



Functional Test Procedures for Apollo Smoke and Heat Detectors

This data sheet describes procedures for field testing of detectors. The procedures are not a substitute for factory testing and recalibration. For this procedure to be carried out please return detectors to Apollo's Service Department.

In general, the procedures for maintaining detectors are described in the local codes of practice, such as BS5839 in the UK. At a very minimum, detectors should be inspected twice a year and cleaned if they are dirty (Apollo data sheet PP2443). They should be functionally tested at a frequency described in the local code of practice. If a detector is removed from its base for any reason it should be functionally tested after it is refitted.

Caution: *Before any work begins on the fire detection system, all necessary staff or departments should be notified that the fire system is to undergo maintenance and that the system, or part of it, will be temporarily out of service. Ensure the control panel is in 'Test Mode' and/or take precautions to prevent unwanted alarms. Ensure that the same departments and staff are informed once the system is fully operable again.*

A summary of the information below, is given in Table 1 on page 4.

1. Testing Apollo smoke detectors

1.1 Smoke detectors are tested with aerosol test gas, part number 29600-225, which may only be used in conjunction with the Apollo smoke detector test applicator part number 29600-100.

1.2 The Apollo 'Testifire' unit, part numbers 29600-460 and 29600-462, used in conjunction with the relevant smoke capsule may also be used.

1.3 The procedure below applies to Orbis, Series 65, XP95 and Discovery detectors, but, because Orbis detectors contain 'integrating periods' additional steps should be taken as described in section 1.4.

1.3.1 Place aerosol test gas inside smoke detector test applicator as per instruction manual supplied with the test equipment.

1.3.2 Place test applicator over detector ensuring seal around smoke detector.

1.3.3 Push applicator upwards slightly to activate aerosol for a one second burst.

1.3.4 If the detector has not responded in 10 seconds, repeat step 1.3.3. The total number of sprays should not exceed five at 10 second intervals.

1.3.5 If the detector fails to activate, check the test equipment and retest. If the detector will still not activate replace with a new detector.

Note: *Discovery detectors may take up to 40 seconds to respond depending upon which detection mode has been set.*



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1.4 Additional steps for testing Orbis devices

- 1.4.1 Place the control panel in 'test' mode OR remove the detector from the detector base, then re-fit OR reset the panel.
- 1.4.2 Follow steps 1.3.1 to 1.3.5.

Note: *The removal and replacement of power to an Orbis detector will place the device into 'FasTest'. In 'FasTest' the algorithms in the detector are disabled for four minutes. During this time the integral red LED will flash once per second. The detector is still able to detect a fire but will respond to one smoke sample in order to speed up testing. This applies to sections 2.4 and 3.*

2. Testing rate-of-rise heat detectors (<90°C)

- 2.1 Rate of rise heat detectors with fixed temperatures up to 90°C are tested with the Apollo Cordless Heat Detector Tester, part number 29600-212.
- 2.2 Heat detectors with classifications above 90°C (i.e. Series 65 CS/Series 60 Range 2/XP95 High Temperature Heat Detectors) may require the use of the Apollo mains powered heat detector tester, part numbers 29600-220 (240V) or 29600-231 (110V).

The Apollo 'Testifire' unit, part numbers 29600-460 and 29600-462 will test all types of heat detector.
- 2.3 Test as per instruction manual supplied with test equipment.
 - 2.3.1 Insert a charged battery baton into tool and pole.
 - 2.3.2 Press the red switch to turn on; LED illuminates green. Slow flash indicates normal standby mode.
 - 2.3.3 Position tester over detector.
 - 2.3.4 Tool will automatically start testing when infra-red beam in cup is broken.
 - 2.3.5 Green LED will flash faster.
 - 2.3.6 Hold pole in place until the alarm is activated.*

*If the detector fails to activate, check the heat detector type (i.e. check the temperature classification). If the type is correct the device may be faulty. Insert a replacement detector and test again.

- 2.3.7 When the detector alarms, remove the tester from the detector.
- 2.3.8 The tester will revert to standby mode (slow flashing green LED) and the internal fan will cool the heating element for a few seconds.

2.4 Additional steps for testing Orbis heat detectors

- 2.4.1 For all Orbis heat detectors (even CS class), place the control panel in 'test' mode OR remove the detector from the detector base then re-fit OR reset the panel
- 2.4.2 Follow steps 2.3.1 to 2.3.8

2.5 Additional information for testing Discovery heat detectors.

Check the control equipment to find which mode the Discovery Heat detector is set to. Modes 1–4 will respond using the Series 65/XP95 procedure described in 2.3.1 to 2.3.8. Discovery heats set to mode 5 (CS class) will require the use of the mains heat tester or the Testifire product to activate.

3. Testing Multisensor detectors

- 3.1 Smoke sensors are tested with aerosol test gas, part number 29600-225, which may only be used in conjunction with the Apollo smoke detector test applicator part number 29600-100.
- 3.2 If the Multisensor is in 'heat only' mode (Mode 5) then it should be tested using the Apollo cordless heat detector tester, part number 29600-212. The Apollo 'Testifire' unit, part number 29600-460 and 29600-462 may also be used. Both smoke and heat elements can be tested simultaneously using this.
- 3.3 For Orbis Multisensor detectors place the control panel in 'test' mode OR remove the detector from the detector base then re-fit OR reset the control panel.
- 3.4 Follow steps 1.3.1 to 1.3.5
- 3.5 For quicker activation times use Testifire with combined smoke and heat test protocol.
- 3.6 For XP95 Multisensor detectors follow steps 1.3.1 to 1.3.5. The heat element can be tested separately if required, and can be tested as indicated in section 2.3. For quicker activation times use Testifire with combined smoke and heat test protocol.
- 3.7 For Discovery Multisensor detectors in modes 1-4 follow steps 1.3.1 to 1.3.5. Mode 5 can be tested following steps 2.3.1 to 2.3.8.

Note: *Discovery and XP95 Multisensor detectors may take up to 40 seconds to respond dependent upon which detection mode they are set at.*

4. Testing Discovery CO Detector

- 4.1 Use Apollo CO test gas part number 29600-235, which may be used in conjunction with the Apollo smoke detector test pole part number 29600-100.
- 4.2 The Apollo 'Testifire' unit part number 29600-462 used in conjunction with the relevant CO capsule may also be used.
- 4.3 Procedure
 - 4.3.1 Place CO test gas inside smoke detector test pole as per instruction manual supplied with test equipment.
 - 4.3.2 Place applicator over CO detector ensuring seal around CO detector.
 - 4.3.3 Press upwards slightly to activate aerosol in a one second burst.
 - 4.3.4 If the detector has not responded in 30 seconds repeat test at 30 second intervals whereby the total number of applications should not exceed five.
 - 4.3.5 If the detector fails to activate, check test equipment and re-test. If the detector will still not activate replace with a new detector.

Note: *The Discovery CO detector has integrating periods of up to 60 seconds in some detection modes.*

Test Apparatus	Smoke Detectors Series 65, Orbis, XP95 and Discovery *See note 1	Rate of rise heat detectors (Temps <90°C) *See note 1	High Temperature heat detectors (fixed/static Temps >90°C) *See note 1	Discovery, XP95 and Orbis Multisensor detectors *See note 1	Discovery Multisensor detector in heat only mode *See note 2	Discovery CO *See note 3
Aerosol Test Gas (Solo A3) used with Smoke Detector Test Applicator	✓			✓		
Testifire	✓	✓	✓	✓	✓	✓
Cordless Heat Detector Tester		✓			✓	
Mains Powered Heat Detector Tester			✓			
Aerosol CO Test Gas (Solo C3) used with Smoke Detector Test Applicator						✓

Table 1 Summary of functional test procedures

*Note 1: For Orbis use 'FastTest'

*Note 2: Discovery detectors may take up to 40 seconds to activate.

*Note 3: Discovery CO detectors may take over 60 seconds to activate dependent on setting.

Testifire (Smoke and Heat)	29600-460
Testifire (Smoke, Heat and CO)	29600-462
Aerosol Test Gas (Solo A3)	29600-255
Aerosol CO Test Gas (Solo C3)	29600-235
Smoke Detector Test Applicator	29600-100
Cordless Heat Detector Tester	29600-212
Mains Powered Heat Detector Tester	29600-220 (240 VAC) 29600-231 (110 VAC)

Table 2 Equipment Part Numbers