

Benchtop Digital Controllers



With Optional Embedded Ethernet Connectivity



CSi8DH shown smaller than actual size.

iSeries
MONOGRAM

Thermocouple probe GKQSS-316U-12 sold separately, visit OMEGA.

CSi8DH Series

Product Discontinued

- ✓ Optional Embedded Internet Connectivity
- ✓ Portable, Rugged Metal Benchtop Enclosure with Tilt Handle
- ✓ Dual, Internal 5 A SSR Control Output
- ✓ Built Around OMEGA's Award-Winning Series Controllers
- ✓ High Quality
- ✓ 5-Year Warranty
- ✓ High Accuracy

- ✓ Dual Display Standard, Indicates Both Setpoint and Real-Time Process
- ✓ Simple to Configure and Use
- ✓ Universal Inputs: Thermocouple, RTD, Process Voltage/Current, and Strain
- ✓ Auxiliary Output to Drive Higher-Current SSRs
- ✓ Totally Programmable Color Displays, Standard
- ✓ Optional RS232/485 Communications
- ✓ Operates from 90 to 240 Vac @ 50/60 Hz
- ✓ RoHS 2 Compliant

Just Hook Up Your Sensor, Plug In Your Heater, and You're Ready to Go!



The OMEGA® CSi8D is a 1/8 DIN size (96 x 48 mm) digital panel controller in a rugged benchtop metal enclosure featuring the big iSeries color-changing display. The digits are twice the size of those of typical 1/8 DIN panel meters. The iSeries meters feature the only LED displays that can be programmed to change color between **GREEN**, **AMBER**, and **RED** at any setpoint or alarm point. Other options include, serial communications, MODBUS®, and Ethernet.

The universal temperature and process instrument (model "i") handles 10 common types of thermocouples, multiple RTDs, and several process (DC) voltage and current ranges. Units can be reconfigured in the field.



CSi8DH shown smaller than actual size.

Specifications

Accuracy: See table on page P-92

Resolution: 1°/0.1°; 10 µV process

Temperature Stability:

RTD: 0.04°C/°C

Thermocouple: 25°C (77°F); cold-junction compensation of 0.05°C/°C

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, i8DV;

21 mm (0.83"): i8; 10.2 mm (0.40") and 21 mm (0.83"): i8DH; **RED**, **GREEN**, and

AMBER, and 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 1 Vdc, 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 Ω load)

Configuration: Single-ended

Polarity: Unipolar

Step Response: 0.7 s for 99.9%

Decimal Selection: None or 0.1 for temperature; None, 0.1, 0.01 or 0.001 for process

Control Output: Dual 5 A SSR (internal)

Setpoint Adjustment: -1999 to 9999 counts

Span Adjustment: 0.001 to 9999 counts

Offset Adjustment: -1999 to 9999

Network and Communications

Ethernet: Standards compliance 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: DB9 connector on rear panel

General

Power: 90 to 240 Vac, 50 to 60 Hz

Note: Comes with 1 power cord rated for 120 Vac, **POWER CORD-MOLDED**. Additional power cords for 230 Vac operation are available. See accessories table.

iSeries *PATENTED*
change color
At Any Setpoint



Totally Programmable Color Displays

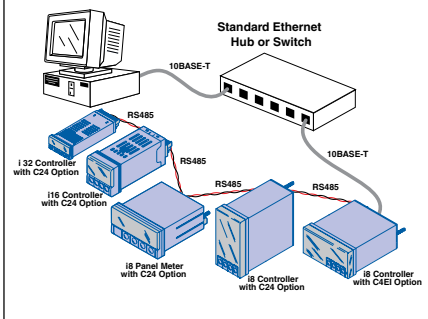
The OMEGA® i/8, i/16, and i/32 are the first complete series of 1/8, 1/16, and 1/32 DIN process control instruments with totally programmable color displays. The display can be programmed to change color at any setpoint or alarm point.





CSi8DH
rear view

Using OMEGA® CSi8DH Series Controller with C4EI Option as HUB for Up to 32 Devices



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.

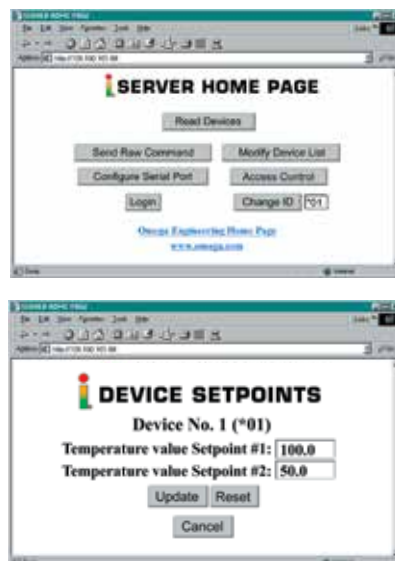
Remote Control

For example, using an CSi8D Series temperature controller to control a heater, an engineer can monitor the temperature, change setpoints 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.

E-Mail and Alarm

In fact, the iSeries controller can even send an e-mail to the engineer (or anyone he or she chooses) about an alarm condition or to update 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 instruments are the first of their type that include all these serial protocols on one device, selectable from a menu.



Get Internet E-Mail Notification of Alarm Status on a Web-Enabled Phone or PDA.



Internet Appliances

With the EI option, these small 1/8 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 1/32 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 IP address from an Internet Service Provider and function as a Web server delivering whatever specific information is called for.

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



**ALSO AVAILABLE
from OMEGA®!
MDSi8 Series**

Benchtop iSeries Meters

- **Single- and 10-Channel Benchtop Meters**
- **Embedded Internet Option**
- **Optional Alarm and Analog Outputs**
- **High Accuracy and Stability**

	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
J	Iron-Constantan	-210 to 760°C (-346 to 1400°F)	0.4°C (0.7°F)
K	CHROMEQA®-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	CHROMEQA®-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)



9-segment LED

The iSeries displays feature unique 9-segment LED characters, which greatly improve 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 easier.



7-segment display



9-segment display

To Order

Model No.	Description
CSi8DH	Benchtop controller, universal temperature/process input (TC, RTD, PV)
CSi8SDH	Benchtop controller, strain/process input
Options	
-EI	Ethernet with embedded Web server
-C24	Isolated RS232 and RS485/422
-C4EI	Ethernet with embedded Web server and RS484/422
Ordering Examples	
CSi8DH	Universal input benchtop controller
CSi8DH-C24	Universal input benchtop controller with RS232/485 communication
CSi8DH-EI	Universal input benchtop thermometer with Ethernet/embedded Web server

Comes complete with 2 output cords, 1 main power cord (POWER CORD-MOLDED) and operator's manual.

Models with communications option(s) include a cable for connection to a PC.

Accessories

Model Number	Description
POWER CORD-SE	Power cord with stripped ends (no connection): all countries, 250 Vac max
POWER CORD-MOLDED	Spare power cord with connector for North America (USA, Mexico, Canada), standard 120 Vac