GENERAL INSTRUCTION GUIDE

EUROTHERM 2204 FM APPROVED LIMIT CONTROLLERS

This guide is provided by LEWCO, Inc. to assist its customers in becoming familiar with how LEWCO, Inc. sets up and uses the Eurotherm Controllers to test equipment prior to shipping. This document does not replace respective Eurotherm user's manuals and anyone using any of the Eurotherm products mentioned here is responsible for obtaining and understanding the user's manual before using any of these controllers. The user is responsible for setting up and configuring these devices to meet their own application requirements, not limited to, but including adjusting set points and setting up alarms.

If you do not have a manual for your controller or wish to view an online version of it, please use the following link: http://www.eurothermonline.com/search?searchwords=manuals&searchsmall_4920=

2204FM:

The 2204FM is a 1/4-DIN FM approved alarm indicator with two FM Approved form C relay outputs. Terminals AA, AB, and AC are dedicated to Alarm 1. Terminals 3A, 3B, and 3C are dedicated to Alarm 2.

BUTTON LEGEND:

OPERATION:

- ❑ If an alarm set point is exceeded or a sensor failure occurs, the alarm relays will change state. Once the sensor fault and PV return to a safe state and have been acknowledged the relays will return to their original state.

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ALARMS:

There are 2 FM approved alarm relays available in the 2204i, however some devices may not be configured for both alarms. The type of alarm is also configured upon installation and cannot be changed without logging into the configuration mode. There are 3 different options for alarm types:

1. FSH - Full Scale High
2. FSL - Full Scale Low
3. OFF- this will deactivate the alarm relay

TO ACKNOWLEDGE / RESET THE ALARM RELAY:

❑ The alarm relay is FM approved and must be manually acknowledged. Once the process variable has returned to a safe value and the alarm is acknowledged the relays will automatically reset. The alarm can be acknowledged by pressing the **PAGE** button.

TO CHANGE ALARM SET POINTS:

*NOTE: If set point is shown in the lower display just press the **UP** and **DOWN** arrows. If it is not shown follow the instructions below.*

❑ Press the **PAGE** button (1st on the left) twice. The display will show < **AL LIST** >

❑ To display the type of alarm that the instrument is set for press the **SCROLL** button and the alarm type will be shown in the upper display. **NOTE**: If the type of alarm needs to be changed see the section on configuring alarms.

❑ The lower display will show the present alarm set point value in engineering units. To change the set point value use the **UP** or **DOWN** button.

NOTE: Set Limit Controller Set Point at 20° F over maximum operating temperature.
- *Electric Drum Heating Cabinets: 300° F + 20° F = 320° F.*
- *Steam Drum Heating Cabinets: 300° F + 20° F = 320° F.*
- *High Humidity Drum Heating Cabinets: 190° F + 20° F = 210° F.*

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CONFIGURING ALARMS:

- ❑ Press the **PAGE** button until you see ACCS in the upper portion of display and LIST in the lower portion
- ❑ Press the **SCROLL** button and the display will show CODE in the upper portion of the display and **"0"** in the lower display. Press the **UP** arrow to change the **"0"** to the number **"1".**
- ❑ Press the **SCROLL** button and the display will show GOTO in the upper display and OPER in the lower display.
- ❑ Change OPER to CONF by pressing the **UP** arrow button.
- ❑ Press the **SCROLL** button and the display will now show CONF in the upper display and "0" in the lower.
- ❑ Change the **"0"** to a **"2"** using the **UP** arrow
- ❑ Press the **PAGE** button until you see AL in the upper display and CONF in the lower display.
- ❑ Press the **SCROLL** button once and AL 1 will appear in the upper display and FSH will appear in the lower display use the **UP** arrow to change this to the desired alarm type FSH**,** FSL**,** or OFF.
- ❑ For alarm 2, press the **SCROLL** button again and the upper display will read AL 2 and use the **UP** arrow to change this to the desired alarm type.
- ❑ Press the **PAGE** button until upper display says EXIT and lower display says NO. Change the NO to YES instrument will cycle power and reset.

TO ADJUST THE ALARM HYSTERESIS VALUE:

Hysteresis is the difference between the point at which the alarm switches **ON** and the point at which it switches **OFF**. It is used to prevent relay chatter.

- ❑ Press the **PAGE** button twice. The display will show ‹ AL LIST ›
- ❑ Press the **SCROLL** button twice. The top display will read ‹ **hY** › and the lower display will show the hysteresis value in engineering units. To adjust the hysteresis value, use the **UP** or **DOWN** button; the minimum value is 1. The hysteresis value is common to any configured alarm.

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TO CHANGE ENGINEERING UNITS (° F TO ° C):

- ❑ Press the **PAGE** button until you see ACCS in the upper portion of display and LIST in the lower portion.
- ❑ Press the **SCROLL** button and the display will show CODE in the upper portion of the display and **"0"** in the lower display. Press the **UP** arrow to change the **"0"** to the number **"1"**.
- ❑ Press the **SCROLL** button and the display will show GOTO in the upper display and OPER in the lower display.
- ❑ Change **OPER** to CONF by pressing the **UP** arrow button.
- ❑ Press the **SCROLL** button and the display will now show CONF in the upper display and **"0"** in the lower.
- ❑ Change the **"0"** to a **"2"** using the **UP** arrow.
- ❑ Press the **PAGE** button until you see INST in the upper display and CONF in the lower display.
- ❑ Press the **SCROLL** button and you will see UNITS in the upper display and °F or °C in the lower display depending on what the unit is set for. Press the **UP** arrow until Engineering units desired is shown.
- ❑ Press the **PAGE** button until upper display says EXIT and lower display says NO. Change the NO to YES instrument will cycle power and reset.

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TO CHANGE THERMOCOUPLE TYPE:

- ❑ Press the page button until you see ACCS in the upper portion of display and LIST in the lower portion.

- ❑ Press the **SCROLL** button and the display will show CODE in the upper portion of the display and **"0"** in the lower display. Press the **UP** arrow to change the **"0"** to the number **"1".**

- ❑ Press the **SCROLL** button and the display will show GOTO in the upper display and OPER in the lower display.

- ❑ Change OPER to CONF by pressing the **UP** arrow.

- ❑ Press the **SCROLL** button and the display will now show CONF in the upper display and **"0"** in the lower.

- ❑ Change the **"0"** to a **"2"** using the **UP** arrow.

- ❑ Press the **PAGE** button until you see IP in the upper display and CONF in the lower display.

- ❑ Press the **SCROLL** button until INPT appears in the upper display and the thermocouple type (LEWCO, Inc. typically uses J) J.TC shows in the lower display.

- ❑ Press **UP** or **DOWN** arrow until desired thermocouple type is shown.

- ❑ Press **SCROLL** button again the upper display will read RNG.L for range low. The present value will be shown in the lower display. This value can be changed by pressing the **UP** arrow the maximum and minimum value is limited by the type of thermocouple selected.

- ❑ Press **SCROLL** button again the upper display will read RNG.H for range high. The present value will be shown in the lower display. This value can be changed by pressing the **UP** arrow the maximum and minimum value is limited by the type of thermocouple selected.

- ❑ NOTE: This high and low range will determine the maximum and minimum temperature for the set point of the alarms.

- ❑ Press the **PAGE** button until upper display says EXIT and lower display says NO. Change the NO to YES instrument will cycle power and reset.

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TO CHANGE TEMPERATURE CONTROL RANGE:

*NOTE: The range high value **rnG.H** should never be set higher than the maximum temperature of the oven/drum cabinet. Doing so may cause damage to the unit. Customer assumes responsibility for any damages caused by changing the range high limit.*

- ❑ Press the **PAGE** button until you see ACCS in the upper portion of display and LIST in the lower portion.

- ❑ Press the **SCROLL** button and the display will show CODE in the upper portion of the display and "0" in the lower display. Press the **UP** arrow to change the "0" to the number "1".

- ❑ Press the **SCROLL** button and the display will show GOTO in the upper display and OPER in the lower display.

- ❑ Change OPER to CONF by pressing the **UP** arrow.

- ❑ Press the **SCROLL** button and the display will now show CONF in the upper display and "0" in the lower.

- ❑ Change the "0" to a "2" using the **UP** arrow.

- ❑ Press the **PAGE** button until you see IP in the upper display and CONF in the lower display.

- ❑ Press the **SCROLL** button until you see rnG.H appear in the uppder display and the value will appear in the lower display, use the **UP** and **DOWN** arrows to change this to the desired temperature (typically 20° over the maximum temperature of the oven)

- ❑ Press **PAGE** button until upper display says **EXIT** and lower display says **NO**. Using the **UP** arrow change the **NO** to **YES** instrument will cycle power and reset.

NOTE: This procedure can be repeated to change the low range **rnG.L.**

- • This high and low range will determine the maximum and minimum temperature for the set point of the alarms.