CEP–4000 Series
VAV Flow Controller-Actuator

Descriptions and Applications

The CEP–4000 series is a pressure-independent combination controller-actuator designed primarily for use on variable air volume terminal units. Cooling and heating air flow is sensed by a temperature-compensated hot-wire anemometer. Velocity sensing is unaffected by changes in the duct air temperature.

The CEP–4000 series offers full-range flow control of VAV terminal units when used with the CTE–1000/1100/5000 series room thermostats. Air-velocity flow control limits are set at the room thermostat or remotely with the REE–1012 remote-limits accessory module. The actuator section provides a magnetic clutch that allows the actuator to be stalled at either end of stroke, eliminating the requirement for mechanical stops or end switches. The controller-actuator is available with (100°, 60°, and 45°) built-in stops or (360°) no stops.

Features

- Hot-wire temperature-compensated anemometer sensor (SSE–1001/1002/2001/2002 standard).
- Available with 100°, 60°, and 45° built in stops.

Accessories

The following accessories are available:

Mounting Adapter

HFO–0011 For 3/8" shaft

Thermostats

CTE–1000 Series

CTE–1100 Series

CTE–5000 Series

Thermostat/Controllers (w/ remote temp. sensors)

CEE–1000 Series

CEE–1100 Series

Standard Air Flow Sensors

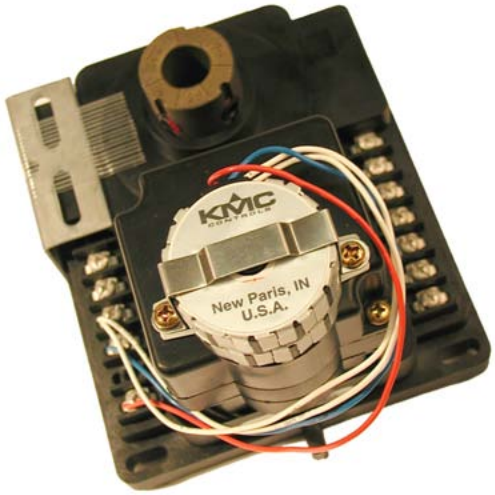
SSE–1001/1002 4"/8" insertion

SSE–2001/2002 4"/8" insertion, with thermistor

Conformal Coated Air Flow Sensors

SSE–1011/1012 4"/8" insertion

SSE–2011/2012 4"/8" insertion, with thermistor



Models

Use the following chart to make your selection:

CEP- 4X Y Z

Z
- 1: SSE–1001 sensor
- 2: SSE–1002 sensor
- 3: SSE–2001 sensor
- 4: SSE–2002 sensor
- 5: No sensor

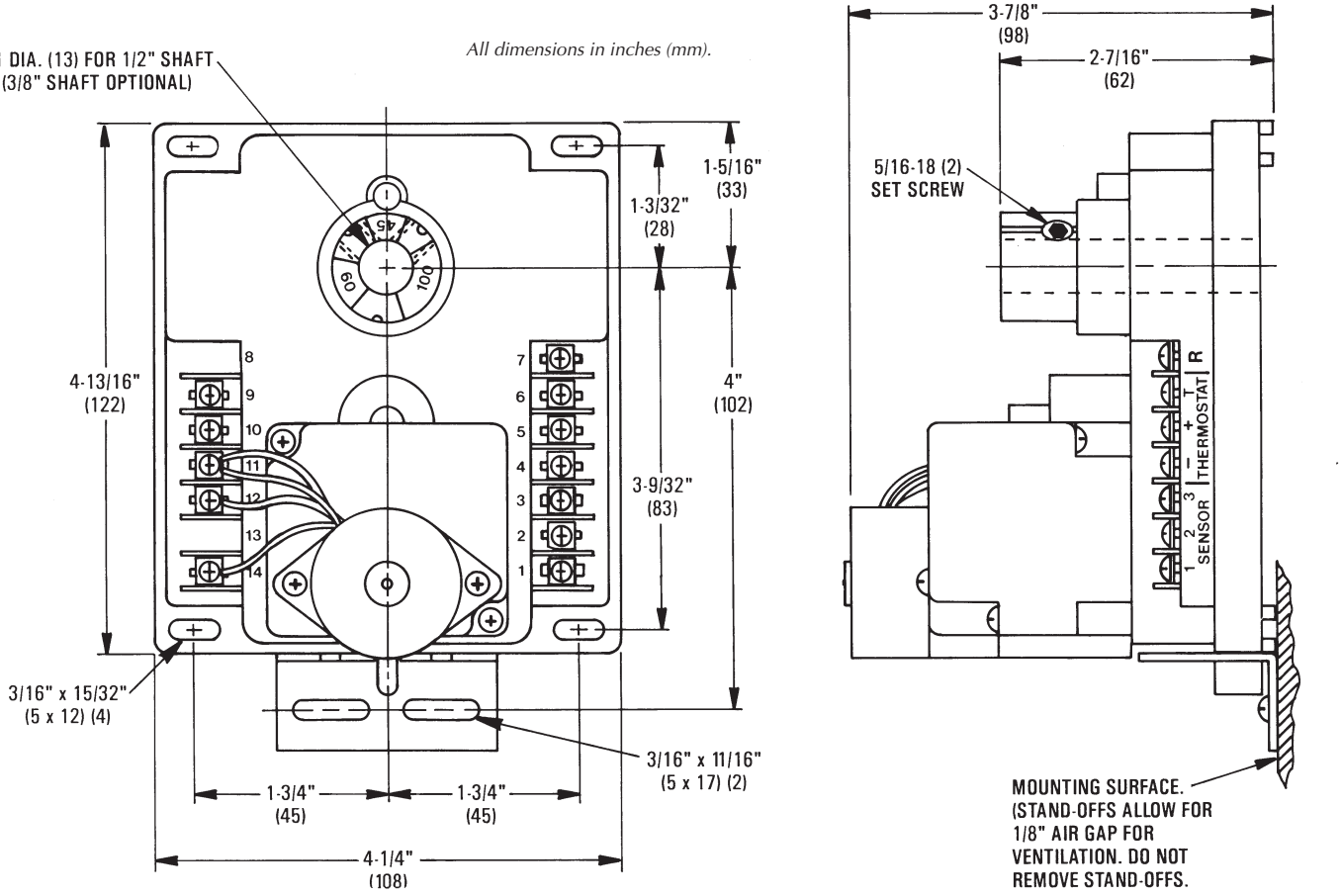
Y
- 0: CCW to close*
- 1: CW to close
- 6: CW to close—special ±100 fpm deadband

X
- 0: 100° rotation
- 2: 60° rotation
- 4: 45° rotation
- 6: 360° rotation

***NOTE:** The default rotation direction can easily be reversed by swapping the red and blue motor wires.

When replacing an older model, the CEP–4995 (100° rotation, CW to close, no sensor) is a "universal replacement" for most applications and will replace **MOST** CEP–1000/3000/4000 series controllers. If replacing a CEP–1000 or CEP–3000 series controller, the REE–1000 series relay may also need to be replaced with the equivalent REE–4000 series module. See the CEP–4000 Applications Guide for more information.

Details



Specifications

Operating Voltage	24 VAC, –15%/+20%, 50/60 Hz
Input Power	9 VA
Output Supply	9.1 VDC (22 mA)
Output Torque	45 ±10 in-lbs. (5 ±1 N•m)
Velocity Range	0–3000 fpm (15.24 m/s)
Velocity Deadband	±50 fpm
Velocity Output	1–5 VDC (0–3000 fpm)
Reset Voltage	3–6 VDC (0–3000 fpm)
Angular Rotation	45°, 60°, 100°, 360°
Stroke Time	18° per minute
Mounting	Direct to 1/2" (13 mm) diameter shaft or with an HFO–0011 adaptor to 3/8" (10 mm) diameter shaft
Material	Glass-filled nylon
Weight	1.75 lb. (0.79 kg)
Connections	Plated screw terminals
Temperature Limits	
Operating	40° to 120° F (4° to 49° C)
Shipping	–40° to 140° F (–40° to 60° C)

More Information

For installation instructions, see the CEP–4000 Installation Guide.

For principles of operation, troubleshooting, additional calibration procedures, and sample applications, see the CEP–4000 Applications Guide.

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