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

GB 16280-2014

Replacing GB 16280-2005

Line type heat fire detectors

线型感温火灾探测器

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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. This standard replaces GB 16280-2005 "Linear Heat Detector" and GB/T 21197-2007 "fire line fiber optic temperature sensing probe Detector. " This standard GB 16280-2005 based, integrated content GB/T 21197-2007, compared with GB 16280-2005, The main technical changes in addition to editorial changes outside as follows:

- Increasing the sensitive parts form, function and positioning detection and alarm classification functions (see 3.1,3.4,3.5);
- Increasing the appearance requirements (see 4.2.1);
- Increasing the required standard alarm length and the length of the sensitive components (see 4.2.2,4.2.3);
- Increased fiber distributed linear heat detectors, fiber grating linear heat detectors, multi-point line type temperature fire Detector technical requirements (see Chapter 4);
- Increasing the high-temperature and low-temperature operation of the operational

performance of running the operation performance requirements (see 4.10,4.11);

--- Modify the detector response time measurement (see 5.8,2005 Version 5.6);

--- Increased frequency magnetic field immunity performance requirements (see 5.26). The standard reference in the revision process of the ISO 7240-5 "Fire detection and alarm systems - Part 5. Point-type heat detectors" and UL-521 "fire alarm system heat detectors." 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. An industry first Fire Co., Ltd. Wuhan Branch light, Wuxi San Min Sensing Technology has Limited, Ningbo Zhendong Optical Co., Ltd., Shenyang Fire electronic equipment factory, Xi'an System Sensor Electronics Co., Ltd., Zhongshan University, the Department of Hyperion Communication Technology Co., Ltd., Beijing Commodities proud of photoelectric Technology Co., Ltd. The main drafters of this standard. Ding Hongjun, Liu Kai, Huang Corps, Wang Wenqing, Liuzuo Li, Jiang Desheng, Zhang Ying Cong, Song Zhen, Tang Xiaoliang, Du Weiqing, Liuzhong Shun, Yan Hong, Song Liwei, Yang Ying, Li Ningning, Li Weigang, Yao Haowei, Qinyi Tao, Zhangxiong Fei, Ye Xiaoping, Lin Zongjiang. This standard replaces the standards previously issued as follows:

--- GB 16280-1996, GB 16280-2005;

--- GB/T 21197-2007. Linear Heat Detector

1 Scope

GB 16280 covers linear heat detection - the cable or fibre run along a cable tray, a conveyor, a tunnel or a transformer that senses heat anywhere along its length rather than at a point. It classifies the products by sensing principle, whether digital fixed-temperature cable, analogue resistance cable or fibre optic, and sets the technical requirements for the alarm temperature and its accuracy, the response time, the location accuracy of the fibre types, the insulation and the mechanical and environmental endurance, with the test methods, inspection rules and marking. It replaces GB 16280-2005 and GB/T 21197-2007 on optical fibre detectors. Issued on 24 June 2014, in force since 1 June 2015. 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 edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This standard specifies the linear heat detectors product classification, technical requirements, test methods, inspection rules and signs. This standard applies to industrial and civil use of installed cable type linear heat detectors, air tube type linear temperature fire probe Detector, distributed fiber optic linear heat detectors, fiber grating linear heat

detectors, multi-line point type heat fire detectors.

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/T 2423.4 Environmental testing for electric and electronic products Part 2. Test methods - Test Db. Damp heat (12h 12h cycle ring)

GB/T 2423.18 Environmental testing Part 2. Test methods - Test Kb. Salt mist, cyclic (sodium chloride solution)

GB 4716 point type heat detectors

GB/T 9969 General Instructions industrial products

GB 12978 fire electronic products inspection rules

GB 16838 fire electronic products environment test methods and severities

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

GB/T 17626.3 electromagnetic compatibility test and measurement technology RFEMS 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

GB/T 17626.6 Electromagnetic compatibility Testing and measurement techniques Immunity to conducted disturbances induced field

GB/T 17626.8 Electromagnetic compatibility Testing and measurement techniques - Power frequency magnetic field immunity test

GB 23757-2009 fire protection requirements for electronic products

3 Product Categories

3.1 parts by sensitive form Category.

c) Distributed optical fiber;

d) fiber grating;

e) line multi-point type.

3.2 Action Performance by Category.

- a) constant temperature;
- b) differential temperature;
- c) fixed temperature.

3.3 Press recoverability Category.

- b) unrecoverable formula.

3.4 by targeting classification.

- a) Localization;
- b) positioning the partition.

3.5 Classification by detection and alarm functions.

4.2 General requirements

4.2.1 appearance requirements Detector surface should be free from corrosion, coating loss and blistering, no scratches, cracks, burrs and other mechanical damage, no fastening parts Loose.

4.2.2 detectors and alarm standard length

4.2.2.1 detectors should be part of the sensitive components and their associated signal processing unit and other components. Temperature sensitive components can be divided into cable, empty Trachea, temperature fiber, splicing fiber grating and its components, point-type temperature sensing element and connection components.

4.2.2.2 disassembly and connecting the detector elements should only use special tools before proceeding. Standard alarm probe length

4.2.2.3 should not exceed the maker said the standard alarm length, and shall meet the following requirements.

- a) Standard alarm cable length type linear heat detectors should not exceed 1m.
- b) standard alarm length air tube type linear heat detectors should not exceed 10% of the maximum length of use, and not more than 10m.
- c) standard alarm length fiber distributed linear heat detectors should not exceed 3m.
- d) standard alarm length of the fiber grating linear heat detectors and linear multi-point type heat fire detectors should not exceed 10m, Each standard alarm length should contain at least one complete temperature sensing element, and should meet one of the following requirements.

--- Not more than 1m;