

# 1/32 DIN Autotune Temperature/Process Controllers

CN132  
\$177



CN132, \$177, shown actual size.

Panel Punches Available, Visit [omega.com/panelpunches](http://omega.com/panelpunches)

- ✓ User Selectable Inputs
- ✓ Autotune PID
- ✓ Configurable Dual Output
- ✓ Second Setpoint and Output
- ✓ NEMA 4X Front Panel
- ✓ Full Cool Strategy
- ✓ Auto/Manual Operation
- ✓ Optional 12 Vac/dc or 24 Vac/dc Models



The CN132 digital microcontrollers include all the features of standard 1/4, 1/8 and 1/16 DIN microprocessor controllers, in a very small package. The CN132 features advanced autotune PID. Autotune teaches the controller the main characteristics of the process. Autotune learns by cycling the output on and off. The results are measured and used to calculate optimum PID values which are automatically entered in the controller memory. Optimum cycle-time is calculated by Autotune programs. The choice of cycle-time is influenced by the external switching device or load, e.g., contactor, SSR, valve. Each control parameter can be set by the user through the front keypad. These units include program security in a hidden level for OEMs.

## Specifications

**Power:** 100 to 240 Vac/dc, ±10%, 50 to 60 Hz, 3 VA; Optional 12 or 24 Vac/dc, ±20%, 50 to 60 Hz, 3 VA  
**Display:** 4-digit LED, 10 mm (0.4"), high-brightness green, -199 to 9999 counts display range  
**Range:** Sensor limited 2000°C (3500°F); -99.9 to 999.9° in 0.1° resolution  
**Display Indicators:** Process temperature (PV), setpoint (SP), SP1/2 indicators (flashing), error messages, function/option mnemonics  
**Thermocouple Cold Junction Compensation Rejection:** 20:1 (0.05°/°C) typical  
**Thermocouple External Resistance:** 100 Ω max  
**RTD Input:** Pt100, 2-wire  
**Process Inputs:** -10 to 50 mV  
**Calibration Accuracy:** ±0.25% sensor max ±1°C (2°F)  
**Sampling Frequency:** Input 10 Hz, CJC 2 seconds  
**Common Mode Rejection:** Negligible effect up to 140 dB, 240V, 50 to 60 Hz  
**Temperature Coefficient:** 150 ppm/°C sensor max  
**Relay:** form A/SPST contacts 2 A/250 Vac, resistive  
**SSd (DC Pulse driver):** To switch a remote SSR 5 Vdc 0/-15% 10 mA non-isolated  
**Operating Ambient Range:** 0 to 50°C (32 to 122°F)  
**Case Material:** Flame-retardant polycarbonate  
**Weight:** 100 g (3.5 oz)  
**Dimensions:** 24 H x 48 W x 10 mm D bezel (0.95 x 1.89 x 0.39"), 102 mm (4.02") depth  
**Panel Cutout:** 45 x 22.2 mm (1.77 x 0.87")

## Inputs Types and Ranges

Sensor Type	Linearized Range* (Units Are °C/°F Switchable)		Linearity °C
J	0 to 800°C	32 to 1472°F	±0.5
K	-50 to 1200°C	-58 to 2192°F	±0.25*
T	-200 to 250°C	-273 to 482°F	±0.25*
E	0 to 600°C	32 to 1112°F	±0.5
R	0 to 1600°C	32 to 2912°F	±2.0*
S	0 to 1600°C	32 to 2912°F	±2.0*
B	0 to 1800°C	32 to 3272°F	±2.0*
N	-50 to 1200°C	-58 to 2192°F	±0.25*
J DIN	0 to 800°C	32 to 1472°F	±0.5
RTD	-200 to 400°C	-273 to 752°F	±0.25*

\* Linearity: Type B: 5° (70-500°C), Types K and N: 1° >350°C  
 Exceptions: Types R and S: 5° < 300°C, Type T: 1° <-25° or >150°C  
 RTD/Pt100: 0.5° <-100°C.

## Linear Process Inputs (Input mV Range: -10 to 50 mV)

Range	0 to 20 mV	4 to 20 mV
Lin 1	0 to 100	-
Lin 2	0 to 1000	-
Lin 3	0 to 2000	-
Lin 4	-	0 to 100
Lin 5	-	0 to 1000

Linearity is ±0.5%.

**AVAILABLE FOR FAST DELIVERY!**

## To Order (Specify Model Number)

Model Number	Price	Description
CN132	\$177	Relay/dc pulse controller**

\*\* Note: Either the relay or the dc pulse can be chosen as the primary output device for the main setpoint, SP1; the remaining output device will automatically be allocated to the second setpoint, SP2.

## Power Supply Options

Model Number	Price	Description
-12V	N/C	12 Vac/dc
-24V	N/C	24 Vac/dc

## Accessories

Model No.	Price	Description
CN132-116	\$5	1/16 DIN panel adaptor
CN132-116-DUAL	5	1/16 DIN twin adaptor
DPP-1	400	1/32 DIN panel punch

Comes complete with operator's manual.

**Ordering Example:** CN132-12V is a 1/32 DIN autotune controller with thermocouple, 2-wire RTD, and process input capability, relay and dc pulse output, 12 Vac/dc power, \$177.

OCW-2 OMEGACARE<sup>SM</sup> extends standard 3-year warranty to a total of 5 years (\$32), \$177 + 32 = \$209.

# omega.co.uk<sup>®</sup>

Your One-Stop Source for Process Measurement and Control!

Freephone 0800 488 488 | International +44(0) 161 777 6622 | Fax +44(0) 161 777 6622 | Sales@omega.co.uk

[www.omega.co.uk](http://www.omega.co.uk)



#### UNITED STATES

[www.omega.com](http://www.omega.com)

1-800-TC-OMEGA  
Stamford, CT.

#### CANADA

[www.omega.ca](http://www.omega.ca)

Laval(Quebec)  
1-800-TC-OMEGA

#### GERMANY

[www.omega.de](http://www.omega.de)

Deckenfronn, Germany  
0800-8266342

#### UNITED KINGDOM

[www.omega.co.uk](http://www.omega.co.uk)

Manchester, England  
0800-488-488  
+44-(0)161-777-6611

#### FRANCE

[www.omega.fr](http://www.omega.fr)

0800-466-342

#### BENELUX

[www.omega.nl](http://www.omega.nl)

0800-099-33-44



## More than 100,000 Products Available!

### • Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders, Relative Humidity Measurement Instruments, PT100 Probes, PT100 Elements, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples, Thermowells and Head and Well Assemblies, Transmitters, Thermocouple Wire, RTD Probes

### • Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

### • pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

### • Data Acquisition

Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485, Ethernet and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

### • Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Pressure Transmitters, Strain Gauges, Torque Transducers, Valves

### • Heaters

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