

STANDARD INFORMATION

Standard: UL 60730-2-9

Standard ID: Automatic Electrical Controls - Part 2-9: Particular Requirements for Temperature Sensing Controls [UL 60730-2-9:2018 Ed.4+R:05Aug2021]

Previous Standard ID: Automatic Electrical Controls - Part 2-9: Particular Requirements for Temperature Sensing Controls [UL 60730-2-9:2017 Ed.4+R:18Jun2020]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **August 5, 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 Reports not updated to this version by the effective date above will be withdrawn.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:

- Addition of requirements for type 1.H and 2.H
- Addition of requirements for 1J and 2J

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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
11	Info	Constructional requirements
11.4	Info	Actions
11.4.11		<i>New section added;</i>
11.4.11		Type 1.H or 2.H action
11.4.11.101		For this test, the reset mechanism of the CONTROL will be held in the reset position for the duration of the test from 11.4.11.102 to 11.4.11.104. The verification of the automatic non-resetting above $-35\text{ }^{\circ}\text{C}$ will be carried out by 11.4.11.105 to 11.4.11.106. For SOD, the verification of the automatic non-resetting above either $+0\text{ }^{\circ}\text{C}$ or $-35\text{ }^{\circ}\text{C}$ will be carried out by 11.4.11.105 to 11.4.11.106, as declared in item 103 of Table 1.
11.4.11.102		With the reset mechanism held in the reset position at room temperature, continuity across contacts is observed by a low-energy circuit, 0,05 A maximum.
11.4.11.103		The CONTROL's SENSING ELEMENT is then installed in an air circulating chamber or an oil bath and the CONTROL's SWITCH HEAD is installed as in 14.5.1. When the whole CONTROL is declared as the SENSING ELEMENT, the whole CONTROL is placed in an air-circulating chamber. The CONTROL or the CONTROL's SENSING ELEMENT is adjusted for the maximum set point temperature. The chamber or oil bath temperature shall be determined by positioning a thermocouple wire adjacent to the CONTROL under test. The chamber or oil bath temperature is then raised from room temperature and held at approximately 10 K below the set point until temperatures stabilize. The chamber or oil bath temperature is then raised at a rate of not more than 0,5 K per minute until the contact operates. Indication of contact separation is observed by applying the method of 11.4.11.102.
11.4.11.104		After the CONTROL has operated and with the reset mechanism still held in the reset position, the temperature of the chamber or oil bath is then reduced to determine if the CONTROL automatically resets. Verification of contact closure is done by applying the method in 11.4.11.102.
11.4.11.105		The whole CONTROL or the CONTROL's SENSING ELEMENT is then installed in an air circulating chamber or oil bath again and the CONTROL's SWITCH HEAD (if applicable) is installed as in 14.5.1 with the reset mechanism in its normal condition. The chamber or oil bath temperature shall be determined by positioning a thermocouple wire adjacent to the control under test. The chamber or coil bath temperature is raised from room temperature and held at approximately 10 K below the set point until temperatures stabilize. The chamber or oil bath temperature is then raised at a rate of not more than 0,5 K per minute until the contact operates. Indication of contact separation is observed by applying the method of 11.4.11.102.



CLAUSE	VERDICT	COMMENT
11.4.11.106		After the CONTROL has operated, the temperature of the chamber is allowed to cool down to either +0 °C or –35 °C. Indication of contact separation is observed by applying the method of 11.4.11.102.
11.4.12		New section added; Type 1.J or 2.J action
11.4.12.101		For this test, the reset mechanism of the CONTROL will be held in the reset position for the duration of the test from 11.4.12.102 to 11.4.12.104. The verification of the automatic non-resetting above –35 °C will be carried out by 11.4.12.105 to 11.4.12.106. For SOD, the verification of the automatic non-resetting above either +0 °C or –35 °C will be carried out by 11.4.12.105 to 11.4.12.106, as declared in item 103 of Table 1.
11.4.12.102		With the reset mechanism held in the reset position at room temperature, contact separation is observed by a low-energy circuit, 0,05 A maximum.
11.4.12.103		The control's SENSING ELEMENT is then installed in an air circulating chamber or oil bath and the control's SWITCH HEAD is installed as in 14.5.1. When the whole CONTROL is declared as the SENSING ELEMENT, the whole CONTROL is placed in an air-circulating chamber. The control or the control's SENSING ELEMENT is adjusted for the maximum set point temperature. The chamber or oil bath temperature shall be determined by positioning a thermocouple wire adjacent to the control under test. The chamber or oil bath temperature is raised from room temperature and held at approximately 10 K below the set point until temperatures stabilize. The chamber or oil bath temperature is then raised at a rate of not more than 0,5 K per minute until 10 K over the operation temperature. Indication of contact separation is still observed by applying the method of 11.4.11.102.
11.4.12.104		After the CONTROL has operated and with the reset mechanism still held in the reset position, the temperature of the chamber or oil bath is then reduced to determine if the CONTROL automatically resets. Verification of contact closure is done by applying the method in 11.4.11.102.
11.4.12.105		The whole CONTROL or the control's SENSING ELEMENT is then installed in an air circulating chamber or oil bath again and the control's SWITCH HEAD (if applicable) is installed as in 14.5.1. with the reset mechanism in its normal condition. The chamber or oil bath temperature shall be determined by positioning a thermocouple wire adjacent to the CONTROL under test. The chamber or oil bath temperature is raised from room temperature and held at approximately 10 K below the set point until temperatures stabilize. The chamber or oil bath temperature is then raised at a rate of not more than 0,5 K per minute until the contact operates. Indication of contact separation is observed by applying the method of 11.4.11.102.
11.4.12.106		After the CONTROL has operated, the temperature of the chamber or oil bath is allowed to cool down to either +0 °C or –35 °C. Indication of contact separation is observed by applying the method of 11.4.11.102.