

DIN Rail Mountable Universal Temperature Process Controller Including Thermistor Inputs



CN245 Series



- ✓ DIN Rail Mountable
- ✓ Dual Display
- ✓ Type J, K, R and S Thermocouple Inputs
- ✓ Process Inputs
- ✓ RTD and Thermistor Inputs
- ✓ Alarm Functions
- ✓ On/Off or PID control
- ✓ 3 Step Ramp Soak Feature
- ✓ Autotune
- ✓ Digital Input
- ✓ Heater Loop Break Alarm
- ✓ 24 to 230 Vac/Vdc
- ✓ Password Protection
- ✓ RS485 Standard
- ✓ Optional Software with Configuration Module



CN245-R1-R2-F3-C4 with RAIL-35-1 shown actual size.

Monitor and control temperature or process applications with precision using the CN245 Series DIN rail mountable controllers. The CN245 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, alarm functions, RS485 communications and heater loop break alarm. Beside operation as multi-setpoint PID controller, the unit can be ideally used as signal converter thanks to a universal input (selectable by parameter for up to 18 different signals) and the analog output which is galvanically

isolated and programmable for rescalable retransmission of process/setpoint value. 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 module without power applied to controller. 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

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

Power Consumption: 3 W

Display: Two 4-digit, 10 mm (0.4") green (SV), 7.6 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%

Enclosure: Polycarbonate V0

Front Panel: Silicon V0



Dimensions: 90 H x 72 W x 64 mm D
(3.5 x 2.8 x 2.5")

Weight: 195 g (6.88 oz)

Inputs:

Thermocouple: K, J, S, R

RTD: Pt100, Pt500, Pt1000, Ni100

Thermistor: PTC 1K, NTC 10K
(B 3435K), NTC 2252Ω

Process: 4 to 20 mA, 0 to 10V,
0 to 40 mV, potentiometer
0 to 6/160 kΩ

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

1 Digital Input: Up to 4 setpoint selections, hold, run, tuning launch, start/stop cycle

Outputs:

2 Relays: 5 A to 250 Vac (resistive)

DC Pulse: 12 Vdc, 30 Ma

Analog: Programmable for
4 to 20 mA, 0 to 10 Vdc, control or retransmission PV/SP

Serial Communication: RS485
MODBUS® RTU

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

Tuning: Manual or autotune

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

Alarm Modes: Absolute/threshold, band, high/low deviation; loop break alarm function

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

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



CN245-R1-R2-F3-C4 with CN-CONFIG-MODULE shown smaller than actual size.

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 150°C (-40 to 302°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
CN245-R1-R2-F3-C4	DIN rail controller, relay/relay/dc pulse or analog output (selectable for output 3), RS485, heater loop break

Accessories (Field Installable)

Model No.	Description
CN-SW-HW-KIT	Software, cable and configuration module kit
CN-CONFIG-MODULE	Configuration memory plug in module
RAIL-35-1	35 mm DIN rail, 1 m (3.3') length
RAIL-35-2	35 mm DIN rail, 2 m (6.6') length
CNQUENCHARC	Noise suppression kit, 110 to 230 Vac

Comes complete with operator's manual.

Ordering Example: CN245-R1-R2-F3-C4, DIN rail controller with 2 relays, 1 analog output, RS485, heater loop break alarm.