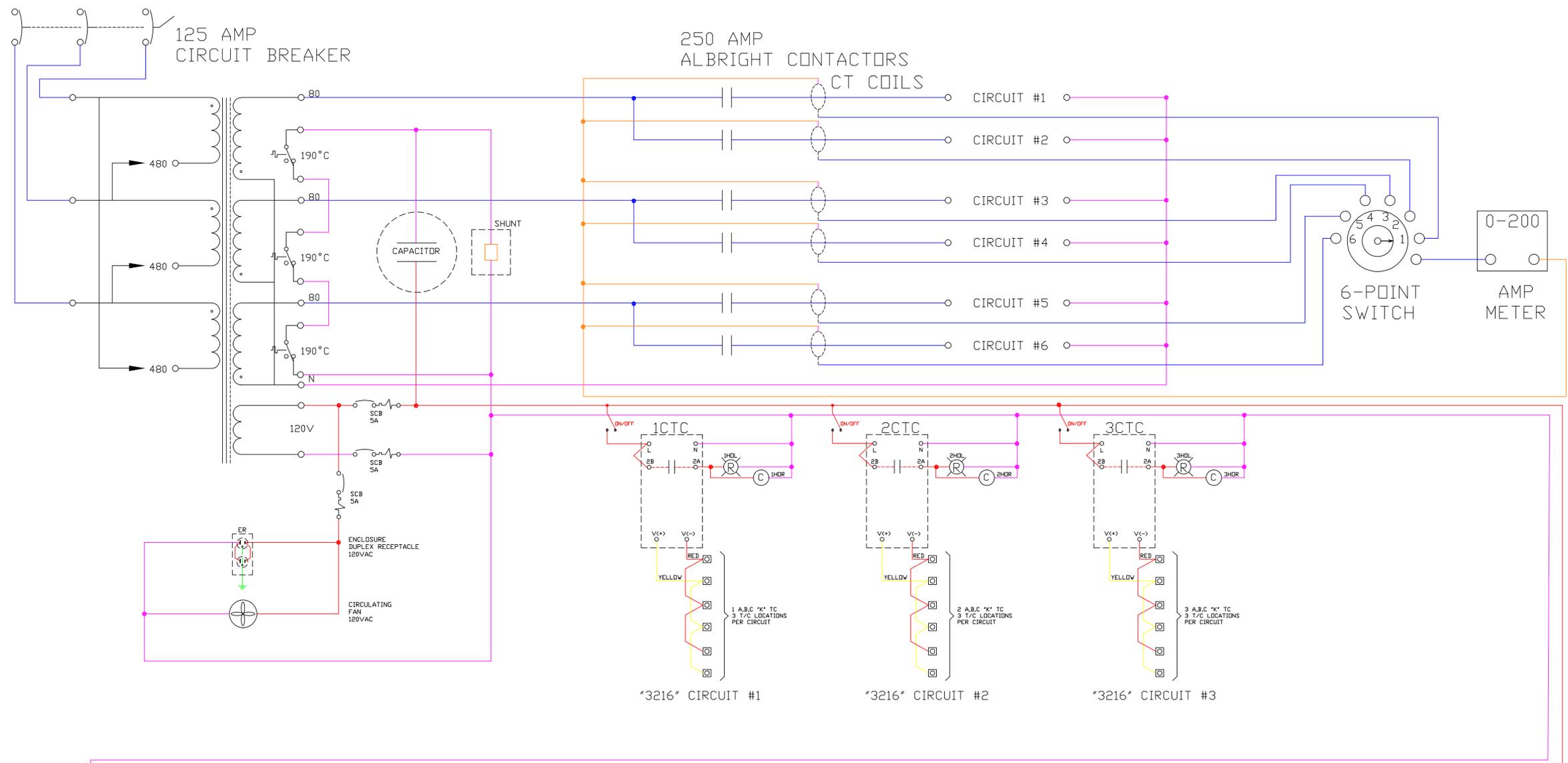
**6-WAY POWER CONSOLE  
EHS RAMP CONTROLLERS  
STANDARD LOWBOY**

**THERMALTECH & TEMP**

SCALE: **N.T.S.**

DRAWN	CMM	05/14/13
CHK'D		
APP'D		
JOB NO.		

1	RE-DREW TO SCALE	RJD	12/19/18
REV.	DESCRIPTION	DR.	DATE



73kVA TRANSFORMER  
 PRIMARY VOLTAGE: 480  
 SECONDARY VOLTAGE: 80

	<b>6-WAY LOWBOY POWER CONSOLE</b>	
	<b>3216 RAMP CONTROLLERS</b>	
<b>THERMALTECH &amp; TEMP</b>		SCALE <b>N.T.S.</b>
DRAWN <b>RJD</b>	BY <b>RJD</b>	DATE <b>03/09/17</b>
CHK'D.	APP'D.	JOB NO.
<b>6LOW-RAMP SCHEMATIC</b>		SHEET <b>1 OF 1</b>
<b>*IF IN DOUBT ASK*</b>		DRAWING NO. <b>D-8094</b>
REV.	DESCRIPTION	DR. DATE
<b>-- TYP. --</b>		REV. <b>0</b>

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## OPERATING INSTRUCTIONS for the EUROTHERM 3216 RAMP to SET-POINT CONTROLLER

There are four keys on the face of the 3216 Controller.

The “” key returns the operator to the **HOME** display.

The “” key is used to select new parameters.

The  key and the  key increase or decrease a value.

There are **three modes of operation** that can be used with the 3216 controller.

1. **Ramp to Set-Point:** The controller **ramps** to a set-point at a set **rate**. The controller is set to **Auto**, with the **Ramp “ON”**.
2. **Straight to Set-Point:** The controller goes straight to the set point as quickly as possible when set to **Auto**, with the **Ramp “OFF”**.
3. **Percentage Timer:** The controller turns on and off according to a set percentage when set to **Manual**, with the **Ramp “OFF”**.

The “” key moves from one option to another and the  and  keys are used to insert numbers for set point, ramp rate, or percentage values.

*Scrolling messages* appear on the bottom of the controller to give various status, set-up, or alarm information. For example; INPUT SENSOR BROKEN says that the Thermo-Couple is either broken or not plugged in.

## Ramp to Set-Point Mode

When the 3216 Ramp controller powers on in the **Ramp** mode the top of the display will be **flashing** between **rP** and the **input value**. The lower display value is the **ramping set-point** that shows the programmed set-point climbing at the programmed rate.

1. Press the advance key  to see  This is asking if you wish to **pause** the Ramp. Using the  arrow key  you can change this to **YES** . Now the controller will maintain the current set point without ramping up.
2. Press the advance key  to see   
 This says that the controller is in the Ramp mode.
3. Press the advance key  to see  and a scrolling message "**RAMP RATE**". This is asking for a value  to be chosen for the **Ramp Rate**.
4. Press the  or  arrow keys to change the "number value " to the desired **Ramp Rate**.
5. Press the advance key  to see  and a scrolling message "**TARGET SETPOINT**" This is asking for a  value to be chosen for the END-SET-POINT.
6. Press the  or  arrow keys to change the "number value " to the desired **set point**.
7. Press the advance key  to see   
 and a scrolling message "**LOOP MODE AUTO MANUAL OFF**".
8. Press the advance key  to return to the HOME screen. The controller will be flashing but we must change the **PAUSE** to **NO** to continue ramping. Press the advance key  to see  Press the  arrow key to change the YES to NO.
9. Press the  key to return to the HOME screen.

The controller will now start ramping from the input temperature to the target set-point (**ESP**), at the chosen **Ramp Rate**. The upper section of the display will begin **flashing** between the input value and "**Rp**". The lower section of the display will show the ramping set-point. **If the controller is not flashing, then it is not Ramping !!!**

Values for the Set point or the ramp rate may be changed any time throughout the heating process. The Ramp may also be put into "**pause**" ( similar to **hold** in the **Remote Mode**) by pressing the advance key  to see  and a scrolling message "**Ramp Pause**". Use the  key to change the  NO to YES.

## Straight to Set-Point Mode

1. Press the advance key  to see **No**. This is asking if you wish to **pause** the Ramp. Using the  arrow key **PAUSE** you can change this to **YES**. Now the controller will maintain the current set point without ramping up.
2. Press the advance key  to see **ON** and a scrolling message "**Ramp Enable**".  
**RP**
3. Press the  or  arrow keys to change the "ON" to "OFF".
4. Press the advance key  to see **32** and a scrolling message "**TARGET SETPOINT**".  
**ESP** This is asking for a value to be chosen for the SET-POINT.
5. Press the  or  arrow keys to change the "number value" to the desired **set point**.
6. Press the advance key  to see **AUTO** and a scrolling message "**LOOP MODE AUTO MANUAL OFF**".  
**A-M**
8. Press the advance key  to return to the home page. The upper value indicates the input temperature, and the lower value indicates the set-point.

The Op 2 light will show on the controller indicating that the controller is calling for heat, and will stay ON continuously until the input temperature reaches the set-point temperature. In this mode there is no ramping control and care must be taken to avoid over-shooting of the set-point.

## Percentage Timer Mode

1. Press the advance key  to see 

rmt
L-R

 and a scrolling message “*remote setpoint select*”. This indicates that the controller is in the **Remote** mode.
2. Press the  arrow key to change the **Remote** mode to **Local**. You will see 

LoC
L-R
3. Press the advance key  to see 

OFF
RP

 and a scrolling message “*Ramp Enable*”.
4. Press the advance key  to see 

32
ESP

 and a scrolling message “*TARGET SETPOINT*”. This is asking for a value to be chosen for the SET-POINT .
5. Press the  or  arrow keys to change the “number value “ to the desired **set point**.
6. Press the advance key  to see 

AUTO
A-M

 and a scrolling message “*LOOP MODE AUTO MANUAL OFF*”.
5. Press the  or  arrow keys to change the “

AUTO
------

“ to 

mAn
-----
6. Press the advance key  to see 

1
ADDR

 and a scrolling message “*ADDRESS*” .
7. Press the advance key  to return to the home page. The upper value indicates the input temperature, and the lower value indicates the percentage of operation. The percentage may be changed at any time using the  or  arrow keys. For example; if the controller is set to 50% it will cycle on and off approximately every two seconds. If the controller is set to 75% it will cycle on for approximately six seconds and off for about two seconds.



## How to Change the Temperature Scale on a Eurotherm Controller

 The “page” key

 The “cycle” key

 The “up” key

 The “down” key

**Note: If ever lost in the settings it is safer to power cycle the controller and start over.**

Set up:

- Power down the controller
- Restart the controller while holding down 
- Continue holding until “Code” is displayed
- Using the  and  keys enter “4”
- You will see “Set 1”
  - Enter the code, “KCXH3”
- Press the  key to cycle to the next screen
- You will see “Set 2”
  - Enter the code, “XXXXT”
- Press the  key to cycle to the next screen
- You will see “Exit”
  - Use the  key to change to, “Yes”
- The controller will reset