Information bulletin

Switches & Socket outlets

STANDING COMMITTEE OF OFFICIALS (SCO)
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General

This information bulletin applies to smart switches and socket-outlets fitted with face/cover plates detachable with or without the aid of a tool; where that face/cover plate may be required to be removed by the user in order to access controls/reset keys for user operation of features (such as pairing with their smart phones and the like), or for maintenance purposes such as painting.

Requirement

In order to prevent the user from inadvertently accessing live parts, such switches and socket-outlets shall comply with the following:

Live parts shall not be accessible (shall not be able to be contacted by the standard test finger) after removal of any cover that does not require a tool for its removal, or a cover that is removed according to manufacturer's instructions for use or maintenance or for adjustment/access to controls/reset keys or the like.

Any non-earthed metal parts including electrical/electronic components or ELV parts that are accessible after removal of the face/cover plate by the user shall be isolated from live parts by double or reinforced insulation and shall comply with the non-detachable parts tests of AS/NZS 3112 Appendix K for socket-outlets and applicable parts of clause 10 – "Protection against electric shock"; and clause 13 - "Constructional requirements" of AS/NZS 60669.1 for smart switches.

Background

In many cases, controls/reset keys and other electronics components are mounted behind face/cover plates on a control PCB connected to the main PCB's header connectors. This makes the control PCB easily removable without the aid of any tool (once the face/cover plate has been removed), potentially exposing the user to live parts.

AS/NZS 3112 is the current standard used for certification of socket outlets; however this standard does not clearly and adequately cover the requirement for assessing access to live parts for those parts than can only be accessed after the removal of a non-detachable part (part that can only be detached by the use of a tool). For example, the face/cover plate is required to be removed for user operation of features of the device (e.g. for pairing the device with a smart phone), or for other purposes such as painting and this exposes live parts or other parts that can be further removed without the aid of a tool and their removal then expose live parts.

AS/NZS 60669.2.1 in conjunction with AS/NZS 60669.1 are current standards that may be used for certification of electronic switches; however, while clause 16.2 of AS/NZS 60669.1 requires testing of such switches without the cover plate between live parts and parts covered with metal foil at 2000V, these standards also do not clearly and adequately address the requirement to assess securement of the parts that are accessible after removal of the cover plate.

These issues have been raised with relevant Australian standards committee for action; in the meantime this information bulletin gives guidance for an expected minimum level of safety.

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