

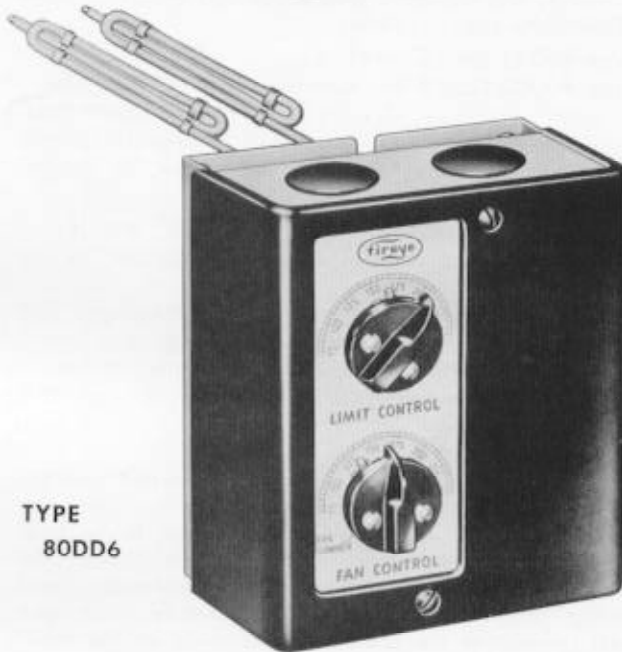


series 80D

# AIR TEMPERATURE CONTROLS

— for accurate on-off control at pre-set temperatures

TYPE  
80DA5



TYPE  
80DD6

FIREYE SERIES 80D AIR TEMPERATURE CONTROLS provide high temperature safety limit control or combination furnace fan and high limit safety control for warm air heating systems. They may be used wherever it is desired to start or stop operation at pre-set maximum or minimum air temperatures.

Type 80DA5 Control is a single contact unit used as a high limit safety interlock to automatically shut down the heating plant should the bonnet temperature reach an excessive value, regardless of cause.

Type 80DD6 Control is a dual contact unit providing high limit safety control and furnace fan control. Fan control contacts close above a pre-set value and open below a pre-set value, preventing air circulation until the air has reached the desired temperature. The high limit safety contact opens on air temperature rise above a pre-set value, shutting down the heating plant.

Calibrated dials indicate operating and differential air temperature settings. Controls may be mounted in any position. Flush or bracket mounting is provided.

## SPECIFICATIONS

Type	Model	Contacts	Action on Temperature Rise	Range in °F	Diff. in °F
80DA5	1000	Single Pole	Opens	100° to 350°F	85°F
80DD6	1000	Double Pole	One Opens, One Closes	50° to 250°F	65°F

## ELECTRICAL RATINGS

Type	A.C. Motor Full Load		A.C. Motor Locked Rotor		A.C. Non-Inductive		A.C. Pilot Service Volt-Amperes
	115V.	230V.	115V.	230V.	115V.	230V.	
80DA5	7.4	5.1	44.4	30.6	13.9	6.9	125
80DD6	7.4	5.1	44.4	30.6	13.9	6.9	125

## LOCATION

Select a location in the bonnet which assures average temperatures and free circulation of air around the power element bulb.

## MOUNTING

### Bracket Mounting

1. Cut a slot or hole, at the selected location, large enough to insert power element(s).
2. Form the power element(s) to proper position so that when the control is secured the element will not make metal-to-metal contact with any part of the heat exchanger. Bend the capillary tube by hand to avoid sharp bends or kinks . . . do not clamp in vise or bend with pliers.
3. Place the control in position against furnace bonnet and mark the bonnet for the mounting bracket screws.
4. Drill or punch these holes and insert sheet metal screws . . . start the screws only enough to hold securely in bonnet.
5. Check to make sure that asbestos seal is in position around the capillary tube.
6. Insert the slot in the bottom of the bracket under the head of the mounting screw. Pivot the control into position with the top of the mounting bracket resting under the head of the top mounting screw. Tighten both mounting screws securely.

### Flush Mounting

The compensated diaphragm assembly permits controls to be mounted flush on furnace bonnet without affecting calibration or operation. Remove bracket and proceed as follows:

1. Cut a slot or hole in the bonnet large enough to insert the diaphragm cup(s).
2. Form the power element(s) in accordance with paragraph 2 under "Bracket Mounting".
3. Fasten the control securely to bonnet by means of sheet metal screws . . . two diagonal holes are provided in the case and are accessible with the cover removed.

## WIRING

Wiring should conform to the National Electrical Code and local regulations. For detailed wiring data, refer to Fireye Flame Failure Safeguard Installation Bulletins.

## ADJUSTMENTS

### • Type 80DA5 & 80DD6 (Limit Control)

1. Set cut-out point (temperature at which contacts open to shut down heating plant) by turning knob "A" in Figure 1 to desired setting.
2. Set cut-in pointer by rotating pointer "B" to desired calibration.

### • Type 80DD6 (Furnace Fan Control)

1. Set cut-in point (temperature at which contacts close to start fan) by turning knob "A" to desired setting.
2. Set cut-out point (temperature at which fan stops) by rotating pointer "B" to the desired setting.
3. For manual control of fan for summer ventilation, turn knob "A" to "Fan Summer" position (designated "C" in Figure 1).

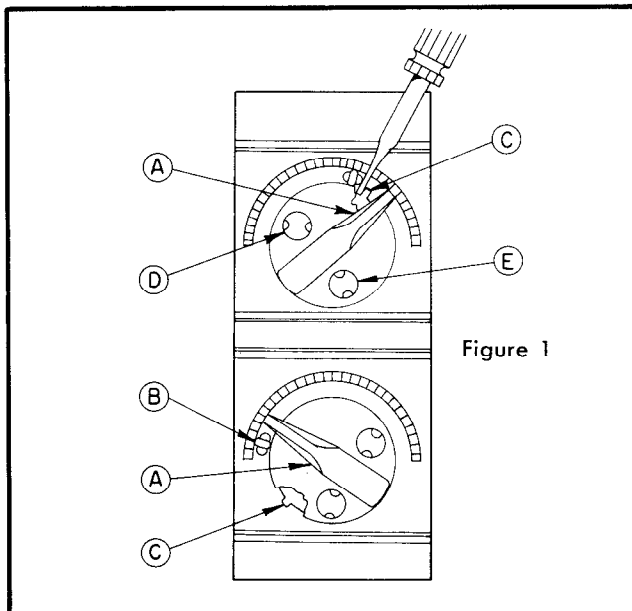


Figure 1

## ADJUSTING STOPS

All controls are furnished with concealed adjusting stops and are factory set as follows:

- Type 80DA5 Limit Control . . . 200°F.
- Type 80DD6 Limit & Fan Control . 175°F Fan Side  
200°F Limit Side

The adjusting stop may be relocated to provide settings over the full temperature range of the control. To change adjusting stop, proceed as follows:

1. Loosen, but do not remove, screws "D" and "E."
2. Turn bakelite adjusting knob with pointer "A" to desired maximum setting.
3. Hold knob firmly with thumb and forefinger and rotate tab "F", with a small screwdriver, to right (clockwise in the direction of the arrow) to maximum position.
4. Tighten both knob mounting screws "D" and "E".

## MAINTENANCE

Contact Units — All warm air furnace controls incorporate standard enclosed contact units. Contact units may be easily replaced in the field if damaged because of abnormal load conditions. Remove entire contact assembly and replace only with a standard assembly. When ordering replacement contact unit, specify Type and Model number of the control as indicated on the label inside the unit. Note: We do not recommend repairs in the field other than contact replacement.

## OVERALL DIMENSIONS

Type	Height	Width	Depth	Bulb Length	Shipping Weight
80DA5	3 $\frac{3}{16}$ "	4 $\frac{1}{4}$ "	2 $\frac{7}{8}$ "	9 $\frac{1}{2}$ "	4 lbs.
80DD6	4 $\frac{15}{16}$ "	4 $\frac{1}{4}$ "	2 $\frac{7}{8}$ "	9 $\frac{1}{2}$ "	5 lbs.

## GUARANTEE

Fireye Controls are guaranteed for one year against defective materials or workmanship. See *General Terms of Sale*.



# COMBUSTION CONTROL DIVISION ELECTRONICS CORPORATION OF AMERICA

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