



Certificate of Conformity

Certificate num.	Registration date	Version	Valid until	
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Product designation

Ampac, Model FireFinder™, fire indicator panel

(Refer to the Schedule/enclosures for further specified details)

Agent/distributor

Ampac Pty Ltd
7 Ledger Road, BALCATTA, WA, AUSTRALIA, 6021

Registrant

Ampac Pty Ltd
7 Ledger Road, BALCATTA, WA, AUSTRALIA, 6021

Producer

Ampac Pty Ltd
7 Ledger Road, BALCATTA, WA, AUSTRALIA, 6021

Conformance criteria and evaluation

The Ampac, Model FireFinder™, fire indicator panel has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. Australian Standard AS 4428.1-1998, 'Fire detection, warning, control and intercom systems - Control and indicating equipment - Fire'.
2. Australian Standard AS 1603.4-1987, 'Automatic fire detection and alarm systems - Control and indicating equipment' incl. Amdt 1 (June 1988) / Amdt 2 (October 1989).

Limitations/conditions of conformance

Limitations/conditions of conformance, where identified on this certificate, are derived from qualifications from evaluation(s) for conformity and/or other related technical documentation. All details with respect to design, assembly and installation instructions and restrictions should be checked against the producer's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.

Specified limitations/conditions, determined from the evaluation for conformity, include the following.

- i. Compatibility of this equipment with new or existing actuating devices should be verified prior to installation.

This certification is issued within the scope of CSIRO Verification Services – Rules governing ActivFire Scheme and is valid only for the product(s) as submitted for evaluation and verification of conformity, subject to the following conditions.

- Reference to details, limitations and requirements, where documented as a schedule/enclosure with this certificate.
- The Registrant is responsible for their attestation of conformity and ensuring that on-going production complies with the conformance criteria defined in this certificate.
- This certificate will not be valid if any changes or modifications are made to the product which have not been notified and validated by CSIRO Verification Services.
- This certificate is subject to periodical re-validation upon verification that all requirements, as determined by the conformity assessment body, continue to be satisfactorily met by the Registrant.
- This certificate may only be reproduced in its published form, without modification and inclusive of all schedules/enclosures.
- Any changes, errors or omissions, must be submitted in writing and if necessary or requested, substantiated with relevant evidence.
- Any representations, such as advertising or other marketing related activities or articles shall reflect the correct contents of this certificate and conform with all relevant trade practices and consumer protection legislation and regulations.
- Any terms or conditions of use as applicable to content and documentation as published or accessed through web sites administered by the CSIRO Verification Services.

Issued by

David Whittaker
Executive Officer – ActivFire Scheme



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Producer's description

The Ampac, Model FireFinder™, fire indicator panel is microprocessor based equipment configured as a conventional as well as analogue addressable sensor system. The FIP consists of a Front Control Board, a Main CPU Interface board and a CPU board which form the controller. The Controller has an on board Slave CPU which has a facility to accommodate a further three Slave CPUs. With the aid of an Expansion board up to eight Slave CPUs can be controlled with one Controller and can be configured to any of the following combinations:

- Each Slave CPU can be configured as an addressable loop using the Apollo XP90, XP95 and Discovery protocol, incorporating analogue/addressable detectors and devices or as a 16 conventional zones or as a 128 Input/128 Output module.
- Each loop, which uses the Apollo protocol, can accommodate up to 126 addresses. Where the system requirements exceed the above the manufacturer states that the system can be internally networked to a maximum of four Controllers or 32 Slave CPUs within one cabinet or alternatively an external network can be employed to expand the system further.

The switches and indicators are of a membrane type and grouped in three sections. The Fire Fighter's Facility incorporated 5 LEDs, 7 control switches and a 240 x 64 graphics liquid crystal display (LCD) with operator assisted prompts. The controller can be fitted with either the 240 x 64 or the 40 x 4 line LCD. A twelve LED status indicator (four of which are programmable) and a section with 16 alpha-numeric keypad switches (provide for user access) with 8 additional control switches and 3 LED indicators. A facility is provided for an event printer. The panel provides for automatic battery testing and detection and allows for password protection of on-site programming or control of input/outputs. Programming of the panel may be performed via the front panel key switches, a PC, or a modem port facility which allows remote access.

The Ampac, Model FireFinder™, fire indicator panel can also be fitted with the following:

- A Controller Interface (CIC) which provides an RS485 multi-drop communication port for the remote LED indicator board.
- A Network Interface Card (NIC) which provides the RS422 redundant communication loop for system networking and / or to drive the remote LCD mimic, a serial relay board a Valve status indicator card, a Pump Status Indicator card.
- A brigade/power supply board which incorporates 6 relay outputs 2 auxiliary power, 2 monitored outputs and 2 bell outputs.

The Alarm Acknowledgement Module (AAM) can be optionally fitted to the Ampac, Model FireFinder™, fire indicator panel. The Ampac AAM allows the user to manually acknowledge an alarm and investigate the problem within a specified time to check for false alarm and negate false Fire Brigade call outs. If the user fails to confirm the alarm, the Fire panel will automatically go into full alarm. Both the Acknowledge time and Investigation time can be set to suit the user.

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Technical specification

The following details are a representative extract of the technical specification for the Ampac, Model FireFinder™, fire indicator panel and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

Power supplies:

Conformance standard	AS 1603.4 - 1987	AS 4428.1 - 1998	
Type num.:	Switch Model S-60-24	Switch Model S-60-27	Switch Mode S-150-27
Nominal output voltage:	27.0 V	27.0 V	26.7 V
Maximum rated output current:	2.2 A	2.2 A	5 A
Circuit current limit:	3.0 A	3.0 A	3.0 A
Battery Charger:			
Battery charge voltage setting:			
Nominal:	27.3 V	27.3 V	27.6 V
Charger high:	28.2 V	28.2 V	27.9 V
Charger low:	26.6 V	26.6 V	26.4 V
Battery fail:	23.5 V	23.5 V	20.4 V
Maximum rated output:	0.4 A @ 55°C	0.4 A @ 55°C	5 A @ 55°C
Current limiting device rating:	9.0 A	9.0 A	9.0 A
Panel:			
Quiescent panel load:	0.44 A @ 27.3 V	0.44 A @ 27.3 V	216 mA @ 26.8 V
Minimum power supply load:	0.74 A	0.74 A	
Required battery capacity (4 AZFs):	>10.9 Ah	>10.9 Ah	
Manufacturer's nominated battery capacity:	12 Ah	12 Ah	

Alarm Acknowledgment Module, Part No. 226-0001

Power requirements: 27 Vdc @ 1.6 mA
Dimensions (mm): H 116 x W 76 x D 40

Supplementary information

Evaluated modules

Module description	Assembly number	PCB number	Technical drawing
Main Board (Master CBU)	BRD86MCPU4-B	-	-
Slave CPU	BRD85MBA7-A	-	-
Addressable Loop Card	BRD86DLTB4-B	-	-
16 Zone Conventional Board	302-6710	API-671	A0671CC2-S02
32 Zone Alarm & Fault Indicator Board	302-7000	API-700	A0700CC1-SCH
Input/Output Module	302-6720	API-672	A0672CC2-S01
Brigade/PSU Board	BRD85BPMB4-A	-	-
16-way Input Board	302-6770	API-677	A0677CC1-SCH
8-way Relay Board	302-6761	API-676	A0676CC1-SCH
Expansion Panel	302-6880	API--688	A0688CC1-S02
Front Panel Board	302-6901	API-690	A0690CC6-SCH
240 x 60 (graphics 4 x 40)	302-6905		
1668 Control Module	302-6800	API-680	A0680CC1-S01
Alarm Acknowledgment Module - 226-0001	302-7340	API-734	A0734CC1
Alarm Acknowledgment Facility	BRD42AAF3-A	-	-
Apartment Module		-	-
Mean Well Enterprises 5.6 A/27 V Switched Mode Power Supply	330-0002	SP-150-27	-
Mean Well Enterprises 2.2 A/27 V Switch Mode Power Supply	330-0001	S-60-27	-
Network Interface Card (NIC)	302-7240	API-724	A0724CC1.SCH
Network Interface Card (NIC)	BRD86NIC1-A	-	-
Controller Interface Card	302-7250	API-725	A0725CC1.SCH
Valve Status Indicator Board	302-7160	API-716	A076CC1-SCH

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Module description	Assembly number	PCB number	Technical drawing
Pump Status Indicator Board	302-7170	API-717	A077CC1-SCH

EPROMS & Software Revisions: Refer directly to manufacturer

References

XF1417/R2, October 1998, AS 1603.4-1987 inc. amdt 1 & 2.
 XF1471/R2, October 1998, NZS 4512:1997
 XF1540/R5, May 2001, Compatibility Assessment
 XF1540/R6, May 2001, Compatibility Assessment
 XF1693/R1, September 1999, Clause 2.1.3 of AS 1670.1
 XF1651/R1, July 2000, Alarm Acknowledgment Module, SSL Test Specification FTS-136
 XF1673/R2, October 2002, AS 4428.1-1998, AS 4428.5-1998, & AS 1603.4 - 1987
 XF1842/R2, January 2003, AS 4428.1-1998
 XF2111/R1, July 2004, Assessment of Context Plus FIP to AS4428.1
 XF2307/R1, December 2006, Compatibility Assessment to AS 4428.0 Appendix E

Actuating devices:

Actuating device	Maximum addressable point on analogue loop	Maximum addressable points on analogue line	Reference
Apollo, XP95 55000-430, Heat Type A / B	126	40*	XF1342/R2, July 1998
Apollo, XP95 55000-530, Smoke Ionisation	126	40*	AS 1603.4-1987 (jncl amdt Nos 1 & 2)
Apollo, XP95 55000-630, Smoke Photoelectric	126	40*	
<i>The above detectors with Apollo 45681-361 base.</i>			
XP95 Sounder Control Unit	126	40*	XF1342/R2, July 1998
XP95 Zone Monitor	126	40*	AS 1603.4-1987 (jncl amdt Nos 1 & 2)
XP95 Input/Output Units	126	40*	
XP95 Mini Switch Monitor	126	40*	
XP95 Manual Call Point	126	40*	
XP95 Short Circuit Isolator	126	40*	

* Maximum number of detectors per AZF/AZC allowed by code.

Actuating device	Maximum number of devices per AZF module API-671 - 22V	Reference
Apollo Series 60, 55000-105, Heat Type A	40*	XF1540/R5, May 2001
Apollo Series 60, 55000-106, Heat Type B	40*	Compatibility Assessment to AS1603.4-1987
Apollo Series 60, 55000-107, Heat Type C	16	
Apollo Series 60, 55000-108, Heat Type D	16	
<i>The above detectors with Apollo 45681-200 base.</i>		
Apollo Series 60, 55000-240, Smoke Ionisation	40*	XF1540/R5, May 2001,
Apollo Series 60, 55000-310, Smoke Photoelectric	40*	Compatibility Assessment to AS1603.4-1987
<i>The above detectors with Apollo 45681-205 base.</i>		
Apollo Series 60, 53546-014, Duct Sampling Unit (with 55000-310 smoke)	40*	XF1540/R5, May 2001, Compatibility Assessment to AS1603.4-1987
Ampac, Fireray 2000, Beam detector	40*	
Ampac, FP/2, Manual Call Point	40*	
Demco, D-101, Manual Call Point	40*	
Demco, D-108, Manual Call Point	40*	
Hochiki, DCA-B-60R Mk V, Heat Type A	40*	XF1540/R5, May 2001
Hochiki, DCA-B-90R Mk I, Heat Type C	40*	Compatibility Assessment to AS1603.4-1987
Hochiki, DCC-A, Heat Type A	40*	
Hochiki, DCC-C, Heat Type C	40*	
Hochiki, DFE-60B, Heat Type B	40*	XF1540/R5, May 2001

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Actuating device	Maximum number of devices per AZF module API-671 - 22V	Reference
Hochiki, DFE-90D, Heat Type D <i>The above detectors with Hochiki YBC-R/3A, YBF-RL/4AH4M, or YBF-RL/3JM bases</i>		Compatibility Assessment to AS1603.4-1987
Hochiki, DCD-A, Heat Type A	40*	XF1540/R5, May 2001
Hochiki, DCD-C, Heat Type C	40*	Compatibility Assessment to AS1603.4-1987
Hochiki, DFJ-60B, Heat Type B	40*	
Hochiki, DFJ-90D, Heat Type D	40*	
Hochiki, SIJ-AS, Smoke Ionisation	40*	
Hochiki, SIJ-ASN, Smoke Ionisation	40*	
Hochiki, SLR-AS, Smoke Photoelectric <i>The above detectors with Hochiki YBN-R/4A or YBO-R/4A bases</i>	40*	
Hochiki, SIH-AM, Smoke Ionisation	40*	XF1540/R5, May 2001
Hochiki, SIH-AMB, Smoke Ionisation	40*	Compatibility Assessment to AS1603.4-1987
Hochiki, SLK-A, Smoke photoelectric <i>The above detectors with Hochiki YBF-RL/4AH4M or YBF RL/3JM bases</i>	40*	
Ampac Orbis™, o/c 201-0500, class BR, heat detector	40*	XF2307/R1, December 2006, Compatibility Assessment to AS 4428.0 Appendix E
Ampac Orbis™, o/c 201-0504, class A2S, heat detector	40*	
Ampac Orbis™, o/c 201-0508, class CR, heat detector	40*	
Ampac Orbis™, o/c 201-0510, class CS, heat detector	40*	
Ampac Orbis™, o/c 201-0512, photoelectric type smoke detector	40*	
Ampac Orbis™, o/c 201-0514, multi-sensor type smoke detector <i>The above detectors with Ampac Orbis™, o/c 201-0540 Timesaver base or o/c 201-0541 Timesaver LX base or o/c 201-0542 Timesaver relay base</i>	40*	

* Maximum number of detectors per AZF/AZC allowed by code.

Actuating device	Maximum number of devices per AZF module Apollo XP-95 Zone Monitor - 19V	Reference
Apollo Series 60, 55000-105, Heat Type A	22	XF1540/R6, May 2001
Apollo Series 60, 55000-106, Heat Type B	8	Compatibility Assessment to AS1603.4-1987
Apollo Series 60, 55000-107, Heat Type C	8	
Apollo Series 60, 55000-108, Heat Type D <i>The above detectors with Apollo 45681-200 base.</i>	8	
Apollo Series 60, 55000-240, Smoke Ionisation	40*	XF1540/R6, May 2001,
Apollo Series 60, 55000-310, Smoke Photoelectric <i>The above detectors with Apollo 45681-205 base.</i>	28	Compatibility Assessment to AS1603.4-1987
Apollo Series 60, 53546-014, Duct Sampling Unit (with 55000-310 smoke)	28	XF1540/R6, May 2001, Compatibility Assessment to AS1603.4-1987
Ampac, Fireray 2000, Beam detector	40*	
Ampac, FP/2, Manual Call Point	40*	
Demco, D-101, Manual Call Point	40*	
Demco, D-108, Manual Call Point	40*	
Hochiki, DCA-B-60R Mk V, Heat Type A	40*	XF1540/R6, May 2001
Hochiki, DCA-B-90R Mk I, Heat Type C		Compatibility Assessment to AS1603.4-1987
Hochiki, DCC-A, Heat Type A		XF1540/R6, May 2001
Hochiki, DCC-C, Heat Type C		Compatibility Assessment to AS1603.4-1987
Hochiki, DFE-60B, Heat Type B		
Hochiki, DFE-90D, Heat Type D <i>The above detectors with Hochiki YBF-RL/4AH4M base</i>		
Hochiki, DCD-A, Heat Type A	40*	XF1540/R6, May 2001

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Actuating device	Maximum number of devices per AZF module Apollo XP-95 Zone Monitor - 19V	Reference
Hochiki, DCD-C, Heat Type C	40*	Compatibility Assessment to AS1603.4-1987
Hochiki, DFJ-60B, Heat Type B	40*	
Hochiki, DFJ-90D, Heat Type D	40*	
<i>The above detectors with Hochiki YBN-R/4A or YBO-R/4A bases</i>		
Hochiki, SIJ-AS, Smoke Ionisation	40*	XF1540/R6, May 2001
Hochiki, SIJ-ASN, Smoke Ionisation	40*	Compatibility Assessment to AS1603.4-1987
Hochiki, SLR-AS, Smoke Photoelectric	40*	
<i>The above detectors with Hochiki YBN-R/4A or YBO-R/4A bases</i>		
Hochiki, SIH-AM, Smoke Ionisation	40*	XF1540/R6, May 2001
Hochiki, SIH-AMB, Smoke Ionisation	40*	Compatibility Assessment to AS1603.4-1987
Hochiki, SLK-A, Smoke Photoelectric	40*	
<i>The above detectors with Hochiki YBF-RL/4AH4M base</i>		
Ampac Orbis™, o/c 201-0500, class BR, heat detector	19	XF2307/R1, December 2006, Compatibility Assessment to AS 4428.0 Appendix E
Ampac Orbis™, o/c 201-0504, class A2S, heat detector	19	
Ampac Orbis™, o/c 201-0508, class CR, heat detector	19	
Ampac Orbis™, o/c 201-0510, class CS, heat detector	19	
Ampac Orbis™, o/c 201-0512, photoelectric type smoke detector	19	
Ampac Orbis™, o/c 201-0514, multi-sensor type smoke detector	19	
<i>The above detectors with Ampac Orbis™, o/c 201-0540 Timesaver base or o/c 201-0541 Timesaver LX base or o/c 201-0542 Timesaver relay base</i>		

* Maximum number of detectors per AZF/AZC allowed by code.

Supplementary information

Schedule of relevant articles

The following schedule is an extract of articles significant and/or related as evidence of conformity.

Reference		Title / description	Date issued (or date validated)	Source
Ident. type	Ident.			
Report	XF2988/R1	Evaluation for conformity of the Ampac FireFinder Fire Indicator Panel to the requirements of AS 4428.1-1998 (incl. Amdt 1)	29-Aug-2017	CSIRO Fire Systems Laboratory
Report No.	XF1842/R2	Assessment of Ampac Technologies Model FireFinder FIP to AS 4428.1	Jan-2003	Scientific Services Laboratory, AU
	XF1651/R1	Assessment of Ampac Alarm Acknowledgment Module	Jul-2000	
	XF1540/R6	Compatibility Assessment of Ampac, Hochiki and Apollo detectors with Ampac FireFinder CIE	May-2001	
	XF1540/R5	Compatibility Assessment of Ampac, Hochiki and Apollo detectors with Ampac FireFinder CIE	Mar-2001	
	XF1540/R4	Compatibility Assessment of Ampac, Hochiki and Apollo detectors with Ampac FireFinder CIE	Mar-2000	
	XF1471/R2	Compliance Testing of Ampac FireFinder™ Control & Indicating Equipment to NZS 4512:1997	Oct-1998	
	XF1417/R2	Compliance Testing of Ampac FireFinder™ Control & Indicating Equipment to AS 1603.4	Oct-1998	