

## DETECTION AND CONTROL EQUIPMENT DATA SHEET

## CHECKFIRE® ELECTRIC SERIES I DETECTION AND ACTUATION SYSTEM

### APPLICATION

The CHECKFIRE® Electric Series I Detection and Actuation System furnishes automatic fire detection throughout the hazard area(s) of an application. It can be used in conjunction with Ansul's fire suppression systems requiring pneumatic input as a means of actuation.

### DESCRIPTION

The CHECKFIRE Electric Series I Detection and Actuation System is Factory Mutual approved when it consists of the five basic sub-assemblies:

1. Control Module
2. Manual/Automatic Actuator
3. Linear Detection Wire
4. Power Wire
5. Maintenance Test Kit

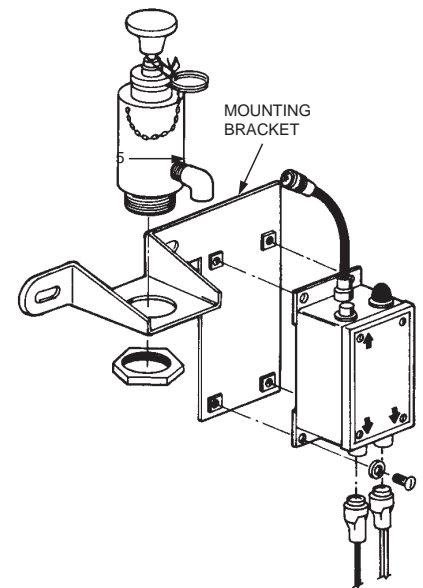
**Automatic Detection and Actuation** — The **linear detection wire** is heat-rated thermocable with two internal conductors. The power to these conductors is supplied from a 12 or 24 volt AC/DC power source. The power is carried through a fused battery harness and one or more lengths of **power wire** to the **control module** which supplies the power to the **linear detection wire**. A test button and light on the **control module** is used to check the power source and **power wire**.

When the **linear detection wire** is subjected to temperatures of 356 °F (180 °C) the insulation melts allowing the internal conductors to come in contact with each other, thus completing the circuit. This allows the current to flow to the **control module** and then to a squib.

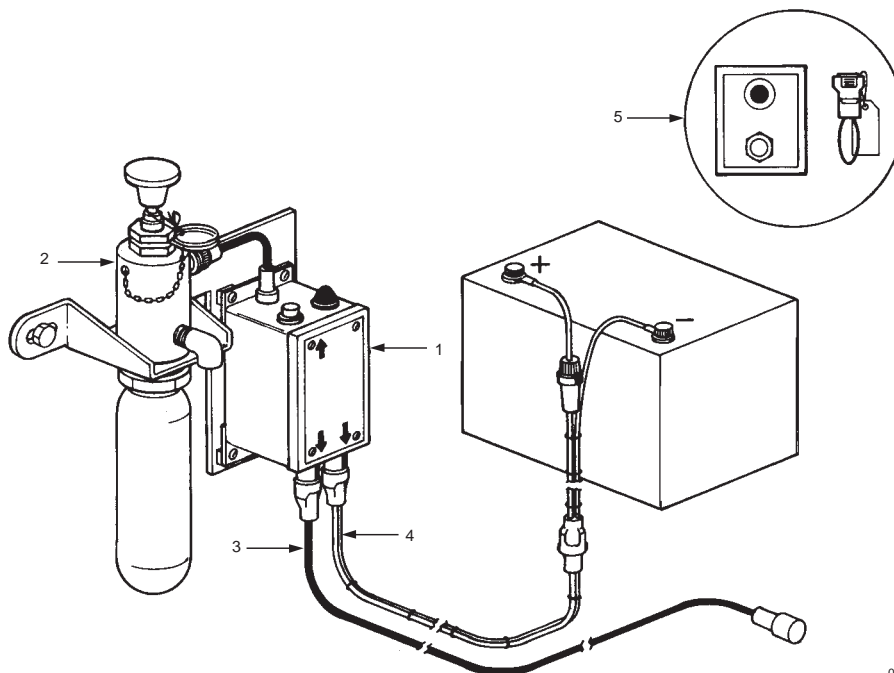
The squib is an electrically-detonated, Class C explosive device that is installed in the body of the **actuator**. When the squib receives the electrical current from the **control module**, it detonates into the actuator body forcing the actuator's puncture pin down which punctures the nitrogen cartridge seal. The nitrogen gas flows into the actuation line and actuates the fire suppression system.

**Manual Actuation** — The CHECKFIRE Electric Series I Detection and Actuation System can also be actuated manually. By pulling the ring pin and depressing the red knob on the actuator, the puncture pin is forced down, puncturing the nitrogen cartridge seal. Nitrogen gas is then released into the actuation line and actuates the fire suppression system.

**Test Kit** — A test kit is required to check the electrical continuity of the CHECKFIRE system. It consists of two components: an Indicator Light Assembly, which is connected to the control module in place of the squib; and an end-of-line Jumper Assembly, which is installed at the end of the linear detection wire. The Jumper Assembly completes the electrical circuit and activates the indicator light which signifies that the squib would have received the current.



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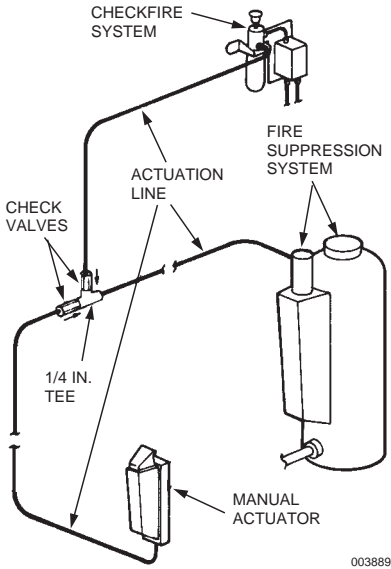
### INSTALLATION

A mounting bracket is provided which allows both the actuator and the control module to be mounted together. A space 12 in. high, 8 in. wide, and 3 in. deep (30 cm x 20 cm x 7.6 cm) is needed for mounting. The bracket is fastened by either bolting or welding. The linear detection and power wire is furnished in modular lengths and can be installed without special tools. Nylon cable ties and rubber sleeves are provided to secure the wiring.

## ADAPTABILITY

The CHECKFIRE System can also be added to existing Ansul fire suppression systems which require pneumatic input for actuation. The addition can be accomplished by installing a 1/4 inch tee and check valve in the existing fire suppression system's actuation line.

The actuation output can utilize up to 125 lineal feet (37.5 m) of 1/4 inch actuation line with up to eight expellant gas cartridges or accessories.



## ORDERING INFORMATION

Part No.	Description
54893	CHECKFIRE Electric Series I Detection and Actuation System Shipping Assembly*
54894	Manual, Installation
54930	Battery Harness Shipping Assembly
54947	Power Wire Shipping Assembly 5 Ft. (1.5 m)
55916	Power Wire Shipping Assembly 10 Ft. (3 m)
55923	Power Wire Shipping Assembly 15 Ft. (4.5 m)
54937	Linear Detection Wire Shipping Assembly 10 Ft. (3 m)
55914	Linear Detection Wire Shipping Assembly 20 Ft. (6 m)
55925	Linear Detection Wire Shipping Assembly 30 Ft. (9 m)
54999	Test Kit Shipping Assembly*

\* Control Module/Test Kit is shipped with a 12 volt bulb (Part No. 56693) in place, for 24 volt power source order replacement 24 volt bulb, (Part No. 56694).

## SPECIFICATIONS

The Automatic Electric Detection and Actuation System shall be Factory Mutual tested and approved for use with pneumatically actuated FM approved fire suppression systems. It shall consist of 1) a squib operated actuator; 2) a control module; 3) linear detection wire; 4) modular power wire and battery harness; and 5) a maintenance test kit. The control module shall consist of integral test button, indicator light, connections for detection and power wire, and integral lead with squib connector. The actuator shall provide an automatic and manual means of actuation. The electric detection wire shall be heat rated with two internal conductors. The power wire shall include a fused battery harness assembly. Both the detection and power wire shall be furnished in specific lengths with compatible interlocking connectors.

The detection wire insulation shall melt at 356 °F (180 °C) and cause the squib to detonate. Detonation shall force a puncture pin through a gas pressure cartridge seal, releasing the gas which actuates the fire suppression system.

The maintenance test kit shall consist of an indicator light assembly and an end-of-line jumper assembly to test electric continuity of the system.