

# Digital Controllers

4000A Series  
Starts at  
**\$407**



4001AJF, \$407,  
shown smaller  
than actual size.



- ✓ J or K Thermocouple
- ✓ Accuracy:  $\pm 0.5\%$  FS
- ✓ 1° Resolution
- ✓ Adjustable Proportional Band
- ✓ Single and Dual Setpoint Models
- ✓ Relay, Triac, or 4 to 20 mA Output
- ✓ ¼ DIN Metal Case
- ✓ Full Plug-In Construction

The OMEGA® 4000A Series digital controller distinguishes itself by features, construction, and operation one would expect to find only in controllers costing much, much more. Bright, easy-to-read LED digits yield an unambiguous temperature indication which is not achievable with an analog controller. The standard unit includes adjustable proportional band, manual reset, plus a metal case with full plug-in construction, allowing front removal of the entire control unit without disturbing the case and its rear wiring. Series 4000A controllers are available in single and dual setpoint models with relay outputs as a standard. Triac, DC pulse or 4 to 20 mA optional outputs are offered on the first point at no additional cost. Models 4001A and 4002A lend themselves to a broad spectrum of control applications: single point control, dual setpoint control, and single point control with either high- or low-limit alarm. Truly a quality-built controller at a remarkably low price.

## Specifications

### Thermocouple Input

**Thermocouples:** Types J and K  
**Maximu Thermocouple Lead Resistance:** 100  $\Omega$  for rated accuracy

### Cold-Junction Compensation:

Automatic—electric

### Thermocouple Break Protection:

Built-in, upscale on open sensor

### Calibration Accuracy:

**Type J:**  $\pm 0.4\%$  of span over 10 to 90% of range

**Type K:**  $\pm 0.5\%$  of span over 10 to 90% of range

**Common Mode Rejection:** Max error  $+1^\circ$  with series mode signal of 100 mV peak-to-peak at 60 Hz

## Control Output

### 1st Setpoint:

#### Relay (Standard Model):

SPDT relay  
7 A resistive @ 120 Vac,  
5 A resistive @ 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  $\Omega$  max  
**Option "DC" (DC Pulse):** 20 Vdc

### 2nd Setpoint:

**Relay (On/Off Only):** SPDT, rated 3 A @ 120 Vac

## Adjustments

**Proportional Band (gain):** Up to 5% of span, or on/off; selectable

**Manual Reset (off-set):** Adjustable

**Cycle Time:** Automatically adjusts with load requirement to give least wear with minimum ripple (selectable minimum total time: 0.5, 1, 1.5, 5, 10, 15 sec)

## Display and Indications

**Temperature:** Filtered LED, 3 or 3½ digits, 2 readings per second update; readability is 1°C for 1°F

**Setpoint:** By spring loaded switch, first or second setpoint is displayed in place of temperature; setpoint adjusted by 25 turn potentiometer; 1°F or °C 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°C or 1°F

**Repeatability:**  $\pm 0.1\%$  to  $\pm 0.2\%$  of span

**Adjustment:** By 25 turn potentiometer; see "setpoint" under "display and indicators" section

**Power:** 120/240 Vac (10%, -15%, 50/60 Hz); power consumption <5 W

## Environmental and Physical

**Operating Temperature:** -1 to 54°C (30 to 130°F)

**Weight:** 24 oz (2 lb)

**¼ DIN Case:** Metal, full 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<sup>SM</sup> extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE<sup>SM</sup> covers parts, labor and equivalent loaners.

## MOST POPULAR MODELS HIGHLIGHTED!

Model Number	Price	Sensor Type	Material Type	Range	Resolution	No. of Setpoints
4001AJF 4001AJC	\$407	J	Iron/ Constantan (Iron vs. Copper-Ni)	0 to 999°F	1°F	Single
				0 to 500°C	1°C	
4002AJF 4002AJC	442			0 to 999°F	1°F	Dual
				0 to 500°C	1°C	
4001AKF 4001AKC	407	K	CHROMEGA®- ALOMEGA® (Ni/Chromium vs. Ni/Al)	0 to 1999°F	1°F	Single
4002AKF 4002AKC	442			0 to 1999°F	1°F	Dual
				0 to 999°C	1°C	

## Output Options (No Additional Cost)

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

Comes complete with operator's manual.

**Ordering Examples:** 4001AJF, digital controller, \$407.

**OCW-3, OMEGACARE<sup>SM</sup>** extends standard 2-year warranty to a total of 5 years (\$102), \$407 + 102 = \$509.



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### • Heaters

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