

W7100A-E Discharge Air Controller

The microprocessor based W7100 Discharge Air Controller maintains an average discharge air (DA) temperature in variable air volume (VAV) cooling systems by modulating an economizer and sequencing stages of mechanical cooling. The W7100 is also applicable to electrical makeup air and other systems requiring discharge air control of multistage heating or cooling.



- Available in cool only, heat only, heat/cool stage sequencing and modulating heat/cool.
- Staging capacity of the W7100A-C,E may be extended using a W7101A Satellite Sequencer.
- Advanced microprocessor control algorithms minimize droop.
- Adjustable control band from 2° F to 16° F [-17° C to -9° C].
- M8415 Damper Actuator provides two-position control: open and closed.
- Provision for systems without an economizer.
- Adjustable reset of DA setpoint within range of 5° F to 20° F [3° C to 11° C] upward on cooling, 20° F to 80° F [11° C to 44° C] upward on heating. Reset signal can be from space sensor or outdoor air sensor.
- Adjustable DA setpoint from 40° F to 90° F [4° C to 32° C] on cool only and heat/cool models; 40° F to 140° F [4° C to 60° C] on heat only and modulating heat/cool models.
- C7100 platinum resistance element provides highly accurate and stable DA temperature sensing.
- LEDs on W7100 A,B,C, and E panels show which stages of heating or cooling are on.
- W7100D has single selectable modulating output, either heat or cool.

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Specifications

MODELS: W7100 Discharge Air Controller—see Table 1.

TABLE 1—W7100 DISCHARGE AIR CONTROLLER MODELS.

| Model | Economizer | Modulating Heat Output | Modulating Cooling Output | Heating Stages ^a | Cooling Stages ^a | Temperature Range | |
|--------|------------|------------------------|---------------------------|-----------------------------|-----------------------------|-------------------|-----------|
| | | | | | | °F | °C |
| W7100A | Yes | No | No | None | 6 | 40° to 90° | 4° to 32° |
| W7100B | Yes | No | No | 6 | None | 40° to 140° | 4° to 60° |
| W7100C | Yes | No | No | 2 | 4 | 40° to 90° | 4° to 32° |
| W7100D | Yes | Yes ^b | Yes ^b | None ^c | None ^c | 40° to 140° | 4° to 60° |
| W7100E | Yes | Yes | No | 1 | 4 | 40° to 90° | 4° to 32° |

^a Number of W7100 stages can be increased by six stages—four cool and two heat, or two cool and four heat, using W7101 Satellite Sequencer (except W7100E).

^b W7100D has single selectable modulating output—either heat or cool.

^c W7100D heating and cooling stages are not designed for use with the W7101 Satellite Sequencer.

ELECTRICAL RATINGS:

Input Voltage and Frequency (terminals TR-TR): 20 to 30 Vac at 60 Hz; 20 to 26.4 Vac at 50 Hz.
 Power Consumption: 12 VA at 24 Vac, 50 to 60 Hz.

| Contacts | Voltage (V) | Inrush (VA) | Running (VA) |
|----------|-------------|-------------|--------------|
| N.O. | 24 | 240 | 60 |
| N.C. | 24 | 75 | 30 |
| N.O. | 120/240 | 750 | 75 |
| N.C. | 120/240 | 240 | 40 |

SWITCHING (on/off stages): Spdt relays.

WIRING TERMINALS: 1/4 in. [6 mm] quick-connect type.

INPUT SIGNAL (DA sensor): Positive temperature coefficient of 4.8 ohms/degree F [8.6 ohms/degree C], resistance of 3484 ohms at 77° F [25° C].

CONTROLLED STAGES: Resistor value (across terminals 7 and 8) to determine number of on-off stages

controlled by W7100. Varies from 100 ohms for one stage to 1000 ohms for 10 stages with W7101 (see Table 2).

AMBIENT TEMPERATURE RANGE: -40° F to +150° F [-40°C to +60° C].

MOUNTING: Four mounting holes in base accept No. 8 screws (screws not provided).

DIMENSIONS: See Fig. 1.

APPROVALS:

Underwriters Laboratories Inc. Component Recognized: Guide no. SDFY2, file no. SA481.

Canadian Standards Association Certified: Guide no. 400-E-0, file no. 46034.

ADDITIONAL SYSTEM COMPONENTS:

C7100A1015 Discharge Air Averaging Sensor (required): Senses average DA temperature; provides input to W7100 sensor terminals T and T1.

Transformer (required): Provides 24 Vac power for all components of the W7100 Control System (size transformer to match system load).

Ordering Information

For Honeywell distributor, refer to the TRADELINE® Catalog

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