

GENERAL INSTRUCTION GUIDE
EUROTHERM 3216 & 3216i 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 just wish to view an online version of it, please use the following link: http://www.eurothermonline.com/search?searchwords=manuals&searchsmall_4920=

3216 AND 3216i INSTRUCTION

This set of instructions will work for both the 3216 Process Controller and 3216i FM approved High Limit controller.

BUTTON LEGEND:

| | |
|------------|---|
| Page key |  |
| Scroll key |  |

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

- ❑ Press and hold the **PAGE** button until **LEv1** shows in the upper display and **GOTO** shows in the lower display. Select access level will scroll through the lower display.
- ❑ Press the **UP** and **DOWN** arrows and change **LEv1** to **LEv2**
- ❑ The word **CODE** will be shown in the lower display and a “0” will be shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the “0” to a “2”
- ❑ Press the **SCROLL** button until **UNITS** is shown in the lower display and the current units are shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change to desired units °F

• TO CHANGE THERMOCOUPLE TYPE:

- ❑ Press and hold the **PAGE** button until **LEv3** shows in the upper display and **GOTO** shows in the lower display. Release the **PAGE** button.
- ❑ The word **CODE** will be shown in the lower display and a “0” will be shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the “0” to a “3”
- ❑ Press the **PAGE** button until **INPUT** is shown in the lower display.
- ❑ Press the **SCROLL** button until **IN.TYP** is shown in the lower display and the current type is shown in the upper display (**J.TC**)
- ❑ Press the **UP** and **DOWN** arrows and change to desired units type
- ❑ Press the **SCROLL** button to save
- ❑ Press and hold the **PAGE** button again and until **CONF** is in the upper display and **GOTO** is in the lower display
- ❑ Press the **UP** and **DOWN** arrows and change **LEv3** to **LEv1**
- ❑ Controller will cycle power and automatically restart.

3216 INSTRUCTION

The 3216 Process Controller is a 1/16-DIN highly precise temperature controller.

• OPERATION:

- ❑ Provides simple and precise temperature control

• TO CHANGE SET POINT:

- ❑ Press the **UP** and **DOWN** arrows until desired set point is reached

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• **TO CHANGE THE TEMPERATURE 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 and hold the **PAGE** (1st on the left) button until **Lev3** shows in the upper display and **GOTO** shows in the lower display.
- ❑ Press the **UP** and **DOWN** arrows and change **Lev3** to **conf**
- ❑ The word **CODE** will be shown in the lower display and a “0” will be shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the “0” to a “4”
- ❑ Press the **PAGE** button until **INPUT** is shown in the lower display
- ❑ Press the **SCROLL** button until **RNG.H** is shown in the lower display and the current maximum temperature is shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the value to the desired temperature range
- ❑ Press the **PAGE** button until **sp** is shown in the lower display
- ❑ Press the **SCROLL** button until **sp.hi** is shown in the lower display and the current maximum temperature is shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the value to the desired set point range
- ❑ Press and hold the **PAGE** button until **conf** shows in the upper display and **GOTO** shows in the lower display
- ❑ Press the **UP** and **DOWN** arrows and change **conf** to **LEV1**
- ❑ Controller will cycle power and automatically restart

NOTE: This procedure can be repeated to change the low range **rng.L** and low set point **sp.lo**

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

• **TO VIEW THE WORKING OUTPUT:**

- ❑ Press the **SCROLL** (2nd from the left) button
- ❑ Press the **UP** and **DOWN** arrows value will show between **0-100%**

NOTE: If heat output is on **OP1** or **OP2** will show in the upper left hand corner of the controller

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• TO AUTOTUNE THE CONTROLLER:

- ❑ Press and hold the **PAGE** (1st on the left) button until **LEv1** shows in the upper display and **GOTO** shows in the lower display. Select access level will scroll through the lower display.
- ❑ Press the **UP** and **DOWN** arrows and change **LEv1** to **LEv2**
- ❑ The word **CODE** will be shown in the lower display and a “**0**” will be shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the “**0**” to a “**2**”
- ❑ Press the **SCROLL** button until **A.TUNE** is shown in the lower display and **OFF** is shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the **OFF** to **ON**

NOTE: When Autotune is running **TUNE** will flash in the upper display. When this stops flashing the Autotune is complete.

3216i INSTRUCTION

The 3216i is a 1/16-DIN FM approved alarm indicator with one FM Approved form C relay output. Terminals AA, AB, and AC are dedicated to this Alarm.

• OPERATION:

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

• 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** and **SCROLL** buttons at the same time.

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• **TO CHANGE THE TEMPERATURE 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 and hold the **PAGE** (1st on the left) button until **Lev3** shows in the upper display and **GOTO** shows in the lower display.
- ❑ Press the **UP** and **DOWN** arrows and change **Lev3** to **conf**
- ❑ The word **CODE** will be shown in the lower display and a “**0**” will be shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the “**0**” to a “**4**”
- ❑ Press the **PAGE** button until **INPUT** is shown in the lower display
- ❑ Press the **SCROLL** button until **RNG.H** is shown in the lower display and the current maximum temperature is shown in the upper display
- ❑ Press the **UP** and **DOWN** arrows and change the value to the desired temperature range
- ❑ Press and hold the **PAGE** button until **conf** shows in the upper display and **GOTO** shows in the lower display
- ❑ Press the **UP** and **DOWN** arrows and change **conf** to **LEV1**
- ❑ Controller will cycle power and automatically restart

• **TO CHANGE ALARM SET POINTS:**

- ❑ Press the **SCROLL** button. The display will show the current set point in the upper display and **A1.HI** in the lower display
- ❑ Press the **UP** and **DOWN** arrows until desired set point is reached
- ❑ Press the **PAGE** button to exit

NOTE: Set Limit Controller Set Point at 20 degrees F. over maximum operating temperature.

- *Electric Drum Heating Cabinets: $300^{\circ} F + 20^{\circ} F = 320^{\circ} F$.*
- *Steam Drum Heating Cabinets: $300^{\circ} F + 20^{\circ} F = 320^{\circ} F$.*
- *High Humidity Drum Heating Cabinets: $190^{\circ} F + 20^{\circ} F = 210^{\circ} F$.*

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- **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 **SCROLL** until **A1.HYS** is shown in the lower display the current hysteresis value is shown in the upper display.

To adjust the hysteresis value, use the **UP** or **DOWN** button; the minimum value is 1