

For More Information  
[omega.com/specs/iseries](http://omega.com/specs/iseries)



**\$150**  
 1/32 DIN meter  
**\$195**  
 with 2 control outputs



**i/32**



**i/16**



**i/8**

- ✓ **User Friendly, Simple to Configure**
- ✓ **High Quality**
- ✓ **Extended 5-Year Warranty**
- ✓ **Powerful Features**
- ✓ **Free Software, Active X Controls**
- ✓ **Full Autotune PID Control**
- ✓ **Totally Programmable Color Displays, Standard**
- ✓ **High Accuracy  $\pm 0.5^{\circ}\text{C}$  ( $0.9^{\circ}\text{F}$ ), 0.03% Reading**
- ✓ **Temperature Stability  $\pm 0.04^{\circ}\text{C}/^{\circ}\text{C}$  RTD and  $\pm 0.05^{\circ}\text{C}/^{\circ}\text{C}$  TC @  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ )**
- ✓ **Both RS-232 and RS-485 MODBUS on One Instrument Selectable from Menu, Optional**
- ✓ **Universal Inputs: Thermocouple, RTD, Process Voltage/Current**
- ✓ **Built-in Excitation, Standard**
- ✓ **2 Control or Alarm Outputs. Choice of dc Pulse, Solid State Relays, Mechanical Relays, Analog Voltage and Current.**

The innovative OMEGA® iSeries devices feature state of the art technology, uncompromising accuracy, and quality backed by an extended 5-year warranty. The iSeries family includes extremely accurate digital panel meters and single loop PID controllers that are simple to configure and use, while providing tremendous versatility and a wealth of powerful features.

### Embedded Internet and Serial Communications

Featuring optional "Embedded Internet" (specify EI option) the iSeries are the first instruments of their kind that connect directly to an Ethernet network and transmit data in standard TCP/IP packets, or even serve Web pages over a LAN or the Internet. The iSeries are also available with serial communications. With the C24 option, the user can select from the push-button menu between RS-232, RS-422, and RS-485, with straightforward ASCII commands or MODBUS.

### i/8, i/16, i/32 FAMILY

The OMEGA® iSeries is a family of microprocessor-based instruments offered in three true DIN sizes with NEMA-4, IP65 rated front bezels. All of the instruments share a similar set-up and configuration menu and method of operation, which is a tremendous time saver for integration of a large system.

### Programmable Color Display

The OMEGA iSeries 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 set point or alarm point.

For example, the instrument can be programmed to display the process value in GREEN during warm-up, switching to AMBER to signal the normal operating range, and in RED to signal an alarm condition. The changes in color are quickly seen from a

distance, and machine operators can intuitively react to changing conditions. The colors can be programmed to change back when the value drops back below the alarm point or to "latch" on until being reset by the operator.

The instrument can also be programmed to display only one unchanging color: GREEN, AMBER, or RED. This is a useful way to let an operator identify, at a glance, process values in three separate locations, or to display three different measurements such as Temperature, Pressure, and Flow.

### QUALITY and TECHNOLOGY

Designed and manufactured in the USA, the innovative OMEGA® iSeries of meters & controllers features an extended five (5) YEAR warranty at no extra charge. The iSeries packs a wealth of power and features into the smallest of packages, utilizing COB (chip-on-board) and SMT (surface mount technology) assembly techniques and automation. Every iSeries instrument is thoroughly calibrated and tested at several stages throughout production. The iSeries offers the highest accuracy for industrial instrumentation at 0.03% of reading. The analog-to-digital conversion utilizes a proprietary 20-bit ASIC (application specific integrated circuit) patented algorithms and smart filtering.

### Universal Inputs

The innovative iSeries offers the broadest selection of signal inputs available on one industrial instrument. The choices are easily selected from the menu with four front panel pushbuttons, or by serial or Ethernet communications.

### 10 Thermocouple Types

The iSeries handles TEN (10) thermocouple types: K, J, T, E, R, S, B, C, N, and J DIN. The patented thermocouple linearization algorithms employed in the iSeries produce the highest standard of accuracy.

# Meters & PID Controllers



## Most Accurate RTD Measurements

The iSeries works with the widest selection of RTD's and produces the most accurate RTD measurements. Handles both Pt 0.00385 and 0.00392 curves, and 100 (ohm), 500 (ohm) and 1000 (ohm). A choice of 2-, 3- and 4-wire RTD connections ensures the absolute highest degree of accuracy.

## Process Voltage and Current

The OMEGA® iSeries measures process voltage: 0-100 millivolt, 0-1 Volt, 0-10 Volt ranges, and process current: 0-20 mA.

## Analog Output

The optional analog output can be programmed within a range of 0-10 Vdc or 0-20 mA. It is selectable as either a control output or as a calibrated retransmission of the process value -- a unique feature among controllers.

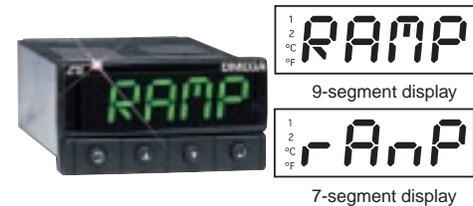
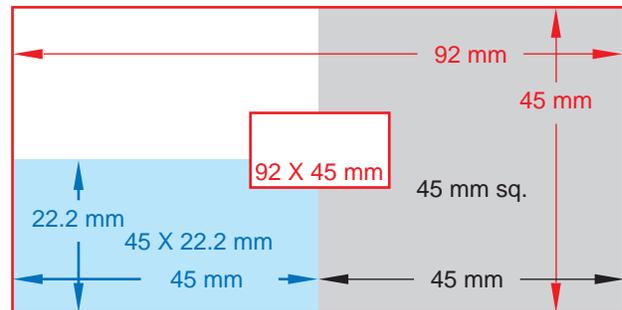
## Built-in Excitation Standard

The iSeries comes standard with built-in excitation for transmitters or other devices, 24 Vdc @ 25 mA. This means the same instrument can handle thermocouples, RTD's, and 4-20 mA transmitters, with its own excitation.

(Built-in excitation is not available with optional isolated RS-232/RS-485 serial communications and DC option.)

## Control Functions

The iSeries can control simple manual operation to ON-OFF and full Autotune PID control. (Selectable preset tune, adaptive tune, PID, PI, PD control modes.) The dual control outputs can be configured for a variety of independent control and alarm applications such as heat/heat, heat/cool, heat/alarm, cool/cool, cool/alarm or alarm/alarm. The ramp-to-setpoint feature allows the user to define the rate of rise to setpoint, minimizing thermal shock to the load during start-up. Maximum ramp time: 99.59 (HH.MM), Soak: 00.00 to 99.59 (HH.MM), Damping: 1 to 8 in unit steps. Input types: J, K, T, E, R, S, B, C, N, J-DIN, RTD 100 ohm & 1 k ohm in 0.00385 or 0.00392, 0 to 20 mA, 0 to 100 mV, 0 to 1 V and 0 to 10 Vdc.



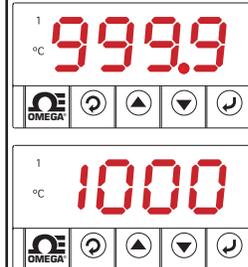
The iSeries displays feature unique 9-segment LED characters, which greatly improves alphanumeric representations. The 7-segment LED characters found on most instruments are adequate for presenting numbers, but not letters. Words are easier to read with the unique 9-segment LED characters on the iSeries, which makes operating and programming simpler and easier.

## 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.



## iSeries Meter Feature AutoScaling



AutoScaling automatically shifts the decimal point right or left depending on the process value of the meter.

AutoScaling is not active if the decimal point is assigned a fixed position.

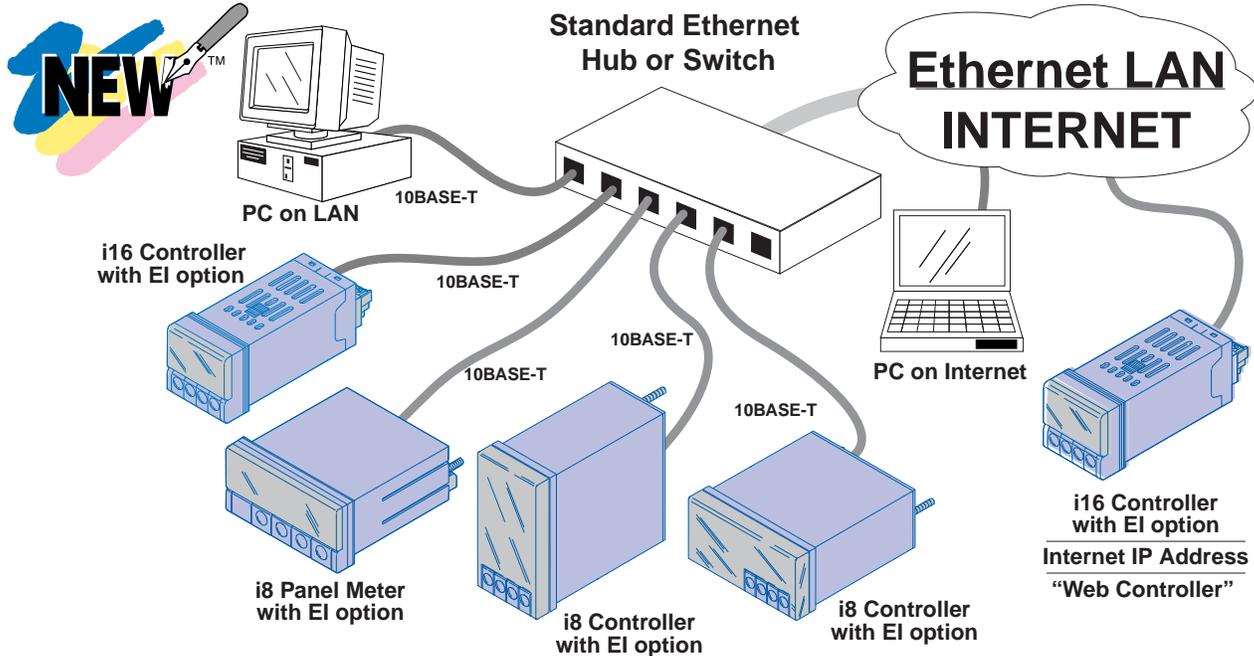
**iSeries**  
change color at any set point\*



# iSeries Embedded Internet

iSeries Meters and Controllers - Direct connection to ethernet  
(Each device has own IP Address)

For More Information  
[omega.com/specs/iseries](http://omega.com/specs/iseries)



## EMBEDDED INTERNET

The OMEGA® iSeries devices connect directly to an Ethernet network with a standard RJ-45 connector and can send and receive data in standard TCP/IP packets. (Please specify EI or C4EI option.)

The iSeries devices can serve Web pages over an Ethernet LAN or even over the Internet making it possible to monitor and control a process through a web browser (such as Microsoft Internet Explorer) from anywhere in the facility or anywhere in the world.

## Remote Control

For example, using an iSeries 1/16 DIN temperature controller to control a heater, an engineer can monitor the temperature, change set points or alarm points, turn the heater on and off, or make other modifications from anywhere on the local network, or anywhere on the Internet. The web pages are easily customized and secure password protected access to the devices is easily controlled. And it requires absolutely no special software on the engineer's computer to view the data and "supervise" the controller-- nothing other than a Web Browser.

## Email and Alarm

In fact, the iSeries controller can even send an email to the engineer (or anyone they choose) alerting them to an alarm condition or updating the status. Leveraging the technology of the Internet, the engineer could

receive a message from the iSeries controller on an Internet enabled pager or cell phone.

Most remarkable is that all this can be accomplished without a computer. The OMEGA® iSeries device (meter or controller) connects directly to the Ethernet Network -- not to the serial port of a computer functioning as a "server" and "master" to "slave" instruments connected through serial communications. The iSeries devices are also available with RS-232, RS-422, RS-485 and MODBUS serial communications. (Specify the C24 option.) In fact, the iSeries are the first instruments of this type which include all these serial protocols on one device, selectable from a menu.

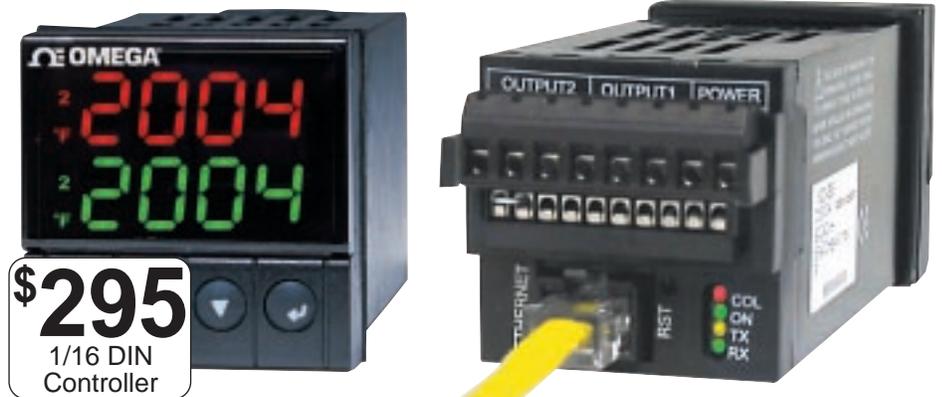
## Internet Appliances

With the EI option, these small 1/8 DIN and 1/16 DIN instruments are stand-alone

Web Servers. The Ethernet and Web Server capability is actually embedded in the device. (The smallest 1/32 DIN size device must be connected to an external iServer.)

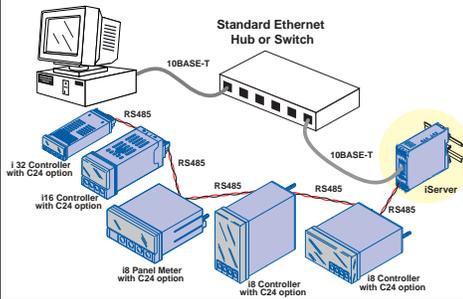
The OMEGA® iSeries device is assigned an IP address on the network and can also be assigned an easily remembered name such as "Heater1". In fact, the device could be assigned an authorized Internet IP address from an Internet Service Provider and function as a World Wide Web Server delivering whatever specific information is called for. (For an example, please see [www.omega.com/iserver](http://www.omega.com/iserver))

The iSeries devices work well with conventional industrial automation, data acquisition and control programs as well as Microsoft Visual Basic and Excel. OMEGA® provides free software and demos which makes it fast and easy to get up and running with many applications.

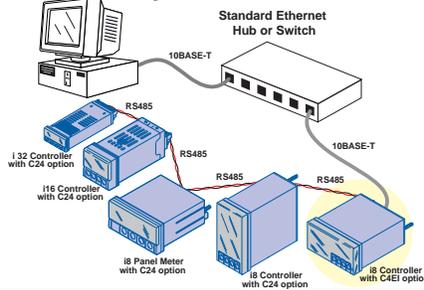


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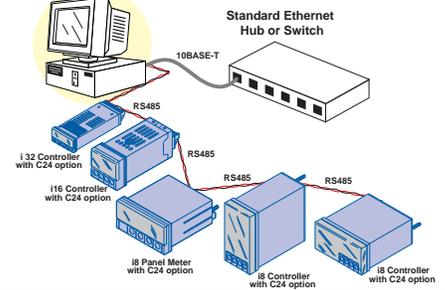
### Using iServer as HUB/Server for up to 32 Devices



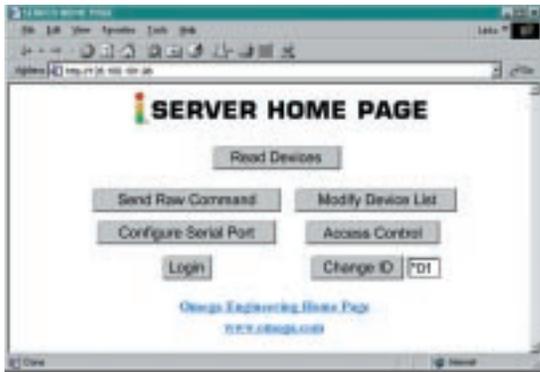
### Using Omega 1/8 DIN iSeries controller with C4EI option as HUB for up to 32 Devices



### Conventional Serial Communication connections using PC with RS-485 Serial Communication



## Operate the iServer with a Web Browser using the iServer web page

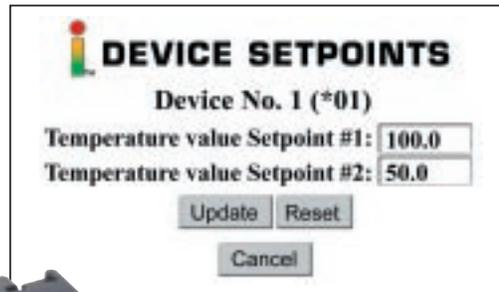
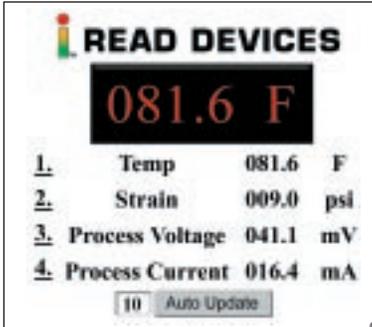


This home page is designed for our company product using iSeries serial communication protocol. It can be utilized for other products using the standard RS232/485 communication interface.

#### Features:

**Read Devices:** Read variables from up to four different devices

**Device Setpoints:** Read and write the setpoint values to the device.



**Get Internet E-mail Notification of Alarm Status on your web enabled phone or PDA.**

## iServer

The "iServer" is a DIN rail device which can be a hub connecting up to 32 instruments to the Ethernet and Internet. The "iServer" is both a Web Server and an Ethernet-Serial bridge. To connect to the iServer, iSeries devices must feature the "C24" Serial Communications option. The OMEGA iServer is also compatible with the OMEGA DP41 family of ultra high performance digital panel meters and the OMEGA DRX family of Signal Conditioners featured elsewhere in this handbook.



**\$95**  
iServer

- ✓ A Web Server and an Ethernet bridge combined
- ✓ Serves up to 32 devices
- ✓ High Quality
- ✓ Extended 5-Year Warranty
- ✓ Powerful Features

The iServer is an alternate way to connect iSeries devices to an Ethernet LAN or Internet. Instead of Connecting each iSeries device directly to the Ethernet network, with individual IP Addresses for each device, the iServer can be a HUB/Server for up to 32 devices.

To Order		
Model Number	Description	Price
EIS	Embedded Internet Server, serves 32 devices	95
Options		
DRN-PS-750	Power supply (linear), 115 Vac input, 24 Vdc output @ 750 mA (powers 7 units)	130
DRN-PS-1000	Power supply (switching), 95 to 240 Vac input, 24 Vdc output @ 1 A (powers 10 units)	150

For More Information  
[omega.com/specs/iserver](http://omega.com/specs/iserver)

# Series Specifications

## Accuracy:

±0.5°C temp; 0.03% reading process

**Resolution:** 1°/0.1°; 10 µV process

## Temperature Stability:

1) RTD: 0.04°C/°C

2) TC: 25°C (77°F): 0.05 °C/°C

- Cold Junction Compensation

3) Process: 50 ppm/°C

**NMRR:** 60 dB

**CMRR:** 120 dB

**A/D Conversion:** Dual slope

**Reading Rate:** 3 samples per second

**Digital Filter:** Programmable

**Display:** 4-digit, 9-segment LED

- 10.2 mm (0.40"): i32, i16, i16D (Dual Display), i8DV (Dual Vertical)

- 21 mm (0.83"): i8

- 10.2 mm (0.40") and 21 mm (0.83"): i8DH (Dual Horizontal) red, green and amber programmable colors for process variable, set point and temperature units

**Warm up to Rated Accuracy:** 30 min.

## Input

**Input Types:** Thermocouple, RTD,

Analog Voltage, Analog Current

**Thermocouple Lead Resistance:**

100 ohm max

**RTD Input:** 100/500/1000 Ω Pt sensor,

2-, 3- or 4-wire; 0.00385 or 0.00392

curve

**Voltage Input:** 0 to 100 mV, 0 to 1 V, 0 to 10 Vdc

**Input Impedance:** 10 MΩ for 100 mV

1 MΩ for 1 or 10 Vdc

**Current Input:** 0 to 20 mA (5 ohm load)

**Configuration:** Single-ended

**Polarity:** Unipolar

**Step Response:** 0.7 sec for 99.9%

**Decimal Selection:**

None, 0.1 for temperature

None, 0.1, 0.01 or 0.001 for process

**Setpoint Adjustment:**

-1999 to 9999 counts

**Span Adjustment:**

0.001 to 9999 counts

**Offset Adjustment:** -1999 to +9999

## Control

**Action:** Reverse (heat) or direct (cool)

**Modes:** Time and Amplitude

Proportional Control Modes; selectable

Manual or Auto PID, Proportional,

Proportional with Integral, Proportional

with Derivative with Anti-reset Windup

and ON/OFF

**Rate:** 0 to 399.9 seconds

**Reset:** 0 to 3999 seconds

**Cycle Time:** 1 to 199 seconds; set to 0

for ON/OFF operation

**Gain:** 0.5 to 100% of span;

Setpoints 1 or 2

**Damping:** 0000 to 0008

**Soak:**

00.00 to 99.59 (HH:MM), or OFF

**Ramp to Setpoint:**

00.00 to 99.59 (HH:MM), or OFF

**Auto Tune:**

Operator initiated from front panel

**Break Protection:**

Programmable up- or down-scale

## Control Output 1 & 2

**Relay:** 250 Vac or 30 Vdc @ 3 A

(Resistive Load); configurable for on/off,

PID and Ramp and Soak

**Output 1:** SPDT type, can be

configured as Alarm 1 output

**Output 2:** SPDT type, can be

configured as Alarm 2 output

**SSR:** 20-265 Vac @ 0.05 - 0.5 A

(Resistive Load); continuous

**DC Pulse:** Non-Isolated;

10 Vdc @ 20 mA

**Analog Output (Output 1 only):**

Non-Isolated, Proportional 0 to 10 Vdc or

0 to 20 mA; 500 Ω max

## Network and Communications

**Ethernet:** Standards Compliance

IEEE 802.3 10Base-T

**Supported Protocols:**

TCP/IP, ARP, HTTPGET

**RS-232/RS-422/RS-485:** selectable from

menu; both ASCII and modbus protocol

selectable from menu. Programmable 300

to 19.2 K baud; complete programmable

setup capability; program to transmit current

display, alarm status, min/max, actual

measured input value and status

**RS-485:** Addressable from 0 to 199

**Connection:** Screw terminals

## Alarm 1 & 2 (programmable)

**Type:** Same as Output 1 & 2

**Operation:**

High/low, above/below, band, latch/unlatch,

normally open/normally closed and

process/deviation; front panel

configurations

**Analog Output (programmable):**

Non-Isolated, Retransmission 0 to 10

Vdc or 0 to 20 mA, 500 Ω max (Output 1

only). Accuracy is ± 1% of FS when

following conditions are satisfied.

1) Input is not scaled below 1% of

Input FS.

2) Analog Output is not scaled below

3% of Output FS.

## EXCITATION

**(optional in place of Communication):**

24 Vdc @ 25 mA (Not Available for Low

Power Option)

## Insulation

**Power to Input or Output:** 2500 Vac

per 1 minute test (RS-232/485, Input or

Output)

## For Low Voltage Power Option:

1500 Vac per 1 minute test

(RS-232/485, Input or Output)

**Power to Relay/SSR Option:**

2500 Vac per 1 minute test

**Relay/SSR to Relay/SSR Option:**

2500 Vac per 1 minute test

**RS-232/485 to Input/Options:**

500 Vac per 1 minute test

**Approvals:** CE per EN50081-1,

EN50082-2, EN61010-1

## General

**Power:** 90-240 Vac ±10%, 50-400 Hz\*,

110-375 Vdc, equivalent voltage

**Low Voltage Power Option:** 24 Vac

±10%, 12 - 36 Vdc, 5 W from qualified

safety approved source

**Environmental Conditions:**

0 to 55°C (32 to 131°F), 90% RH

non-condensing

**Installation Category:**

II per EN61010-1

**Equipment Class:** II per EN61010-1

**Pollution Degree:** 2 per EN61010-1

**Protection:**

NEMA-4x (IP65) front bezel

## Dimensions

**i/8 Series:** 48 H x 96 W x 127 mm D

(1.89 x 3.78 x 5")

**i/16 Series:** 48 H x 48 W x 127 mm D

(1.89 x 1.89 x 5")

**i/32 Series:** 25.4 H x 48 W x 127 mm D

(1.0 x 1.89 x 5")

## Panel Cutout

**i/8 Series:** 45 H x 92 mm W

(1.772" x 3.622"), 1/8 DIN

**i/16 Series:** 45 mm (1.772") square,

1/16 DIN

**i/32 Series:** 22.5 H x 45 mm W

(0.886" x 1.772"), 1/32 DIN

## Weight

**i/8 Series:** 295 g (0.65 lb)

**i/16 Series:** 159 g (0.35 lb)

**i/32 Series:** 127 g (0.28 lb)

\* No CE compliance above 60 Hz

	Input Type	Range	Accuracy
	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
<b>J</b>	Iron-Constantan	-210 to 760°C/-346 to 1400°F	0.4°C/0.7°F
<b>K</b>	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
<b>T</b>	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
<b>E</b>	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
<b>R</b>	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
<b>S</b>	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>B</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
<b>C</b>	5%Re-W/26%Re-W	0 to 2320°C/32 to 4208°F	0.4°C/0.7°F
<b>N</b>	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
<b>L</b>	J DIN	-200 to 900°C/-328 to 1652°F	0.4°C/0.7°F
<b>RTD</b>	Pt, 0.00385, 100, 500, 1000 Ω	-200 to 900°C/-328 to 1652°F	0.4°C/0.7°F
<b>RTD</b>	Pt, 0.00392, 100, 500, 1000 Ω	-200 to 850°C/-328 to 1562°F	0.4°C/0.7°F



# Remote Display/ Programmer Compatible with all iSeries meters and Controllers

- ✓ 1/8 DIN Panel Cutout or Surface Mount
- ✓ Big LED's 21 mm (.83")
- ✓ Alarm Indicators, and Color change
- ✓ Serial Input ASCII RS-232, RS-485  
Menu selectable
- ✓ NEMA-4 (IP65) 1/8 DIN Bezel
- ✓ 20 mm (0.80") Behind Panel and only  
39 mm (1.6") over all



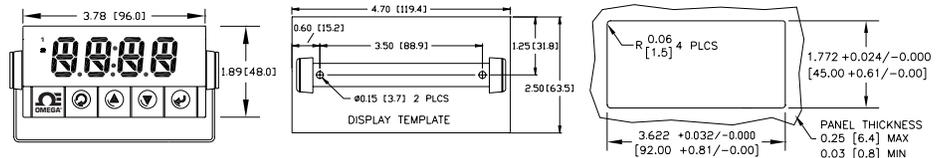
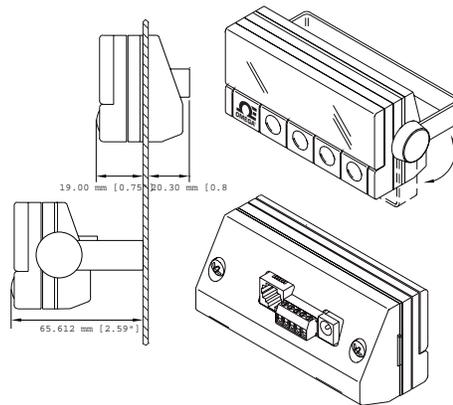
## REMOTE DISPLAY

The RD4 Remote Display is compatible with all iSeries devices as well as the Micromega CN77000 controller and the DRN/DRX signal conditioners shown elsewhere in this handbook. The process value, peak or valley from any iSeries device can be displayed on one or more RD4 Remote Displays up to 1000 feet away. With the RD4, the user can also program and configure the iSeries meter or controller, to change set points or alarm points, for example (Compatible iSeries devices must feature the C24 or C4EI serial communications option.) The RD4 remote display can be mounted in a 1/8 DIN panel cutout, or surface mounted with the included bale.

It features big bright 21mm (.83") 9-segment LED's that can be programmed to change color between Green, Amber and Red to indicate alarms. Color can be programmed to return to normal or latch on until reset. Serial Connections can be made to an RJ-11 jack or screw terminals.

## Specifications

- Serial:** ASCII Interface RS-232/RS-485
- Baud rate:** 300, 600, 1200, 2400, 4800, 9600, 19200.
- Data Formats:** 7 data/odd parity/ 1 stop, 7 data/even parity/1 stop, 8 data/no parity/1 stop.
- Power Requirements:** 10 to 36 VDC, or 12 VDC/200ma AC-adaptor
- Storage Temperature:** -20 to +85 degree C
- Relative Humidity:** 0 to 85%
- Power Consumption:** 2 W
- Operating Temperature:** 0-50 °C
- Protection:** NEMA-4x (IP65)
- Mechanical Dimensions:** 3.78" (96 mm) x 1.89" (48 mm) x 1.6 (39 mm)
- Panel Cutout:** 3.622" (92 mm) x 1.772" (45 mm)



**Remote Display  
change color  
at any  
set point\***

**Totally Programmable Color Displays**

RED  
AMBER  
GREEN

To Order (*Specify Model No.)		
Model Number	Description	Price
RD4	4-Digit Remote Display for iSeries Monitors and Controllers	\$150
Options		
CT485-Adap-110	110 Volt Power Supply	23.75
CT485-Adap-220	220 Volt Power Supply	23.75

## iSeries

1/16 DIN

# Temperature & Process Meters & PID Controllers

For More Information  
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**\$180**  
1/16 DIN meter  
**\$225**  
with 2 control outputs



- ✓ High Quality
- ✓ 5-Year Warranty
- ✓ High Accuracy  $\pm 0.5^{\circ}\text{C}$  ( $0.9^{\circ}\text{F}$ ), 0.03% Reading
- ✓ First 1/16 DIN Controller with Totally Programmable Color Displays (Standard)
- ✓ User-friendly, Simple to Configure
- ✓ Free Software, Active X Controls
- ✓ Full Autotune PID Control
- ✓ Universal Inputs: Thermocouple, RTD, Process Voltage/Current
- ✓ Embedded Ethernet connectivity

- ✓ First 1/16 DIN Controller Offering Both RS-232 and RS-485 Serial Communications in One Instrument (Optional)
- ✓ First 1/16 DIN Controller with Built-in Excitation, 24 Vdc, Standard
- ✓ First 1/16 DIN Instrument with Analog Output Selectable as a Control Output or as a Calibrated Retransmission of Process Variable

- ✓ NEMA-4, IP65 Front Bezel
- ✓ 2 Control or Alarm Outputs (Optional) dc Pulse Solid State Relays (SSR's) Mechanical Relays Analog Voltage & Current
- ✓  $\pm 0.04^{\circ}\text{C}/^{\circ}\text{C}$  RTD and  $\pm 0.05^{\circ}\text{C}/^{\circ}\text{C}$  TC @  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ )
- ✓ Front Removable and Plug Connectors



The OMEGA® i16 is the popular 1/16 DIN size (48mm square) meter or controller. The meter (model #DPi16) displays the process value and has no control outputs.

The controller is available with a single (CNI16) or dual display (CNI16D) that displays a set point along with the process value. The CNI16 is the first 1/16 DIN controller with a display that can be programmed to change color at any set point or alarm point. The CNI16 is the first 1/16 DIN controller with the option of both RS-232 and RS-485 in one instrument with both MODBUS serial protocol and the straightforward OMEGA® ASCII protocol. OMEGA® provides free configuration and data acquisition software for the iSeries on CD-ROM and for download off the Web.

The CNI16 enclosure has a NEMA 4 (IP65) rated front bezel. The electronics are removable from the front panel.

Access Vital information  
Anytime, Anywhere, on  
the World Wide Web

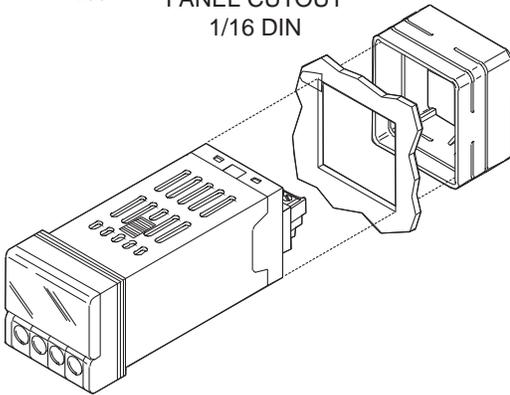
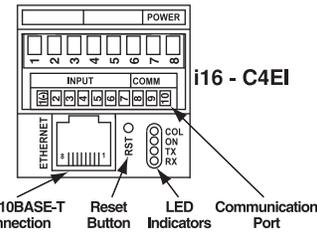
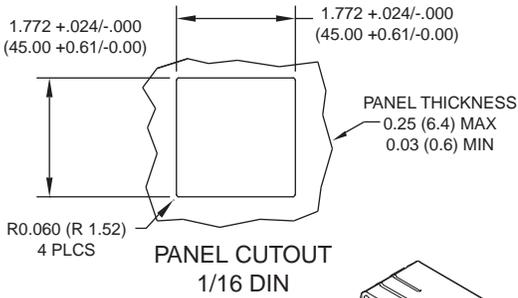
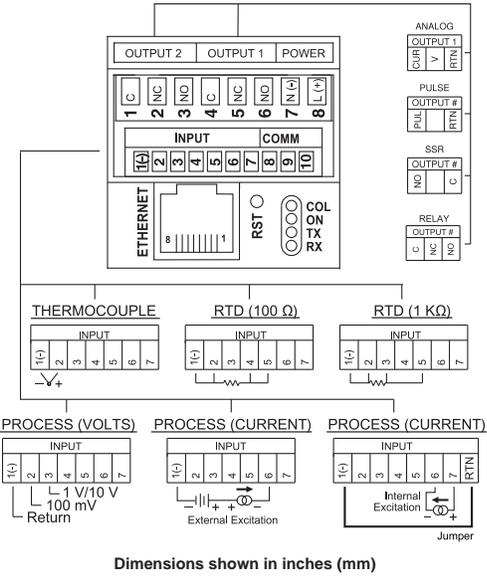
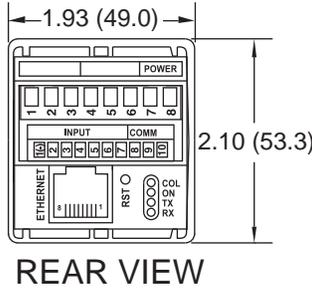
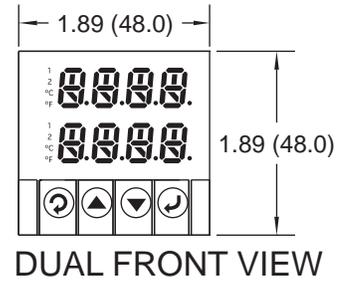
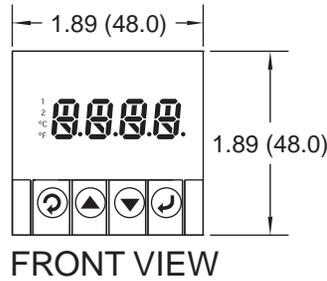
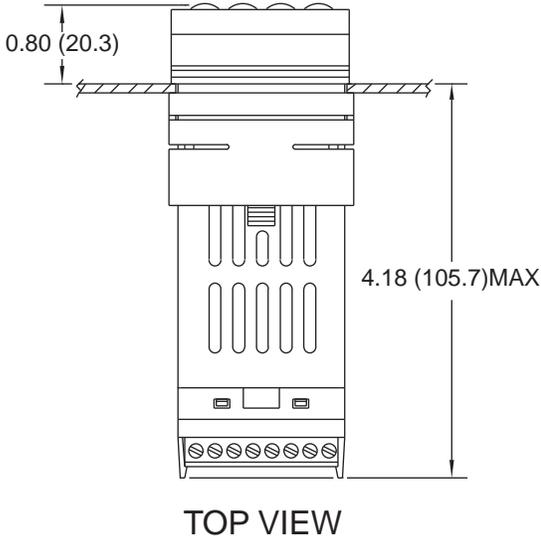


**\$295**



1/16 DIN Controller With  
Embedded Web Server, Dual  
Control Outputs, Dual Display

# Model i/16



**iSeries**  
change color  
at any set point\*

Totally Programmable Color Displays

RED  
AMBER  
GREEN

To Order (*Specify Model No.)				
Model Number	Description		Price	
DPI16	Monitor only (no control outputs) 1/16 DIN		180	
<b>CONTROL OUTPUTS #1 &amp; 2 Direct (Cool) or Reverse (Heat) Acting</b>				
CNi16	(*)	(*)	Two control outputs 1/16 DIN	225
CNi16D	(*)	(*)	Two control outputs with dual display 1/16 DIN	245
	2	2	Two solid state relays (SSR's): 1 A @ 120/240 Vac continuous	N/C
	2	3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	2	4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	3	3	2 relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	3	4	Relay and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	4	4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	5	2	Analog output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and SSR	
	5	3	Analog output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and Relay	
	5	4	Analog output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and pulse 10 Vdc	

COMMUNICATION		Price
-C24	Isolated RS-232 and RS-485 300 to 19.2 k baud	60
-EI	Ethernet w/Embedded Web Server*	50
-C4EI	Ethernet w/Embedded Web Server + Isolated RS-485/422*	110
POWER SUPPLY		Price
*	Standard power input: 90 to 240 Vac/dc, 50 to 400 Hz (no entry required)	N/C
-DC	10-34 Vac/dc (optional)	60
FACTORY SETUP		Price
-FS	Factory Setup and Configuration (req. -C24 Serial Communication option)	N/C

\* Embedded Internet option is available for the CNi16D only.  
**ORDERING EXAMPLES:** CNi16D22 is a 1/16 DIN dual display PID Controller with two control outputs\*245.



## 1/32 DIN Temperature &

**\$150**  
1/32 DIN meter  
**\$195**  
with 2 control outputs



- ✓ High Quality
- ✓ 5-Year Warranty
- ✓ High Accuracy  $\pm 0.5^{\circ}\text{C}$  ( $0.9^{\circ}\text{F}$ ), 0.03% Reading
- ✓ First 1/32 DIN Instrument with Totally Programmable Color Displays (Standard)
- ✓ User-friendly, Simple to Configure
- ✓ Free Software, Active X Controls
- ✓ Full Autotune PID Control

The OMEGA® CNI32 is the iSeries meter (DPI32) and controller (CNI32) in the extremely compact and increasingly popular 1/32 DIN size. The CNI32 is the most sophisticated and accurate instrument available in the small 1/32 DIN package, yet is still easy to configure.

- ✓ Universal Inputs: Thermocouple, RTD, Process Voltage/Current
- ✓ First 1/32 DIN Instrument Offering Both RS-232 and RS-485 Serial Communications in One Instrument (Optional)
- ✓ First 1/32 DIN Instrument with Built-in Excitation, 24 Vdc, Standard
- ✓  $\pm 0.04^{\circ}\text{C}/^{\circ}\text{C}$  RTD and  $\pm 0.05^{\circ}\text{C}/^{\circ}\text{C}$  TC @  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ )
- ✓ NEMA-4, IP65 Front Bezel

The CNI32 introduces a number of unique features not yet found on any other 1/32 DIN instrument. The CNI32 is the first 1/32 DIN controller with a totally programmable display that can change color at any set point or alarm point. The unique 9-segment LED characters greatly improves alphanumeric representations.

- ✓ First 1/32 DIN Instrument with Analog Output Selectable as a Control Output or as Retransmission of Process Variable
- ✓ 2 Control or Alarm Outputs (Optional) dc Pulse Solid State Relays (SSR's) Mechanical Relays Analog Voltage & Current
- ✓ Front Removable and Plug Connectors

The CNI32 handles more thermocouple, RTD, process voltage and current inputs than any other 1/32 DIN controller.

The CNI32 is the first 1/32 DIN controller with built-in excitation for transmitters or other devices, 24 Vdc @ 25mA.

The CNI32 is the first 1/32 DIN controller offering 2 SPDT (Single Pole Double Throw) Form C relays, instead of the single throw relays on typical 1/32 DIN controllers.

The CNI32 is the first to offer both RS-232 and RS-422/485 serial communications in one instrument (C24 option). Both ASCII protocol and modbus protocol are selectable from the menu.

The CNI32 connects to an Ethernet Network and the Internet with the external DIN Rail iServer (\$95). One iServer can be a hub for up to 32 CNI32 devices (requires C24 option).

**iSeries**  
**change color**  
at any set point\*

**Totally Programmable Color Displays**

RED  
AMBER  
GREEN

**9-segment LED**

The iSeries displays feature unique 9-segment LED characters, which greatly improves alphanumeric representations. The 7-segment LED characters found on most instruments are adequate for presenting numbers, but not letters. Words are easier to read with the unique 9-segment LED characters on the iSeries, which makes operating and programming simpler and easier.

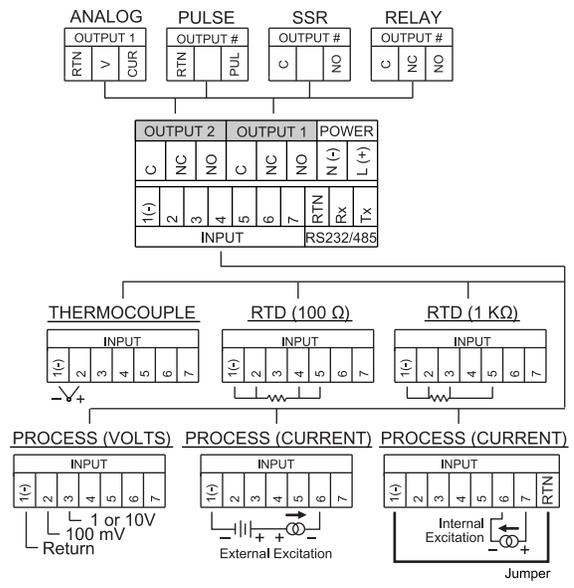
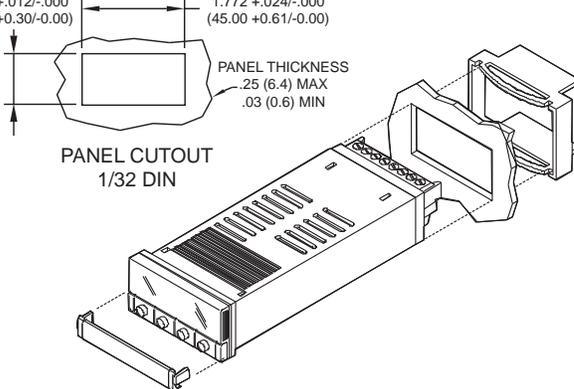
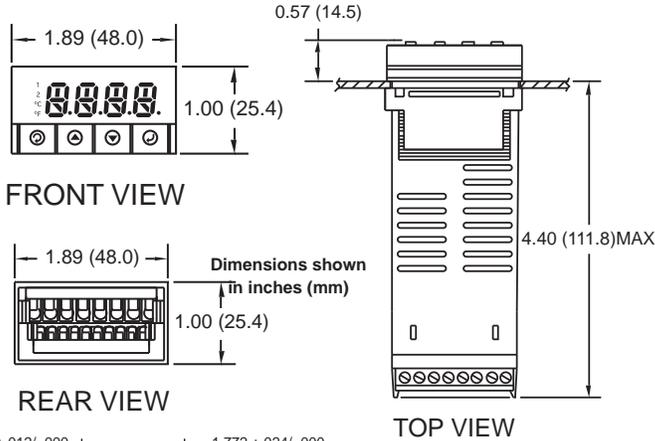
9-segment display      7-segment display

# Process Meters & PID Controllers

# Model i/32



For More Information  
[omega.com/specs/series](http://omega.com/specs/series)



## iServer

The "iServer" is a DIN rail mounted device which can be a hub connecting up to 32 instruments to the Ethernet and Internet. The "iServer" is both a Web Server and an Ethernet-Serial bridge. To connect to the iServer, iSeries devices must feature the "C24" Serial Communications option.

### To Order (\*Specify Model No.)

Model Number	Description	Price
DPI32	Monitor only (no control outputs) 1/2 DIN	\$150
<b>CONTROL OUTPUTS #1 &amp; 2 Direct (Cool) or Reverse (Heat) Acting</b>		
CNi32 (*)(*)	Two control outputs 1/2 DIN	195
2 2	Two solid state relays (SSR's): 1 A @ 120/240 Vac continuous	N/C
2 3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
2 4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
3 3	2 relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
3 4	Relay and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
4 4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	N/C
5 2	Analog output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and SSR	
5 3	Analog output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and Relay	
5 4	Analog output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and pulse 10 Vdc	

### NETWORKING OPTIONS

Option	Description	Price
-C24	Isolated RS-232 and RS-485/422	60
-EIS	Ethernet-Serial; Bridge/Hub	95

### POWER SUPPLY

*	Standard power input: 90 to 240 Vac/dc, 50 to 400 Hz (no entry required)	N/C
-DC	10-34 Vac/dc (optional)	60

### FACTORY SETUP

-FS	Factory Setup & Configuration (req. -C24 Serial Communication option)	N/C
-----	---	-----

ORDERING EXAMPLES: Cni3222-C24 is a 1/32 DIN PID Controller with two solid state relays for PID control and serial communications, both RS-232 and RS-485 \$195 + \$60 = \$255.



# iSeries

## MONOGRAM

1/8 DIN

Model i/8

# Temperature & Process Meters & PID Controllers

- ✓ High Quality
- ✓ 5-Year Warranty
- ✓ High Accuracy  $\pm 0.5^{\circ}\text{C}$  ( $0.9^{\circ}\text{F}$ ), 0.03% Reading
- ✓ User-friendly, Simple to Configure
- ✓ Free Software, Active X Controls
- ✓ Full Autotune PID Control
- ✓ Universal Inputs: Thermocouple, RTD, Process Voltage/Current
- ✓ Totally Programmable Color Displays, Standard
- ✓  $\pm 0.04^{\circ}\text{C}/^{\circ}\text{C}$  RTD and  $\pm 0.05^{\circ}\text{C}/^{\circ}\text{C}$  TC @  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ )
- ✓ Powerful Features
- ✓ Built-in Excitation, Standard
- ✓ 2 Control or Alarm Outputs, Choice of dc Pulse, Mechanical Relays, Analog Voltage and Current.

For More Information  
[omega.com/specs/iseries](http://omega.com/specs/iseries)



**\$240**  
 1/8 DIN meter  
**\$310**  
 with 2 control outputs

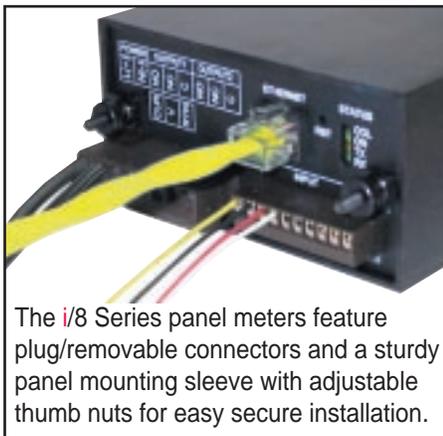


The OMEGA<sup>®</sup> i8 is the 1/8 DIN model (96mm x 48mm) featuring the biggest "i-catching" iSeries display. The unique i8 display is much bigger and brighter than any other 1/8 DIN meter or controller. The "DPi8" model is an extremely accurate digital panel meter with no control outputs.

The "CNI8" adds a selection of outputs for complete control or alarm capability. The user can easily program the CNI8 for any control requirement from simple on-off to full autotune PID with a choice of SPDT relays, Solid State Relays, DC pulse, and Analog outputs.

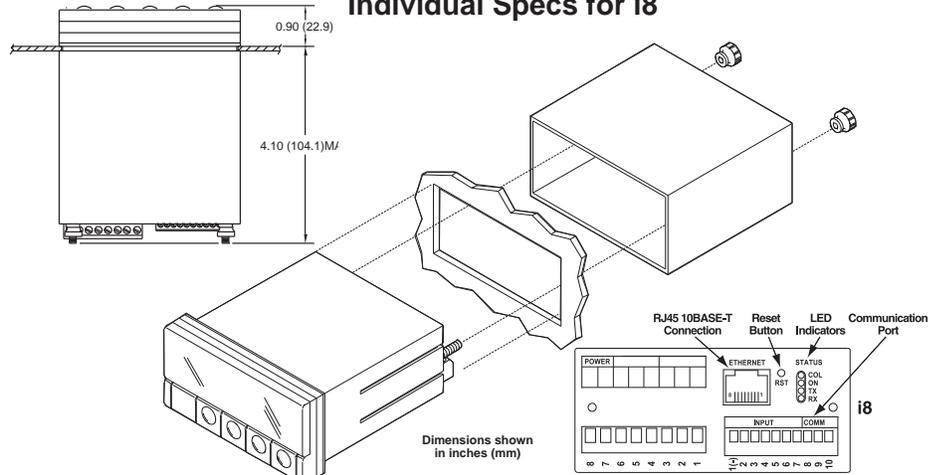
Isolated Analog Output is available on this 1/8 DIN model, with or without 2 SPDT Form C relays. For Isolated Analog Output, specify model DPi8A for the monitor or CNI8A33 with two relays.

The OMEGA<sup>®</sup> i8 1/8 DIN enclosure has a NEMA 4 (IP65) rated front bezel and removable rear connectors for easy installation and wiring.

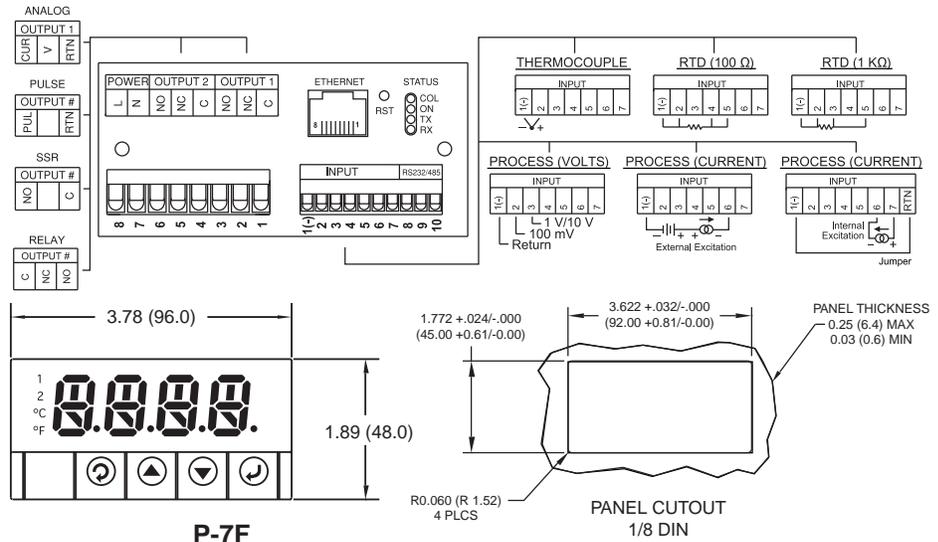


The i/8 Series panel meters feature plug/removable connectors and a sturdy panel mounting sleeve with adjustable thumb nuts for easy secure installation.

### Individual Specs for i8



### Common Specs for i8 and i8C (i8C does not have Ethernet option)



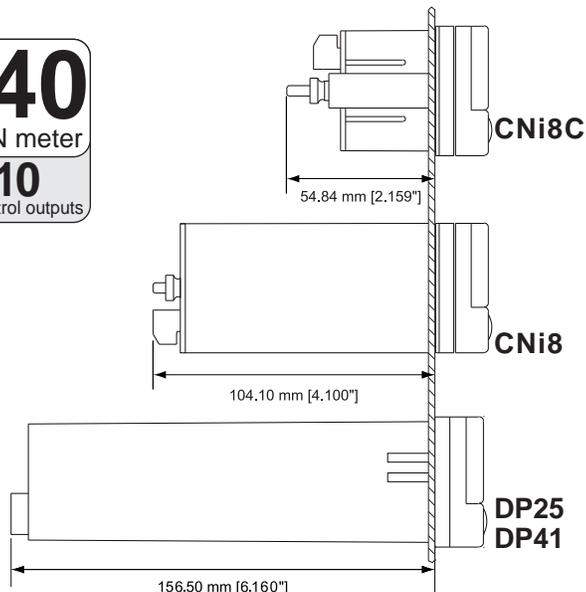


## 1/8 DIN Short Case Model i/8

### Temperature & Process Meters & PID Controllers



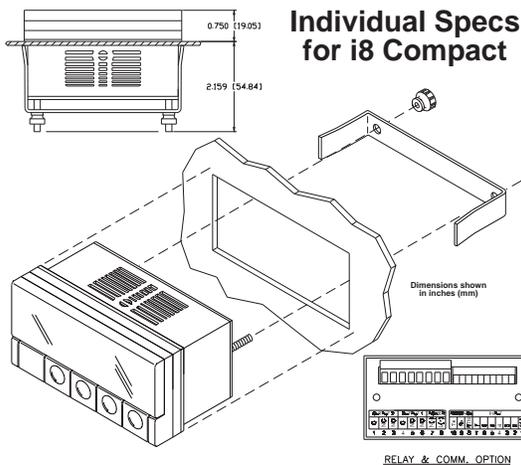
**\$240**  
1/8 DIN meter  
**\$310**  
with 2 control outputs



- Most Compact 1/8 DIN Controller ever built
- Most Visible Display with Color Changing Feature
- Built-in Excitation
- NEMA 4 (IP67) Bezel

- RS-232, RS 422/485 or Modbus Communication, Menu Selectable

The DPi8C and CNI8C are meters and controllers in one extremely compact enclosure. Only 2 inches behind the panel.



To Order (*Specify Model No.)				
Model Number	Description		Price	
DPi8		Monitor only (no control outputs) 1/8 DIN	240	
DPi8C		Monitor only (no control outputs) 1/8 DIN Short Case <sup>*2</sup>	285	
DPi8A		Monitor w/Isolated Analog Output 1/8 DIN	295	
CONTROL OUTPUTS #1 & 2 Direct (Cool) or Reverse (Heat) Acting				
CNI8	(*)	(*)	Two control outputs 1/8 DIN	310
CNI8C	(*)	(*)	Two control outputs 1/8 DIN Short Case <sup>*2</sup>	285
CNI8A	(*)	(*)	Isolated Analog Output w/ Two control outputs <sup>*1</sup>	365
	2	2	Two solid state relays (SSR's): 1 A @ 120/240 Vac continuous	N/C
	2	3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	2	4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	3	3	2 relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
	3	4	Relay and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	4	4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	
	5	2	Analog output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and SSR	
	5	3	Analog output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and Relay	
	5	4	Analog output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and pulse 10 Vdc	

<sup>\*1</sup> Analog Output (Option 5) is not available for the CNI8A controller

<sup>\*2</sup> Isolated Analog Output and Ethernet options are not available in the compact case.

NETWORK OPTIONS		Price
-EI	Ethernet with Embedded Internet	55
-C24	Isolated RS-232 and RS-485 300 to 19.2 k baud	60
-C4EI	Ethernet with Embedded Internet + Isolated RS-485	115
POWER SUPPLY		
*	Standard power input: 90 to 240 Vac/dc, 50 to 400 Hz (no entry required)	N/C
-DC	10-34 Vac/dc (optional)	60
FACTORY SETUP		
-FS	Factory Setup and Configuration (req. -C24 Serial Communication option)	N/C

ORDERING EXAMPLES: DPi8A is a 1/8 DIN Meter with isolated scalable analog retransmission of the process value<sup>\*295</sup>

iSeries  
**change color**  
at any set point\*

Totally Programmable Color Displays

RED  
AMBER  
GREEN



# iSeries

## MONOGRAM®

5 YEAR WARRANTY MADE IN USA CE 2000 COMPLIANT

iSeries meters  
**change color**  
at any set point

For More Information  
[omega.com/specs/iseries](http://omega.com/specs/iseries)

**\$340**  
Dual Output  
Controller

## 1/8 DIN Dual Display Temperature & Process PID Controllers

# Model i/8



- ✓ **First 1/8 DIN Controller with Embedded Ethernet Connectivity (Optional)**
- ✓ **Front Removable**
- ✓ **Dual Display with Bright Color Changing Feature**

The OMEGA CNI8DH and CNI8DV are high quality, highly accurate single loop Autotune PID Temperature and Process Controllers for 1/8 DIN (96mm x 48mm) horizontal or vertical panel cutouts. Both devices feature the same state of the art technology, uncompromising accuracy, and quality backed by an extended 5-year warranty.

The CNI8DH and CNI8DV are simple to configure and use, while providing tremendous versatility and a wealth of powerful features.

The CNI8DH and CNI8DV come standard with your choice of two control or alarm outputs in almost any combination: solid state relays (SSR) rated at 1 amp @120/240 Vac; Form "C" SPDT (Single Pole Double Throw) relays rated at 3 amps @120/240 Vac; pulsed 10 Vdc output for use with an external SSR; or Analog Output (0-10 Vdc or 0-20mA) selectable for control or retransmission of the process value. Optional Isolated Analog Output can also be added to the dual relay or DC pulse standard outputs.

The universal input offers a selection of 10 thermocouple types as well as 2, 3 or 4 wire RTD's, process voltage and current. The CNI8DH and CNI8DV are ideal controllers for use with transmitters and amplified transducers. Built in excitation is standard (24Vdc @ 25mA). The devices handle 0-20mA Process Current and Process Voltage in three scales: 0-100mV, 0-1V, and 0-10V.

The "Ten Point Linearization" (SL) option is a microprocessor and firmware upgrade which allows the user to easily program a custom linearization of a signal input, a valuable capability for demanding applications with nonlinear output. (The L option disables standard thermocouple and RTD inputs.)

As with all iSeries devices, the Process Value display can be programmed to change color between Green, Amber and Red at any set point or alarm point. The LED's displaying the Process Value on the CNI8DH (horizontal 1/8 DIN) are the largest digits of any 1/8 DIN controller.

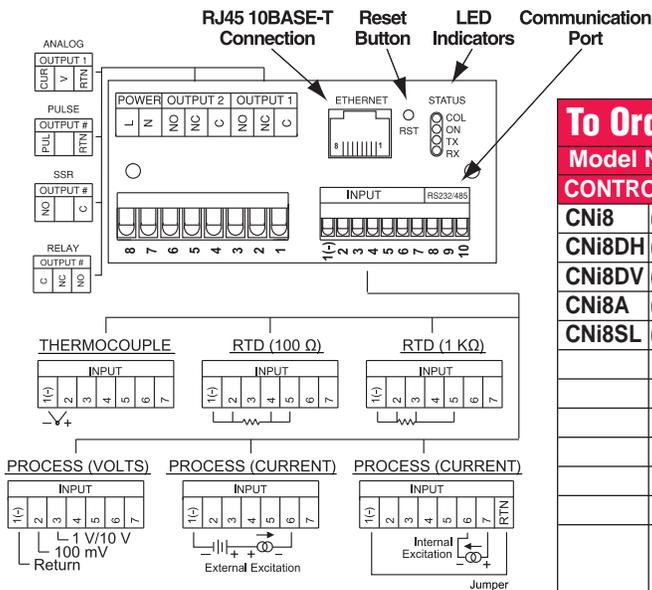
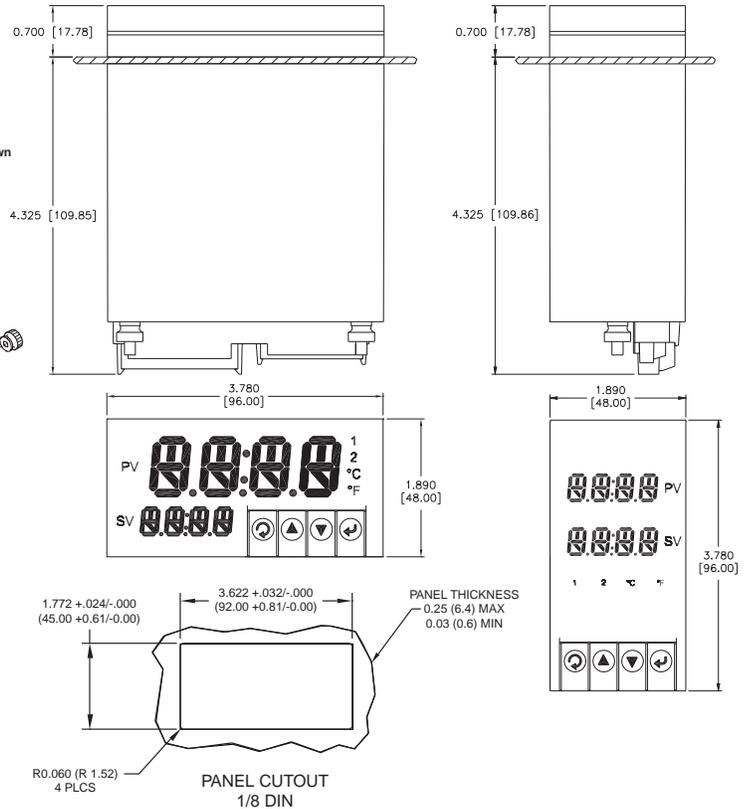
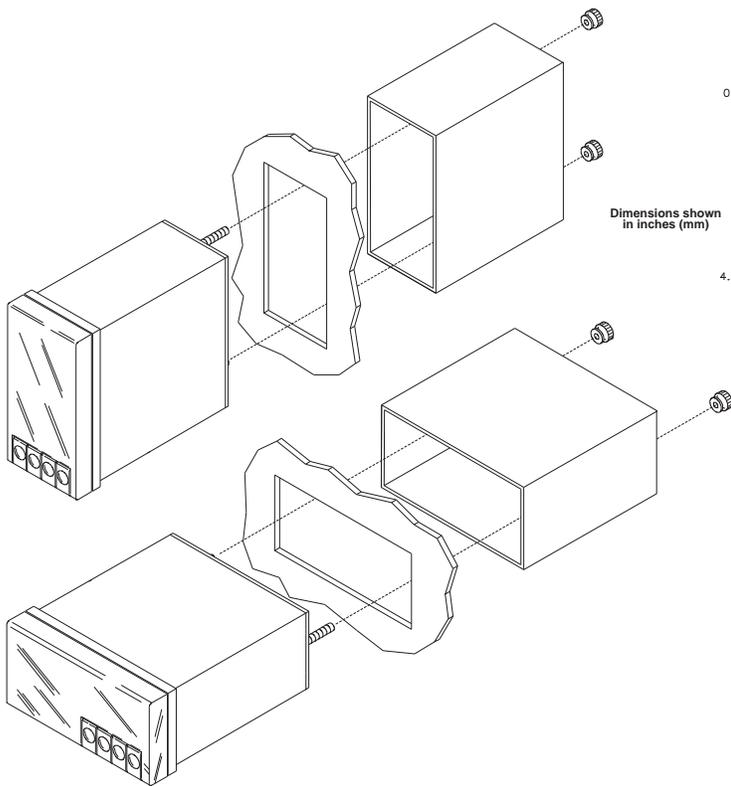
The highly recommended Networking and Communications options include direct Ethernet LAN connectivity with an Embedded Web Server, and serial communications. The C24 serial communications option includes both RS-232 and RS-485 which can be selected from the menu as well as

both a straightforward ASCII protocol or MODBUS. The C4EI option includes both Ethernet and RS-485 ASCII/MODBUS on one device.

The iSeries are designed for easy integration with popular industrial automation, data acquisition and control programs as well as Microsoft Visual Basic and Excel. OMEGA provides free configuration and data acquisition software and demos which makes it fast and easy to get up and running with many applications.

**iSeries**  
**change color**  
at any  
set point\*

Totally  
Programmable  
Color Displays



## To Order (\*Specify Model No.)

Model Number	Description	Price
<b>CONTROL OUTPUTS #1 &amp; 2 Direct (Cool) or Reverse (Heat) Acting</b>		
CNi8 (*) (*)	Two control outputs 1/2 DIN	\$310
CNi8DH (*) (*)	Controller only 1/2 DIN Dual Display Horizontal	340
CNi8DV (*) (*)	Controller only 1/2 DIN Dual Display Vertical	340
CNi8A (*) (*)	Two control outputs w/Isolated Analog Output*	365
CNi8SL (*) (*)	Two control outputs, Process only with 10 point linearization	370
2 2	Two solid state relays (SSR's): 1 A @ 120/240 Vac continuous	N/C
2 3	SSR and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
2 4	SSR and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
3 3	2 relays: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	
3 4	Relay and pulsed 10 Vdc @ 20 mA (for use with external SSR)	
4 4	Two pulsed 10 Vdc @ 20 mA (for use with external SSR)	
5 2	Analog output selectable as either control or retransmission of process value; 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and SSR	N/C
5 3	Analog output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and Relay	
5 4	Analog output 0 to 10 Vdc or 0-20 mA @ 500 ohm max. and pulse 10 Vdc	

\*1 Analog Output (Option 5) is not available for the CNi8A controller

## SERIAL COMMUNICATION

	Price
-EI	Ethernet with Embedded Internet 55
-C24	Isolated RS-232 and RS-485 300 to 19.2 k baud 60
-C4EI	Ethernet with Embedded Internet + Isolated RS-485 115

## POWER SUPPLY

*	Standard power input: 90 to 240 Vac/dc, 50 to 400 Hz (no entry required)	N/C
-DC	10-34 Vac/dc (optional)	60

## FACTORY SETUP

-FS	Factory Setup and Configuration (req. -C24 Serial Communication option)	N/C
-----	---	-----

**ORDERING EXAMPLES:** CNi8A22 is a 1/8 DIN Controller with isolated scalable analog retransmission of the process value <sup>3</sup>365



The i/8 Series controllers feature plug/removable connectors and a sturdy panel mounting sleeve with adjustable thumb nuts for easy secure installation.