



Universal Temperature/Process Controllers

Adaptive Tune, 1/8 & 1/4 DIN Sizes



Standard Features

- ✓ Universal Input: Thermocouple, RTD, Current & Voltage
- ✓ Adaptive Auto tuning
- ✓ Bumpless Auto/Manual Operation
- ✓ Ramp to Setpoint
- ✓ Dual Display
- ✓ 1.0° or 0.1° Resolution
- ✓ 3 Output Capability
- ✓ Universal Power: 90 to 264 Vac
- ✓ NEMA-4 (IP65) Front Panel Standard
- ✓ Configuration Port

Optional Features

- ✓ Plug-in Output Modules (for Outputs 2 & 3)
- ✓ Low Voltage Power: 25 to 50 Vac/22 to 65 Vdc
- ✓ 24 Vdc Transmitter Power Supply
- ✓ RS-485 Communications
- ✓ Software and Cable for the Configuration Port
- ✓ Analog Retransmission Output

Easy programming and operational simplicity are the mainstays of the entire CN1600 Series. The adaptive autotune feature provides better overall control with accurate hands-free tuning and tighter control while minimizing over-shoot. The CN1600 Series offers a choice of full PID, Heat-Cool, or On-Off control with up to two alarms. This allows the CN1600 Series to handle virtually any application. Its unique loop break alarm provides process loop problem identification without the need for the additional external hardware required by "heater break protection" controllers. The CN1611 and CN1621 Series feature a 24 Vdc transmitter power supply. They also have a configuration port that allows them to be programmed off-line from a PC or laptop computer. This feature offers faster configuration of multiple units along with the ability to store programming on disk for future reference.



CN1611 Series
\$320
 Basic Unit



CN1621 Series
\$350
 Basic Unit

Shown smaller than actual size

Specifications Performance

Inputs:

Thermocouples J, K, T, R, S, B, J
 DIN (L); RTD (Pt100
 alpha=0.00385); Process 0-50 mV,
 10-50 mV, 0-5 V,
 1-5 V, 0-10 V, 1-10 V, 2-10 V,
 4-20 mA, 0-20 mA

Accuracy:

±0.25% of span ± 1 LSD

Input Sampling Cycle Time:

4 samples per second

Isolation: 240 Vac isolation from all outputs except dc Pulse

Ambient Temperature Error:

0.01% of span/°C change in ambient

Cold Junction Compensation:

Better than ±0.7°C

Series Mode:

> 500% of span (at 50/60 Hz)
 causes negligible effect

Noise Rejection:

Common mode: >120 dB at 50/60 Hz giving negligible effect at up to 264 V 50/60 Hz

Outputs

Mechanical Relay:

SPDT 2 A @ 120/240 Vac

DC Pulse: 4.3 Vdc; 250 Ω minimum load required

Current: 0 to 20 mA, 4 to 20 mA; 500 Ω maximum load

Voltage: 0 to 5V, 0 to 10VDC; 500 Ω minimum load

Control Characteristics

Alarms: Process high/low, deviation high/low, band, open loop and two alarm combination

Proportional Band: 0.5 to 999.9% of input span in 0.1% increments

Rate: 0 to 99 min 59 sec and Off

Reset: 1 sec to 99 min 59 sec and Off

Cycle Time:

1/2 to 512 sec in binary steps

Hysteresis:

0.1 to 10.0% of input span

Serial Communications:

RS-485, 2-wire, isolated

General

Power: 90 to 264 Vac, 50/60 Hz, 4 W, (Optional Low Voltage

23 to 50 Vac, 50/60 Hz,

22 to 65 Vdc, 4 W)

Operating Ambient Range:

0 to 55°C (32 to 130°F)

Isolation: 240 V input/output



Shown smaller than actual size

Companion Controller:
 1/8 DIN CN1601 Series
 also available Section P.
 Probes are sold separately
 in Section A.

Displays:
 Four 7-segment LED's
 CN1611 Displays:
 Top: 9.9 mm (.39")
 Bottom: 7.1 mm (.28")
 CN1621 Displays:
 Top: 15.5 mm (.53")
 Bottom: 9.9 mm (.39")

Dimensions:
 CN1611: 48 H x 96 W x 100 mm D
 (1.89 x 3.78 x 3.94") 1/8 DIN
 CN1621: 96 H x 96 W x 100 mm D
 (3.78 x 3.78 x 3.94") 1/8 DIN
Panel Cutout Dimensions:
 1/8 DIN: 45 x 92 mm (1.77 x 3.62")
 1/4 DIN: 92 x 92 mm (3.62 x 3.62")

Weight:
 1/8 DIN: 226.8 g (8 oz)
 1/4 DIN: 453.6 g (16 oz)

**Optional Outputs and
 Transmitter Power Supply**

Output #2	Add'l Price	Output #3	Add'l Price	Output Types
-R2	\$26	-R3	\$25	2 A relay
-DC2	26	-DC3	25	dc pulse
-F2	47	-F3*	45	Analog
-TPS2	60	-TPS3	65	Transmitter power supply

*F1 and F2 are control outputs; F3 is for retransmission output only

Additional Options

Order Suffix	Price	Description
-C4	\$62	RS-485 communications
-LV	15	Low voltage power: 25 to 50 Vac/22 to 65 Vdc

Accessories and Optional Plug-in Boards

Model Number	Price	Description
BD1600-R	\$26	2 A relay output
BD1600-DC	26	dc pulse output
BD1600-F	47	Analog output
BD1600-TPS	60	Transmitter power supply (24 Vdc)
Note: BD1600's Above Replace Outputs 2 & 3 Only		
BD1600-C4	\$62	RS-485 communications
CN1600-SOFT*	105	Software & cable

*For configuration only through configuration port; not used with RS-485 communications. **Optional Plug-in Boards**

Note: Each of the above cards occupies one card slot in the unit. Only one transmitter power supply can be purchased per unit. Reprogramming of controller is necessary when installing plug-in boards.

Input Types and Ranges

Input Type	Range	
J Iron-Constantan	0 to 450°C 0 to 761°C 0.0 to 205.4°C	32 to 842°F 32 to 1402°F 32.0 to 401.7°F
K CHROMEGLA®-ALOMEGA®	0 to 760°C 0 to 1373°C	32 to 1400°F 32 to 2503°F
T Copper Constantan	-200 to 262°C 0.0 to 260.6°C	-328 to 504°F 32.0 to 501.1°F
L Iron-Constantan (J DIN)	0 to 450°C 0 to 762°C 0.0 to 205.7°C	32 to 842°F 32 to 1404°F 32.0 to 402.3°F
R Pt-13%/Rh-Pt	0 to 1650°C	32 to 3002°F
S Pt-10%/Rh-Pt	0 to 1649°C	32 to 3000°F
B Pt-30%/Rh/Pt-6%/Rh	100 to 1824°C	212 to 3315°F
RTD Pt, 385 100 Ω	0 to 600°C	32 to 1112°F
	-101.0 to 100.0°C	32 to 572°F
	0 to 300°C	149.8 to 212.0°F
	0.0 to 100.9°C	32.0 to 213.6°F
	-200 to 206°C	-328 to 403°F
	-101.0 to 300.5°C	-149.8 to 572.9°F
Process Voltage	0 to 50 mV, 10 to 50 mV, 0 to 5 V, 1 to 5 V, 0 to 10 V, 2 to 10 V	
Process Current	0 to 20 mA, 4 to 20 mA	

IN STOCK FOR FAST DELIVERY!

To Order (Specify Model Number)

Model Number	Price	Description
CN1611-R1	\$320	1/8 DIN single 2 amp relay output
CN1611-DC1	320	1/8 DIN single dc pulse output
CN1611-F1	350	1/8 DIN single analog output
CN1621-R1	335	1/4 DIN single 2 amp relay output
CN1621-DC1	335	1/4 DIN single dc pulse output
CN1621-F1	365	1/4 DIN single analog output

Ordering Example: CN1621-DC1-C4, single dc Pulse output 1/4 DIN controller with optional RS-485 communications, \$335 + 62 = \$397

OCW-1 OMEGACARESM extends standard 3-year warranty to a total of 4 years (\$39), \$397 + 39 = \$436

OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order.

GEQSS-14G-12, \$30
 Low Noise Thermocouple Probes,
 see Section A.



CN1600 Series Family

For Additional Controllers and Indicators, See Section M



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• 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

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• Data Acquisition

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• Pressure, Strain and Force

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• 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