¼ DIN Digital Temperature and Limit Controllers

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CN8100 Series Starts at

$315

2 YEAR WARRANTY | MADE IN USA | CE | c UL us | FM APPROVED

CN8121

CN8102-R1-R2, dual output PID controller, $342, shown smaller than actual size.

- **Large, Easy-to-Read LED, Selectable for Either Setpoint or Process Temperature**
- **Type J or K Thermocouple Input**
- **Adjustable Output Hysteresis to Prevent Rapid Cycling Around Setpoint Temperature**
- **Adjustable Deviation Alarm Flashes When Measured Temperature Exceeds or Falls Below Setpoint Temperature**
- **NEMA 4X (IP65) Front Bezel, Splash-Proof and Resistant to Dust**
- **Discrete Status Indicators Illuminate When Temperature Display, Setpoint Display or Heat/Cool Output Is Active**
- **Auto Tuning (CN8101 and CN8102)**

The CN8100 Series controller is a low-cost, general purpose ¼ DIN temperature controller, ideal for OEM or replacement applications. Microprocessor-based and accurate to ±0.3% FS, it may be ordered as either a PID controller, on/off controller or limit safety device.

As a separate safety feature to your control application, the CN8121-R1 limit controller provides reliable high/low temperature limit shut-off control for most machine and process control applications including environmental chambers, furnaces, ovens and packaging machinery. As a high-limit device, these controllers have a normally energized SPST latching output relay which becomes de-energized whenever the process variable (PV) exceeds a selected setpoint value. Reset of the latching output relay is done by holding the parameter button for 3 seconds on the front panel of the controller, or by cycling power to the controller.

Specifications

General

Line Voltage: 85 to 250 Vac, 50/60 Hz, 120 to 300 Vdc (auto polarity)

Display: 3-digit, 14 mm (0.56") orange LED

Discrete Indicators:

Setpoint: Amber

Actual: Amber

Heat: Orange

Cool: Orange

Power Consumption: Less than 6 VA (instrument)

Front Panel Rating: NEMA 4X (IP65)

Operating Temperature: 0 to 60°C (32 to 140°F)

Humidity Tolerance: 90% RH maximum, non-condensing

Memory Protection: Solid-state, non-volatile memory

Connections: Fast-on style (0.250" wide)

Panel Cutout: ¼ DIN, 92 mm² (3.622 in²)

Dimensions: 96 x 96 x 6.35 mm bezel (3.78 x 3.78 x 0.25")

Panel Depth: 88.9 mm (3.5")

Weight: 737 g (1 lb. 10 oz)

Performance

Accuracy: ±0.3% of FS, ±1 digit

Setpoint Resolution: 1 count

Repeatability: ±1.0 count

Temperature Stability: 5µV/°C maximum

TC Cold End Tracking: ±0.05°C/ °C ambient

Noise Rejection: Common mode >100 dB, Series mode >70 dB

Process Sampling: 3.7 Hz (270 ms)

Available Inputs:

Thermocouple:

CN8110: Type J

CN8120: Type J

CN8100: Type J or K

Maximum lead resistance, 100 Ω for rated accuracy

Control Characteristics:

Control Hysteresis: 1 to 140°C (2 to 252°F)

Display Offset: -70 to 70°C (-126 to 126°F)

Deviation Alarm: Off, 1 to 140°C (Off, 1 to 252°F)

Outputs: Electromechanical relay, 5 A @ 250 Vac, 5 A @ 30 Vdc, solid-state relay, 120/240 Vac, 0 voltage switched, 2 A continuous (output 1), 0.5 A continuous (output 2) 10 A surge @ 25°C (77°F), pulsed DC 5V for external SSR

Output Options

Output Type	First Output Suffix- Heat Only (Reverse)	Second Output Suffix- Alarm (CN8112) or Cool Only (Direct—CN8102)
5 A Relay	-R1	-R2
AC SSR	-T1	-T2
DC Pulse	-D1	-D2

***Note:** "**-T1**" = 2A ac SSR, "**-T2**" = 1A ac SSR.*

Input Types, Ranges and Setpoint Limits, °C/°F Switchable

Input Types for PID Control	Range
J Iron–Constantan	0 to 485°C (32 to 905°F)
K CHROMEGA®–ALOMEGA®	-17 to 537°C (0 to 999°F)
Input Type for On/Off and Limit	**Range**
J Iron–Constantan	0 to 485°C (32 to 905°F)

OMEGA CARE℠ Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
CN8101-(*)	**$315**	PID controller, single output with Type J and K thermocouple input
CN8102-(*)-(*)	**342**	PID controller, dual output with Type J and K thermocouple input
CN8111-(*)	**317**	On/off controller, single output with Type J thermocouple input
CN8112-(*)-(*)	**335**	On/off controller, single control output and alarm output with Type J thermocouple input
CN8121-R1	**363**	High-limit controller, single relay output with Type J thermocouple input, FM approved
DPP-6	**575**	¼ DIN panel punch
PE-1318	**90**	Reference Book: Practical Process Control

Comes complete with operator's manual.

***** *Specify output type from Output Options table.*

Ordering Examples: CN8102-R1-R2,** ¼ DIN dual mechanical relay output PID controller, **$342.

OCW-3,** OMEGACARE℠ extends standard 2-year warranty to a total of 5 years **($86),** $342 + 86 = **$428.

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Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters