

# 1/32 DIN Ramp/Soak Controllers with Fuzzy Logic



CN74000 Series



Panel punches available



CN74020 shown actual size.

- ✓ Large Dual Display
- ✓ Autotune
- ✓ Fuzzy Logic
- ✓ Universal Inputs
- ✓ Peak/Valley Indication
- ✓ Percent Output Indication
- ✓ 16-Segment Ramp/Soak Function
- ✓ Illuminated Keypad
- ✓ Free Software

The CN74000 Series controllers set a new standard in 1/32 DIN power, flexibility, and value. Despite their small size, these controllers are loaded with features, including multiple universal inputs, fuzzy logic, autotune, auto/manual capability, and 16-segment ramp and soak with adjustable time base. RS485 serial communication is optional.

## Specifications

**Selectable Inputs:** Thermocouple, RTD, DC voltage or DC current  
**Display:** Two 4-digit, 7-segment, 6.35 mm H (0.25") LEDs  
**Accuracy:** ±0.25% of span, ±1 least significant digit  
**Supply Voltage:** 100 to 240 Vac, nominal, 10 to 15%, 50 to 400 Hz  
**Single Phase:** 132 to 240 Vdc, nominal, 10 to 20%  
**Power Consumption:** 5 VA maximum  
**Operating Temperature:** -10 to 55°C (14 to 131°F)  
**Memory Backup:** Non-volatile memory, no batteries required  
**Control Output Ratings:**  
**Relay:** SPST, 3 A @ 240 Vac resistive; 1.5 A @ 240 Vac inductive; Pilot Duty Rating: 250 VA, 2 A @ 120 Vac or 1 A @ 240 Vac  
**Switched Voltage (Non-Isolated):** 5 Vdc @ 20 mA  
**Weight:** 114 g (4 oz)  
**Front-Panel Rating:** NEMA 4X (IP66)  
**Panel Cut-Out:** 45 x 22 mm (1.772 x 0.874")  
**Maximum Panel Thickness:** 6.35 mm (0.25")  
**Panel Depth:** 111.60 mm (4.395")

## Inputs

Input Types	Range
<b>K</b> Thermocouple	-200 to 2500°F (-129 to 1371°C)
<b>J</b> Thermocouple	-100 to 1600°F (-73 to 871°C)
<b>T</b> Thermocouple	-350 to 750°F (-212 to 398°C)
<b>E</b> Thermocouple	-100 to 1800°F (-73 to 982°C)
<b>N</b> Thermocouple	-100 to 2372°F (-73 to 1300°C)
<b>R</b> Thermocouple	0 to 3200°F (-17 to 1760°C)
<b>S</b> Thermocouple	0 to 3200°F (-17 to 1760°C)
<b>B</b> Thermocouple	75 to 3308°F (24 to 1820°C)
<b>L</b> (J DIN) Thermocouple	-100 to 1600°F (-73 to 871°C)
<b>C</b> Thermocouple	0 to 4208°F (-17 to 2320°C)
Pt100 RTD (0.00385)	-200 to 875°C (-328 to 1607°F)
Pt100 RTD (0.00392)	-200 to 875°C (-328 to 1607°F)
RTD, 120 Ω Nickel (0.00628)	-80 to 320°C (-112 to 608°F)
RTD, Pt1000 (0.00385)	-200 to 875°C (-328 to 1607°F)
0 to 20 mA*, 4 to 20 mA*	-1999 to 9999
0 to 10 Vdc*, -10 to 10 Vdc*, -10 to 10 mVdc*	-1999 to 9999

**Note:** All thermocouple and RTD inputs can be set for 0.1° display. If temperature goes above 999.9° or less than -199.9° the display will return to whole degree resolution.

\* **Process Input Types:** The 0 to 20 mAdc, 4 to 20 mAdc, 0 to 10 Vdc, and 2 to 10 Vdc, inputs are fully scalable from a minimum of 100 counts span placed anywhere within the within the range of -1999 to 9999. Decimal point position is adjustable from the zero place (9999), tenths (999.9), hundredths (99.99), or thousandths (9.999).

## To Order

Model No.	Description
<b>CN74020</b>	Single output, DC pulse
<b>CN74030</b>	Single output, relay
<b>CN74033</b>	Dual output, relay/relay
<b>CN74053</b>	Dual output, 4 to 20 mA/relay
<b>CN74123</b>	Dual output, DC pulse/relay and alarm
<b>CN74133</b>	Dual output, relay/relay and alarm

## Options

Ordering Suffix	Description
<b>-C4*</b>	RS485 communications
<b>-LV</b>	12 to 24 Vdc/Vac power

## Accessories (Field Installable)

Model Number	Description
<b>CNQUENCHARC</b>	Noise suppression kit, 110 to 230 Vac
<b>CN7-485-USB-1</b>	RS485 to USB mini-node converter

\* Free CN7-A software download available at **OMEGA**

**Ordering Examples:** **CN74123-C4**, dual-output controller, DC pulse and a mechanical relay output, alarm, RS485 communications.  
**CN74030**, single output controller, relay.