

STANDARD INFORMATION

Standard: UL 521 / ULC 530

Standard ID:

Heat Detectors for Fire Protective Signaling Systems [UL 521:2024 Ed.8+R:24Oct2025]

Standard for Heat Detectors for Fire Protective Signaling Systems [CAN/ULC 530:2024 Ed.2+R:24Oct2025]

Previous Standard ID:

Heat Detectors for Fire Protective Signaling Systems [UL 521:2024 Ed.8]

Standard for Heat Detectors for Fire Protective Signaling Systems [CAN/ULC 530:2024 Ed.2]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **December 11, 2027**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Overview of Changes: Battery tests – lithium metal type. Specific details of new/revise requirements are found in table below.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

| CLAUSE | VERDICT | COMMENT |
|---------|---------|--|
| | | <i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i> |
| | | <i>New section added;</i> |
| 34A | | Battery Powered Units A detector that uses a battery as the main source of supply shall be capable of producing an alarm signal for at least 4 minutes, at the battery voltage at which a trouble signal is obtained, followed by 7 days of trouble signal indication. |
| 48 | Info | Audibility Test (For Detectors with Integral Sounders) |
| 48.2 | Info | Sound output measurement |
| | | <i>New clause added;</i> |
| 54.2.4A | | In lieu of the requirements of 48.2.4, it is permitted that a detector, powered by batteries other than carbon-zinc or alkaline, be energized by a single cell or multi-cell battery pack that has been depleted to the trouble signal level identified in 54.2.1A for the period of 1 year minimum (or claimed battery life greater than 1 year). |
| | | <i>New clause added;</i> |
| 48.2.5A | | For batteries other than carbon-zinc or alkaline, it is permitted that the equivalent of a battery be identified as a voltage source adjusted to a level at which a trouble signal is obtained during the normal standby condition. The voltage used is to be that which was determined during Section 54, Circuit Measurement Test. |
| 54 | Info | Circuit Measurement Test |
| 54.2 | Info | Battery trouble voltage determination |
| | | <i>New clause added;</i> |
| 54.2.1A | | In lieu of the requirements of 54.2.1, for batteries other than carbon-zinc or alkaline, a decrease in terminal voltage of a battery employed as the primary source of power to a detector shall not impair operation for an alarm signal before a trouble signal is obtained. |
| | | <i>New clause added;</i> |
| 54.2.1B | | In lieu of 54.2.2 – 54.2.4 it is permitted for non-carbon-zinc and non-alkaline batteries that the manufacturer identify the low-voltage level that results in a battery trouble signal. This low-voltage level is the output of either a single cell or multi-cell battery pack. |



| CLAUSE | VERDICT | COMMENT |
|--------|---------|--|
| 67 | Info | Battery Tests |
| 67.1 | | <p>Where a replaceable battery is employed as the main source of power of a heat detector, it shall provide power to the unit under intended ambient conditions for at least 1 year (or whatever longer period specified by the manufacturer) in the standby condition, including novelty and weekly alarm testing, and then operate the detector for a minimum of 4 minutes of alarm, followed by 7 days of trouble signal. See 34.1. Where a nonreplaceable battery is employed as the main source of power, it shall provide power to the unit under intended ambient conditions for at least 10 years in the standby condition, including novelty and weekly testing, and then operate the detector for a minimum of 4 minutes of alarm, followed by 7 days of trouble signal. <u>The manufacturer shall provide the following documentation which details the power consumption and battery capacity for the detector:</u></p> <p><u>a) Maximum current draws under the detector's normal standby condition and alarm condition under the intended ambient conditions; and</u> <u>b) Rated normal and actual capacities of the battery or battery pack.</u></p> |