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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 22390.5-2026

Replacing GB/T 22390.5-2008

Control and protection equipment of high-voltage direct current (HVDC) transmission systems - Part 5: DC line fault location devices

高压直流输电系统控制与保护设备 第5部分：直流线路故障定位装置

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Standardization Administration of the PRC

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 5 of GB/T 22390 "Control and Protection Equipment for High Voltage Direct Current Transmission Systems". GB/T 22390 has been published. The following parts were included.

1.Operational Personnel Control System;

---Part 2: AC/DC System Station Control Equipment;

---Part 3: DC System Polar Control Equipment;

---Part 4: DC System Protection Equipment;

---Part 5: DC Line Fault Location Device;

6.Transient Fault Recording Device for Converter Stations This document replaces GB/T 22390.5-2008 "Control and Protection Equipment for High Voltage Direct Current Transmission Systems - Part 5: DC Line Faults". Compared with GB/T 22390.5-2008, the main technical changes in the "Positioning Device" standard, apart from structural adjustments and editorial modifications, are as follows:

---The scope of application of this document has been changed. This document applies to DC line faults at the station end of ±500kV and below high-voltage DC transmission systems. Positioning device (see Chapter 1, Chapter 1 of the.2008 edition);

---Added the terms "time synchronization system," "fault location," and "location error," along with their definitions (see 3.1, 3.2, and 3.3);

---The "Ambient Temperature" setting under "Normal Operating Atmospheric Conditions" has been modified (see 4.1.1,.2008 version 4.1.1);

---Special environmental conditions have been added (see 4.1.6);

---The permissible deviation for the rated voltage of the AC power supply has been changed (see 4.2.1,.2008 version 4.2.1);

---The permissible deviation of the rated voltage of the DC power supply has been changed (see 4.2.2,.2008 version 4.2.2);

1 Scope

GB/T 22390.5-2026 is the Chinese national standard covering locating a fault on a DC line - a travelling wave measurement that has to place a fault within a few hundred metres on a line two thousand kilometres long, because that is the difference between a patrol and a search. Part 5 of the series. It replaces GB/T 22390.5-2008. It was issued on 28 January 2026 and has been in force since 1 August 2026, replacing GB/T 22390.5-2008. The document is under the responsibility of the China Electrical Equipment Industry Association. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the technical requirements, test methods, inspection rules, and packaging for fault location devices on DC lines of high-voltage direct current transmission systems. Transportation, storage, marking, labeling, instruction manuals, completeness of supply, and quality assurance, etc. This document applies to fault location devices for DC lines at the station end of ±500kV and below high-voltage DC transmission systems (hereinafter referred to as "devices").

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 2887-2011 General Specifications for Computer Venues

GB/T 2900.49 Electrical Engineering Terminology - Power System Protection

GB/T 4208-2017 Degrees of protection provided by enclosures (IP code)

GB/T 7261-2016 Basic Test Methods for Relay Protection and Safety Automatic Devices

GB/T 9361-2011 Safety Requirements for Computer Sites

GB/T 9969 General Rules for Instructions for Use of Industrial Products

GB/T 11287-2000 Electrical relays - Part

21.Vibration, shock, impact and earthquake of measuring relays and protective devices Experiment

3 Terms and Definitions

The terms and definitions defined in GB/T 2900.49 and GB/T 13498, as well as the following terms and definitions, apply to this document.

3.1 A system that uses a standard time source to provide a unified time synchronization signal for DC line fault location devices.