

Benchtop Temperature Controllers



MCS-2110J-R shown smaller than actual size.

MCS-2110 Series



- ✓ On/Off or Proportional Control
- ✓ Convenient Receptacles for Input and Output Connections
- ✓ Compact Benchtop Design
- ✓ 15 A Maximum Output
- ✓ J, K Thermocouple or RTD Input
- ✓ On/Off Power Switch

The MCS-2110 and CS-2110 series benchtop controllers are ideal for laboratory use and applications requiring portable temperature control. Pre-wired input and output receptacles at the back of the case enable quick and easy connections to power, thermocouple or RTD input and power output. Thermocouple models use universal female connector to accept either a miniature or standard male connector. RTD models use a 3-prong female connector to accept an OTP-U-M type connector. A 120 Vac, 15 A maximum output receptacle can be used to control heaters or other devices up to 1800 watts. The

MCS-2110 and CS-2110 controllers operate in either on/off or proportional control modes, selectable by a simple front panel adjustment.

Control Modes

The CN2110 provides precise, solid state proportion control with automatic reset (PI) that will control most heating applications. On/off control may be selected for applications where maximum output life (load switching) is needed.

All models operate on 120 Vac, 15 A and include a 1.5 m (5') power cord.

Specifications

Control Modes: On/off, PI-proportional with integral

Control Adjustments

Proportional Band: sensor range

Automatic Reset:

0.0 to 99.9 repeats/minute

Cycle Time: 0.1 to 60.0 seconds

On/Off Deadband: 1° to 100°F or °C

Setpoint Upper Limit:

Sensor range °F or °C

Setpoint Lower Limit:

Sensor range °F or °C

Output Limit: 0 to 100%

Alarm Adjustments:

Type: Absolute high or low

Setpoint: Sensor range °F or °C

Alarm Dead Band: 0° to 100°F or °C

Control/Alarm Outputs

Relay: Form "A", 120 Vac

resistive loads at 30 seconds, cycle

time; 15 A, 500,000 operations;

15 A, 1 million operations; 5 A,

5 million operations

Solid State Relay: Up to 10 A at 40°C

Sensor Input: Switch selectable,

J, K thermocouple or RTD

Input Update Rate: 4 samples/s

Readout Stability:

J and K Thermocouple: ±1°F/10°F

change in ambient temperature

RTD: ±0.5 per 10°F change

in ambient temperature

Open Sensor and Out-of-Range

Conditions: Displays "SENS"; control

output 0%

Instrument Power: 120 Vac <10 Va

Operating Environment: 0° to 65°C

(32° to 150°F)

Enclosure Material: High-temperature

ABS plastic rated for 0° to 175°F

Front Panel: NEMA 4X construction

Influence of Line Voltage Variation:

±0.1% of sensor span per 10% change

in nominal line voltage

Noise Rejection:

Common Mode Noise: <2°F with

230 Vac, 60 Hz applied from sensor

input to ground

Series Mode Noise: <2°F with

100 mV, peak-to-peak series

mode noise

RFI: Typically <0.5% of sensor span

at distance of 1 m (3.1') from a

transmitter of 4 W at 464 MHz

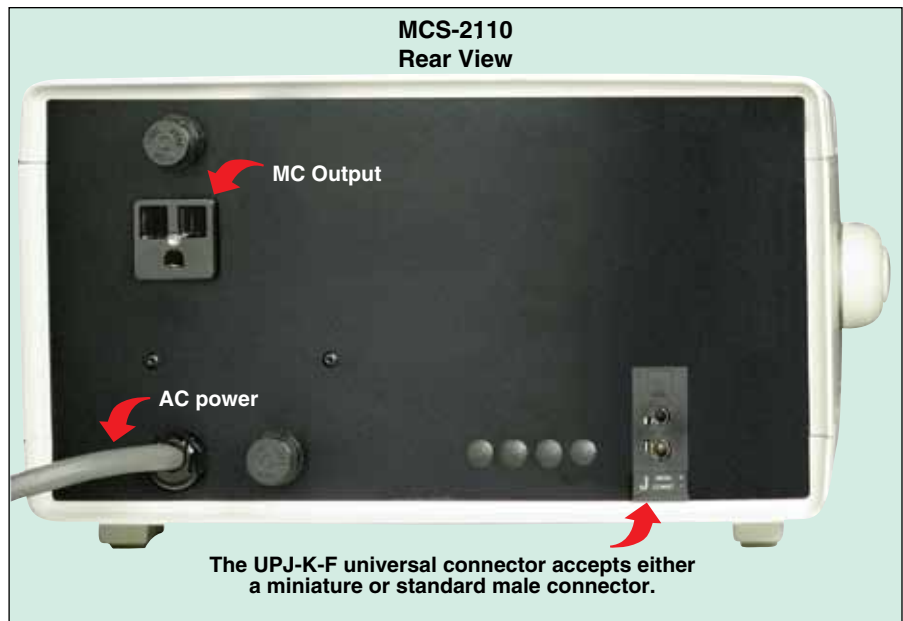
Sensor Leadwire Effect:

RTD: ±0.1% of sensor span per

20Ω balanced leadwire resistance



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



Input Specifications

Input Type	Range °F	Range °C	Accuracy at 25°C (77°F) Ambient
J Iron-Constantan	-100 to 1400°F	-73 to 760°C	0.2% span ± 1 LSD
K CHROMEGA®-ALOMEGA®	-300 to 2400°F	-184 to 1316°C	0.2% span ± 1 LSD
RTD 100Ω Pt, 3 wire	-200 to 1000°F	-128 to 538°C	0.2% span ± 1 LSD

To Order

Model No.	Input Type	Range	Description
MCS-2110J-R	J Iron-Constantan	-73 to 760°C (-100 to 1400°F)	Monogram [®] benchtop, relay, 15 A
MCS-2110K-R	K CHROMEGA®-ALOMEGA®	-184 to 1316°C (-300 to 2400°F)	Monogram [®] benchtop, relay, 15 A
MCS-2110RTD-R	RTD 100Ω Pt, 3-wire	-128 to 538°C (-200 to 1000°F)	Monogram [®] benchtop, relay, 15 A
MCS-2110J-T	J Iron-Constantan	-73 to 760°C (-100 to 1400°F)	Monogram [®] benchtop, AC SSR, 10 A
MCS-2110K-T	K CHROMEGA®-ALOMEGA®	-184 to 1316°C (-300 to 2400°F)	Monogram [®] benchtop, AC SSR, 10 A
MCS-2110RTD-T	RTD 100Ω Pt, 3-wire	-128 to 538°C (-200 to 1000°F)	Monogram [®] benchtop, AC SSR, 10 A
CS-2110J-R	J Iron-Constantan	-73 to 760°C (-100 to 1400°F)	Economical benchtop, relay, 15 A
CS-2110K-R	K CHROMEGA®-ALOMEGA®	-184 to 1316°C (-300 to 2400°F)	Economical benchtop, relay, 15 A
CS-2110RTD-R	RTD 100Ω Pt, 3-wire	-128 to 538°C (-200 to 1000°F)	Economical benchtop, relay, 15 A
CS-2110J-T	J Iron-Constantan	-73 to 760°C (-100 to 1400°F)	Economical benchtop, AC SSR, 10 A
CS-2110K-T	K CHROMEGA®-ALOMEGA®	-184 to 1316°C (-300 to 2400°F)	Economical benchtop, AC SSR, 10 A
CS-2110RTD-T	RTD 100Ω Pt, 3-wire	-128 to 538°C (-200 to 1000°F)	Economical benchtop, AC SSR, 10 A

Comes complete with operator's manual.

Ordering Examples: MCS-2110J-R, benchtop controller, single 15 A relay output, Type J thermocouple input, -73 to 760°C (-100 to 1400°F) range.

OCW-3, OMEGACARESM extends standard 1-year warranty to a total of 4 years.