

STANDARD INFORMATION

Standard: ULC S588

Standard ID: Standard for Gas and Vapour Detectors and Sensors, Including Accessories [CAN/ULC S588:2017 Ed.1+R1]

Previous Standard ID: Standard for Gas and Vapour Detectors and Sensors, Including Accessories (R2022) [CAN/ULC S588:2017 Ed.1]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **February 5, 2026**

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 Reports not updated to this version by the effective date above will be withdrawn.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:

- New requirements for capacitors
- New requirements for gas and vapour sensor
- Revisions to the temperature test
- New requirements for the detection threshold test (combustible gas detection)
- New marking performance requirements

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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> |
| 4 | Info | DETECTOR OR SENSOR RELIABILITY PREDICTION |
| 4.4 | Info | COMPONENT |
| | | <i>New clause added;</i> |
| | | For “Capacitor” component temperatures exceeding those identified in Table 1, but subject to the Exception specified in 9.34.2, the component shall; |
| 4.4.8 | | a) comply with the reliability requirements outlined in MIL-HDBK 217, b) reliability testing shall be calculated based on the highest rated ambient temperature that is equal to or greater than the manufactures’ published, maximum installation temperature, c) shall not exceed 2.5 failures per million hours, and d) shall be included in the failure rate calculation as specified in 4.2.1. |
| 9 | Info | PERFORMANCE |
| 9.1 | Info | GENERAL |
| | | <i>New clause added;</i> |
| | | A gas and vapour sensor, detector or alarm shall operate within the sensitivity parameters defined by the manufacturer but must not exceed the applicable sensitivity limits defined in: |
| 9.1.1 | | a) This Standard; b) Residential carbon monoxide alarming devices, CSA 6.19; and c) Detection threshold limits and samples as specified in 9.55. |
| 9.34 | Info | TEMPERATURE TEST |
| | | A material or part is to be considered as being adversely affected if it is subject to a temperature rise greater than that indicated in Table 1, Maximum Temperature Rises. |
| 9.34.2 | | <u>Exception: A component with a temperature exceeding that indicated in Table 34.1 is not prohibited from being used when reliability data at the higher temperature is provided by the manufacturer to justify its use.</u> |



| CLAUSE | VERDICT | COMMENT |
|--------|---------|---|
| 9.55 | Info | Detection threshold test (combustible gas detection) <i>New clause added;</i> |
| 9.55.1 | | Combustible gas detectors shall be subject the requirements specified in 9.55.1 – 9.55.11. The gas detector shall not false alarm except as specified in 9.2 – 9.54, and the detection threshold shall not exceed 10 percent of the lower explosive limit of the gas. <i>New clause added;</i> |
| 9.55.2 | | The detection threshold is to be determined on: a) A minimum of 45 as-received samples; and b) 36 of the 45 as-received samples after each conditioning test unless otherwise indicated. <i>New clause added;</i> |
| 9.55.3 | | Unless otherwise specified, the detection threshold is to be determined at an ambient temperature of 20 – 25 °C (68 – 77 °F) and a relative humidity of 40 – 60 percent. <i>New clause added;</i> |
| 9.55.4 | | With reference to 9.55.1 the lower explosive limits are 5.0 percent by volume of methane in air and 2.1 percent by volume LP-gas (propane) in air. <i>New clause added;</i> |
| 9.55.5 | | The method used to determine the detection threshold is to be as described in 9.55.6 or an equivalent method that does not result in a greater rate of flow across the gas sensing element. <i>New clause added;</i> |
| 9.55.6 | | The gas detector shall be installed in a chamber having a volume of at least 1 cubic foot (0.02683 m ²) and constructed to permit accurate monitoring and control of chamber air temperature and humidity, and oxygen and gas concentrations. Supply voltage, if applicable, shall be adjusted to 100 percent of rated input voltage. <i>New clause added;</i> |
| 9.55.7 | | A test chamber may be used in which a precalculated volume of gas is injected into an air-filled chamber and mixed with the air in the chamber, either mechanically or by diffusion. |



| CLAUSE | VERDICT | COMMENT |
|--------|---------|---|
| 10 | Info | MARKING <i>New section added;</i> Marking Permanence |
| 10.2 | | Markings affixed to a smoke alarm shall be sufficiently durable as to resist the deleterious effects of handling, cleaning agents, and the like, expected in the intended use. See standard for details. |