Increased fire safety requirements for fuseholders

Impacts of the change in the IEC/EN 60127-6 standard

The fuseholder standard IEC/EN 60127-6 has been revised to improve fire safety. Effective in October 2017, manufacturers of fuseholders will only be permitted to market products that have been tested and authorized in accordance with the updated standard. SCHURTER will offer its customers upgraded solutions by the deadline.

FPG4 fuseholder (source: SCHURTER)

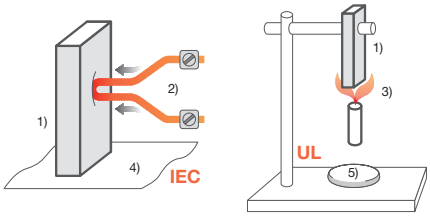
Fuseholders are suitable for the use of fuse links in electrical and electronic appliances. They are an essential safety-related part of the appliance protection. Manufacturers of electrical appliances must comply with the relevant standards and regulations (Europe: the fuseholder standard IEC/EN 60127-6, USA/Canada UL 4248-1 and the household appliance standard IEC/EN 60335-1). Besides the fuseholders, IEC appliance inlets and power entry modules with and without EMC filters are also affected if they have a fuse drawer.

New standard improves fire safety

The first edition of the IEC standard (04/1994) focused on contact protection. Little attention was paid to fire safety. Therefore, unsupervised appliances such as coffee machines, dryers or high-speed heaters repeatedly caused fires. These were caused current overloads (glowing parts), defective parts, faulty electrical connections or electrical arcs when switching contacts.

Glow-wire resistance has been increased

With the fourth edition of the household appliance standard IEC/EN 60335-1, the fire safety of these appliances was improved in May 2001 in that all components had to pass a glow-wire test (glow-wire test according to IEC/EN 60695-2-12 and -13, see also the White Paper on the household appliance standard IEC 60335-1 [1]). Now the requirements defined for the household appliance standard are also being applied to the fuseholder standard. The requirement with regard to the glow-wire resistance of the material is being increased. Pursuant to the updated standard, a glow-wire test according to IEC/EN 60695-2-12 and -13 is required. Furthermore, the components to be tested now have to be tested horizontally and vertically during the endurance test. Previously they were tested only horizontally and in the intended installation position.



1) Specimen
2) Glow-wire
3) Flame
4) Tissue
5) Cotton

Different test methods according to IEC 60695 and UL 94-V (source: SCHURTER)

Consequences for manufacturers

The manufacturers of fuseholders and appliance inlets with integrated fuseholders must test the glow-wire resistance of the used materials and replace the materials used with new glow-wire resistant material if need be. Furthermore, the marketing authorizations must be updated and a supplementary test according to the IEC 60127-6 standard performed by the VDE certification authority. In the event of a change in material to achieve the increased temperature requirements, the material tests according to UL 4248.1 must also be repeated. An important aspect is also the verification of the temperature increases in the new installation position and if needed - the implementation of technical upgrades to meet the updated standard. The manufacturers are required to change the material logistics, documentation and production accordingly.

DD11 entry module with fuse drawers (source: SCHURTER)

The transition period runs until the autumn 2017: beginning in October 2017 manufacturers may only supply products that have been authorized according to the new standard.

According to the new standard, all fuseholders and all appliance power entry modules with fuseholders can be used in all household appliances since they now are also glow-wire resistant. With the increase in the requirements the fire safety of all electrical appliances has thus been improved.

5707 entry module with fuseholder (source: SCHURTER)

Optimized solutions from SCHURTER

About 80 of the SCHURTER product types are affected by the updated standard. The company is in the process of converting the broad assortment of fuseholders and appliance inlets to fuseholders that meet the new requirements. The product adaptations are being communicated on an ongoing basis via PCN (product change notifications). The PCN for each affected product can be downloaded from the website. Furthermore, the updated marketing authorization product data sheets are also available for downloading on the website.

Beginning no later than October 2017, SCHURTER guarantees that it will supply only products that have been approved according to the latest fuseholder standard. For an overview of the affected products we have made a website [2] available that will provide information about the status of the compliance with the new standard. This will also contain further important information about the fuseholders and the referenced standards.

References

[1] White Paper Components and IEC 60335-1
[2] Microsite fuseholder

Headquarters in Lucerne (source: SCHURTER)

Company

SCHURTER is an internationally leading innovator and manufacturer of electric and electronic components. The company focuses on safe power supply and easy-to-use equipment. Its extensive product portfolio comprises standard solutions in the fields of circuit protection, plugs and connectors, EMV products, switches, input systems and electronic manufacturing services. SCHURTER's global network of representative offices ensures reliable delivery and professional customer service. Where standard products are unsuitable, the company develops client-specific solutions.

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