

# Temperature/Process Limit Controllers



All models shown smaller than actual size.

## CNi-AL Series



- Universal Inputs
- High Accuracy
- 2 Relay Alarm Outputs
- Totally Programmable Color Displays (Visual Alarms)
- User-Friendly, Simple to Configure
- Built-In Excitation
- AC or DC Powered Units
- Front Removable and Plug Connectors
- Programmable Digital Filter
- High/Low Limit
- Remote Reset Input

The OMEGA® iSeries Limit Controller offers unparalleled flexibility in process measurement and alarm applications, accepting 10 different thermocouple types, 18 RTD combinations or 4 process voltage/current inputs and providing 2 relay alarm outputs and a large multi-color, programmable display. Easily configured options include 11 different alarm conditions and the unit supports an external reset input and a buzzer audio annunciator. Front panel configuration buttons allow the user to select the type of input, the alarm conditions and the resulting display color. Process inputs are fully scalable, supporting virtually all engineering units with a

selectable decimal point providing a perfect solution for pressure, flow or other process inputs.

Standard features include a built-in 24 Vdc excitation source for transmitters or other devices and a universal power supply that accepts 90 to 240 Vac. A low power option is available that supports 24 Vac or 12 to 36 Vdc.

### Specifications

**Input Types:** Thermocouple, RTD, analog voltage, analog current

**Accuracy:**  $\pm 0.5^{\circ}\text{C}$  temperature; 0.03% rdg

**Temperature Stability:**

RTD:  $0.04^{\circ}\text{C}/^{\circ}\text{C}$

Thermocouple @  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ ):  $0.05^{\circ}\text{C}/^{\circ}\text{C}$ , cold junction compensation

Process: 50 ppm/ $^{\circ}\text{C}$

**Reading Rate:** 3 samples/s

**Display:**

$\frac{1}{8}$  DIN: Single 4-digit 9-segment LED 21 mm (0.83")

$\frac{1}{32}$ ,  $\frac{1}{16}$  DIN: 10.2 mm (0.40")

**Thermocouple Types (ITS 90):**

J, K, T, E, R, S, B, C, N, L (J DIN)

**Thermocouple Lead Resistance:**

100  $\Omega$  maximum

**RTD Input (ITS 68):** 100/500/1000  $\Omega$  Pt sensor, 2-, 3- or 4-wire; 0.00385 or 0.00392 curve)

**Voltage Input:** 0 to 100 mV, 0 to 1V, 0 to 10 Vdc

**Input Impedance:** 10 M $\Omega$  for 100 mV, 1 M $\Omega$  for 1 or 10 Vdc

## iSeries

**Current Input:** 0 to 20 mA (5  $\Omega$  shunt)

**Excitation**

**Voltage Excitation:** 24 Vdc @ 25 mA (not available with low power option)

**Limit Control Alarm 1 and 2 Outputs**

**Relay:** SPDT, 250 Vac or 30 Vdc @ 3 A (resistive load)

**Operation:** High/low, above/below, band, latch/unlatch, normally open/normally closed and process/deviation; front panel configurations

**General**

**Power:** 90 to 240 Vac  $\pm 10\%$ , 50 to 400 Hz, 110 to 300 Vdc, equivalent voltage

**Low Voltage Power Option:** 24 Vac, 12 to 36 Vdc; external power source must meet safety agency approvals

**Operating Temperature:** 0 to  $55^{\circ}\text{C}$  ( $32$  to  $131^{\circ}\text{F}$ ); 90% RH non-condensing

**Protection:**

$\frac{1}{8}$  DIN: NEMA 1/Type 1 front bezel

$\frac{1}{32}$ ,  $\frac{1}{16}$  DIN: NEMA 4X/Type 4 (IP65) front bezel

**Dimensions:**

$\frac{1}{8}$  DIN: 48 H x 96 W x 127 mm D (1.89 x 3.78 x 5")

$\frac{1}{16}$  DIN: 48 H x 48 W x 127 mm D (1.89 x 1.89 x 5")

$\frac{1}{32}$  DIN: 25.4 H x 48 W x 127 mm D (1.0 x 1.89 x 5")

### To Order

Model No.	Description
CNi8-AL	$\frac{1}{8}$ DIN limit controller with 2 relays, 90 to 240 Vac
CNi16-AL	$\frac{1}{16}$ DIN limit controller with 2 relays, 90 to 240 Vac
CNi32-AL	$\frac{1}{32}$ DIN limit controller with 2 relays, 90 to 240 Vac
CNi8-AL-DC	$\frac{1}{8}$ DIN limit controller with 2 relays, 12 to 36 Vdc
CNi16-AL-DC	$\frac{1}{16}$ DIN limit controller with 2 relays, 12 to 36 Vdc
CNi32-AL-DC	$\frac{1}{32}$ DIN limit controller with 2 relays, 12 to 36 Vdc

**Ordering Example:** CNi32-AL,  $\frac{1}{32}$  DIN limit controller with two relay outputs, 90 to 240 Vac.