

ICS 29.240.01

CCS K45



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

GB/Z 34124-2017

**General specifications for intelligent protection and control
equipment**

智能保护测控设备技术规范

Issued on: July 31, 2017

Implemented on: July 31, 2017

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 technical requirements	2
4.1 Environmental conditions	2
4.2 Rated electrical parameters	3
4.3 overload capacity	4
4.4 Power consumption	4
4.5 Structure and appearance	4
4.6 Functional Requirements	5
4.7 Performance Requirements	10
4.8 Safety Requirements	12
4.9 Insulation performance	12
4.10 Electromagnetic compatibility performance	12
4.11 resistance to heat and humidity	13
4.12 Mechanical Properties	13
4.13 continuous power	13
5 test methods	13
5.1 Test conditions	13
5.2 high and low temperature test	14
5.3 temperature storage test	14
5.4 overload test	14
5.5 power consumption test	14
5.6 DC power supply impact test	14
5.7 outlet relay test	14
5.8 device function requirements	14
5.9 Communication and Protocol Tests	14
5.10 device performance test	19
5.11 Safety Requirements Test	19
5.12 Insulation Performance Test	19
5.13 Electromagnetic compatibility performance test	19
5.14 Humidity resistance test	20

5.15 Mechanical Performance Test.....	20
5.16 continuous power test	21
5.17 Structure and appearance inspection	21
5.18 shell protection	21
6 Inspection rules	21
6.1 Test classification	21
6.2 factory inspection	21
6.3 type test	22
7 Marking, Packaging, Transport and Storage.....	23
7.1 mark	23
7.2 Packaging	23
7.3 Transportation	23
7.4 Storage	23
8 product accompanying documents	23
9 Quality Assurance	24

Foreword

This instructional document has been drafted in accordance with the rules given in GB/T 1.1-2009. This guidance document is proposed by China Electrical Equipment Industry Association. This Guidance Document is governed by the National Technical Committee for Standardization of Relays and Protective Equipment (SAC/TC154). The drafting of the guidance of technical documents. Beijing Sifang Automation Co., Ltd. Jisheng Electronics Co., Ltd., Xuchang open General Electric Research Institute, Nanjing NARI Insurance Co., Ltd., Xu Ji Electric Co., Ltd., Harbin Electric Group Co., Ltd. Acheng Relay Responsible company, Xuchang Cape Detection Technology Co., Ltd., State Grid Hebei Electric Power Company, China Electric Power Research Institute, State Power Nanjing Automation Unit Co., Ltd., Beijing Ziguang Measurement and Control Co., Ltd., Evergreen Shenzhen Rui Bao Automation Co., Ltd., State Grid Electric Power Research Institute, Oriental Electronics Co., Ltd., Zhuhai Wanlida Electric Automation Co., Ltd., Hebei Beheng Electric Technology Co., Ltd., Jiangsu Jinzhi Technology Co., Ltd. Division, ABB (China) Co., Ltd., Schneider Electric (China) Co., Ltd., Siemens Power Automation Co., Ltd. The main drafters of this technical guidance document. Song boat, Wei Xin, Yang Huixia, Xiong Muwen, Ni Chuankun, Chen Cheng, Chen Ming, Ren Jiangbo, Ai Shuyun, Yao Liang, Ge Rong Shang, Liu Hongjun, Yu Bo, Quan Xianjun, Zhu Zhiwei, Yang Chunli, Zengbing Yuan, Li Zhixiu, Xu Chenliang, Zhang excited, Zheng Peng. Intelligent protection monitoring and control equipment technical specifications

1 Scope

GB/Z 34124-2017 is the Chinese national standard on general specifications for intelligent protection and control equipment, in the field of electrical engineering. The /Z suffix marks it as a guiding technical document: it does not prescribe requirements that can be certified against, but sets out the technique, the method or the state of the art that the standards bodies recommend following. It was issued on 31 July 2017 by the State Administration for Market Regulation; Standardization Administration of China. As a guiding technical document it carries no separate date of entry into force: it applies from publication.

Classification: ICS 29.240.01, CCS K45. 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 Guidance Technical Document specifies the substation intelligent protection monitoring and control equipment, including conventional protection and monitoring devices, smart substation protection and control Equipment (hereinafter referred to as the device) technical requirements, test methods, inspection rules and signs, packaging, transportation and storage requirements. This guideline is applicable to intelligent protection and control equipment in 110kV and below substations Development, design, manufacture, test and operation of the basis.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 191 Packaging - Pictorial signs General specifications for computerized premises
GB/T 2887-2011

GB/T 2900.1 Electrotechnical terminology Basic terms

GB/T 2900.17 Electrotechnical terminology measuring relays

GB/T 2900.49 Electrotechnical terminology Power system protection

GB/T 4208 enclosure protection (IP code)

GB/T 4798.2 electrical and electronic products application environmental conditions
transportation Basic test methods for protection and safety automatic devices GB/T
7261-2016

GB/T 9361-2011 Calculation of station site safety requirements

GB/T 11287-2000 Electrical relays - Part 21. Vibration, shock, bump and earthquakes of

measuring relays and protection devices Test Part 1. Vibration test (sine)

GB/T 13384 mechanical and electrical product packaging General technical conditions
Telecontrol terminal equipment

GB/T 13850 AC power conversion to analog or digital signal of the electrical measurement
transmitter Technical specifications for relay protection and safety automatic devices Shock
and collision tests for measuring relays and protection equipment Measuring relays and
protection equipment - Part 1. General requirements GB/T 14598.2-2011

GB/T 14598.26-2015 Measuring relays and protection equipment - Part 26. EMC
requirements

GB/T 14598.27-2008 Measuring relays and protection equipment - Part 27. Product safety
requirements Electromagnetic compatibility (EMC) - Testing and measurement techniques -
Pulsed magnetic field immunity test

GB/T 17626.10-1998 Electromagnetic compatibility Testing and measurement techniques
Shock magnetic field immunity test