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Data Sheet

August 15, 2026

DWYER/OMEGA

DWYEROMEGA / OMEGA CN9111A Temperature Controller

Omega CN9111A 1/16 DIN Autotune PID Temperature Controller Dual Relay The CN9111A is the CN9000A 1/16 DIN autotune controller with thermocouple/2-wire RTD input and dual relay outputs, 115 Vac powered (CN9111A-230VAC sibling). OEM CN9000A specifications list accuracy ± 0.25 percent FS ± 1 C (0.5 C in 0.1 resolution mode) after 30 min warm-up, control stability ± 0.15 percent FS typical, sample rate 3 per second, auto-calibration every 5 s with CJC re-zero, temperature coefficient less than 150 ppm/C max, 100 ohm max external resistance, CJC 0.05 deg/deg ambient typical, 3.5-digit 10 mm green LED, 0.1 degree resolution to 200 degrees, output 1 SPDT 5 A at 250 Vac, output 2 SPDT 3 A at 250 Vac, power 24/115/230 Vac ± 15 percent 50-60 Hz, CMR 140 dB at 240 Vac 50/60 Hz, NMR 60 dB at 50 Hz, ambient 4 to 50 C, bezel 48 x 48 x 13 mm, 115 mm behind panel, cutout 45 mm square, 0.38 kg. The CN9111A is the CN9000A 1/16 DIN autotune controller with thermocouple/2-wire RTD input and dual relay outputs, 115 Vac powered (CN9111A-230VAC sibling). OEM CN9000A specifications list accuracy ± 0.25 percent FS ± 1 C (0.5 C in 0.1 resolution mode) after 30 min warm-up, control stability ± 0.15 percent FS typical, sample rate 3 per second, auto-calibration every 5 s with CJC re-zero, temperature coefficient less than 150 ppm/C max, 100 ohm max external resistance, CJC 0.05 deg/deg ambient typical, 3.5-digi



MODEL

**Dwyer/Omega
CN9111A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

CN9111A

LISTING

<https://aumictechlabs.com/products/cn9111a-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Dwyer/Omega CN9111A is a 1/16 DIN Autotune Temperature Controller designed for precise temperature regulation across various industrial, commercial, and laboratory applications. It features a 3.5-digit green LED display with 1 or 0.1° resolution, capable of displaying temperatures in Celsius or Fahrenheit. This controller supports user-selectable inputs from nine thermocouple types or 2-wire RTD, with options for 3-wire RTD input. The CN9111A incorporates sophisticated PID control with autotune capabilities, offering PDPI (PID with approach control) for optimized start-up and steady-state operation. It includes a comprehensive alarm system with deviation, full-scale, and loop break features, along with fault indications for sensor burnout, short circuits, and heater breaks. Additional functionalities include min/max data storage, autotune diagnostics, auto/manual output control, and parameter locking. The controller is available with 115 VAC input as standard, with optional 24 VAC or 230 VAC configurations. It has two relay outputs: Output 1 is a 5A SPDT relay, and Output 2 is a 3A SPDT relay. An optional non-isolated 5 Vdc pulse output is also available for driving external DC-controlled solid-state relays. The unit works with easy installation and operation, with all operational controls accessible via the front panel. Data is stored in non-volatile memory for up to 10 years without power.

Technical Specifications
General Manufacturer: Dwyer/Omega Model: CN9111A Product Family: CN9000 Series Form Factor: 1/16 DIN Control Type: Autotune PID, PI, PD, P, or On/Off Input Type: User-selectable from nine thermocouple types or 2-wire RTD; also supports 3-wire RTD input. Display: 3.5-digit green LED, 10 mm (0.4") high Display Resolution: 1° or 0.1° (up to 200°) Units: Selectable °C / °F Power: 115 VAC (standard), optional 24 VAC or 230 VAC Power Consumption: 6 VA Memory Retention: Non-volatile memory retains data for up to 10 years without power. Control and Tuning Control Algorithm: Sophisticated PID with Approach Control (PDPI), Autotune PID Autotune: Unit determines optimal proportional band, integral, and derivative values. Cycle Time: Selectable from 0.3, 1, 2, 3, 5, 7, 10, 14, 20, 30, 45, or 60 seconds. Proportional Band: Adjustable from 0.5 to 3% FS (and other increments). Integral (Auto Reset) Time: Adjustable from Off to 2 (and other increments). Derivative (Rate) Time: Adjustable from Off to 5 (and other increments). Approach Control: Adjustable from Off to 2.5 (and other increments). On-Off Deadband: Adjustable from 0.25 to 1 (and other increments). Manual Reset: PD, proportional, and on/off control. Auto/Manual Output Control: Supported. Setpoint 1: User selectable control modes. Setpoint 2 (Optional): Functions as a deviation alarm (high or low), "out of limits," or for proportional/on-off control. Can be set as a deviation from Setpoint 1 or full scale. Second Output: Standard on CN9111A.

Performance Specifications Accuracy: $\pm 0.25\%$ FS, $\pm 1^\circ\text{C}$ (0.5°C in 0.1° resolution mode), requires 30-minute warm-up. Control Stability: $\pm 0.15\%$ FS (typical). Sample Rate: 3 per second. Temperature Coefficient: Less than 150 ppm/°C (max). External Resistance: 100 Ω max (for RTD input). Cold Junction Compensation: 0.05 degrees/degree ambient (typical). Alarm and Diagnostics Comprehensive Alarm Features: Deviation, Full Scale, Loop Break with Latching Option. Fault Indication: For Sensor Burnout, Sensor Short, Heater Break, and Process Diagnostics. Min/Max Data Storage: Stores minimum and maximum process values. Autotune Diagnostics: Provided. Outputs Output 1: 5A SPDT Mechanical Relay @ 250 Vac. Output 2: 3A SPDT Mechanical Relay @ 250 Vac. DC Pulse Output (Optional/Field Installable): Non-isolated 5 Vdc Pulse for driving external DC solid-state relays. Physical and Environmental Dimensions: 48

mm H x 48 mm W x 13 mm D bezel (1.89" x 1.89" x 0.5"). Depth Behind Panel: 115 mm (4.5"). Total Depth (with Triac/Current Output): 154 mm (6.1").

CN9111A Characteristics / Specifications

PARAMETER	VALUE
Model	CN9111A
Instrument Type	1/16 DIN autotune temperature controller
Family	Omega CN9000A
Input	thermocouple or 2-wire RTD (CN9111A)
Output One	SPDT relay 5 A at 250 Vac
Output Two	SPDT relay 3 A at 250 Vac
Accuracy	±0.25 percent FS ±1 C (0.5 C in 0.1 resolution mode), 30 min warm-up
Control Stability	±0.15 percent FS typical
Sample Rate	3 per second
Auto Calibration	every 5 s with cold-junction re-zero
Temperature Coefficient	less than 150 ppm/C max
External Resistance	100 ohm max
Cjc	0.05 degrees per degree ambient typical
Display	3.5-digit green LED, 10 mm (0.4 in)
Resolution	1 or 0.1 degree; 0.1 degree to 200 degrees
Power	115 Vac ±15 percent 50-60 Hz (230 Vac sibling CN9111A-230VAC; 24 Vac also in family)
Power Burden	5 VA class dual 115/230 V factory-set jumper-changeable
Cmr	140 dB, 240 Vac, 50/60 Hz
Nmr	60 dB, 50 Hz
Operating Temperature	4 to 50 C (40 to 122 F)
Bezel	48 H x 48 W x 13 mm D (1.89 × 1.89 × 0.5 in)
Behind Panel	115 mm (4.5 in); 154 mm with triac/voltage/current output modules
Panel Cutout	45 mm square (1.772 in), 1/16 DIN
Weight	0.38 kg (0.84 lb)
Control Modes	autotune PID, PI, PD, P, or on-off; PDPI approach control

PARAMETER	VALUE
Setpoint Two	deviation alarm or second control, ±127 degree deviation class
Manufacturer	Omega / DwyerOmega
Literature	Omega CN9000A 1/16 DIN autotune controller specifications (CN9111A row)

General Specifications & Supplementary Characteristics

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Literature	Omega CN9000A 1/16 DIN autotune controller specifications (CN9111A row) Notes From Omega CN9000A specification tables (CN9111A = TC/2-wire RTD, dual relay, 115 Vac). Linearized range chart values for each thermocouple type are on that chart; do not invent span endpoints.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

specifications list accuracy ± 0.25 percent FS ± 1 C (0.5 C in 0.1 resolution mode) after 30 min warm-up, control stability ± 0.15 percent FS typical, sample rate 3 per second, auto-calibration every 5 s with CJC re-zero, temperature coefficient less than 150 ppm/C max, 100 ohm max external resistance, CJC 0.05 deg/deg ambient typical, 3.5-digit 10 mm green LED, 0.1 degree resolution to 200 degrees, output 1 SPDT 5 A at 250 Vac, output 2 SPDT 3 A at 250 Vac, power 24/115/230 Vac ± 15 percent 50-60 Hz, CMR 140 dB at 240 Vac 50/60 Hz, NMR 60 dB at 50 Hz, ambient 4 to 50 C, bezel 48 x 48 x 13 mm, 115 mm behind panel, cutout 45 mm square, 0.38 kg.

Applications
1/16 DIN panel temperature control with autotune PID and dual relay outputs.

Key Features
1/16 DIN autotune PID / on-off controller
Thermocouple or 2-wire RTD input
Dual SPDT relays 5 A and 3 A at 250 Vac
 ± 0.25 percent FS accuracy, 3 samples/s
0.1 degree resolution to 200 degrees

Technical Specifications

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Model	CN9111A
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Family	Omega CN9000A
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Control Stability	± 0.15 percent FS typical
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Auto Calibration	every 5 s with cold-junction re-zero
Temperature Coefficient	less than 150 ppm/C max
External Resistance	100 ohm max
Cjc	0.05 degrees per degree ambient typical
Display	3.5-digit green LED, 10 mm (0.4 in)
Resolution	1 or 0.1 degree; 0.1 degree to 200 degrees
Power	115 Vac ± 15 percent 50-60 Hz (230 Vac sibling CN9111A-230VAC; 24 Vac also in family)
Power Burden	5 VA class dual 115/230 V factory-set jumper-changeable

PARAMETER	VALUE
Cmr	140 dB, 240 Vac, 50/60 Hz
Nmr	60 dB, 50 Hz
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Weight	0.38 kg (0.84 lb)
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Setpoint Two	deviation alarm or second control, ± 127 degree deviation class
Manufacturer	Omega / DwyerOmega
Literature	Omega CN9000A 1/16 DIN autotune controller specifications (CN9111A row)

Notes

From Omega CN9000A specification tables (CN9111A = TC/2-wire RTD, dual relay, 115 Vac). Linearized range chart values for each thermocouple type are on that chart; do not invent span endpoints.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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Generated August 15, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.