

Universal 6 Channel 1/4 DIN Controller



CN616A



- ✓ Universal TC, RTD and Process Inputs Firmware Selectable
- ✓ User Programmable Alarms Individually Settable per Channel
- ✓ Adjustable Scan Time: 400ms Scan Rate per Channel
- ✓ 2 User Assignable Alarm Relays
- ✓ RS232/RS485 Communications
- ✓ Password Protection



CN616A, shown smaller than actual size.

The CN616A is our newest affordable multi-channel process controller. It offers increased accuracy, wider operating temperatures and increased flexibility over the CN616 models it replaces. The input, power and communications are also now isolated allowing for easier deployment and more reliable operation. The rugged extruded aluminum 1/4 DIN case combines with the improved isolation to provide an extremely durable product.

These controllers can control up to 6 independent zones and each zone has its own individual PID control with independent tuning parameters making this new model suitable for many more applications. User selectable RS232 or RS485 communications using Modbus®. Two user configurable Alarm relays are standard on all models. The universal input allows user selection between thermocouple (9 types), RTD 2-wire, 4 to 20 mA and 1000 mV input options. These input selections are firmware selectable through the front panel buttons or Modbus serial commands.

Excellent fit for OEM instrumentation, automotive and aerospace test stand, factory automation, and power generation applications.

Note: While the inputs are universal and can be changed via firmware (no dip switches), all 6 inputs on a given unit must be set to the same type of input for operation.

Specifications

No. of Zones: 6
Display: 15 mm 7-seg LED
Display Time: 1 to 99s
Scan Time: 400ms
Input Types:
TC: J, K, T, E, R, S, B, C, N
RTD: 2 wire PT100, 0.00385
CU10, 0.00427
NI120, 0.00672
Process: 4 to 20 mA, 0 to 1V
Resolution: 1°, 1 mV, 0.01 mA
Accuracy: See Chart Below
ADC: 24-bit Sigma Delta

Control Output:
6 Common Drain DC Pulse Outputs
Switches up to 36Vdc and 1A

Internal Control Output Voltage:
5Vdc @25mA per channel

Communications: RS232 and RS485
(User Selectable) Up to 115.2k baud,
Modbus Protocol (RTU)

Input Power:

AC Models: 120/240 Vac; 50/60 Hz
DC Models: 9 to 36 Vdc
3 watts maximum

ISOLATION PER 1 MIN

Power to Input:

AC Units: 2.3k Vac (3.2k Vdc)
DC Units: 1.5k Vdc

Power to Alarm Relay: 2.3k Vac (3.2k Vdc)

Power to Serial: 2.3k Vac (3.2k Vdc)

Input to Serial: 500 Vac (720 Vdc)

Alarm Relays:

AC Models: 240 Vac max
5A max load

DC Models: 36 Vdc max
3A max load

De-energizes on Alarm
Latching or Non-Latching
High, Low or Hi/Low

Operating Temp: -20 to 70°C (-4 to 158°F)

Storage Temp: -40 to 85°C (-40 to 185°F)

Panel Cutout: 1/4 DIN 92 x 92 mm (3.6 x 3.6")

Dimensions: 95 L x 95 W x 135 Dia mm
(3.7 x 3.7 x 5.3")

Min Rear Panel Depth: 140 mm (5.5")

Weight: 725 g (26 oz)

APPROVALS

ECCN: EAR99

Safety: 2014/35/EU

EMC: 2014/30/EU

RoHS: 2011/65/EU

UL File No: E209855

UL/cUL Listed

Measurement Ranges and Accuracies based on Operating Temperature			Operating Temperature		
Input Type	Description	Range	Accuracy (25°C)	Accuracy (0 to 50°C)	Accuracy (-20 to 70°C)
Process	Process Voltage	0 to 1000 mV	± 1 mV	± 1 mV	± 1 mV
	Process Current	0 to 24.00 mA	± 10 µA	± 10 µA	± 10 µA
J Type T/C	J Iron-Constantan	-150 to 0°C	± 1.0°C	± 2.0°C	± 6.0°C
		0 to 1200°C	± 1.0°C	± 1.0°C	± 2.0°C
K Type T/C	CHROMEGA™ - ALOMEGA™	-150 to 0°C	± 1.0°C	± 2.0°C	± 5.0°C
		0 to -1372°C	± 1.0°C	± 1.0°C	± 2.0°C
T Type T/C	Copper-Constantan	-150 to 0°C	± 1.0°C	± 2.0°C	± 7.0°C
		0 to 400°C	± 1.0°C	± 1.0°C	± 2.0°C
E Type T/C	CHROMEGA™ -Constantan	-150 to 0°C	± 1.0°C	± 2.0°C	± 5.0°C
		0 to 1000°C	± 1.0°C	± 1.0°C	± 2.0°C
R Type T/C	Pt/13%Rh-Pt	-50 to 0°C	± 1.0°C	± 2.0°C	± 6.0°C
		0 to 1788°C	± 1.0°C	± 1.0°C	± 2.0°C
S Type T/C	Pt/10%Rh-Pt	-50 to 0°C	± 1.0°C	± 2.0°C	± 5.0°C
		0 to 1768°C	± 1.0°C	± 1.0°C	± 2.0°C
B Type T/C	30%Rh-Pt/6%Rh-Pt	150 to 700°C	± 1.0°C	± 2.0°C	± 3.0°C
		700 to 1820°C	± 1.0°C	± 1.0°C	± 1.0°C
C Type T/C	5%Re-W/26%Re-W	0 to 2320°C	± 1.0°C	± 1.0°C	± 3.0°C
N Type T/C	Nicrosil-Nisil	-150 to 0°C	± 1.0°C	± 2.0°C	± 5.0°C
		0 to 1300°C	± 1.0°C	± 1.0°C	± 2.0°C
RTD 2/3 Wire	Pt, 0.00385, 100 Ω	-200 to 850°C	± 1.0°C	± 1.0°C	± 1.0°C
RTD 2/3 Wire	Cu, 0.00427, 10 Ω	-200 to 260°C	± 1.0°C	± 1.0°C	± 1.0°C

To Order			
Model No.	Description	Power	Zones
CN616A	1/4 DIN multi-channel controller	AC	6
CN616A-DC	1/4 DIN multi-channel controller	DC	6