

iSeries **TEMPERATURE, PROCESS**

DPI Series Starts at



OMEGA MONOGRAM®



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°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°C (77°F)**
- ✓ **Both RS232 and RS485 MODBUS® on One Instrument Selectable From Menu, Optional**
- ✓ **Universal Inputs: Thermocouple, RTD, Process Voltage/Current, Strain**
- ✓ **Built-in Excitation, Standard**
- ✓ **2 Control or Alarm Outputs. Choice of dc Pulse, Solid State Relays, Mechanical Relays, Analog Voltage and Current**
- ✓ **Embedded Ethernet Connectivity**

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 RS232, RS422, and RS485, with straightforward ASCII commands or MODBUS.

iSeries 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 $\frac{1}{8}$, $\frac{1}{6}$ and $\frac{1}{2}$ 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.

i® Series is a trademark of Newport Electronics, Inc.

AND STRAIN METERS AND PID CONTROLLERS

CNi Series
Starts at



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. The MIL Standard Nickel RTD with MIL-T-7990B curve is available as a Factory Setup.

Process Voltage and Current

The OMEGA® iSeries measures process voltage: 0 to 100 mVdc, 0 to 1 Vdc, 0 to 10 Vdc ranges, and process current: 0 to 20 mA.

Strain Gauge

The STRAIN/PROCESS meters and controllers measure inputs from Load Cells, Pressure Transducers, and most any strain gauge sensor. Input ranges include 0 to 100 mVdc, -100 mVdc to 1 Vdc and 0 to 10 Vdc in addition to 0 to 20 mA. Excitation for transducers of 5 Volt and 10 Volt is standard. Strain/Process meters and controllers are available in all iSeries Models.

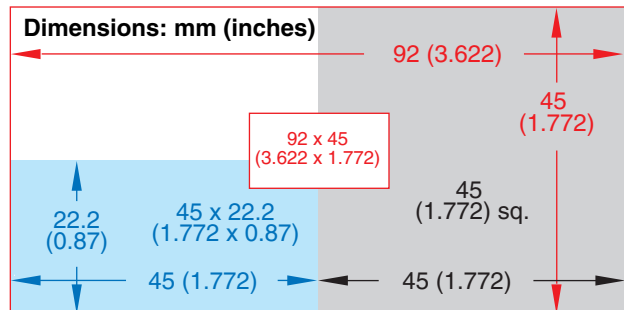
Analog Output

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

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.

For applications that do not require PID control, just simplified programming,



there are 2 options available: -AL Limit Alarm and -SM Simplified Menu ON-OFF Control.

Built-in Excitation Standard

The temperature/process (model "I") comes standard with built-in excitation (24 Vdc @ 25 mA). Any excitation voltage between 5 and 24 Vdc is available by special order. This means the same instrument can handle thermocouple, standard RTD's, or 4 to 20 mA transmitters, with the meter's built-in excitation. The strain/process (model "iS") comes standard with built-in excitation (10 Vdc @ 60 mA), 5V excitation is user selectable. (Built-in excitation is not available with optional isolated RS232/RS485 serial communications or DC power option).

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.

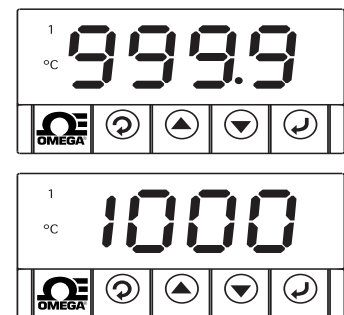


iSeries

change color at any setpoint



PATENTED



Autoscaling: Automatically shifts the decimal point right or left depending on the process value of the meter. AutoScaling is active only for temperature reading.

METER SELECTION GUIDE

MONOGRAM
i Series



CNi8/DPI8







CNi8DH



CNi8DV

Description	½ DIN Single Display Monitor/ Controller	½ DIN Dual Display Horizontal PID Controller	½ DIN Dual Display Vertical PID Controller
Input Process and Temperature (model "i") T/C: (J, K, T, E, R, S, B, N, C, J DIN) RTD: Pt 100, 500, 1000 Ohms (385,392) 4 to 20 mA, 0 to 100 mV, 0 to 1V, 0 to 10V Strain and Process (model "iS") 4 to 20 mA, 0 to 100 mVdc, -100 mVdc to 1 Vdc, 0 to 10 Vdc Ratiometric/Non-Ratiometric; 10 pt linearization Humidity and Temperature (model "iTH") RH: 0 to 100% @ ±2% to ±3% Temp: -40 to 124°C @ ±0.5° to ±1°C (-40 to 254°F @ ±1° to ±2°F)	✓	✓	✓
Display Nine Segment LED Digits Color Programmable: Red, Amber, Green Height of Digits	Single Display 21 mm (0.83")	Dual Display Process Value: 21 mm (0.83") top display Setpoint Value: 10.2 mm (0.40") bottom display	Dual Display Process Value: 10.2 mm (0.40") top display Setpoint Value: 10.2 mm (0.40") bottom display
Available Output Options (Any combination of Two) SSR's: Solid State Relays 0.5A @120/240 Vac Relays: Form "C" SPDT 3A @120/240 Vac Pulse: 10 Vdc @ 20 mA (for use w/ external SSR) Programmable Analog Voltage & Current Output (non-isolated) Other Output Options Isolated Programmable Analog Voltage & Current Output Limit Alarm (-AL) or Simplified Menu (-SM)	Two Outputs Standard ✓ ✓ ✓ ✓ ✓ ✓	Two Outputs Standard ✓ ✓ ✓ ✓ ✓	Two Outputs Standard ✓ ✓ ✓ ✓ ✓
Power (standard) 90-240 Vac, 50-400 Hz 110-375 Vdc, Equivalent voltage	✓	✓	✓
Low Voltage Power Option 12-36 Vdc, 3 W	12 to 36 Vdc	20 to 36 Vdc	20 to 36 Vdc
Mechanical (size: H x W x D) Weight	48 x 96 x 127 mm (1.89 x 3.78 x 5") 295 g (0.65 lb)	48 x 96 x 127 mm (1.89 x 3.78 x 5") 295 g (0.65 lb)	96 x 48 x 127 mm (3.78 x 1.89 x 5") 295 g (0.65 lb)
Network Options 1. RS232, RS422, RS485, MODBUS® (-C24) 2. Ethernet + RS485, MODBUS® (-C4EI) 3. Ethernet (-EI)	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
Most Popular Model	CNi833-C24 ½ DIN single display controller with two mechanical relay output + serial output	CNi8DH33-C4EI ½ DIN dual display horizontal controller with two mechanical relay output + serial and Ethernet output	CNi8DV43 ½ DIN dual display vertical controller with pulse and relay output

TEMPERATURE, PROCESS, AND STRAIN METERS AND PID CONTROLLERS

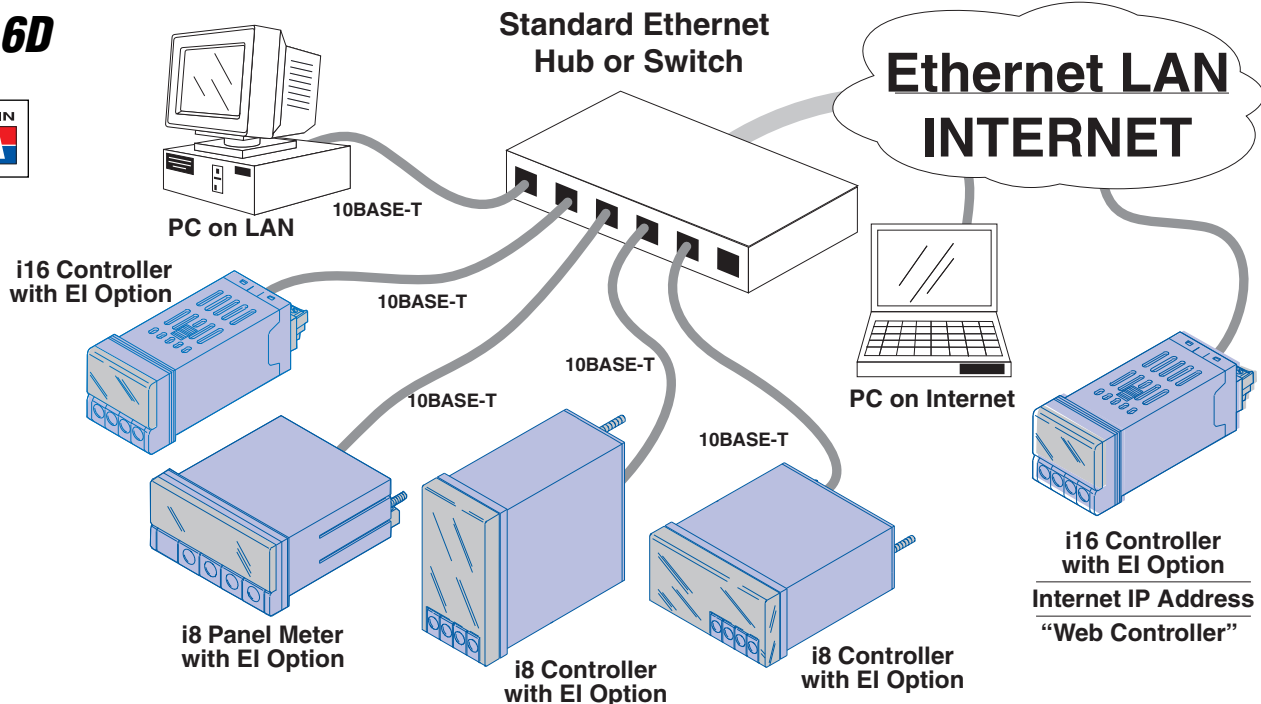
 CNI/DPI8C	 CNI/DPI16	 CNI16D	 CNI/DPI32
1/8 DIN Ultra Compact Monitor/Controller	1/16 DIN Single Monitor/Controller	1/16 DIN Dual Display PID Controller	1/2 DIN Single Monitor/Controller
✓	✓		✓
✓	✓		✓
		✓	✓
Single Display	Single Display	Dual Display	Single Display
21 mm (0.83")	10.2 mm (0.40")	Process Value: 10.2 mm (0.40") top display Setpoint Value: 10.2 mm (0.40") bottom display	10.2 mm (0.40")
		Two Outputs Standard	
✓	✓		✓
✓	✓		✓
✓	✓		✓
✓	✓		✓
✓	✓		✓
✓	✓		✓
12 to 36 Vdc	12 to 36 Vdc	20 to 36 Vdc	12 to 36 Vdc
48 x 96 x 54.84 mm (1.89 x 3.78 x 2.16") 255 g (0.55 lb)	48 x 48 x 127 mm (1.89 x 1.89 x 5") 159 g (0.35 lb)	48 x 48 x 127 mm (1.89 x 1.89 x 5") 159 g (0.35 lb)	25.4 x 48 x 127 mm (1.0 x 1.89 x 5") 127 g (0.28 lb)
✓	✓		✓
EIS-2B or EIS-W	EIS-2B or EIS-W	✓ ✓	EIS-2B or EIS-W
DPI8C CNI8C53 1/8 DIN compact controller with analog and relay output	DPI16 CNI1633 1/16 DIN single display controller with two relay outputs	CNI16D33 CNI16D43-C24 1/16 DIN dual display with pulse and relay output + serial output	DPI32 CNI3243-C24 1/2 DIN controller with pulse and relay output + serial output

iSeries **EMBEDDED INTERNET**

iSeries METERS AND CONTROLLERS—DIRECT CONNECTION TO ETHERNET (EACH DEVICE HAS ITS OWN IP ADDRESS)

OMEGA MONOGRAM

CNi16D



Embedded Internet

The OMEGA® iSeries devices can connect directly to an Ethernet network with a standard RJ45 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 1/6 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 RS232, RS422, RS485 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 1/6 DIN

and 1/6 DIN instruments are stand-alone Web Servers. The Ethernet and Web Server capability is actually embedded in the device. (The smallest 1/2 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)

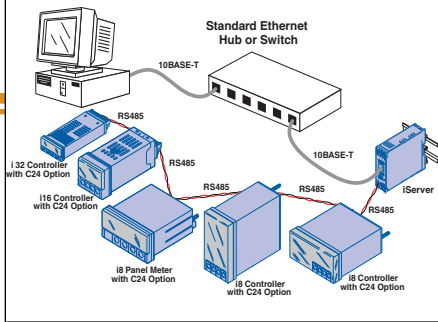
The iSeries devices work well with conventional industrial automation, data acquisition and control programs as well as Microsoft Visual Basic and Excel. OMEGA® provides free software and demos which makes it fast and easy to get up and running with many applications.



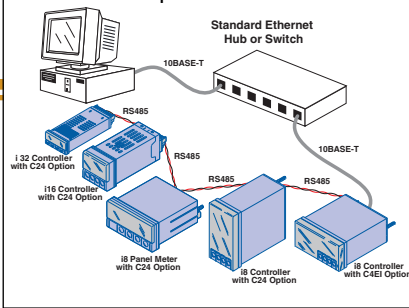
With option "EI" Ethernet



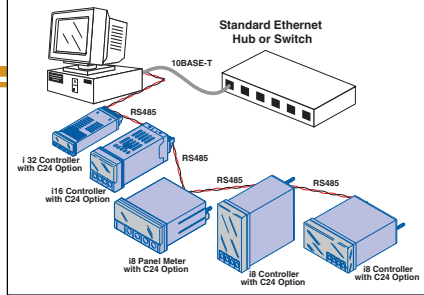
Using iServer as HUB/Server for Up to 32 Devices



Using OMEGA® ½ DIN iSeries Controller with C4EI Option as HUB for Up to 32 Devices



Conventional Serial Communication Connections using PC with RS485 Serial Communication



Get Internet E-mail Notification of Alarm Status on Your Web Enabled Phone or PDA.

EIS-2B

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 MICROMEGA® family of ultra high performance digital panel meters and the OMEGA iDRX family of Signal Conditioners. The iServer can also connect almost any RS232 or RS485 Serial Device to Ethernet.

- ✓ A Web Server and an Ethernet Bridge
- ✓ Serves Up to 32 Devices

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 (Specify Model Number)

Model No.	Description
EIS-2B	iServer industrial MicroServer™, serves 32 devices
Option	
iDRN-PS-1000	Power supply (switching), 95 to 240 Vac input, 24 Vdc output @ 1 A (powers 10 units)

* Contact SALES for quantity and OEM pricing.

**CNi8
Controller
Starts at**

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

The OMEGA® DPI8/CNi8 is a 1/8 DIN size (96 x 48 mm) 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 set point or alarm point.

The "DPI8/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 DPI8/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 DPI8/CNi8 covers a broad selection of transducer and transmitter inputs with two input models:

The UNIVERSAL TEMPERATURE & PROCESS instrument (model "i") handles ten common types of thermocouples, multiple RTD's, and

**DPI8 Meter
Starts at**



several Process (DC) Voltage and Current ranges.

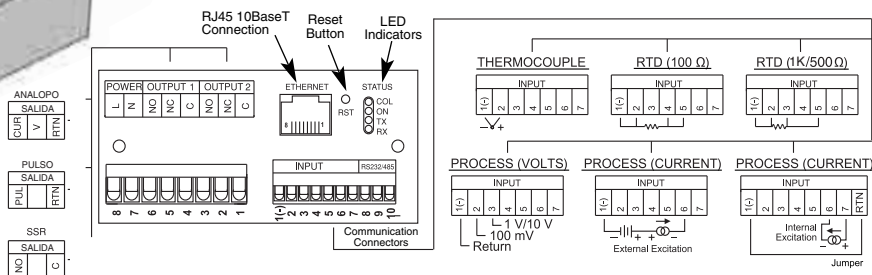
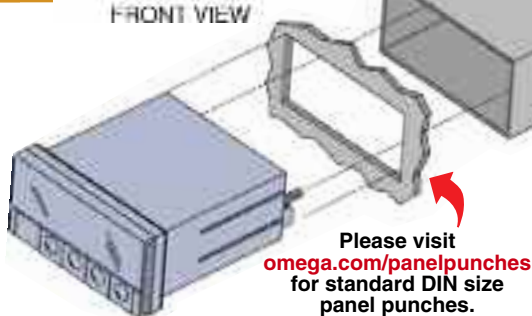
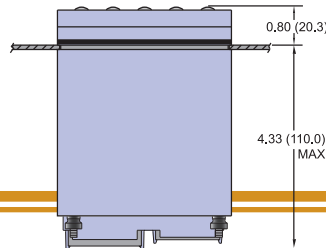
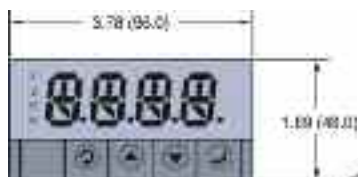
This model also features built-in excitation, 24 Vdc @ 25 mA. With its wide choice of signal inputs, this model is an excellent choice for measuring or controlling temperature with a thermocouple, RTD, or 4-20 mA transmitter.

The STRAIN & PROCESS instrument (model "iS") measures inputs from Load Cells, Pressure Transducers, and most any strain gauge sensor as well as Process Voltage and Current ranges.

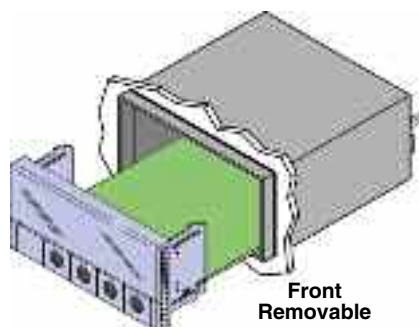
The "iS" has built-in 5 or 10 Vdc excitation for bridge transducers, 5 Vdc @ 40 mA or 10 Vdc @ 60 mA. (Any excitation voltage between 5 and 24 Vdc is available by special order). This "iS" model supports 4 and 6 wire bridge configurations, ratiometric and non-ratiometric measurements. The "iS" features 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 Temperature / Process			
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 Ω	-200 to 900°C / -328 to 1652°F	0.4°C / 0.7°F
RTD	Pt, 0.00392, 100, 500, 1000 Ω	-200 to 850°C / -328 to 1562°F	0.4°C / 0.7°F
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

Dimensions: in (mm)



AVAILABLE FOR FAST DELIVERY!



To Order (*Specify Model Number)

MODEL NO.			DESCRIPTION	
DPI8			Temperature/Process (Monitor only) 1/8 DIN	
DPI8A			Temperature/Process Monitor with Isolated Analog Output 1/8 DIN *1	
DPI8S			Strain/Process (Monitor only) 1/8 DIN	
CONTROL OUTPUTS #1 & 2 Direct (Cool) or Reverse (Heat) Acting				
CNi8	(*)	(*)	Temperature/Process with 2 Control Outputs	
CNi8A	(*)	(*)	Temperature/Process with Isolated Analog Output and 2 Outputs*1,*4	
CNi8S	(*)	(*)	Strain/Process with 2 Control Outputs	
	2	2	Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous	
	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	
	4	2	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and SSR	
	4	3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac	N/C
	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	
			-AL Limit Alarm Version (Alarm Menu, No PID Control)*3, *4	
			-SM Simplified Menu Version (ON/OFF Control, No PID)*5	
NETWORK OPTIONS (One Option Max.)				
-EI			Ethernet with Embedded Internet	
-C24			Isolated RS232 and RS485 300 to 19.2 k baud *2	
-C4EI			Ethernet with Embedded Web Server + Isolated RS485/422 hub for up to 31 devices*1	
POWER SUPPLY (Select One)				
*			Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)	
-DC			12 to 36 Vdc (for CN/DPI8), 20 to 36 Vdc (for CN/DPI8A), 24 Vac*2	
FACTORY SETUP (Requires Network Option)				
-FS			Factory Setup and Configuration	
-FS(RTD-1N)			Factory Scaled for MIL-T-7990B Nickel RTD input (0 to 200°C)	
-FS(RTD-2N)			Factory Scaled for MIL-T-7990B Nickel RTD input (-40 to 300°C)	
SOFTWARE (Requires Network Option)				
OPC-SERVER LICENSE			OPC Server/Driver Software License	

INSTRUMENTATION



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.



*1 Analog Output (Option 5) and Ethernet Options are not available for the CN/DPI8A.
 *2 -DC, -C24, or -C4EI not available with excitation.
 *3 Analog Output (Option 5) is not available with -AL units.
 4 For CNi8A0-AL: One Analog Retransmission and One Alarm (Output 1 is not available).
 *5 Strain CN/DPI8S and/or Isolated Analog Output CN/DPI8A are not available with -SM units.
Ordering Examples: **DPI8A** 1/8 DIN Meter with isolated scalable analog retransmission of the process value ; **CNi833-AL-C24** 1/8 DIN Indicator and Dual Alarm only with serial communication
CNi833-C24-FS(RTD-1N) 1/8 DIN Controller with 2 relay outputs, serial communication and is factory scaled for MIL Standard MIL-T-7990B Nickel RTD input

1/8 DIN DUAL DISPLAY i/8D TEMPERATURE, PROCESS AND STRAIN PID CONTROLLERS

CNi8D
Dual Output
Controller
Starts at



- ✓ High Quality
- ✓ 5-Year Warranty
- ✓ High Accuracy $\pm 0.5^{\circ}\text{C}$ (0.9°F), 0.03% Reading
- ✓ First 1/8 DIN Controller with Embedded Ethernet Connectivity (Optional)
- ✓ Dual Display with Bright Color Changing Feature
- ✓ Programmable Digital Filter
- ✓ 2 Control or Alarm Outputs. Choice of DC Pulse, Solid State Relays, Mechanical Relays, Analog Voltage and Current
- ✓ Full Autotune PID Control
- ✓ Built-In Excitation Standard
- ✓ Front Removable

The OMEGA® CNi8DH and CNi8DV are high quality, highly accurate single loop Autotune PID Temperature and Process Controllers for 1/8 DIN (96 x 48 mm) 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 0.5 A @ 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 to 10 Vdc or 0 to 20 mA) selectable for control or retransmission of the process value.

The UNIVERSAL TEMPERATURE & PROCESS instrument (model "i") 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 (24 Vdc @ 25 mA). The devices handle 0 to 20 mA Process Current and Process Voltage in three scales: 0 to 100 mV, 0 to 1V, and 0 to 10V.

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 i8DH (horizontal 1/8 DIN) are the largest digits of any 1/8 DIN controller. The STRAIN/PROCESS instrument (model "iS") meters and controllers measure inputs from Load Cells, Pressure Transducers, and most any strain gauge sensor. Input ranges include 0 to 100 mVdc, -100 mVdc to 1 Vdc, 0 to 10 Vdc in addition to 0 to 20 mA. Excitation for transducers of 5 Volt and 10 Volt is standard.



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 RS232 and RS485 which can be selected from the menu as well as both a straightforward ASCII protocol or MODBUS®. The -C4E1 option includes both Ethernet and RS485 ASCII/MODBUS on one device.

The iSeries, with the network option, 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 software which makes it fast and easy to get up and running. Available on CD-ROM and for download off the Web.

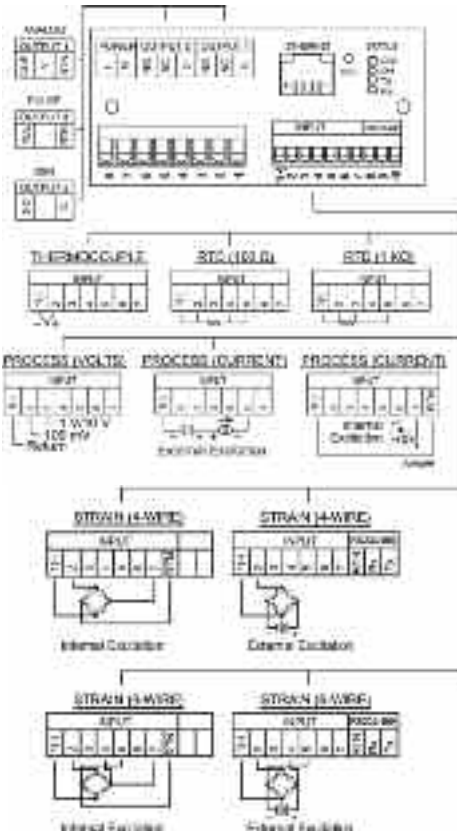
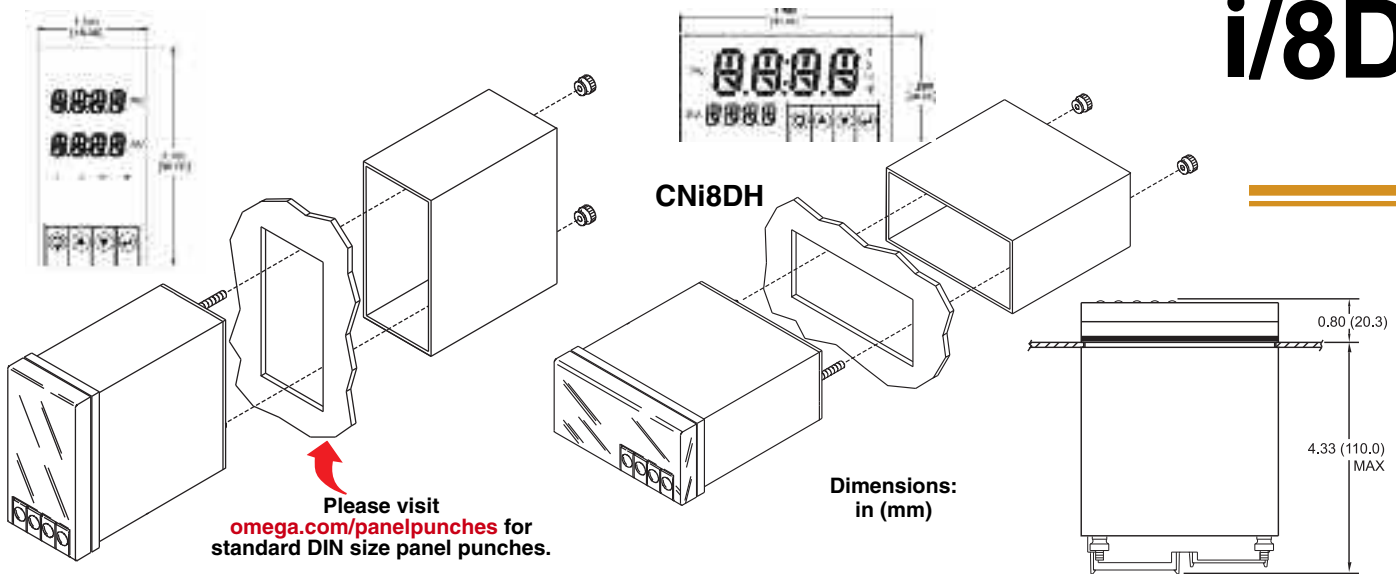
Input Type	Range	Accuracy
Universal Temperature/Process		
Process Voltage	0 to 100 mV, 0 to 1V, 0 to 10 Vdc	0.03% rdg
Process Current	0 to 20 mA (4 to 20 mA)	0.03% rdg
Excitation	24V @ 25 mA	-
Universal Strain/Process		
Process Voltage	0 to 100 mV, -100 mV to 1V, 0 to 10 Vdc	0.03% rdg
Process Current	0 to 20 mA (4 to 20 mA)	0.03% rdg
Excitation	5V @ 40 mA, 10V @ 60 mV	-

iSeries
change color
at any setpoint

Totally Programmable Color Displays

PATENTED

RED
AMBER
GREEN



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

To Order (*Specify Model Number)

MODEL NO.	DESCRIPTION	
CONTROL OUTPUTS #1 & 2 Direct (Cool) or Reverse (Heat) Acting		
CNi8DH	(*)	(*) Temperature/Process 1/8 DIN Dual Display Horizontal with 2 Control Outputs
CNi8DV	(*)	(*) Temperature/Process 1/8 DIN Dual Display Vertical with 2 Control Outputs
CNiS8DH	(*)	(*) Strain/Process 1/8 DIN Dual Display Horizontal with 2 Control Outputs
CNiS8DV	(*)	(*) Strain/Process 1/8 DIN Dual Display Vertical with 2 Control Outputs
	2	2 Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous
	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
	4	2 Pulsed 10 Vdc @ 20 mA (for use with external SSR) and Solid State
	4	3 Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac
	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
		-AL Limit Alarm Version (Alarm Menu, No PID Control)*2
		-SM Simplified Menu Version (ON/OFF Control, No PID)*3

NETWORK OPTIONS (One Option Max)

-EI	Ethernet with Embedded Internet
-C24	Isolated RS232 and RS485 300 to 19.2 k baud *1
-C4EI	Ethernet with Embedded Web Server + Isolated RS485/422 hub for up to 31 devices*1

POWER SUPPLY (Select One)

*	Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)
-DC	20 to 36 Vdc, 24 Vac*1

FACTORY SETUP (Requires Network Option)

-FS	Factory Setup and Configuration
-FS(RTD-1N)	Factory Scaled for MIL-T-7990B Nickel RTD input (0 to 200°C)
-FS(RTD-2N)	Factory Scaled for MIL-T-7990B Nickel RTD input (-40 to 300°C)

SOFTWARE (Requires Network Option)

OPC-SERVER LICENSE	OPC Server/Driver Software License
--------------------	------------------------------------

*1 -DC, -C24, or -C4EI not available with excitation.

*2 Analog Output (Option 5) is not available with -AL units.

*3 Strain CNiS8DH or CNiS8DV is not available with -SM units.

Ordering Examples: CNi8DH43 factory scaled for MIL Standard MIL-T-7990B Nickel RTD input
 CNiS8DH43-C24-FS(RTD-1N) factory scaled for MIL Standard MIL-T-7990B Nickel RTD input

1/16 DIN TEMPERATURE, PROCESS AND STRAIN METERS AND PID CONTROLLERS

CNi16 Controllers
 Starts at



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

The OMEGA[®] DPI16/CNi16 is the popular 1/16 DIN size (48 mm square) meter or controller. The meter (model "DPI16") displays the process value and has no control outputs.

The controller is available with a single (model "CNi16") or dual display (model "CNi16D") that displays a set point along with the process value. The DPI16/CNi16 display 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 RS232 and RS485 in one instrument with both MODBUS[®] serial protocol and the straightforward OMEGA[®] ASCII protocol. And of course the CNi16 is the first 1/16 DIN Controller that can connect directly to an ethernet network and features an embedded web server. OMEGA[®] provides free configuration and data acquisition software for the iSeries on CD-ROM and for download off the Web.

The DPI16/CNi16 enclosure has a NEMA 4 (IP65) rated front bezel. The electronics are removable from the front panel.



- ✓ First 1/16 DIN Controller Offering Both RS232 and RS485 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
- ✓ Temperature Stability $\pm 0.04^{\circ}\text{C}/^{\circ}\text{C}$ RTD and $\pm 0.05^{\circ}\text{C}/^{\circ}\text{C}$ TC @ 25°C (77°F)
- ✓ Front Removable and Plug Connectors

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

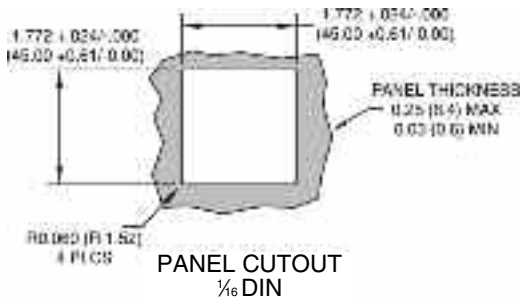
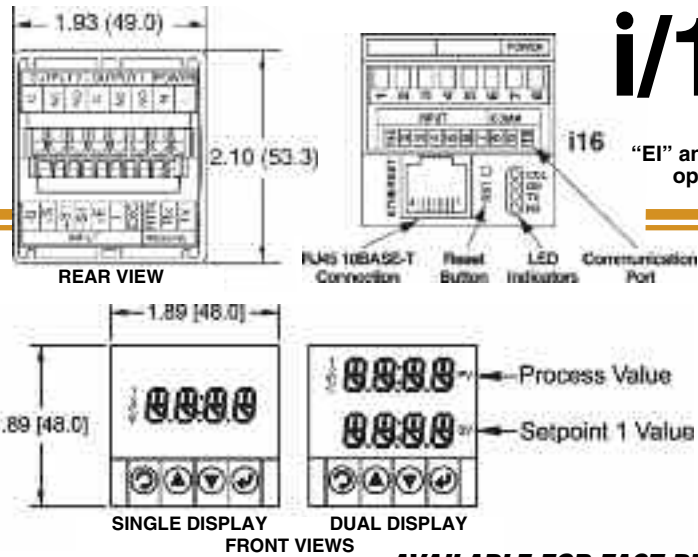
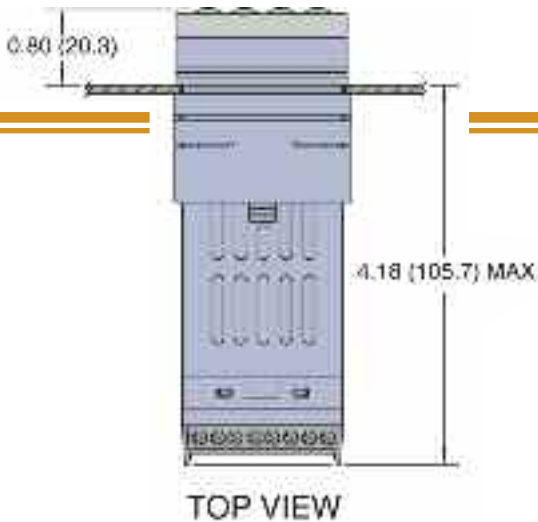


1/16 DIN Controller With Embedded Web Server, Dual Control Outputs, Dual Display

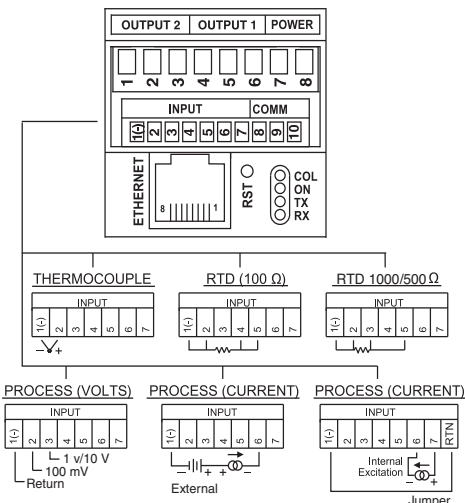
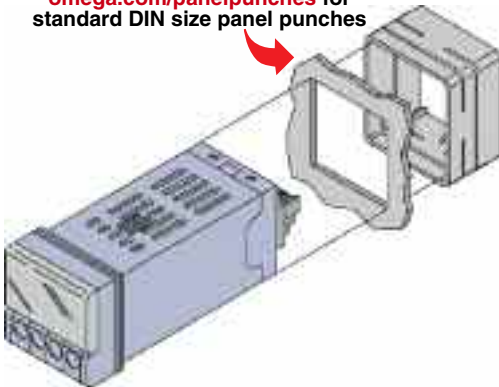
i/16

“EI” and “C4EI” options

Dimensions: in (mm)



Please visit omega.com/panelpunches for standard DIN size panel punches



AVAILABLE FOR FAST DELIVERY!

To Order (*Specify Model Number)

Model No.	Description
DPI16	Temperature/Process (Monitor only) 1/16 DIN
DPi16	Strain/Process (Monitor only) 1/16 DIN
CONTROL OUTPUTS #1 & 2 Direct (Cool) or Reverse (Heat) Acting	
CNi16 (*) (*)	Temperature/Process with 2 Control Outputs
CNi16D (*) (*)	Temperature/Process Dual Display with 2 Control Outputs *1
CNiS16 (*) (*)	Strain/Process with 2 Control Outputs
CNiS16D (*) (*)	Strain/Process Dual Display with 2 Control Outputs *1
2 2	Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous
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
4 2	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and SSR
4 3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac
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
	-AL Limit Alarm Version (Alarm Menu, No PID Control)*3
	-SM Simplified Menu Version (ON/OFF Control, No PID)*4

NETWORK OPTIONS (One Option Max)

-EI	Ethernet with Embedded Internet*1
-C24	Isolated RS232 and RS485 300 to 19.2 k baud *2
-C4EI	Ethernet with Embedded Web Server + Isolated RS485/422 hub for up to 31 devices *1,*2

POWER SUPPLY (Select One)

*	Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)
-DC	12 to 36 Vdc (for CN/DPI16), 20 to 36 Vdc (for CNI16D), 24 Vac *2

FACTORY SETUP (Requires Network Option)

-FS	Factory Setup and Configuration
-FS(RTD-1N)	Factory Scaled for MIL-T-7990B Nickel RTD input (0 to 200°C)
-FS(RTD-2N)	Factory Scaled for MIL-T-7990B Nickel RTD input (-40 to 300°C)

SOFTWARE (Requires Network Option)

OPC-SERVER LICENSE	OPC Server/Driver Software License
--------------------	------------------------------------

*1 Ethernet options are available for the CNI16D and CNI16D Controller only.

*2 -DC, -C24 or -C4EI not available with excitation.

*3 Analog Output (Option 5) is not available with -AL units.

*4 Strain DP/CNiS16 or CNI16D is not available with -SM units.

Ordering Examples: CNI16D44 1/16 DIN dual display PID Controller with two pulse control outputs

CNiS16DH44-C24-FS(RTD-1N) factory scaled for MIL Standard MIL-T-7990B Nickel RTD input

1/32 DIN TEMPERATURE, PROCESS AND STRAIN METERS AND PID CONTROLLERS

i/32

DPI32 Meters Starts at

CNI32 Controllers Starts at



- ✓ High Quality
- ✓ 5-Year Warranty
- ✓ High Accuracy $\pm 0.5^{\circ}\text{C}$ (0.9°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

- ✓ Universal Inputs: Thermocouple, RTD, Process Voltage/Current, Strain
- ✓ First 1/32 DIN Instrument Offering Both RS232 and RS485 Serial Communications in One Instrument (Optional)
- ✓ First 1/32 DIN Instrument with Built-in Excitation, 24 Vdc, Standard
- ✓ Temperature Stability $\pm 0.04^{\circ}\text{C}/^{\circ}\text{C}$ RTD and $\pm 0.05^{\circ}\text{C}/^{\circ}\text{C}$ TC @ 25°C (77°F)

- ✓ NEMA-4 (IP65) Front Bezel
- ✓ 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 OMEGA® DPI32/CNI32 is the iSeries meter (DPI32) and controller (CNI32) in the extremely compact and increasingly popular 1/32 DIN size. The DPI32/CNI32 is the most sophisticated and accurate instrument available in the small 1/32 DIN package, yet is still easy to configure.

The DPI32/CNI32 handles more thermocouple, RTD, process voltage and current inputs than any other 1/32 DIN controller.

The DPI32/CNI32 is the first 1/32 DIN controller with built-in excitation for transmitters or other devices, 24 Vdc @ 25 mA.

The DPI32/CNI32 has built-in excitation for bridge transducers, 5 Vdc @ 40 mA or 10 Vdc @ 60 mA. When communications options are installed, external excitation may be used and ratiometric operation maintained by connecting the external excitation to the sense leads. Both 4 or 6-wire bridge configurations are supported for internal or external excitation. Non-ratiometric operation is supported for voltage and current transducers and is also valuable in measuring offset and millivolt output

of bridge devices during manufacturing and calibration.

This model also features 10 Point Linearization which allows the user to linearize the signal input from extremely nonlinear transducers of all kinds.

The DPI32/CNI32 and DPI32/CNI32 introduce a number of unique features not yet found on any other 1/32 DIN instrument. The DPI32/CNI32 and DPI32/CNI32 are the first 1/32 DIN controllers 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.

The DPI32/CNI32 and DPI32/CNI32 are the first 1/32 DIN controllers offering 2 SPDT (Single Pole Double Throw) Form C relays, instead of the single throw relays on typical 1/32 DIN controllers.

The DPI32/CNI32 and DPI32/CNI32 are the first to offer both RS232 and RS422/485 serial communications in one instrument (-C24 option). Both ASCII protocol and modbus protocol are selectable from the menu.

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 LED



7-segment display



9-segment display

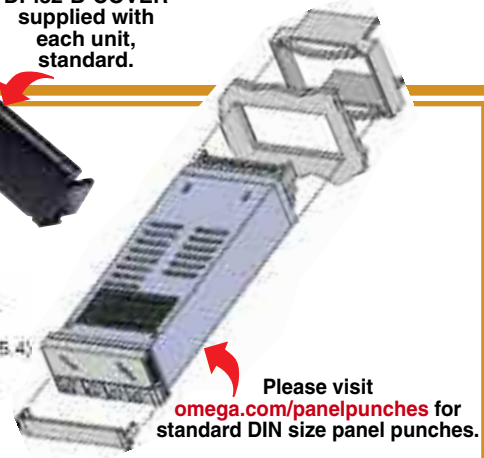
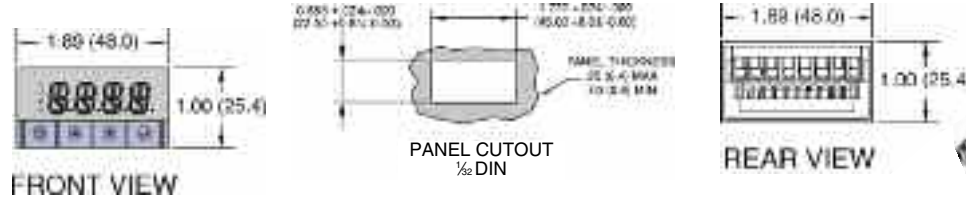
Process & Strain Meters & PID Controllers

i/32



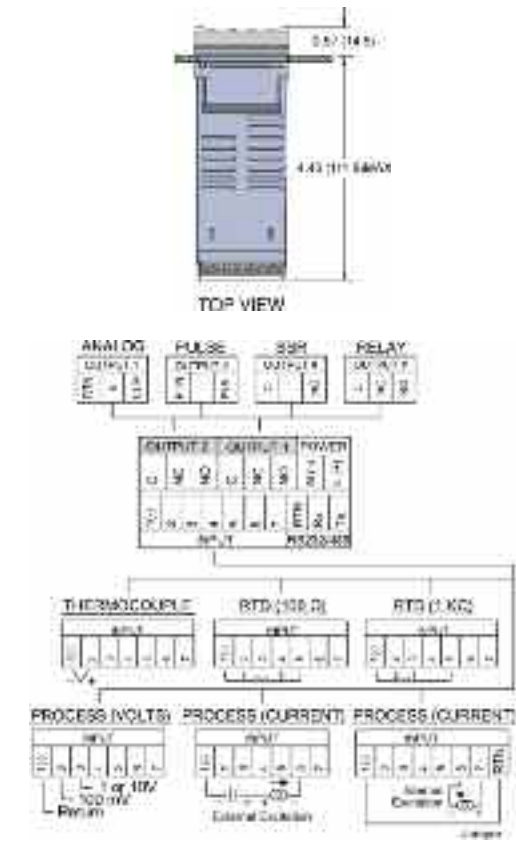
DPi32-B-COVER
supplied with
each unit,
standard.

Dimensions: inches (mm)



Please visit
omega.com/panelpunches for
standard DIN size panel punches.

AVAILABLE FOR FAST DELIVERY!



To Order (*Specify Model Number)

MODEL NO.	DESCRIPTION
DPi32	Temperature/Process (Monitor only) 1/2 DIN
DPiS32	Strain/Process (Monitor only) 1/2 DIN
CONTROL OUTPUTS #1 & 2 Direct (Cool) or Reverse (Heat) Acting	
CNi32 (*) (*)	Temperature/Process with 2 Control Outputs
CNiS32 (*) (*)	Strain/Process with 2 Control Outputs
2 2	Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous
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
4 2	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and SSR
4 3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac
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
	-AL Limit Alarm Version (Alarm Menu, No PID Control)*2
	-SM Simplified Menu Version (ON/OFF Control, No PID)*3

NETWORK OPTIONS

-C24	Isolated RS232 and R485/422. 300 to 19.2k Baud *1
------	---

POWER SUPPLY (Select One)

*	Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)
-DC	12 to 36 Vdc, 24 Vac *1

FACTORY SETUP (Requires Network Option)

-FS	Factory Setup and Configuration
-FS(RTD-1N)	Factory Scaled for MIL-T-7990B Nickel RTD input (0 to 200°C)
-FS(RTD-2N)	Factory Scaled for MIL-T-7990B Nickel RTD input (-40 to 300°C)

MODEL NO.	DESCRIPTION
EIS-2B	iServer MicroServer, serves 32 devices, page D-12
EIS-W	iServer MicroServer for Serial to Ethernet applications visit omega.com/eis-w for Complete Details

SOFTWARE (Requires Network Option)

OPC-SERVER LICENSE	OPC Server/Driver Software License
--------------------	------------------------------------

*1 -DC, -C24 not available with Excitation.
*2 Analog Output (Option 5) is not available with -AL units.
*3 Strain DP/CNiS32 is not available with -SM units.

Ordering Examples: CNI3222-C24 1/2 DIN PID Controller with two solid state relays for PID control and serial communications, both RS232 and RS485
CNI53222-C24-FS(RTD-1N) factory scaled for MIL Standard MIL-T-7990B Nickel RTD input

iServer

See page
D-12

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.



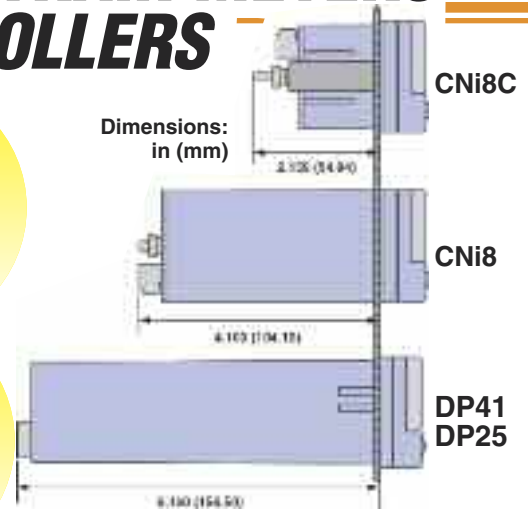
INSTRUMENTATION



Shown actual size.

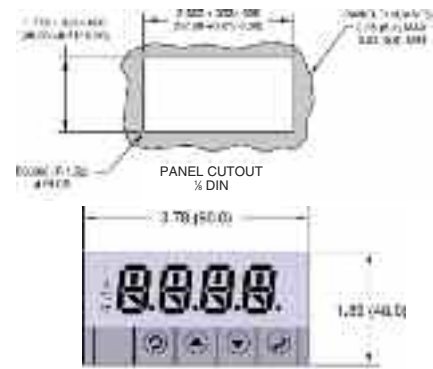
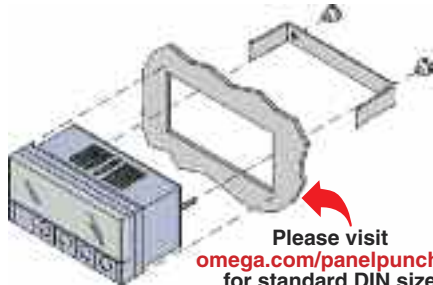
**CNi8C
 Controllers
 Starts at**

**DPI8C Meters
 Starts at**

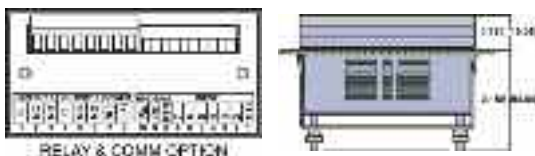


- ✓ Ultra Compact 1/8 DIN Meter and Controller
- ✓ Built-In Excitation
- ✓ NEMA 4 (IP65) Bezel
- ✓ RS232, RS422/485 or MODBUS® Communication, Menu Selectable

The Ultra Compact DPI8C/CNi8C and DPI8C/CNi8C Meters and Controllers are similar to the full size i8 in an Ultra Compact enclosure. Only 2 inches behind the panel.



FRONT VIEW



AVAILABLE FOR FAST DELIVERY!

To Order (*Specify Model Number)

Model No.	Description
DPI8C	Temperature/Process (Monitor only) 1/8 DIN Compact Case
DPI8C	Strain/Process (Monitor only) 1/8 DIN Compact Case
CONTROL OUTPUTS #1 & 2 Direct (Cool) or Reverse (Heat) Acting	
CNi8C (*) (*)	Temperature/Process with 2 Control Outputs Compact Case
CNi8C (*) (*)	Strain/Process with 2 Control Outputs Compact Case
2 2	Two solid state relays (SSR's): 0.5 A @ 120/240 Vac continuous
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
4 2	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and SSR
4 3	Pulsed 10 Vdc @ 20 mA (for use with external SSR) and relay: Form "C" SPDT 3 A @ 120 Vac, 3 A @ 240 Vac
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
	-AL Limit Alarm Version (Alarm Menu, No PID Control)*2
	-SM Simplified Menu Version (ON/OFF Control, No PID)*3

NETWORK OPTIONS

-C24 Isolated RS232 and R485/422. 300 to 19.2k Baud *1

POWER SUPPLY

* Standard power input: 90 to 240 Vac/dc, 50-400 Hz (no entry required)

-DC 12 to 36 Vdc, 24 Vac *1

FACTORY SETUP

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

Model No. Description

EIS-2B	iServer MicroServer, serves 32 devices, page D-12
EIS-W	iServer MicroServer for Serial to Ethernet applications visit omega.com/eis-w for Complete Details

SOFTWARE (Requires Network Option)

OPC-SERVER LICENSE OPC Server/Driver Software License

*1 -DC, -C24, not available with excitation.
 *2 Analog Output (Option 5) is not available with -AL units.
 *3 Strain CN/DPI8C is not available with -SM units.

Ordering Examples: **CNi8C33** is a 1/8 DIN Compact universal temperature process controller with 2 relay output
DPI8C, 1/8 DIN Strain/Process meter in compact case,

REMOTE DISPLAY/ PROGRAMMER

Compatible with all **iSeries**
Meters and Controllers

RD4/RD6



Starts at



- ✓ 1/2 DIN Panel Cutout or Surface Mount
- ✓ Big LED's—RD4 is 21 mm (0.83") and RD6 is 17.3 mm (0.68")
- ✓ Alarm Indicators, and Color change
- ✓ Serial Input ASCII RS232, RS485 Menu Selectable
- ✓ NEMA-4 (IP65) 1/2 DIN Bezel
- ✓ 20 mm (0.80") Behind Panel and Only 39 mm (1.6") Overall

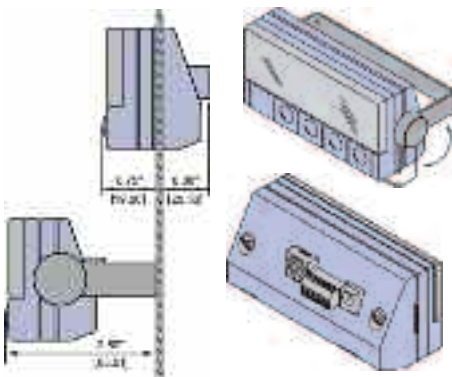
REMOTE DISPLAY

The RD4/RD6 are 4 or 6 digit master/slave displays providing remote readout from instruments such as programmable controllers, digital panel meters and other instruments with serial output. Two communication interfaces are supported in remote Display: RS232 and RS485 and can be programmed through front panel buttons. The RD4/RD6 remote display can be mounted in a 1/2 DIN panel cutout, or surface mounted with the included bale. The RD4 and RD6 features big bright 21 mm (0.83") and 17.3 mm (0.68") 9-segment LED's that can be programmed to change color between **GREEN**, **AMBER**, and **RED** to indicate alarms. Serial Connections can be made to an RJ-11 jack or screw terminals.

In the Slave mode, the RD4 and RD6 can be used for displaying

Alphanumeric characters from a computer. Power is supplied from 10 to 36 Vdc power supply or optional universal (100 to 240 Vac) power adaptor.

(Compatible Host device must feature serial RS232 or RS485 output)



Specifications

Serial: ASCII Interface RS232/RS485

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 universal power adaptor, nominal output: 9 Vdc @ 0.5 mA; input: 100-240 Vac, 50/60Hz

Power Consumption: 2 W

Operating Temperature: 0 to 50°C (32 to 122°F)

Relative Humidity: 0 to 85%

Storage Temperature: -20 to +85°C (-4 to +185°F)

RD4 Display:

4-Digit, 9-segment LED 21 mm (0.83")

RD6 Display:

6-Digit, 9-segment LED 17.3 mm (0.68")

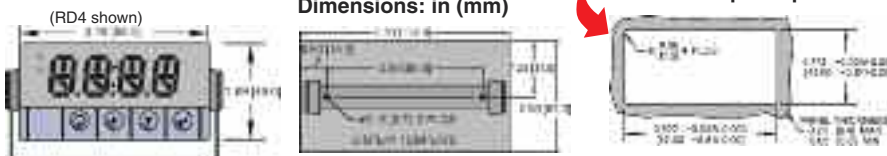
Protection: NEMA-4 (IP65)

Mechanical Dimensions: 96 x 48 x 39 mm (3.78 x 1.89 x 1.6")

Panel Cutout: 92 x 45 mm (3.622 x 1.772")

Visit omega.com/panelpunches for DIN size panel punches.

Dimensions: in (mm)



AVAILABLE FOR FAST DELIVERY!

iSeries
change color

at any
setpoint



To Order (*Specify Model Number)

Model No.	Description	
RD4	4-Digit Remote Display for iSeries Monitors and Controllers	
RD6	6-Digit Remote Display for iSeries Monitors and Controllers	
Options		
UNIV-AC-100/240	Universal Power Adaptor	
Model No.	Description	
iLD24-EI	2.25" 4-digit display with Ethernet, RS485/422 Input*	
iLD44-EI	4" 4-digit display with Ethernet, RS485/422 Input*	
iLD26-EI	2.25" 6-digit display with Ethernet, RS485/422 Input*	
iLD46-EI	4" 6-digit display with Ethernet, RS485/422 Input*	

*Please see iLD Series on page D-43.

Ordering Example: RD4, 4-digit remote display for iSeries monitors and controllers,

iSeries *COMMON SPECIFICATIONS (ALL i/8, i/16, i/32 DIN)*

Universal Temperature and Process Input (Model “i”)

Accuracy: $\pm 0.5^\circ\text{C}$; 0.03% rdg

Resolution: $1^\circ/0.1^\circ$; 10 μV process

Temperature Stability:

RTD: $0.04^\circ\text{C}/^\circ\text{C}$

Thermocouple @ 25°C (77°F):

$0.05^\circ\text{C}/^\circ\text{C}$ cold-junction compensation

Process: 50 ppm/ $^\circ\text{C}$

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, i8DV;

21 mm (0.83"): i8; 10.2 mm (0.40") and

21 mm (0.83"): i8DH; red, green and

amber programmable colors for process

variable, setpoint and temperature units

Input Types: Thermocouple, RTD,

analog voltage, analog current

Thermocouple Lead Resistance:

100 Ω max

Thermocouple Type (ITS 90): J, K, T, E, R, S, B, C, N, L

RTD Input (ITS 68): 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 1V,

0 to 10 Vdc

Input Impedance: 10 M Ω for 100 mV;

1 M Ω for 1 or 10 Vdc

Current Input: 0 to 20 mA (5 Ω load)

Configuration: Single-ended

Polarity: Unipolar

Step Response: 0.7 s 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

Universal Strain and Process Input

(Model “iS”)

Accuracy: 0.03% rdg

Resolution: 10/1 μV

Temperature Stability: 50 ppm/ $^\circ\text{C}$

NMRR: 60 dB

CMRR: 120 dB

A/D Conversion: Dual slope

Reading Rate: 3 samples per second

Digital Filter: Programmable

Input Types: Analog voltage, analog

current

Voltage Input: 0 to 100 mVdc,

-100 mVdc to 1 Vdc, 0 to 10 Vdc

Input Impedance: 10 M Ω for 100 mV;

1 M Ω for 1V or 10 Vdc

Current Input: 0 to 20 mA (5 Ω load)

Linearization Points: Up to 10

Configuration: Single-ended

Polarity: Unipolar

Step Response: 0.7 s for 99.9%

Decimal Selection: None, 0.1, 0.01

or 0.001

Setpoint Adjustment:

-1999 to 9999 counts

Span Adjustment:

0.001 to 9999 counts

Offset Adjustment: -1999 to ± 9999

Excitation (Optional in Place of

Communication): 5 Vdc @ 40 mA;

10 Vdc @ 60 mA

Control

Action: Reverse (heat) or direct (cool)

Modes: Time and amplitude proportional

control modes; manual or auto PID,

proportional, proportional with integral,

proportional with derivative with anti-reset

windup and ON/OFF

Rate: 0 to 399.9 s

Reset: 0 to 3999 s

Cycle Time: 1 to 199 s; 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

Autotune: Selectable from front panel

Control Output 1 and 2

Relay: 250 Vac or 30 Vdc @ 3 A

(resistive load); configurable for ON/OFF,

PID, 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 to 265 Vac @ 0.05 to 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: In compliance with IEEE 802.3

10 Base-T

Supported Protocols:

TCP/IP, ARP, HTTPGET

RS232/RS422/RS485: Selectable from

menu; both ASCII and MODBUS[®] protocol

selectable from menu; programmable

300 to 19.2K baud; complete programmable

setup capability; program to transmit current

display, alarm status, min/max, actual

measured input value and status

RS485: Addressable from 0 to 199

Connection: Screw terminals

Alarm 1 and 2 (Programmable)

Type: Same as output 1 and 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 $\pm 1\%$ 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

(Not Included with Communication):

24 Vdc @ 25 mA (not available for

low power option)

Insulation

Power to Input or Output: 2500 Vac per

1-minute test (RS232/485, input or output)

For Low-Voltage Power Option:

1500 Vac per 1-minute test

(RS232/485, 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

RS232/485 to Input/Options:

500 Vac per 1-minute test

Approvals: UL, C-UL, CE per EN50081-1,

EN50082-2, EN61010-1

General

Power: 90 to 240 Vac $\pm 10\%$,

50 to 400 Hz*, 110 to 375 Vdc,

equivalent voltage

Low Voltage Power Option: 24 Vac

$\pm 10\%$, 12 to 36 Vdc, from qualified safety

approved source

Environmental Conditions:

0 to 50°C (32 to 122°F), 90% RH

non-condensing—CNI8DV, CNI8DH,

CNI16D; 0 to 55°C (32 to 131°F) 90% RH

non-condensing—i/8, i/16, i/32

Installation Category:

II per EN61010-1

Equipment Class: II per EN61010-1

Pollution Degree: II per EN61010-1

Protection: NEMA 4 (IP65) front bezel

Dimensions

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

(1.89 x 3.78 x 5.00")

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

(1.89 x 1.89 x 5.00")

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

(1.0 x 1.89 x 5.00")

Panel Cutout

i/8 Series: 45 H x 92 mm W

(1.772" x 3.622"), $\frac{1}{8}$ DIN

i/16 Series: 45 mm (1.772") square, $\frac{1}{16}$ DIN

i/32 Series: 22.5 H x 45 mm W

(0.886" x 1.772"), $\frac{1}{32}$ 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





UNITED STATES

www.omega.com
1-800-TC-OMEGA
Stamford, CT.

CANADA

www.omega.ca
Laval(Quebec)
1-800-TC-OMEGA

GERMANY

www.omega.de
Deckenpfronn, Germany
0800-8266342

UNITED KINGDOM

www.omega.co.uk
Manchester, England
0800-488-488

FRANCE

www.omega.fr
Guyancourt, France
088-466-342

CZECH REPUBLIC

www.omegaeng.cz
Karviná, Czech Republic
596-311-899

BENELUX

www.omega.nl
Amstelveen, NL
0800-099-33-44



More than 100,000 Products Available!

• Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Glass Bulb Thermometers, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders Relative Humidity Measurement Instruments, RTD Probes, Elements and Assemblies, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples Thermowells and Head and Well Assemblies, Transmitters, Wire

• 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

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

• 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