

iSeries

MONOGRAM

1/8 DIN Temperature, Process and Strain PID Controllers

- ✓ High Quality
- ✓ 5-Year Warranty
- ✓ High Accuracy: $\pm 0.5^{\circ}\text{C}$ ($\pm 0.9^{\circ}\text{F}$), 0.03% Reading
- ✓ User-Friendly, Simple to Configure
- ✓ Free Software
- ✓ Full Autotune PID Control
- ✓ Universal Inputs: RTD, Thermocouple, Process Voltage/Current, Strain
- ✓ Totally Programmable Color Displays Standard
- ✓ Built-In Excitation Standard
- ✓ 2 Control or Alarm Outputs: DC Pulse, Mechanical Relays, Analog Voltage and Current
- ✓ Embedded Internet Connectivity Available

The OMEGA® CNI8 is a 1/8 DIN size [96 x 48 mm (3.7 x 1.9")] digital panel meter featuring the big iSeries color-changing display. The digits are twice the size of typical 1/8 DIN panel meters. The iSeries meters feature the only LED displays that can be programmed to change color between **GREEN**, **AMBER**, and **RED** at any setpoint or alarm point. The "CNI8" model is available as an extremely accurate programmable digital panel meter with no outputs or with dual outputs for controlling or alarming functions. Other options include isolated programmable analog output, serial communications, MODBUS and Ethernet. The user can easily program the CNI8 for any control or alarming requirement from simple on/off to full autotune PID with a choice of form C SPDT relays, solid state relays, DC pulse, and analog (voltage and current) outputs.

Fully isolated analog output for retransmission of the process value is available in addition to the control and alarm relays (specify model CNI8A33).

The CNI8 covers a broad selection of transducer and transmitter inputs with 2 input models:

CNI8 Series



Shown smaller than actual size.

The universal temperature and process instrument (CNI models) handles 10 common types of thermocouples, multiple RTDs, and several process (DC) voltage and current ranges. This model also features built-in excitation, 24 Vdc @ 25 mA. With its wide choice of signal inputs, this model is an excellent choice for measuring or controlling temperature with a thermocouple, RTD, or 4 to 20 mA transmitter.

The strain and process instruments (CNI8 models) measure inputs from load cells, pressure transducers, and most any strain gage sensor as well as process voltage and

current ranges. The CNI8 has built-in 5 or 10 Vdc excitation for bridge transducers, 5 Vdc @ 40 mA or 10 Vdc @ 60 mA. (Any excitation voltage between 5 and 24 Vdc is available by special order). This CNI8 model supports 4- and 6-wire bridge configurations, ratiometric and non-ratiometric measurements. The CNI8 features fast and easy "in process" calibration/scaling of the signal inputs to any engineering units. This model also features 10-point linearization which allows the user to linearize the signal input from extremely nonlinear transducers of all kinds.

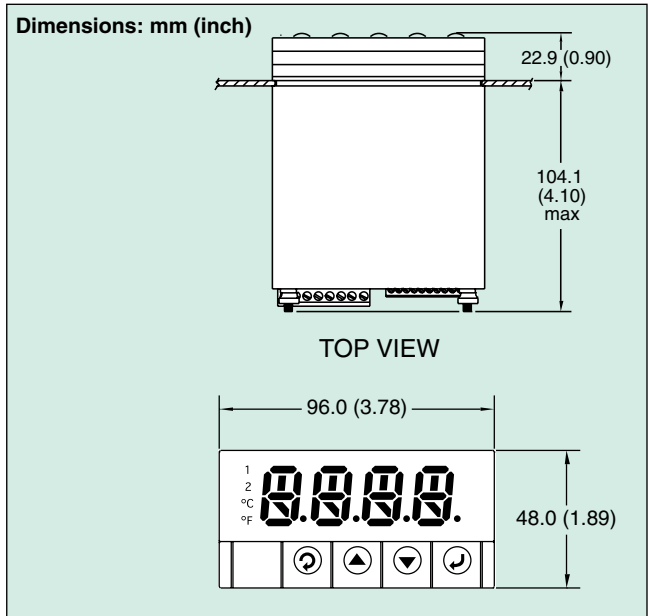
Input Type	Range	Accuracy	
Universal Process			
Process Voltage	0 to 100 mV, 0 to 1 V, 0 to 10 Vdc	0.03% rdg	
Process Current	0 to 20 mA (4 to 20 mA)	0.03% rdg	
Excitation	24 V @ 25 mA	—	
Universal Strain/Process			
Process Voltage	0 to 100 mV, -100 to 1 V, 0 to 10 Vdc	0.03% rdg	
Process Current	0 to 20 mA (4 to 20 mA)	0.03% rdg	
Excitation	5 V @ 40 mA, 10 V @ 60 mA	—	
Nickel RTD Input (FS Required)			
RTD-1N (Nickel MIL-T-7990B)	0 to 200°C (32 to 392°F)	0.1°C (0.2°F)	
RTD-2N (Nickel MIL-T-7990B)	-40 to 300°C (-40 to 572°F)	0.3°C (0.5°F)	
Temperature			
J Iron-Constantan	-210 to 760°C (-346 to 1400°F)	0.4°C (0.7°F)	
K CHROMEGA™-ALOMEGA™	-270 to -160°C/-160 to 1372°C (-454 to -256°F/-256 to 2502°F)	1.0°C/0.4°C (1.8°F/0.7°F)	
T Copper-Constantan	-270 to -190°C/-190 to 400°C (-454 to -310°F/-310 to 752°F)	1.0°C/0.4°C (1.8°F/0.7°F)	
E CHROMEGA™-Constantan	-270 to -220°C/-220 to 1000°C (-454 to -364°F/-364 to 1832°F)	1.0°C/0.4°C (1.8°F/0.7°F)	
R Pt/13%Rh-Pt	-50 to 40°C/40 to 1768°C (-58 to 104°F/104 to 3214°F)	1.0°C/0.5°C (1.8°F/0.9°F)	
S Pt/10%Rh-Pt	-50 to 100°C/100 to 1768°C (-58 to 212°F/212 to 3214°F)	1.0°C/0.5°C (1.8°F/0.9°F)	
B 30%Rh-Pt/6%Rh-Pt	100 to 640°C/640 to 1820°C (212 to 1184°F/1184 to 3308°F)	1.0°C/0.5°C (1.8°F/0.9°F)	
C 5%Re-W/26%Re-W	0 to 2320°C (32 to 4208°F)	0.4°C (0.7°F)	
N Nicrosil-nisil	-250 to -100°C/-100 to 1300°C (-418 to -148°F/-148 to 2372°F)	1.0°C/0.4°C (1.8°F/0.7°F)	
L J DIN	-200 to 900°C (-328 to 1652°F)	0.4°C (0.7°F)	
RTD	Pt, 0.00385, 100, 500, 1000	-200 to 900°C (-328 to 1652°F)	0.4°C (0.7°F)
RTD	Pt, 0.00392, 100, 500, 1000	-200 to 850°C (-328 to 1652°F)	0.4°C (0.7°F)

iSeries change color



Totally Programmable Color Displays

The OMEGA® i/8, i/16, and i/32 are the first complete series of 1/8, 1/16 and 1/32 DIN process control instruments with totally programmable color displays. The display can be programmed to change color at any setpoint or alarm point.



Options

Ordering Suffix	Description
-AL	Limit alarm version (simplified menu, alarms only, no PID control) ^{*3*4}
-SM	Simplified menu (on/off control or alarms, no PID) ^{*6}
Network Options	
-EI	Ethernet with embedded Web server
-C24	Isolated RS232 and RS485/422, 300 to 19.2 Kb ^{*2}
-C4EI	Ethernet with embedded Web server + isolated RS485/422 hub for up to 31 devices ^{*1}
Power Supply	
-DC	2 to 36 Vac/dc, 24 Vac ^{*2*5}
Factory Setup	
-FS	Factory setup and configuration
-FS(RTD-1N)	Factory scaled for MIL-T-7990B nickel RTD input, 0 to 200°C (32 to 392°F)
-FS(RTD-2N)	Factory scaled for MIL-T-7990B nickel RTD input, -40 to 300°C (-40 to 572°F)
Software (Requires Network Option)	
OPC-SERVER LICENSE	OPC server/driver software license

^{*1} Ethernet options are not available for the i8A controller.

^{*2} "-DC", "-C24", and "-C4EI" not available with excitation.

^{*3} Analog output is not available with "-AL" units.

^{*4} CNI8A-AL contains 1 alarm and 1 analog retransmission

^{*5} 20 to 36 Vdc for CNI8A.

^{*6} "-SM" option not available on CNI8 strain models.

To Order Visit omega.com/cni8_series for Pricing and Details

Model No.	Output 1	Output 2
2 Control Outputs		
CNi833	Relay	Relay
CNi844	DC pulse	DC pulse
CNi843	DC pulse	Relay
CNi842	DC pulse	0.5 A SSR
CNi822	0.5 A SSR	0.5 A SSR
CNi823	0.5 A SSR	Relay
CNi824	0.5 A SSR	DC pulse
CNi853	Analog	Relay
CNi854	Analog	DC pulse
CNi852	Analog	0.5 A SSR
2 Control Outputs with Isolated Analog Output		
CNi8A33	Relay	Relay
CNi8A44	DC pulse	DC pulse
CNi8A43	DC pulse	Relay
CNi8A42	DC pulse	0.5 A SSR
CNi8A22	0.5 A SSR	0.5 A SSR
CNi8A23	0.5 A SSR	Relay
CNi8A24	0.5 A SSR	DC pulse
Strain/Process Input with 2 Control Outputs		
CNi833	Relay	Relay
CNi834	Relay	DC pulse
CNi844	DC pulse	DC pulse
CNi843	DC pulse	Relay
CNi842	DC pulse	0.5 A SSR
CNi822	0.5 A SSR	0.5 A SSR
CNi823	0.5 A SSR	Relay
CNi824	0.5 A SSR	DC pulse
CNi853	Analog	Relay
CNi854	Analog	DC pulse
CNi852	Analog	0.5 A SSR

Comes complete with operator's manual.

Ordering Examples: CNI8A22, 1/8 DIN temp/process controller with isolated analog output and 2 SSR outputs. CNI833, 1/8 DIN strain/process controller with 2-relay outputs.