



1. Scope

Clause 4.20 of AS 3786:2023 and Clause 4.17 of AS 1603.3:2018 allow both smoke alarms and heat alarms to provide connections to External Ancillary Devices (EADs). These standards require that an open or short circuit failure of these connections must not prevent the correct operation of the smoke and/or heat alarm.

This technical specification covers EADs, such as hubs and home security panels, that provide connections to smoke alarms and heat alarms with limited functionality.

This technical specification does not cover Fire Detection Control and Indicating Equipment (FDCIE), Residential Control and Indicating Equipment (RCIE), or mobile applications.

2. Referenced Documents

The documents referenced by this Technical Specification are listed in Table 1.

Table 1 List of documents referenced by this Technical Specification

AS 3786:2023	Smoke alarms using scattered light, transmitted light or ionization (ISO 12239:2021, MOD)
AS 1603.3:2018	Automatic fire detection and alarm systems Part 3: Heat alarms
AS 7240.2:2018	Fire detection and alarm systems Part 2: Fire detection control and indicating equipment (ISO 7240-2:2017, MOD)
AS ISO/IEC 17025:2018	General requirements for the competence of testing and calibration laboratories

3. Pre-evaluation Requirements

In addition to the application requirements of CSIRO's ActivFire Scheme document AF-D001, applicants wishing to have their product evaluated and certified by CSIRO must provide the following information and documentation:

1. Details of the device.
2. Functions of the device.
3. Details of the power supply equipment for the device.
4. Design drawings and manual.

4. Evaluation

4.1. Evaluation activities

To evaluate the conformity of the EAD for the purposes of CSIRO's ActivFire® Scheme, the following activities are required, as detailed in Table 2.

Table 2 Activities required by this technical specification to evaluate the conformity of the EAD for the purposes of CSIRO's ActivFire® Scheme.

Activity	Description
1	Evaluation protocol selection.
2	Evaluation of the EAD in accordance with evaluation protocol selection.
3	Verification of all relevant marketing materials.
4	Identification of any product limitations.

4.2. Activity 1

For this activity, ActivFire shall develop an evaluation schedule appropriate for the EAD. EADs that are considered small by ActivFire and are not located in a cabinet shall undergo environmental testing according to AS 3786, AS 1603.3, or both, alongside the heat and smoke alarm. EADs that are in a cabinet like a home security panel shall undergo evaluation to the environmental test of AS 7240.2 with the function testing conducted in accordance with AS 3786 or AS 1603.3. Table 3 below provides details of the mandatory and optional evaluation to the environmental test of clauses to AS 3786, AS 1603.3 and AS 7240.2 for the EAD.

Table 3 Evaluation protocol for EAD

Standard	Clause	Title	Notes
AS 7240.2	5.2	Function testing	Functions to be tested in accordance AS 3786 or AS 1603.3. (Eg. If the EAD provides a wireless connection to the smoke alarm, the EAD shall be tested to Clause 5.22.5 after each environmental tests)
	5.4	Cold (operational)	Mandatory for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.
	5.5	Damp heat, steady-state (operational)	Mandatory for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.
	5.6	Impact (operational)	Mandatory for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.
	5.7	Vibration, sinusoidal (operational)	Mandatory for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.
	5.8	EMC - Immunity tests (operational)	Mandatory for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.
	5.9	Supply voltage variation (operational)	Mandatory for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.
	5.10	Damp heat, steady-state (endurance)	Mandatory for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.



Standard	Clause	Title	Notes
	5.11	Vibration, sinusoidal (endurance)	Mandatory for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.
	5.12	Dry heat (operational) – optional	Optional test for large EADs in a cabinet. The EAD and its function(s) shall operate after the test.
AS 3786	5.7	Dry heat (operational)	Mandatory for small EADs as determined by ActivFire, connected to a smoke alarm or heat alarm. The EAD and its function shall operate after the test.
	5.8	Cold (operational)	Mandatory for small EADs as determined by ActivFire, connected to a smoke alarm. The EAD and its function(s) shall operate after the test.
	5.9	Damp heat (operational)	Mandatory for small EADs as determined by ActivFire, connected to a smoke alarm. The EAD and its function(s) shall operate after the test.
	5.10	Sulphur dioxide (SO ₂) corrosion	Mandatory for small EADs as determined by ActivFire, connected to a smoke alarm. The EAD and its function(s) shall operate after the test.
	5.11	Impact (operational)	Mandatory for small EADs as determined by ActivFire, connected to a smoke alarm. The EAD and its function(s) shall operate after the test.
	5.12	Vibration, sinusoidal (operational)	Mandatory for small EADs as determined by ActivFire, connected to a smoke alarm. The EAD and its function(s) shall operate after the test.
	5.13	Vibration, sinusoidal (endurance)	Mandatory for small EADs as determined by ActivFire, connected to a smoke alarm. The EAD and its function(s) shall operate after the test.
	5.14	Extended temperature (operational) – optional function	Optional test. The EAD and its function(s) shall operate after the test.
	5.15	Electromagnetic compatibility (EMC) immunity tests (operational)	Mandatory for small EADs as determined by ActivFire, connected to a smoke alarm. The EAD and its function(s) shall operate after the test.
	5.17	Battery-low condition	Mandatory if the EAD connected to a smoke alarm is powered by a battery.
	5.18	85 dBA Sound output – Optional function	Mandatory if the EAD connected to a smoke alarm provides a sound output.
	5.20	Sounder durability	Mandatory if the EAD connected to a smoke alarm provides a sound output.
	5.21	Interconnectable smoke alarms	Mandatory if the EAD connected to a smoke alarm has interconnect ability with the smoke or heat alarm.
	5.22	Smoke alarms using radio frequency links	Mandatory if the EAD connected to a smoke alarm or a heat alarm has radio frequency links.
	5.23	Alarm-silence facility	Mandatory if the EAD connected to a smoke alarm has alarm-silence facility.
	5.24	Temporary disablement facility	Mandatory if the EAD connected to a smoke alarm has alarm-silence facility.
	5.26	Polarity reversal	Mandatory if the EAD connected to a smoke alarm is powered by a battery or DC. externally powered.
	5.28	Electrical safety	Mandatory for all EAD types.



Standard	Clause	Title	Notes
AS 1603.3	5.8	Cold (operational)	Mandatory for small EADs as determined by ActivFire, connected to a heat alarm. The EAD and its function(s) shall operate after the test.
	5.9	Damp heat (operational)	Mandatory for small EADs as determined by ActivFire, connected to a heat alarm. The EAD and its function(s) shall operate after the test.
	5.10	Sulphur dioxide (SO ₂) corrosion	Mandatory for small EADs as determined by ActivFire, connected to a heat alarm. The EAD and its function(s) shall operate after the test.
	5.11	Impact (operational)	Mandatory for small EADs as determined by ActivFire, connected to a heat alarm. The EAD and its function(s) shall operate after the test.
	5.12	Vibration, sinusoidal (operational)	Mandatory for small EADs as determined by ActivFire, connected to a heat alarm. The EAD and its function(s) shall operate after the test.
	5.13	Vibration, sinusoidal (endurance)	Mandatory for small EADs as determined by ActivFire, connected to a heat alarm. The EAD and its function(s) shall operate after the test.
	5.14	Electromagnetic compatibility (EMC) immunity tests (operational)	Mandatory for small EADs as determined by ActivFire, connected to a heat alarm. The EAD and its function(s) shall operate after the test.
	5.15	Battery-low condition	Mandatory if the EAD connected to a heat alarm is powered by a battery.
	5.16	Sound output	Mandatory if the EAD connected to a heat alarm provides a sound output.
	5.17	Sounder durability	Mandatory if the EAD connected to a heat alarm provides a sound output.
	5.18	Interconnectable heat alarms	Mandatory if the EAD connected to a heat alarm has interconnect ability with the heat or smoke alarm.
	5.19	Alarm-silence facility	Mandatory if the EAD connected to a heat alarm has alarm-silence facility.
	5.21	Polarity reversal	Mandatory if the EAD connected to a heat alarm is powered by a battery or DC. externally powered.
	5.23	Electrical safety	Mandatory for all EAD types.

4.3. Activity 2

To meet the requirements of Activity 2 of this Technical Specification, the performance requirements of the EAD shall undergo testing and assessment as detailed in Table 3 by CSIRO's Fire Systems Laboratory.

4.4. Activity 3

To meet the requirements of Activity 3 of this Technical Specification, the EAD shall undergo the assessment requirements detailed in Table 4 by CSIRO's Fire Systems Laboratory.

Table 4 Assessment requirements for the EAD.

Title	Notes
Marketing material	<ul style="list-style-type: none">CSIRO's Fire Systems Laboratory shall assess any marketing material that intends to have the ActivFire® mark (including websites), ensuring that the marketing material contains accurate information of the product.

4.5. Activity 4

CSIRO's Fire Systems Laboratory shall identify any product limitation from their evaluation activities. Limitation shall include the following:

1. The EADs are to be used in conjunction with the approved smoke and heat alarm.
2. The evaluation does not include full conformance to either AS 7240.2, AS 3786 and AS 1603.3.
3. The evaluation does not include any App-based applications or functions.

4.6. Reporting

The evaluation of conformity report shall include the following information:

- a. A statement of conformity referencing this Technical Specification, with clear designation that the product has been evaluated in accordance with it.
- b. A description of the product, including photographs.
- c. Any product limitation, if applicable.
- d. A list of documentation used for the evaluation of conformity including the document ID, version number, and issue date.
- e. Software and firmware version, if applicable.
- f. All other information required by AS ISO/IEC 17025:2018.

5. Ongoing Verification of Conformity

5.1. Ongoing verification of conformity activities

To maintain ongoing certification with CSIRO's ActivFire® Scheme, the EADs shall be subject to a post-certification surveillance activity described in AF-D008 and Table 5.

Table 5 Activities required to demonstrate ongoing conformity of the EADs.

Activity	Description	Notes
1	Audit of the Primary Manufacturing Unit (PMU) within the first 6 months of the first issue date of the Certificate of Conformity and every 24 months after.	<ul style="list-style-type: none"> Details of the audit activities are described in CSIRO ActivFire® Scheme document AF-D008. If the Registrant has multiple Certified products with the Scheme that are manufactured at the same PMU, the Scheme shall work with the Registrant to conduct the PMU audit within the same period for the Certified products.
2	Market sampling of the EAD.	<ul style="list-style-type: none"> At CSIRO's discretion, upon the Scheme being notified of product non-conformance, EADs may be purchased directly from the market and be subjected to evaluation in accordance with this Technical Specification and the requirements of AF-D008. If market sampling for an EAD occurs, CSIRO shall inform the Registrant that CSIRO has purchased the EAD from the market and is scheduled to undergo re-evaluation. A quote will be issued to the registrant detailing the relevant requirements of the re-evaluation and the cost of the market sampling activity. If the registrant does not agree to the quote and terms, the product will be deemed non-conforming.

5.2. Reporting

An ongoing verification of conformity report shall be provided by CSIRO's ActivFire® Scheme upon completion of the relevant ongoing verification of conformity activities. If the results of Activity 1 are successful, the Certificate of Conformity of the smoke alarm or heat alarm with the EAD shall be revalidated.



Document Review

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1	2-Sep-25	<ul style="list-style-type: none">Initial issue
2	22-Sep-25	<ul style="list-style-type: none">Typographical amendments