

STANDARD INFORMATION

Standard: CSA C22.2 No. 24

Standard ID: Temperature-Indicating and Regulating Equipment [CSA C22.2#24:2021 Ed.10]

Previous Standard ID: Temperature-Indicating and Regulating Equipment (R2019) [CSA C22.2#24:2015 Ed.9]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **November 3, 2023**

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 Reports not updated to this version by the effective date above will be withdrawn.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 battery short-circuit test
- New electronic disconnection test
- New Running overload test
- Added testing requirement for electronic disconnection
- Included new battery requirements
- Improvement safety measures
- New requirements for safety of electronic disconnection controls
- New requirements for battery powered controls

Specific details of new/revised 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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
		<p>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</p>
5	Info	Construction
5.1	Info	General
		<p>Appliance controls shall</p> <p>a) meet the calibration tests specified in Clauses 7.6.1 and 7.6.2 for controls other than household range oven primary thermostats;</p> <p>b) meet the test requirements for the number of endurance cycles specified in Table 10 at the voltage specified in Table 4;</p> <p>c) have the required spacings for the voltage involved (see Table 3); and</p> <p>d) comply with the marking requirements of Clause 6.1.i).</p> <p>Notes:</p> <p>1) Appliance controls that comply with these requirements will, in most cases, be acceptable without further testing in equipment covered by the following CSA Standards:</p> <p>a) C22.2 No. 36, Hairdressing equipment;</p> <p>b) C22.2 No. 46, Electric air-heaters;</p> <p>c) C22.2 No. 61, Household cooking ranges;</p> <p>d) C22.2 No. 64, Household cooking and liquid-heating appliances;</p> <p>e) C22.2 No. 109, Commercial cooking appliances;</p> <p>f) C22.2 No. 112, Electric clothes dryers; and</p> <p>g) CAN/CSA-C22.2 No. 60335-2-44, Household and similar electrical appliances — Safety — Part 2-44: Particular requirements for ironers.</p> <p>2) <u>The sensing portion material of the oven thermostat is required to withstand pyrolytic self-cleaning operations as in CSA C22.2 No. 61.</u></p>
5.1.9		
5.2	Info	Frame and enclosure
5.2.1	Info	General
		<p>Enclosures and parts of enclosures of non-metallic material shall not cause a fire or shock hazard in equipment because of susceptibility to ignition, melting by electrical disturbances within, deterioration from long-term thermal aging effects, or exposure to the operating environment and shall comply with the impact test of Clause 7.13 and the flame test of Clause 7.14. <u>Openings in the enclosure shall not be greater than 12.7 mm and shall prevent the probe in Figure 6 from touching live or bare live parts when it is applied in any direction with a force of 25 N.</u></p>
5.2.1.6		



CLAUSE	VERDICT	COMMENT
5.6	Info	Supply connections
5.6.2	Info	Cord-connected equipment
		<i>New clause added;</i>
5.6.2.4		Cord-connected equipment that does not have provision for grounding shall be double-insulated and shall be in accordance with CSA C22.2 No. 0.1.
5.30	Info	Room thermostats
		<i>New clause added;</i>
5.30.3		The in-line room thermostat that is intended to automatically operate continuously in unattended mode without overload protective devices, where the safety relies on the branch circuit breaker in the overload condition shall comply with the running overload test specified in Clause 7.32.
		<i>New section added;</i>
		Control intended for connection of primary or secondary battery
5.32		Controls having battery compartments that can be opened without the aid of a tool, or that according to the instructions for use may be replaced by the user, need only have basic insulation between live parts and the inner surface of the battery compartment. See standard for details.
		<i>New clause added;</i>
5.33		Controls providing electronic disconnection
		Controls providing electronic disconnection shall meet the requirement of Clause 7.31. See standard for details.
6	Info	Marking
		<i>New clause added;</i>
6.14		For a control having provision for two or more separate connections to a branch circuit or other power- supply source, it shall be permanently marked with the word "CAUTION", followed by, "MORE THAN ONE LIVE CIRCUIT. To reduce the risk of electric shock, disconnect all such connections before servicing.", or the equivalent. The marking shall be located at each point of connection and shall be readily visible after installation of the control.
		Notes: 1) This Clause does not apply to circuits of extra-low-voltage as defined in Clause 3. 2) For adjacent live circuit connections, a single caution mark is acceptable.
		<i>New section added;</i>
6.15		If equipment is provided with a replaceable battery, and if replacement by an incorrect type could result in an explosion (for example, with some lithium batteries), the following shall apply: See standard for details.



CLAUSE	VERDICT	COMMENT
7	Info	Tests
7.9	Info	Endurance
7.9.2.3		For <u>operating controls using electronic disconnection in the load circuit for a room thermostat, a minimum of 30 000 cycles</u> , and for other electronic controls a minimum of 6000 cycles, shall be conducted at the most extreme ambient temperature conditions that will be experienced in the end application.
7.10	Info	Dielectric strength
		<i>New clause added;</i>
7.10.11		Controls providing electronic disconnection shall be capable of withstanding for 1 min, without breakdown, the application of 100 V for a control rated up to 50 V. If the rated voltage is greater than 50 V, the dielectric test shall be conducted at twice the rated voltage. Notes: 1) The device which actually performs the disconnection is first removed from the circuit. If necessary, any control input is connected such that the device is providing the disconnection. The test voltage is then applied to the terminals and terminations of the device which carry the load current. 2) See Annex D.
7.27	Info	Abnormal testing
		The test shall be continued until thermal stabilization has occurred <u>or the protective device tripped under the conditions specified in Clause 7.27.3.1.</u> <u>The control shall meet the following requirements:</u>
7.27.3.2		<u>a) There shall be no damage to the control device that will result in insulation breakdown, or reduction in spacing in accordance to Table 3.</u> <u>b) The cheesecloth shall not glow or flame and there shall be no emission of flame or molten metal from the enclosure.</u> <u>c) After the conclusion of the test the control device shall comply with the dielectric strength test of Clause 7.10.</u>
		<i>New section added;</i>
		Battery short-circuit test
7.30		For controls having batteries that can be removed without the aid of a tool and having terminals that can be short-circuited by a thin straight bar, the terminals of the battery shall be short-circuited with the battery being fully charged. See standard for details.



CLAUSE	VERDICT	COMMENT
		<i>New clause added;</i>
		Electronic disconnection test
7.31		The current through the electronic disconnection shall not exceed 5 mA or 10% of the rated current, whichever is the lower when the control is connected to its declared maximum load, supplied with rated voltage, and at the maximum ambient temperature. See standard for details.
		<i>New clause added;</i>
		Running overload test
7.32		The running overload test shall be carried out on a room thermostat that is intended to control load automatically or liable to be operated continuously in unattended mode. See standard for details.
		<i>New annex added;</i>
		Requirements for controls powered by secondary batteries (rechargeable)
Annex C		Controls powered by rechargeable batteries shall be additionally tested in accordance with the operation of the control under the following conditions: See standard for details.