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RTD Digital Controllers

4200A Series

MADE IN USA | 2 YEAR WARRANTY | UL

- **High-Accuracy to 0.1% of Span**
- **Single and Dual Setpoint Models**
- **1.0° and 0.1° Models**
- **Adjustable Proportion Band**
- **Bright LED Display**

The OMEGA® 4200A Series is an ideal controller for RTD applications. This quality-built linearized instrument is available in both 1.0° and 0.1° resolution models. Higher accuracies, accuracies 5 to 10 times greater than the typical 1% meter indicating controller, are achieved through a unique linearizing technique.

Specifications*

RTD Input

Type: 100 Ω platinum; alpha = 0.00385 (DIN curve)
Configuration: 3 wires
External Lead Wire Resistance Effect: 0.1% span up to 10 Ω per lead wire leg
Sensor Break Protection: Built-in, upscale on open sensor
Calibration Accuracy:
1.0° Resolution Model: ±0.1% of span ±1 digit
0.1° Resolution Model: ±0.2% of span ±1 digit
Stability: 0.1% for 30 to 130°F, 0.1%, 10% to 15% line voltage
Common Mode Rejection: Maximum error ±1°C with 240 V, 60 Hz applied as common mode signal between sensor input and chassis ground
Series Mode Rejection: Maximum error ±1°C with series mode signal of 100 mV peak-to-peak @ 60 Hz

Control Output

1st Setpoint (Adjustable Time Proportional):
Relay (Standard Model): SPDT relay 7 A resistive @ 120 Vac, 5 A resistive at 240 Vac
Option "T" (Triac): Solid state plug-in triac rated 1 A holding and 10 A in-rush
Option "F" (Current Proportional): 4 to 20 mAdc into 1000 Ω maximum
Option "DC" (DC Pulse): 20 Vdc

** Specifications and configurations subject to change as advances in technology allow.*

2nd Setpoint:
Relay (On/Off Only): SPDT, rated 3 A at 120 Vac

Adjustments

Proportional Band (Gain): 0 to 3% of span, or on/off; selectable
Manual Reset (Offset): Adjustable
Cycle Time: Automatically adjusts with load requirement to give least wear with minimum ripple (10 s minimum)

Display and Indications

Temperature: Filtered LED, 3 or 3½ digits, 2 readings per second update; readability is 1.0° or 0.1° (°F or °C), depending on model
Setpoint: By spring loaded switch, first or second setpoint is displayed in place of temperature; setpoint adjusted by 25 turn potentiometer; 1.0° or 0.1° setability
Outputs: LED indication for both first and second setpoints; LED are "on" when output drive signal present; "on/off" indication on relay and triac model; proportional intensity for option "F"
Temperature Overrange: Red LED indication

Setpoint

Resolution: 1.0° or 0.1° (°F or °C), depending on model
Repeatability: ±0.1% to ±0.2% of span
Adjustment: By 25 turn potentiometer; see "setpoint" under "display and indication" section.
Power: 120/240 Vac (10%, -15%, 50/60 Hz); power consumption less than 5 W



4201APF1.

PR-10-2-100-1/4-12-E general-purpose RTD probe sold separately.

Environmental and Physical

Operating Temperature: -1 to 54°C (30 to 130°F)
Weight: 1 kg (2 lb)
¼ **DIN Case:** Metal; plug-in with screw terminal on rear; adjustable brackets for panel mounting; panel cutout is 92 x 92 mm (3.622 x 3.622")

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.

Model Number	Sensor Type	Range	Resolution	Accuracy ±1 Digit	No. of Setpoints
4201APF1 **4201APC1**	100 Ω Platinum RTD α = 0.00385 Ω/Ω/°C	0 to 999°F 0 to 600°C	1°F 1°C	±0.1% of Span	Single
4202APF1 **4202APC1**		0 to 999°F 0 to 600°C	1°F 1°C		Dual
4201APF2 **4201APC2**		-199.9 to 199.9°F -199.9 to 199.9°C	1°F 1°C	±0.2% of Span	Single
4202APF2 **4202APC2**		-199.9 to 199.9°F -199.9 to 199.9°C	1°F 1°C		Dual

Output Options (No Additional Cost)

Order Suffix	Option Type (First Output Only)
-T	Triac
-F	4 to 20 mA
-DC	DC pulse

Accessory

Model No.	Description
CNQUENCHARC	Noise suppression RC snubber (2 leads), 110 to 230 Vac

Comes complete with operator's manual.
***Ordering Examples: 4202APF1,** RTD digital controller.*
***OCW-3,** OMEGACARE℠ extends standard 2-year warranty to a total of 5 years.*

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