

ICS 13.220.20

CCS C 81



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

GB 14003-2005

Replacing GB 14003-1992

Smoke detectors - Line detectors using an optical light beam

线型光束感烟火灾探测器

Issued on: September 1, 2005

Implemented on: June 1, 2006

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

1 Scope
2 Normative references
3 Terms and definitions
4 Classification
5 Requirements
6 Test methods
7 Inspection rules
8 Marking
About this edition
Classification and status
How a Chinese national standard is set out
About this English translation

1 Scope

This standard specifies the terms and definitions, the classification, the requirements, the test methods, the inspection rules and the marking of line type smoke detectors using an optical light beam.

It applies to the line type optical beam smoke detectors used in fire alarm systems.

What the detector has to distinguish

A beam detector must respond to smoke crossing any part of a line that may be a hundred metres long, at a defined obscuration. It must not respond to the other things that cross that line: a bird, the mast of a forklift, a momentary blockage.

The standard therefore separates the alarm condition from the fault condition and sets what the detector must do when the beam is interrupted completely rather than attenuated. It also sets the requirements on alignment and on tolerance to the slow movement of the building structure, which is the failure mode that actually takes beam detectors out of service.

6 Test methods

The test programme is the substance of the document: the response threshold with its repeatability and its dependence on the direction from which the smoke arrives, the

response to the standard test fires, the behaviour at the extremes of the permitted range of beam length and of supply voltage, and the tolerance to stray light and to obscuration of the optics.

To these is added the environmental and electromagnetic programme that every fire detection product has to survive - dry heat, cold, damp heat, corrosion, vibration and impact, together with the electromagnetic compatibility tests - before the inspection rules and the marking close the standard.

About this edition

GB 14003-2005 is the current edition. It was issued on 1 September 2005 and has been in force since 1 June 2006, replacing GB 14003-1992.

GB 14003-1992 has been superseded: a specification that still cites it is citing a withdrawn edition.

The interval between issue and effect is the transition period. It exists so that producers, laboratories and buyers can requalify products, revise procedures and use up documentation before the new text becomes the one that applies. The date on this page is the official one from the record of the Standardization Administration.

Classification and status

GB 14003-2005 is classified under ICS 13.220.20. ICS is the International Classification for Standards, the same scheme used by ISO and by the national bodies of most countries, which is what allows a Chinese standard to be placed beside its foreign counterparts on subject rather than on number.

Its Chinese Standard Classification code is CCS C 81. CCS is the domestic scheme, a letter for the sector and two digits for the subject within it, and it is the code by which the standard is filed and searched in China.

The GB prefix marks a mandatory national standard. Compliance is required by law within China: it applies to what is made, sold or imported there, and an inspection body will judge a product against it whether or not a contract names it.

How a Chinese national standard is set out

Chinese national standards are drafted to the rules of GB/T 1.1, which fixes the order in which a standard is set out. The document opens with a foreword recording the issuing bodies, the relationship to any previous edition and the technical committee responsible for it. Clause 1 is the scope. Clause 2 lists the normative references - the other standards that have to be applied together with this one, and without which its requirements cannot be met. Clause 3 gives the terms and definitions. The technical clauses follow: the

requirements themselves, the test or measurement methods by which conformity is established, the inspection rules that say how a lot is sampled and judged, and, for a product standard, the provisions on marking, packaging, transport and storage. Annexes, normative or informative, come last.

GB 14003-2005 runs to 15 pages in the English translation. What is delivered is the complete document in that order: every clause, every table, every figure and every annex of the Chinese original, with the same numbering, so that a reference to a clause number in a contract or a test report points to the same place in both languages.

About this English translation

The English edition of GB 14003-2005 is a full translation of the official Chinese text, not a summary, an abstract or a machine rendering left unchecked. Clause and subclause numbers, table and figure numbers and annex letters are those of the original, because they are what a specification, a purchase order or a test report cites.

Technical terms are translated against the vocabulary standards of the same field, so that a term used in GB 14003-2005 reads the same way as in the other Chinese standards it is used beside. Where a term has an established English form in an ISO or IEC document on the same subject, that form is used; where China's term has no foreign counterpart, it is translated literally and the Chinese is kept alongside it rather than replaced by an approximation.

Quantities, units and symbols are carried over unchanged. Chinese standards use SI, so a value in the translation is the value in the original document, not a conversion, and a limit read from the English text is the limit that will be applied by a Chinese inspection body reading the Chinese one.

This page is compiled from the official publication record: the standard number and both titles, the issuing bodies, the dates of issue and effect, the edition it replaces, the ICS and CCS classification. The requirements, limits, tables and test conditions are in the document itself.