
CTL DECISION SHEET

Standard(s)- (year and edition): IEC 60730-1 IEC 60730-2-9	Sub clause(s): Clause 2.2.9.2, Clause 11.4.1	Sheet n°: DSH 583 Page 1 of 2
Subject: Temperature control of cordless kettle	Key words: - combined action - non-bi-metallic single operative device	Decision approved during the CTL Plenary Meeting 2006

Question:

During the testing procedure of one kind of control according to standards IEC 60730-1 and IEC 60730-2-9 (see attachment)

Q1: Is there any combined action in this kind of kettle control? Is the melt contacts a failure according to the standard clause 11.4.1?

In the standard IEC 60730-1:1993 second edition as well as in IEC 60730-1:1999 third edition, the clause 11.4.1 Combined actions says: a control having more than one action with one of the actions designed to operate after the failure of the other action(s), shall be so construction that this action remains operative after failure of any portion unique to the other action(s).

Q2: Does this kind of kettle control meet the requirement of clause 11.4.1 of standard IEC 60730-1?

According to the declaration of the control maker, the thermal cut-out is designed to operate after the failure of the temperature limiter and the thermal sensing element is designed to operate after the failure of the thermal cut-out.

Q3: Is the Thermal sensing element integrated within the control Non-bi-metallic single operation device according to the clause 2.2.9.2 of standard IEC 60730-2-9:2004 edition 2.2?

For the controls, the applicable standards are IEC 60730-1 and IEC 60730-2-9. In the standard IEC 60730-2-9:2004 edition 2.2, the clause 2.2.9.2 defines a device called Non-bi-metallic single operation device: part of a control the operation of which cannot be separated from other functions of the control and having a non bi-metallic sensing element that operates only once and then requires complete or partial replacement.

Q4: If the Thermal sensing element is the Non-bi-metallic single operation device, can it be tested separately?

It is noted in clause 2.2.9.2 of standard IEC 60730-2-9:2004 edition 2.2: When such parts can be tested separately, they are considered to be thermal links within the scope of IEC 60691.

Decision:

The thermal sensing element (nylon stick) in question is no electrical device.
For testing the nylon stick is no standard available.

IEC 60691 is not applicable because the nylon stick is not in the scope of this standard.

For this reasons:

- it's not possible to certify the thermal sensing element (nylon stick) as a single component.
 - the thermal cut-out and the temperature limiter have to be considered separate.
 - the thermal cut-out and the temperature limiter shall could be certified in accordance to IEC 60730-2-9.
 - in accordance to clause 2.2.9.2 of IEC 60730-2-9 the nylon stick together with the temperature limiter could be seen as SOD (non-bimetallic; requirements as in clause 17.15.2 of IEC 60730-2-9) and could be certified as component in the kettle control.
- The relevant parts of the connection of the kettle control and the kettle have to be considered during the investigation.
- The requirements of the electrical connection of the kettle control and the kettle has to be considered in accordance to IEC 60335-2-15
- the arrangement of the kettle control and the kettle could be certified in accordance to IEC 60335-2-15

Explanatory notes:

None
