



California State Fire Marshal CODE INTERPRETATION

Date Issued	01-12-05	Interpretation #	04-032
Topic	§ 905.9.1. California Building Code (2001)		
Code Section(s)	Supervisory Circuits for Smoke Control Damper & Fans		
Requested by	David J. Pattee Diversified Fire Products 180 Grand Avenue, Suite 1545 Oakland, CA 946112		

- 1. Is it the intent of California Building Section 905.9.1 to require two separate supervisory circuits, one for each of the open and closed limit switches on a damper, or can a single supervisor circuit accomplish supervision?***

Yes. The intent of Section 905.9.1 is to require positive confirmation of the louver position status of smoke-fire dampers used in smoke control systems. To accomplish this, a separate fire alarm supervisory initiation circuit would be required for each louver position switch (OPEN position and CLOSED position)
[Note: A single addressable supervisory initiating module, which incorporates multiple initiation circuits, is permitted in fire alarm systems utilizing signaling line circuits. These devices which are capable of monitoring separately addressed multiple points, shall be installed in accordance with their listing.]

- 2. If a damper on a Section 905 compliant system only closes during an event and it is not required to open during any smoke control scenario, can the single “closed status” limit switch be supervised or do both limit switches need to be supervised? Can a two-position switch be used to control the damper, only providing “Auto” and “Closed” control.***

No. Section 905.9.1 requires positive confirmation of the louver position status which is required to indicate at the firefighters control panel in accordance with 905.13.1. (OPEN, CLOSED, FAULT)

- 3. Does Section 905.9.1 allow for the monitoring of a single differential pressure switch at a fan to determine that a fan has airflow or must two differential pressure switches be used?**

Section 905.9.1 specifies that differential pressure transmitters monitor the airflow of smoke control systems. Although this section is silent on the required number of these specific monitoring devices, the code does imply that the system designer provide confirmation of the actual airflow status.

[Note: A differential pressure transmitter is a type of pressure switch, which consist of two air inlets attached to air pressure sensors. The differential pressure transmitter analyzes the pressure differential between the two inlets, then depending on the setting, actuates the integral switch accordingly. The airflow sensor inlet connections should be installed between the fan intake/discharge and the duct before any branch junctions.]

- 4. Are current sensing relays or current sensors an acceptable means of providing fan status, or must differential pressure switches be used to fully comply with the requirements of Section 905.9.1?**

No. Section 905.9.1 specifically requires differential pressure transmitters for sensing of the required airflow in smoke control systems.