



National Differences For

UL 60730-2-9

Standard for Automatic Electrical Controls for Household and Similar Use - Part 2-9: Particular Requirements for Temperature Sensing Controls

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Standard for Automatic Electrical Controls for Household and Similar Use - Part 2-9: Particular Requirements for Temperature Sensing Controls

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This new edition is being issued to update the IEC text to the third edition of IEC 60730-2-9 and to adopt numerous revisions to the national differences.

This document provides a single listing of the National Differences included in the UL adoption of the corresponding IEC standard.

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Preface

This document provides a single listing of the technical National Differences included in the UL adoption of the corresponding IEC standard.

In its IEC-based standards, UL uses the notations indicated below to identify national difference type, and these types are additionally noted in this document. The standard may not use all types of these deviations.

D1 - These are deviations which are based on basic safety principles and requirements, elimination of which would compromise safety for U.S. consumers and users of products.

D2 - These are deviations based on safety practices. These are deviations for IEC requirements that may be acceptable, but adopting the IEC requirements would require considerable retesting or redesign on the manufacturer's part.

DC - These are deviations based on the component standards and will not be deleted until a particular component standard is harmonized with the IEC component standard.

DE - These are deviations based on editorial comments or corrections.

DR - These are deviations based on the national regulatory requirements.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base IEC text:

Addition / Add - An addition entails adding a complete new numbered clause, subclause, table, figure, or annex. Addition is not meant to include adding select words to the base IEC text.

Deletion / Delete - A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.

Modification / Modify - A modification is an altering of the existing base IEC text such as the addition, replacement or deletion of certain words or the replacement of an entire clause, subclause, table, figure, or annex of the base IEC text.

National Differences

1.1.101DV D2 *Modify text of 1.1.101 with the following:*

This standard applies to single operation devices, thermostats for drip-type coffee makers, self-heating thermal protectors (SHTP) for recessed lighting fixtures, and Fan/Heat sequencers as defined in this standard.

2.2.107ADV D2 *Add the following definitions to Clause 2.2 of the Part 2:*

2.2.107ADV.1 Thermostats for Drip-Type Coffee Makers – an automatic thermostat (operating control with type 2 action) intended for use in household Drip-Type Coffee Makers.

2.2.107ADV.2 Set-Point Temperature Rating (T_{s-p}) for thermostats for use in drip-type Coffee Makers – The temperature at which the thermostat's electrical load switching contacts change state upon temperature rise. For adjustable thermostats the Set-Point Temperature Rating (T_{s-p}) is the temperature at which the thermostat's electrical load switching contacts change state, upon temperature rise, with the thermostat adjusted to the maximum temperature setting. This rated value is a nominal figure of a temperature range. The range is defined by the allowable tolerances specified in table 7.2

2.2.107ADV.3 Operating Temperature – Initial ($T_{op-init}$) for thermostats for use in drip-type Coffee Makers – A temperature, measured during the deviation test, at which the thermostat's electrical load switching contacts change state upon temperature rise. If multiple trials of the deviation test are conducted, this value is the arithmetic average of up to three trials.

2.2.107ADV.4 Operating Temperature – Final (T_{op-fin}) for thermostats for use in drip-type Coffee Makers – A temperature, measured during the drift test conducted after the endurance test sequence, at which the thermostat's electrical load switching contacts change state upon temperature rise. If multiple trials of the final drift test are conducted, this value is the arithmetic average of up to three trials.

2.2.107ADV.5 Maximum Normal Use Temperature Rating (T_{max}) for thermostats for use in drip-type Coffee Makers – The maximum temperature permitted on the thermostat's sensing surface during normal operation of the coffee maker. This temperature is equal to or greater than T_{s-p} .

2.2.107ADV.6 Maximum Dry Operation Temperature Rating (T_{dry}) for thermostats for use in drip-type Coffee Makers – The maximum temperature permitted on the thermostat's sensing surface during abnormal (dry) operation of the coffee maker. This temperature is equal to or greater than T_{max} .

2.2.107ADV.7 Reset Temperature (T_{reset}) for thermostats for use in drip-type Coffee Makers – A temperature at which the thermostat's electrical load switching contacts change state upon temperature fall. This value is a performance-based value noted during the endurance test. This temperature need not be declared by the manufacturer. Deviation and Drift tolerances are not applied to T_{reset} .

2.2.107BDV D2 Add the following definition to the Part 2:

2.2.107BDV.1 Fan/Heat Sequencer – a combination control (operating control with type 2 action) that may be used alone or with other devices to sequentially control a fan and heater or heating elements in electric central air-heating equipment.

2.2.107CDV D2 Add the following definition to the Part 2:

2.2.107CDV.1 Self-heating thermal protectors (SHTP) – a thermal protective device consisting of a temperature sensitive switching element and a load voltage heater within a common housing.

When mounted on a non-Type IC recessed fixture, the SHTP is intended to cycle under field related abnormal heating conditions. An SHTP is a protective control as defined in this standard.

4.2.1DV D2 Modify Clause 4.2.1 by adding the following:

Additional samples of the Self-heating thermal protectors (SHTP) are required for the tests of clauses 15, 17 and 27.

4.3.5.101DV D2 Add Clause 4.3.5.101DV.1 to the Part 2:

4.3.5.101DV.1 The values in annex CC.2 apply for the testing of INDEPENDENTLY MOUNTED, FREE STANDING and cord-connected temperature SENSING CONTROLS in Clause 17. Unless otherwise specified in the appropriate equipment standard, the values in Annex CC.2 also apply for INTEGRATED and INCORPORATED CONTROLS.

6.7.103ADV D2 Add Clause 6.7.103ADV.1 to the Part 2:

6.7.103ADV.1 Thermostats for use in household drip-type coffee makers.

6.7.103BDV D2 Add Clause 6.7.103BDV.1 to the Part 2:

6.7.103BDV.1 Self-heating thermal protectors for use in recessed lighting fixtures.

Table 7.2DV D2 Addition of the following to Table 7.2:

Table 7.2DV.1

Information	Clause or subclause	Method
117ADV Date code of manufacturing for INDEPENDENTLY MOUNTED CONTROLS ^{105ADV}		C
117BDV Set-point Temperature Rating (T_{s-p})	2.2.107BDV, 15.5.6ADV, 15.5.6BDV, 17.16.102ADV.1	X
117CDV Operating Temperature – Initial ($T_{op-init}$)	2.2.107ADV.3, 15.5.6ADV, 15.5.6BDV, 17.16.102ADV.1	–
117DDV Operating Temperature - Final (T_{op-fin})	2.2.107ADV.4, 15.5.6ADV, 15.5.6BDV, 17.16.102ADV.1	–
117EDV Maximum Normal Use Temperature Rating (T_{max})	2.2.107ADV.5, 15.5.6ADV, 15.5.6BDV, 17.16.102ADV.1	X
117FDV Maximum Dry Operation Temperature Rating (T_{dry})	2.2.107ADV.6, 15.5.6ADV, 15.5.6BDV, 17.16.102ADV.1	X
117GDV Reset Temperature (T_{reset})	2.2.107ADV.7, 15.5.6ADV, 15.5.6BDV, 17.16.102ADV.1	X
117HDV Number of Timings	2.2.107BDV, 15.5.6BDV, 15.5.6CDV, 15.5.6CDV.1.2, 17.16.102BDV.1	X
117IDV Time-to-open (“off”), sec (range) for a given ambient temperature	2.2.107BDV, 15.5.6BDV, 15.5.6CDV, 15.5.6CDV.1.2, 17.16.102BDV.1	X
117JDV Time-to-close (“on”), sec (range) for a given ambient temperature	2.2.107BDV, 15.5.6BDV, 15.5.6CDV, 15.5.6CDV.1.2, 17.16.102BDV.1	D
NOTES <i>Additional notes</i> ^{105A)} The date code shall be the date or other dating period of manufacture not exceeding any three consecutive months. The date of manufacture may be abbreviated; or may be in a nationally accepted conventional code or in a code affirmed by the manufacturer, provided that the code: a) Does not repeat in less than 20 years, and b) Does not require reference to the product records of the manufacturer to determine when the product was manufactured.		

11.11.101DV D2 Addition of 11.11.101DV.1 – 11.11.101DV.3 to 11.11 to the Part 1:

11.11.101DV.1 A cut-out or limiter incorporating a transformer, relay, or the like shall be supplied by a one-side grounded system with a voltage rating not exceeding 120 volts nominal. A switch or protective device shall be connected in the ungrounded supply conductor circuit.

11.11.101DV.2 A mercury switch shall be enclosed. Wire leads shall be as short as possible and terminate at eyelets or the equivalent, or in soldered connections at terminal plates in the supporting box or shall be fastened so that no strain is placed on the mechanism.