



ADVANCED WARNING

SYSTEMS



## Ampac Detectors

### Cleaning, Maintenance and Functional Test Procedures

**MAN3069-2**

WORLD LEADER OF INNOVATIVE SOLUTIONS  
IN FIRE DETECTION AND ALARM SYSTEMS



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## **1 Non Disclosure Agreement**

This contract has been entered into by the user of this document, person or company (hereafter called the Trader) and AMPAC Technologies (hereafter called AMPAC) of 7 Ledger Rd, Balcatta, WA 6021, Western Australia under terms and conditions as specified hereunder.

Whereas Ampac and the Trader for their mutual benefit and pursuant to a working relationship which may be established, anticipate that Ampac will disclose in the form of this document, information of a secret, or confidential or proprietary nature (hereinafter collectively referred to as Proprietary Information).

Whereas Ampac desires to ensure that the confidentiality of any Proprietary Information is maintained in accordance with the terms of this Agreement;

NOW, THEREFORE, in consideration of the foregoing premises, and the mutual covenants contained herein, the Trader hereby agrees as follows:

1. The Trader shall hold in trust and confidence, and not disclose to any person outside its organisation, any Proprietary information which is disclosed to the Trader by Ampac under this Agreement. Proprietary Information disclosed under this Agreement may be used by the Trader only for the purpose of carrying out work on or with Ampac supplied equipment and may not be used for any other purpose whatsoever.
2. The Trader shall disclose Proprietary Information received by Ampac under this Agreement to persons within its organisation only if such persons are legally bound in writing to protect the confidentiality of such Proprietary Information.
3. The undertakings and obligations of the Trader under this Agreement shall not apply to any Proprietary Information which:
  - (a) is disclosed in a printed publication available to the public, is described in patent anywhere in the world, or is otherwise in the public domain at the time of disclosure;
  - (b) is generally disclosed to third parties by Ampac without restriction on such third parties;
  - (c) is shown by the Trader to have been in its possession prior to the receipt thereof from Ampac;
  - (d) is approved for release by written authorisation of Ampac; or
  - (e) is not designated by Ampac in writing or by appropriate stamp or legend to be of a secret, confidential or proprietary nature.
4. This Agreement will be binding upon and inure to the benefit of the parties hereto, and their respective successors and assigns.
5. This Agreement, and all rights and obligations hereunder, shall expire on the 10th anniversary of the date of issue of this document.
6. **This document is for guidance only and all the information is given in good faith. Ampac cannot be held responsible for any errors or omissions.**

These terms are accepted by the Trader on receipt and retention of this document.

## 2 Functional test Procedures for Ampac 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 Ampac's Service Department.*

In general, the procedures for maintaining detectors are described in the local codes of practice, such as AS1851 for Australia. At a very minimum, detectors should be inspected twice a year and cleaned if they are dirty. 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.*

### 2.1. Testing Ampac smoke detectors

2.1.1 Smoke detectors are tested with aerosol test gas, part number 204-0014, which may only be used in conjunction with the Ampac smoke detector test applicator part number 204-0004.

2.1.2 The Ampac 'Testifire' unit, part numbers 204-0025, 204-0028 and 204-0029, used in conjunction with the relevant smoke capsule may also be used.

2.1.3 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 2.1.4.

- ✓ Place aerosol test gas inside smoke detector test applicator as per instruction manual supplied with the test equipment.
- ✓ Place test applicator over detector ensuring seal around smoke detector.
- ✓ Push applicator upwards slightly to activate aerosol for a one second burst.
- ✓ If the detector has not responded in 10 seconds, repeat the previous step. The total number of sprays should not exceed five at 10 second intervals.
- ✓ 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.*

#### 2.1.4 Additional steps for testing Orbis devices

- ✓ Place the control panel in 'test' mode OR remove the detector from the detector base, then re-fit OR reset the panel.
- ✓ Follow steps detailed in 2.1.3

**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 2.2.4 and 2.3.*

## 2.2. Testing rate of Rise Detectors (<90°C)

2.2.1 Rate of rise heat detectors with fixed temperatures up to 90°C are tested with the Ampac Cordless Heat Detector Tester, part number 204-0017.

2.2.2 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 Ampac mains powered heat detector tester, part numbers 204-0005 (240V).

The Ampac 'Testifire' unit, part numbers 204-0025, 204-0028 and 204-0029, will test all types of heat detector.

2.2.3 Test as per instruction manual supplied with test equipment.

- ✓ Insert a charged battery baton into tool and pole.
- ✓ Press the red switch to turn on; LED illuminates green. Slow flash indicates normal standby mode.
- ✓ Position tester over detector.
- ✓ Tool will automatically start testing when infra-red beam in cup is broken.
- ✓ Green LED will flash faster.
- ✓ 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.

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

2.2.4 Additional steps for testing Orbis heat detectors

- ✓ 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.
- ✓ Follow steps detailed in 2.2.3.

2.2.5 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 2.2.3.

Discovery heats set to mode 5 (CS class) will require the use of the mains heat tester or the Testifire product to activate.

## 2.3. Testing Multisensor Detector

2.3.1 Smoke sensors are tested with aerosol test gas, part number 204-0014, which may only be used in conjunction with the Ampac smoke detector test applicator part number 204-0004.

2.3.2 If the Multisensor is in 'heat only' mode (Mode 5) then it should be tested using the Ampac cordless heat detector tester, part number 204-0017.

The Ampac 'Testifire' unit, part number 204-0025, 204-0028 and 204-0029, may also be used. Both smoke and heat elements can be tested simultaneously using this.

2.3.3 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.

2.3.4 Follow steps detailed in 2.2.3

2.3.5 For quicker activation times use Testifire with combined smoke and heat test protocol.

2.3.6 For XP95 Multisensor detectors follow steps detailed in 2.1.3. The heat element can be tested separately if required, and can be tested as indicated in section 2.2.3. For quicker activation times use Testifire with combined smoke and heat test protocol.

2.3.7 For Discovery Multisensor detectors in modes 1-4 follow steps detailed in 2.1.3. Mode 5 can be tested following steps detailed in 2.2.3.

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

## 2.4. Testing Discovery CO Detector

2.4.1 Use Ampac CO test gas part number 204-0020, which may be used in conjunction with the Ampac smoke detector test pole part number 204-0004.

2.4.2 The Ampac 'Testifire' unit part number 204-0025, 204-0028 and 204-0029, used in conjunction with the relevant CO capsule may also be used.

### 2.4.3 Procedure

- ✓ Place CO test gas inside smoke detector test pole as per instruction manual supplied with test equipment.
- ✓ Place applicator over CO detector ensuring seal around CO detector.
- ✓ Press upwards slightly to activate aerosol in a one second burst.
- ✓ 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.
- ✓ 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	✓			✓		
Testfire	✓	✓	✓	✓	✓	✓
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.

Testfire (Smoke, Heat and CO)	<b>204-0025, 204-0028 and 204-0029</b>
Aerosol test Gas (Solo A3)	<b>204-0014</b>
Aerosol CO Test Gas ( Solo C3)	<b>204-0020</b>
Smoke Detector Test Applicator	<b>204-0004</b>
Cordless Heat Detector Tester	<b>204-0017</b>
Mains Powered Heat Detector Tester	<b>204-0005</b>

### **3 Cleaning Instructions for Optical Smoke and Multisensor Detectors**

These cleaning instructions can be applied to Optical Smoke and Multisensor Detectors within all the Ampac ranges.



Illustration shows Discovery Multisensor Detector



Illustration shows Discovery Optical Smoke Detector

**Tools Required** Detector Duster 204-0024.

**General** If a smoke detector is dirty it should be cleaned without disassembling. Use a commercial vacuum cleaner with a brush attachment to remove exterior dust and dirt and an air pressure canister (Detector Duster) to blow through the smoke entry points as illustrated in the image below. The case can be cleaned with a dampened cloth with a solution of washing up liquid.



**Image A** - cleaning a detector with a air pressure canister

**UNCONTROLLED DOCUMENT**

*NOTE: Due to Ampac's commitment to continuous improvement specifications may change without notice.*