Miniature Benchtop Controllers

iSeries

CSi32 Series

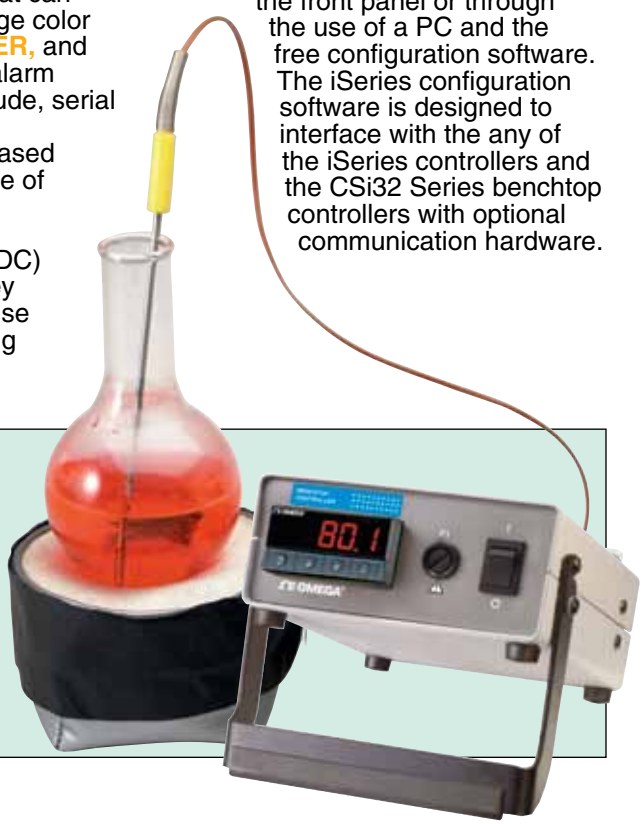
MADE IN USA — 5 YEAR WARRANTY

CSi32, shown actual size.

- **Rugged Metal Benchtop Enclosure**
- **4-Digit Display, 1 or 0.1° Resolution**
- **Built Around OMEGA's Award-Winning Patented iSeries Controllers**
- **5-Year Warranty**
- **Simple to Configure and Use**
- **Full Autotune PID Heat-Cool Control**
- **Single Ramp and Soak Capability**
- **High Accuracy ±0.5°C (±0.9°F)**
- **Models with Dedicated Thermocouple, RTD, Process Voltage or Current Input**
- **Two 5 Amp 120 Vac SSR Outputs Standard**
- **Second Output May be Used for Control or as an Alarm**
- **Optional Serial Communications**
- **Serial to USB Accessory Cable Included**

The CSi32 Series is the newest in Omega's line of benchtop controllers. They feature a 1/32 DIN size (96 x 48 mm) digital panel controller in a rugged benchtop metal enclosure. The controller used is Omega's award winning and patented iSeries with color-changing display. 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. These controllers can be purchased factory configured for one of 10 common types of thermocouples, multiple RTD types, or process (DC) voltage and current. They are ideal for laboratory use and applications requiring portable temperature and process control. Pre-wired input and output receptacles in the rear of the case enable quick and easy connections to power, input, power output and digital communications.

The iSeries are full PID controllers with Autotune and can also be programmed for On/Off control via the front panel or through the use of a PC and the free configuration software. The iSeries configuration software is designed to interface with the any of the iSeries controllers and the CSi32 Series benchtop controllers with optional communication hardware.



CSi32 Benchtop Controller shown with LHM Series Heating Mantle, (Flask not included), and KMTXL-125G-12 Thermocouple Probe. Visit omega.com/kmtxl_nmtxl for more information. Shown smaller than actual size.

iSeries

Specifications

Accuracy: See table on next page

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

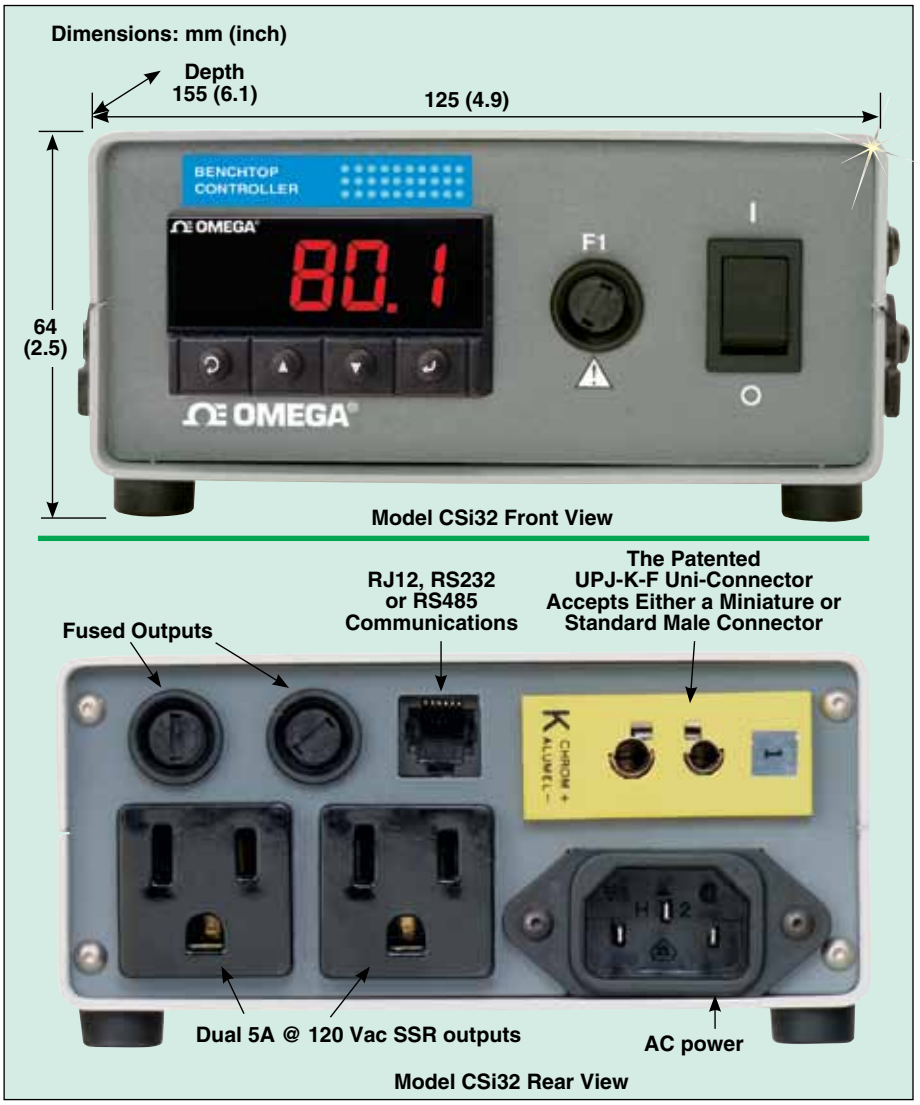
Display: 4-digit, 9-segment LED; 10.2 mm (0.40"); **RED,** **GREEN,** and **AMBER,** programmable colors for process variable, setpoint and temperature units

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



iSeries ***PATENTED***

change color

Totally Programmable Color Displays

The OMEGA® i/8, i/16, and i/32 are the first complete series of ⅛, 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.

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

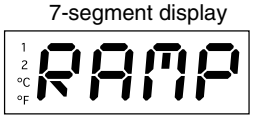
Control Modes: PID autotune, on/off, direct/reverse,

Alarm Modes: Absolute or deviation; high, low, hi/low and band

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

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iSeries

Input Connection:

Thermocouple: Accepts both miniature and standard male thermocouple connectors

Note: *A miniature and standard size male mating connector is included with each benchtop controller*

RTD, mA or mV: Five position terminal strip

Operating Ambient Range: 0 to 50°C (32 to 130°F)

Benchtop Case Material: Aluminum

Power Connection: Standard 3-prong power cord (provided)

Output Connections: Two standard 120 Vac outlets

Weight: 0.9 kg (2 lbs)

Optional Communications

RS232/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: RJ12 connector on rear panel

Power: 115 Vac, ± 10% 50 to 60 Hz

Input Type		Range	Accuracy
V	Process Voltage	0 to 100 mV, 0 to 1 V, 0 to 10 Vdc	0.03% rdg
MA	Process Current	0 to 20 mA	0.03% rdg
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 Ω, 500 Ω, 1000 Ω	-200 to 900°C/-328 to 1652°F	0.4°C/0.7°F
RTD	Pt, 0.00392, 100 Ω, 500 Ω, 1000 Ω	-200 to 850°C/-328 to 1562°F	0.4°C/0.7°F

To Order *Visit omega.com/csi32_series for Pricing and Details*

Model No.	Description
CSi32(*)	Benchtop controller

**** Insert Input Code:*** *J, K, T, E, R, S, N, RTD, V, or MA from Input and Range Table above.*

Options

Suffix	Description
-C24	Isolated RS232 and RS485/422

Accessories

Model No.	Description
OM-CONV-USB	USB to RS232 converter
CN7-485-USB-1	Mini-node communication USB to RS485 converter

Comes complete with operator's manual, configuration software, 120 Vac power cord and input connector.

Ordering Example: CSi32K-C24, *benchtop controller, Type K input and RS232/485 communications option.*

Models with communications option(s) include a standard ***RS232*** *cable for connection to a PC and* ***RS232*** *to USB converter cable.*