

APPENDIX A

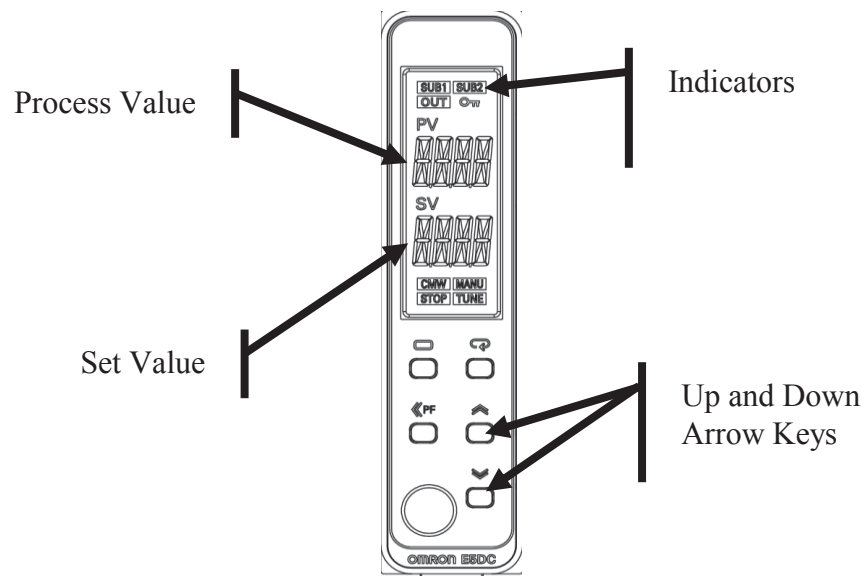
HEATEFLEX HI-LIMIT CONTROLLER

Operating Instructions For High Limit Controller PN: (306035_ / 306036_)

The FM limit controller is to be used with a High Limit temperature sensor to detect the temperature at the heater element. This temperature reading is shown as the Process Value (PV) and is monitored to assure that the heater element does not exceed the specified High Limit temperature Set Value which would occur in heater burnout condition. This High Limit temperature Set Value (SV) is set on the High Limit temperature controller to the desired temperature value. The factory setting for the High Limit temperature Set Value (SV) is **0°C** (unless otherwise stated).

- To change the SV, press the Up and Down keys to change the value of the digit. The new SV will be taken immediately by the controller. (See Figure 1 for location)
- The limit controller is equipped with two relays. One relay (AUX1) to control the heater and the other relay to control an external indicating light. See **Relay Position** section for detail.
- See **Part Number Legend Chart** for temperature range, input sensor type, and voltage.
- The High Limit Alarm correlates to the limit controller's Indicator SUB1/SUB2 (see Figure 1 for location).
- The limit controller is password protected. Only Set Value can be changed.
- This Limit Controller is FM approved. Conforms to FM (Factory Mutual) Standards (FM3545/3810).

Figure 1 – Limit Temperature Controller Layout





Relay Positions

Power off state

- When the limit controller is not powered, the relay to control the heater (AUX1) is open and the relay to control the indicating light (AUX2) is closed.

Powered on with no alarm condition

- When the limit controller is powered and high limit temperature is below SV, the relay to control the heater (AUX1) is closed, the relay to control the external indicating light (AUX2) is open, and the limit controller indicator (SUB1/SUB2) is off.

Powered on with alarm condition

- When the limit controller is powered and high limit temperature is above SV, the relay to control the heater (AUX1) is open, the relay to control the external indicating light (AUX2) is closed, and the limit controller indicator (SUB1/SUB2) is on.

Powered on with no alarm condition and reset has not been initiated

- When the limit controller is powered and high limit temperature is below SV but reset has not been initiated, the relay to control the heater (AUX1) is open, the relay to control the external indicating light (AUX2) is closed, and the limit controller indicator (SUB1/SUB2) is on.

Specifications Ratings

Power supply voltage

- 306036X: 100 to 240 VAC, 50/60 Hz.
- 306035X: 24 VAC, 50/60 Hz; 24 VDC.

Operating voltage range

- 85% to 110% of rated supply voltage. Power consumption
- 4.9 VA max. at 100 to 240 VAC, and 2.8 VA max. at 24 VDC or 1.5 W max. at 24 VDC.

Auxiliary/ Limit Output

Number of outputs

- 2

Output specifications (AUX1 & AUX2)

- SPST-NO relay outputs: 250 VAC, 2 A (resistive load), Electrical life: 100,000 operations, Minimum applicable load: 10 mA at 5 V (reference value).

Event input (EV1)

External contact input specifications

- Contact input ON: 1 k Ω max., OFF: 100 k Ω min.

PARTNUMBER LEGEND CHART

PART NUMBER	INPUT SENSOR TYPE	TEMPERATURE RANGE	POWER SUPPLY VOLTAGE
306035A	TYPE J	0-160°C	24VAC/DC
306035B	TYPE J	0-300°C	24VAC/DC
306036A	TYPE J	0-160°C	100-240VAC
306036B	TYPE J	0-300°C	100-240VAC
306035C	TYPE K	0-160°C	24VAC/DC
306035D	TYPE K	0-300°C	24VAC/DC
306036C	TYPE K	0-160°C	100-240VAC
306036D	TYPE K	0-300°C	100-240VAC
306035E	RTD 100 Ω	0-160°C	24VAC/DC
306036E	RTD 100 Ω	0-160°C	100-240VAC



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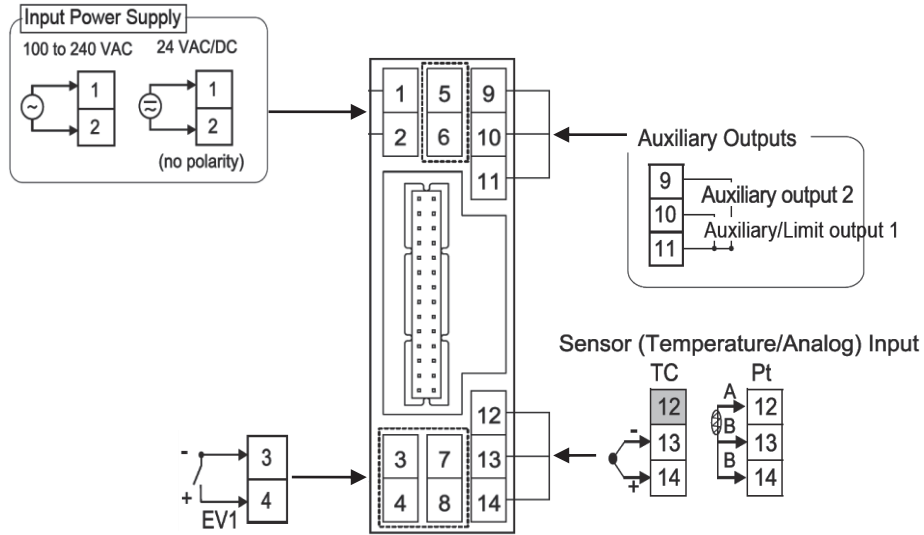


Figure 2- External Connections

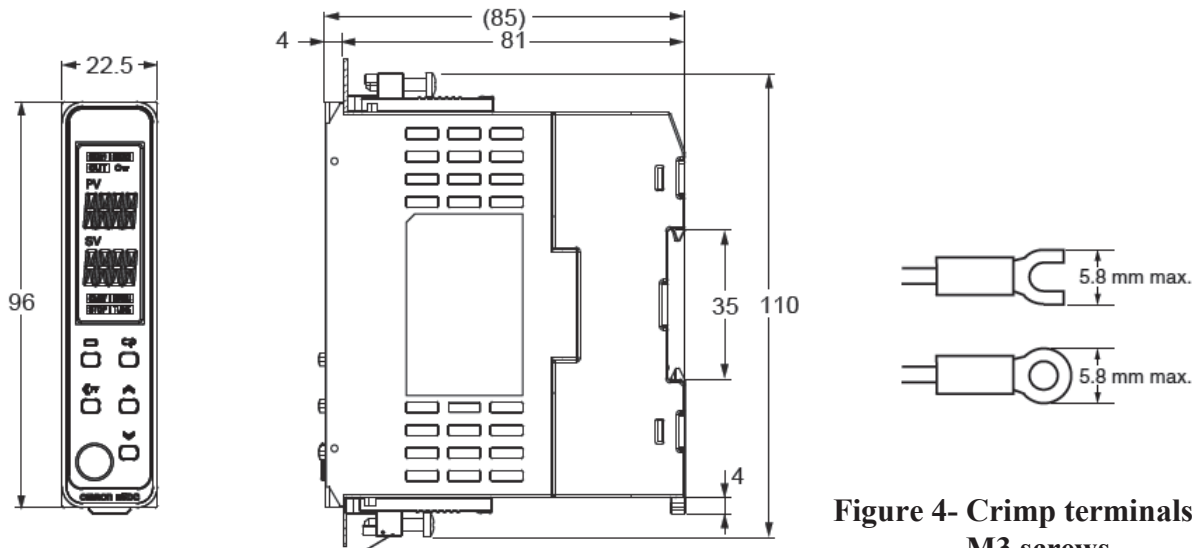


Figure 3- Dimensions

Figure 4- Crimp terminals for M3 screws