Australian Standard®

Automatic fire detection and alarm systems—Methods of test for actuating devices

Method 6: Static discharge test

METHOD

1 SCOPE This Standard sets out the method of testing the ability of an actuating device to withstand static discharges of short duration and relatively high peak values. (See performance requirements in the appropriate device Standard.)

2 PRINCIPLE A number of high-voltage discharges are applied to different points on an actuating device, following which the actuating device's operation is evaluated.

3 APPARATUS A suitable test circuit capable of meeting the requirements of Clause 4 is required.

NOTE: The power supply should have appropriate protective devices.

4 TEST CIRCUIT PREPARATION The test circuit shall be prepared as follows:

(a) A 250 pF low leakage capacitor, rated 10 kV d.c. is connected to two high-voltage insulated leads, 0.9 m long.

(b) A 1500 Ω resistor is inserted in series with one lead.

(c) The end of each lead is attached to a nominal 12.5 mm diameter metal test probe with a spherical end mounted on an insulating rod.

5 PROCEDURE. The procedure shall be as follows:

(a) Connect the actuating device to an appropriate power supply and indicating equipment. Externally energized devices are to be mounted on a 300 mm square earthed-metal plate.

(b) Conduct the test at a temperature of 23 ±2°C and a relative humidity of 50 ±5%.

(c) Charge the capacitor immediately prior to each discharge by touching the ends of the test leads to a source of 10 kV d.c. for not less than 2 s, for each discharge.

(d) Discharge the test circuit to an exposed surface of the actuating device. To obtain discharge, one probe is touched to earth and the other probe is then touched to the actuating device.

(e) Check if the actuating device has entered an alarm state.