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CCS N31



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

GB/T 14267-2009

Replacing GB/T 14267-1993

Electro-optical distance meters (EDM Instruments)

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Table of Contents

1 Scope	1
2 Normative references	1
4 Product Category	2
4.1 geodimeter	2
4.2 hand-held laser range finder 3 5 test instrument parameters	4
5.1 Test item	4
5.2 test instrument parameters used in standard device	4
5.3 phase modulated light uniformity	5
5.4 Phase error	5
5.5 discrimination (rate)	5
5.6 Periodic Error	6
5.12 Range	14
15 Environmental testing 15 5.14 6 flag	15
7 Packaging	15
22 Appendix H (informative) distance measurement repeatability inspection records	23

Foreword

This standard replaces GB/T 14267-1993 "short-range EDM." This standard compared with GB/T 14267-1993, the main changes as follows:

- Present standard name from "short-range EDM" to "EDM";
- According to GB/T 1.1-2000 "Standardization Guide Part 1. Standard structure and write rules" of standards Amendment;
- The new standard of discrimination (rate), ranging accuracy, laser light power, frequency characteristics measuring tape and measure time and test items Claim;
- Constant distance and accuracy test uses consistent with the national metrological verification methods;
- Calculation period error lists strict formula and simplified formula in special circumstances;
- Test method for rangefinder parameters used and the results of calculation standard equipment distinguishes appraisal and factory inspection, and phase Photoelectric rangefinder and hand-held laser range finder. The Standard Appendix A, Appendix B,

Appendix C, Appendix D, Appendix E, Appendix F, Appendix G, Appendix H informative appendices. This standard was proposed by the State Bureau of Surveying and Mapping. This standard by the National Standardization Technical Committee on Geographical Information. This standard was drafted. Country EDM testing center, an optical instrument Co., Ltd., Suzhou, Beijing Sanding Optical Instrument Co., Ltd., Industrial Co., Ltd. Nanjing Germany Shuo. The main drafters of this standard. Fang Aiping, Qiwei Jun, Yang Jun-chi, Diqing Bin, Wu Xiujuan, Mu Xiuzhen. This standard replaces the standards previously issued as follows:

--- GB/T 14267-1993. EDM

1 Scope

GB/T 14267-2009 is the Chinese national standard on electro-optical distance meters (edm instruments), in the field of natural and applied sciences. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 6 May 2009 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 1 October 2009. Classification: ICS 07.040, CCS N31. 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 phase and pulsed geodimeter product classification, technical requirements, test methods, inspection rules, instrument package Equipment, labeling, transport and storage methods. This standard applies to EDM (including partial and total station ranging handheld laser range finder) design, production testing and inspection.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 191 Packaging - Pictorial signs (GB/T 191-2008, ISO 780.1997, MOD)

GB/T 12085.1 ~ 12085.14 Optics and optical instruments - Environmental test methods

GB/T 15464 instrumentation packaging technology

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 Using optical technology to directly measure the distance between the transmitter and the sight of the point of the instrument.

3.2 Using non-cooperative target laser light source made handheld EDM.

3.3 Both measuring instruments ranging, angle measurement, calculation and data recording and transmission functions.

3.4 Quasi-point arc tube light emitting surface of the target at different points given distance measurement error caused.

3.5 Ranging error due to the measurement of signal strength caused by inconsistency.

3.6 In the phase-shift range finder, the error precision measuring tape length due to optical or electrical signals of the same frequency harassed due to recurring cycles.

3.7 Constant distance and the difference between the actual distance between the instrument measured.