PID Process Controller

Product Details

The CN400 Single/Dual Inputs PID Controller Series stand out for the bright display which ensures optimal visibility and increased level of information for the operator.

The CN400 Series introduces the latest NFC/RFID programming technology with a dedicated App - Omega Direct Link for all Android devices (Free Download from Google Play). No more wiring, cables, or power supply, just quick set-up/updates on site with your phone.

With dual analog input and dual analog outputs model option, the CN400 Series can achieve two separate heating/cooling PID control loops in one device or to handle mathematical operations between two process values. The outputs can be selected as command/multiple alarm modes/analog retransmission. Serial communication standard is RS485 with Modbus RTU/Slave protocol. The CN400 Series power supply has an extended range of 24 to 230VAC / VDC with galvanic insulation of the net for the single loop version, while the model with double analog input provides two versions: 115 / 230 VAC or 24 VAC / VDC.

Features

- **1/16 DIN Dual Display**
- **Single/Dual Universal Inputs**
- **Fast Speed up to 470 Samples/Sec**
- **Programmable by NFC/RFID**
- **Supports Heating/Cooling P.I.D**
- **Universal Power Supply Option**
- **UL Certified**

The CN40x series includes 5 versions:

Models with power supply 24..230 VAC/VDC ±15% 50/60 Hz – 6 Watt/VA	
CN401-11445	1 analogue input + 2 relays 2 A + 2 SSR + 2 D.I. + 1 analogue output V/mA
CN401-11445-C4	1 analogue input + 2 relays 2 A + 2 SSR / D.I. + 1 analogue output V/mA + RS485
CN401-111445	1 analogue input + 3 relays 2 A + 2 SSR + 2 D.I. + 1 analogue output V/mA (1 D.O. + 1 D.I. when using CT)
Model with power supply 24 VAC/VDC ±15% 50/60 Hz – 6 Watt/VA	
CN402-1114455-C4-DC	2 analogue input + 3 relays 2 A + 2 SSR + 2/4 D.I. + 2 analogue output V/mA + RS485 + CT (2 D.I./D.O when using CT)
Model with power supply 115..230 VAC ±15% 50/60 Hz – 6 Watt/VA	
CN402-1114455-C4	2 analogue input + 3 relays 2 A + 2 SSR + 2/4 D.I. + 2 analogue output V/mA + RS485 + CT (2 D.I./D.O when using CT)

Specifications

Inputs

1 or 2 - Configurable: 16 bit, selectable for TC type K, S, R, J, T, N, B (automatic compensation of cold junction) -25 to 85°C, ±0,2% F.S. ±1 digit F.S.), thermoresistances PT100, PT500, PT1000, Ni100, PTC1K, NTC10K (β 3435K), process signals 0 to 10 V (50000 points), 0/4 to 20mA (40000 points), 0 to 60 mV (25000 points), potentiometer 1 to 150 KΩ (50000 points)

Sampling time:
Programmable up to 2.1 ms (frequency up to 470 Hz)

2/4 digital inputs:
Setpoint change, Hold, Run, Tuning launch, Start / Stop, Lock configuration

1 Current Transformer (C.T.) input:
Selection C.T. 50 mA, 800 µs - 4096 points

Outputs

2/3 relays:
Relay 2 A - 250 V AC resistive change

2 SSR:
12 / 24 V DC - 30 mA max

1/2 analog:
Selection 4 to 20 mA (40000 points ± 0,2% F.S.) or 0 to 10 V DC (40000 points ± 0,2% F.S.) for command or retransmission PV / SPV

Serial communication:
RS485 Modbus RTU - Slave (4800 to 115200 baud code-T)

Software Features

Control algorithms:
ON - OFF with hysteresis, P., P.I., P.I.D., P.D. time proportional

Tuning:
Manual or automatic

Data protection:
Lock of control / alarm setpoint / Access to parameters by password

Alarm modes:
Absolute / Threshold, Band, High / Low deviation. Alarm with optional Manual reset. Loop Break Alarm

Auto / Manual function:
Output percentage command also with automatic change in case of sensor failure

Double P.I.D:
Heating / Cooling P.I.D

Programmer function:
Pre-programmed cycle / 3 steps

Soft-Start:
Rising gradient expressed as Degrees / Hour or fixed output percentage

Open / Close logic:
Open / Close logic for motorized valves

Box:
48 x 48 (front panel) x 105 mm

Power supply:
24 to 230 V AC / DC ±15% 50/60 Hz - galvanic isolation 2.5KV

Consumption:
8 W

Display:
4 digits 0.5" white + 4 digits 0.3" red

Operating conditions:
Temperature 0 to 45 °C, humidity 35 to 95 RH%

MaterialBox:
PC UL94V2 self-extinguishing, front panel: PC UL94V2

Weight:
Approx. 185 g

Sealing:
IP65 (front panel) IP20 (box and terminal blocks)

Quick set-up options:
Memory Card, software LABSOFTVIEW, or EASY-UP

APP:
NFC Programming via APP Direct Link for Android smartphones