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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 31252-2014

**Electrical receptacles and switches with fire monitoring and
alarm function**

防火监控报警插座与开关

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Foreword

The standard of Chapters 4 and 6 are mandatory, the rest are recommended. This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by the People's Republic of China Ministry of Public Security. This standard by the National Standardization Technical Committee on Fire fire detection and alarm Technical Committee (SAC/TC113/SC6) centralized. This standard is drafted by: Ministry of Public Security Shenyang Fire Research Institute. Participated in the drafting of this standard. Zhejiang Chint Building Appliance Co., Ltd., Ningbo Xi Yu Electronic Development Co., Ltd. The main drafters of this standard. Ding Hongjun, Di Man, Zhang Ying Cong, Guo Chunlei, Liu Cheng, Liu Ziwei, Kang Weidong, Chen, Hu Shaoying. This standard is the first release. Fire alarm monitoring socket and switch

1 Scope

GB 31252-2014 is the Chinese national standard on electrical receptacles and switches with fire monitoring and alarm function, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 5 December 2014 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 16 October 2015. Classification: ICS 13.220.20, CCS C81. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the fire alarm monitoring socket and switch of classification, requirements, testing, inspection and labeling rules. This standard applies to not more than the operating voltage AC 440V, with a fire alarm monitoring function of the power outlet and push-button switches.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 2099.1 plugs and sockets for household and similar purposes - Part 1. General requirements

GB/T 9969 General Instructions industrial products

GB 12978 fire electronic products inspection rules

GB 16838 fire electronic products environment test methods and severities Part 1

GB 16915.1 Switches for household and similar fixed electrical installations. General requirements

GB/T 17626.2 Electromagnetic compatibility Testing and measurement techniques - Electrostatic discharge immunity test

GB/T 17626.4 Electromagnetic compatibility Testing and measurement techniques - Electrical fast transient burst immunity test

GB/T 17626.5 electromagnetic compatibility test and measurement technology surge (impact) immunity test Category

3 Products by the fire alarm monitoring functions are divided into.

- a) has a function to detect residual current sockets and switches;
- b) a function of the detected temperature of the receptacle and the switch;
- c) having an arc fault detection function sockets and switches.

4 Requirements

4.1 General Fire alarm monitoring socket and switch should comply with GB 2099.1 and GB 16915.1 requirements and meet the requirements of this chapter.

4.2 appearance and components

4.2.1 The appearance of the product shall comply with the following requirements.

- a) No surface corrosion, coating loss and blistering, no scratches, cracks, burrs and other mechanical damage;
- b) no loosening the fastening parts.

4.2.2 Indicators should meet the following requirements.

--- Indicates the various status indicators apply color logo. Red alarm, yellow for fault, green indicates normal;

--- All lights should be clearly marked function;

--- When the lamp is lit, in front of its 3m at the illuminance of 100lx ~ 500lx under environmental conditions, should be clearly visible.

4.2.3 Under normal operating conditions, the sound from the front of the device at 1m SPL (A-weighted) of not less than 70dB.

4.2.4 Terminals shall meet the following requirements.

--- A protective cover;

--- Clearly marked function;

--- Strong, weak terminals provided separately.

4.3 Monitoring alarm

4.3.1 When the fire alarm monitoring socket and switch in the probe reaches the set parameters of the alarm condition, audible in the 30s, light alarm signal, Start control output, and held until manually reset.

4.3.2 fire alarm monitoring function should be consistent with Table 1.

4.3.3 has a residual current detection and/or temperature of the outlet and switch functions operate at less than specified in Table 1 alarm condition should not be made Out loud, light alarm signal.

4.3.4 arc fault detection function having an outlet and switch occurs in no more than nine and a half cycle of arc fault conditions of work within 1s When, not visual and audible alarm signal.

4.3.5 also has detected residual current, temperature and arc fault detection and alarm function socket and switch, should satisfy the corresponding Table

1 Alarm conditions require. Table 1 fire alarm monitoring function Detecting an alarm condition parameters category Residual current alarm set value $\pm 10\%$, and not more than 30mA Temperature of $70\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ Half period of not less than 14 arc fault occurs within the arc fault 1s

4.4 Motor function

4.4.1 fire alarm monitoring function should have the outlet and switch off the protected line, disconnect the device has a capacity of contacts, and the number of parameters It shall be stated in the relevant technical documents.

4.4.2 socket with switch alarm, should start in the 30s disconnect device, the disconnect device operation time should be less than 25ms.

4.4.3 After starting the disconnect device, shall be protected to maintain the line returned to normal, and only manual recovery.

4.5 Impact-resistant insulating properties Fire alarm monitoring socket and switch should be able to withstand peak impulse voltage 6kV, the insulation resistance during the performance test impact, should start Dynamic disconnect device; After the test, monitoring, alarm function should meet the requirements of 4.3, motor function should meet the requirements of 4.4.

4.6 Electromagnetic compatibility Fire alarm monitoring socket and switch should be able to adapt to the requirements of each test in Table 2 under prescribed conditions.