Compact Benchtop Controllers

Optional Communications Bundled with Free Software

CSC32 Series

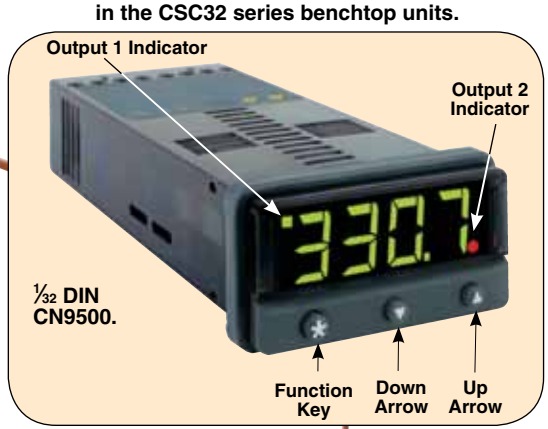
Product Discontinued

- Rugged Metal Benchtop Enclosure
- 4-Digit Display, 1 or 0.1° Resolution
- Full Autotune PID Heat-Cool Control
- Single Ramp and Soak Capability
- High Accuracy (± 0.25% full scale ± 1.5°C)
- 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 One of Five Types of Alarms
- Optional RS232 or RS485 MODBUS Communications with Free CN9-SW Communications Software and Cable

OMEGACARE℠ Extended Warranty Program

OMEGACARE℠ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE℠ covers parts, labor and equivalent loaners.

CN9500 Series Controllers are used in the CSC32 series benchtop units.



CSC32K Benchtop Controller shown with LHM Series Heating Mantle, (Flask not included), and KMTXL-125G-12 Thermocouple Probe.

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The CSC32 series compact benchtop controllers 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. These benchtop controllers are factory configured and calibrated for a dedicated input type by model number.

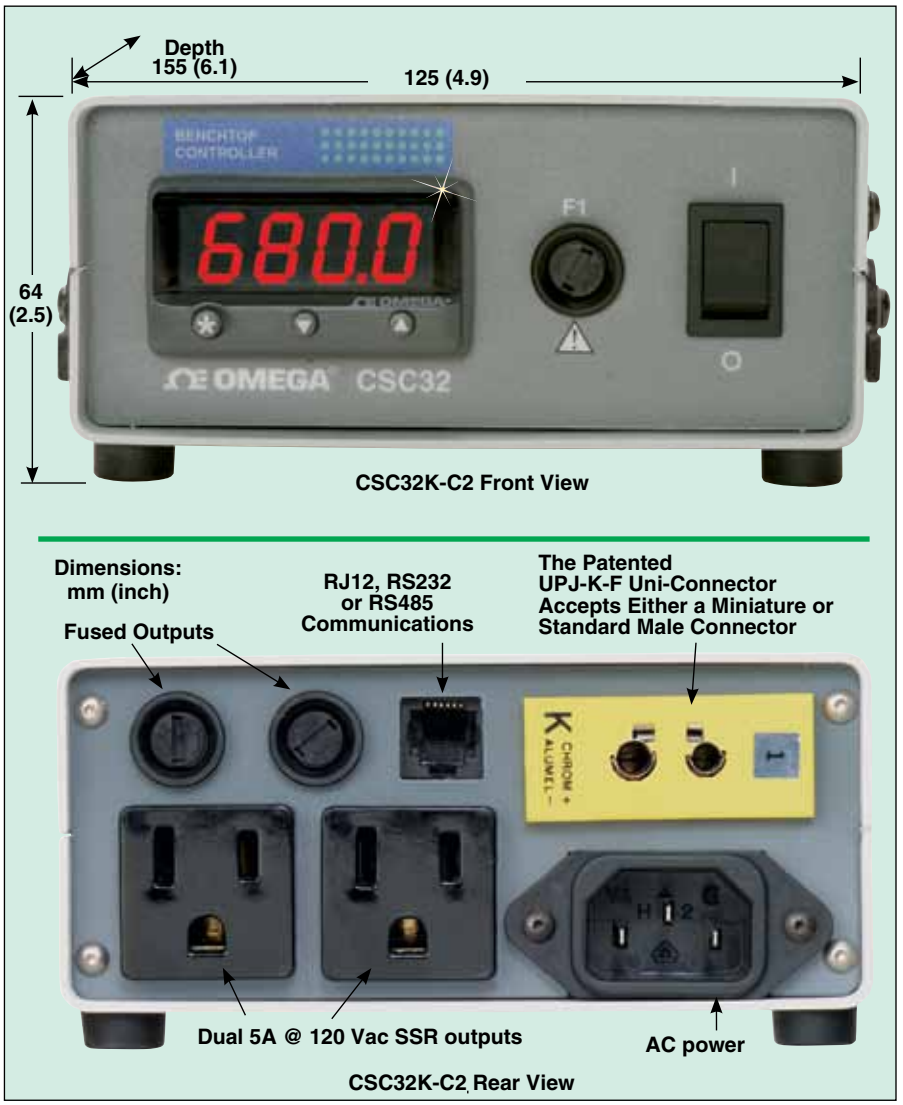
The 1/32 DIN CN9500 controller used in this benchtop controller series can be programmed for either On/Off, or PID Autotune Control (with autotune Feature) via the front panel or through the use of a PC and CN9-SW communications software.

CN9-SW software is designed to interface with the CN9300, CN9400, CN9500 and CSC32 Series benchtop controllers with optional communication hardware. Benefits:

- Time-saving benefit and convenience of remotely configuring and adjusting units.
- Saving and retrieving settings to and from files.
- Highly flexible logging and "real time" charting capability for providing hard copy QA records for ISO-9000 and other management purposes.
- Software is capable of logging readings from up to 128 instruments which it stores in data files.
- The data can be exported into text files in Comma Separated Variable format.
- In addition, up to 12 controllers can be displayed on a single chart, or individual charts can be set up for each instrument.
- A virtual full color chart recorder can log process variables such as: °C, °F, Bar, PSI, pH, rH, or user defined engineering units

Specifications

Power: 115 Vac, ±10%, 50/60 Hz
Display: 4-digit LED, 10 mm (0.4"), high brightness green display
Display Range: -199 to 9999 counts (hi-res mode -199.9 to 999.9)
Range: Sensor limited 2000°C/3500°F; -99.9 to 999.9° in 0.1° resolution

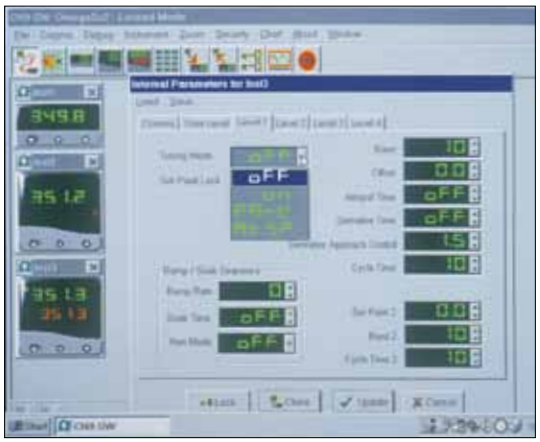


Graph Displaying Real Time Charting Using CN9-SW Software

Note: Not for Export to Canada or Europe.

Display Indicators: Process variable (PV), Setpoint (SP), LED output indicators-flashing Output 1 (SP1 square), green; Output 2 (SP2 round), red; error messages, Function/Option mnemonics
Control Modes: PID Autotune, ON/OFF, Direct/Reverse
Alarm Modes: Deviation high, deviation low, deviation band, full Scale high, or full scale low
Thermocouple External Resistance: 100 Ω max
Thermocouple: See Input and Range Table
Standards: IPTS/68/DIN43710 RTD Input: Pt100 2-wire (.00385)
Linear Process Inputs: mV range: 0 to 50 mV (1 Ω shunt resistor supplied for mA inputs)
Calibration Accuracy: ±0.25% of Full Scale ±1.5°C (±2.7°F)
Sampling Frequency: Input 10 Hz, CJC 2 sec
Common Mode Rejection: Negligible effect up to 140 dB, 240V, 50 to 60 Hz
Temperature Coefficient: 150 ppm/°C sensor max
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: Accepts OMEGA® T series model TA3F Keyed-3-pin locking connector
Note: *A mating connector is included with each benchtop controller*
Outputs: Two solid state relays rated for 5 A @120 Vac (internally, the controller provides two DC pulse outputs to drive a built-in dual solid state relay)
Operating Ambient Range: 0 to 50°C (32 to 130°F)
Benchtop Case Material: Aluminum
Controller Case: Flame retardant polycarbonate
Power Connection: Std. three prong power cord (provided)
Output Connections: Two standard 120 Vac outlets
Weight: 0.9 kg (2 lbs)

Software included with "-C2" or "-C4" options.



Computer screen depicting the internal parameters setup for tuning mode, ramp/soak sequence and security lockouts when using CN9-SW Software. When a satisfactory instrument configuration has been achieved, these settings can be saved to a file for later use or cloned to other instruments on the network.

Input and Range Table

Input Code	Input Type	Linearized Range (Units are °C/°F Switchable)	Linearity °C (°F)
J	Iron-Constantan	-0 to 800°C/32 to 1472°F	0.5 (0.9)
K	CHROMEGA®-ALOMEGA®	-50 to -1200°C/-58 to 2192°F	0.25 (4.5)
T	Copper-Constantan	-200 to -250°C/-273 to 482°F	0.25 (4.5)
E	CHROMEGA®-Constantan	0 to 600°C/32 to 1112°F	0.5 (0.9)
R	Pt-13%Rh/Pt	-50 to 40°C/40 to 1768°F	2.0 (3.6)
S	Pt-10%Rh/Pt	0 to 1600°C/32 to 2912°F	2.0 (3.6)
N	OMEGA-P®-OMEGA-N®	-50 to 1200°C/-58 to 2912°F	0.25 (0.45)
RTD	100ΩPt, 2-Wire	-200 to 400°C/-273 to 752°F	0.25 (0.45)
MA	LINEAR CURRENT	0 to 20 mA (-250 to 3000 Max. Scale)	±0.5% (±0.9%)
MV	LINEAR VOLTAGE	0 to 20 mV (-250 to 3000 Max. Scale)	±0.5% (±0.9%)

To Order

Model Number	Description
CSC32(*)	Benchtop controller

***** *Insert Input Code:* ***J, K, T, E, R, S, N, RTD, MV or MA from Input and Range Table***
Comes complete with operator's manual, 120 Vac power cord and input connector.
Ordering Example: CSC32K-C2*, benchtop controller, Type K input and RS232 communications option.* ***OCW-3*** *OMEGACARE℠ extends standard 1-year warranty to a total of 4 years.*

Communications Options

(Pre-Wired 6' Communications Cable Included)

Suffix	Description
-C2	RS232 communications bundled with free CN9-SW
-C4	RS485 communications bundled with free CN9-SW

Protocol Manual for CN9-SW Software

Model Number	Description
BD9-PROTOCOL*	MODBUS® Protocol Manual (not required when using the CN9-SW software)

***** ***Note:*** *This protocol manual provides the address information necessary to communicate with the CN9300/CN9400/CN9500 and CSC32 Series, with communications options installed, when interacting with custom or other commercially available software.*