Universal Temperature Process Controller
Including Thermistor Inputs

CN142 Series

- Dual Display
- J, K, R, S Thermocouple Inputs
- Process Inputs
- RTD and Thermistor Inputs
- 3 Outputs
- Alarm, Event and Timer Functions
- On/Off or PID Control
- 3 Step Ramp Soak Feature
- Autotune
- Digital Input
- Password Protection
- 24 to 230 Vac/Vdc
- Optional RS485
- Optional Software with Configuration Module

CN142-R1-R2-DC3 shown actual size.

Monitor and control temperature or process applications with precision using the CN142 Series controllers. The CN142 Series provides dual LED displays for local indication of process value and setpoint value. Control methods include on/off, PID, auto-tune and manual-tune. Controller includes a 3 setpoint ramp/soak control feature, and also includes alarm, event and timer functions with optional RS485 communications. An optional software package CN-SW-HW-KIT includes cable and configuration module for quick configuration of units, as well as copying configuration parameters from one unit to another. The configuration module can also be purchased separately and with a built-in battery feature, configuration settings can be downloaded and copied to the module without power applied to controller. The module can then be plugged into a new unit without power applied and the configuration setting can be transferred for easy set-up for multiple units.

Specifications

Front Bezel: 32 x 74 mm (1.6 x 2.9")

Panel Depth: 53 mm (2.1")

Supply Voltage: 24 to 230 Vac/Vdc ±15%, 50/60 Hz

Power Consumption: 2 W

Display: Two 4-digit, 10 mm (0.4") green (SV), 8 mm (0.3") red (PV)

Accuracy: ±0.5°C temperature, 0.2% reading

Resolution: 1°/0.1° 10 µV process

A/D Conversion: Sigma-delta

Reading Rate: Programmable

Digital Filter: Programmable

Operating Conditions:
- **Temperature:** 0 to 45°C (32 to 113°F)
- **Humidity:** 35 to 95 RH%

Material:
- **Enclosure:** Noryl UL94V1 self-extinguishing
- **Front Panel:** PC ABS UL94V0 self-extinguishing

Weight: 112 g (3.95 oz)

Front Panel: IP65 (with gasket), box IP30, terminal blocks IP20

Inputs:
- **Thermocouple:** J, K, R, S
- **RTD:** Pt100, Pt500, Pt1000, Ni100
- **Thermistor:** PTC1K, NTC10K (B 3435K), NTC 2252 Ω
- **Process:** 4 to 20 mA, 0 to 10V, 0 to 40 mV, potentiometer 0 to 6/160 KΩ

Sampling Time: 4,1 ms (frequency 242 Hz)

1 Digital Input: ½ setpoint selection, hold, run (only for thermocouple, 0 to 10V, 0/4 to 20 mA, 0 to 40 mV)

Outputs:
- **2 Relays:** 8 A to 250 Vac and 5 A to 250 Vac
- **DC Pulse:** 12 Vdc, 30 mA

Serial Communication: RS485 MODBUS® RTU, master/slave

Control Algorithms: On/off with hysteresis, P, PI, PID, PD, time proportional

Tuning: Manual or autotune

Data Protection: Lock of command/ alarm setpoint; access to parameters by password

Alarm Modes: Absolute/threshold, band, high/low deviation; alarm with optional manual reset

Soft-Start: Rising gradient expressed as °C or °F/hour

Programmer Function: Start/stop, 3 steps pre-programmed cycle

Timer Function: Controller function + single/double timer

Input Table

Input Type	Range
K	-260 to 1360°C (-436 to 2480°F)
R/S	-40 to 1760°C (-40 to 3200°F)
J	-200 to 1200°C (-328 to 2192°F)
Pt100 Ω RTD	-200 to 600°C (-328 to 1112°F)
Ni 100 Ω RTD	-60 to 180°C (-76 to 356°F)
Pt 500 Ω RTD	-100 to 600°C (-148 to 1112°F)
Pt 1000 Ω RTD	-100 to 600°C (-148 to 1112°F)
NTC 10 KΩ Thermistor	-40 to 125°C (-40 to 257°F)
NTC 2252 Ω Thermistor	-40 to 125°C (-40 to 257°F)
PTC 1 KΩ Thermistor	-50 to 150°C (-50 to 302°F)
0 to 10 Volt	-999 to 9999
0 to 20 mA	-999 to 9999
4 to 20 mA	-999 to 9999
0 to 40 mV	-999 to 9999
Potentiometer	Maximum 6 KΩ
Potentiometer	Maximum 150 KΩ

To Order

Model No.	Description
CN142-R1-R2-DC3	Temperature process controller, 3 outputs, relay, relay, dc pulse
CN142-R1-DC2-C4	Temperature process controller, 2 outputs, relay, dc pulse, RS485

Accessories (Field Installable)

Model No.	Description
CN-SW-HW-KIT	Software, cable and configuration module kit
CN-CONFIG-MODULE	Configuration memory plug in module
CNQUENCHARC	Noise suppression kit, 110 to 230 Vac

Comes complete with operator's manual.
***Ordering Example: CN142-R1-DC2-C4,** temperature process controller with RS485.*