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

GB/T 14598.27-2025

Replacing GB/T 14598.27-2017

**Measuring relays and protection equipment - Part 27: Product
safety requirements
(English Translation)**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 27 of GB/T 14598. GB/T 14598 has been published in the following parts.

- GB/T 14598.2 Measuring relays and protection devices Part 1: General requirements;
- GB/T 14598.3 Electrical relays Part 5: Insulation coordination requirements and tests for measuring relays and protection devices;
- GB/T 14598.8 Electrical relays Part 20: Protection systems;
- GB/T 14598.23 Electrical relays Part 21: Vibration, shock, impact and earthquake of measuring relays and protective devices Test Part 3: Earthquake Test;
- GB/T 14598.24 Measuring relays and protection devices Part 24: Transient data exchange in power systems (COMTRADE) Common Format;
- GB/T 14598.26 Measuring relays and protection devices Part 26: Electromagnetic compatibility requirements;
- GB/T 14598.27 Measuring relays and protection devices Part 27: Product safety requirements;
- GB/T 14598.118 Measuring relays and protection devices Part 118: Synchronous phasor measurement in power systems;
- GB/T 14598.121 Measuring relays and protection devices Part 121: Requirements for distance protection functions;
- GB/T 14598.127 Measuring relays and protection devices Part 127: Over/undervoltage protection function requirements;
- GB/T 14598.149 Measuring relays and protection devices Part 149: Functional requirements of electric heating relays;
- GB/T 14598.151 Measuring relays and protection devices Part 151: Over/under current protection function requirements;
- GB/T 14598.181 Measuring relays and protection devices Part 181: Requirements for frequency protection functions;
- GB/T 14598.300 General technical requirements for transformer protection devices;
- GB/T 14598.301 Technical requirements for continuous recording devices in power systems;
- GB/T 14598.302 Technical requirements for arc protection devices;
- GB/T 14598.303 General technical requirements for digital integrated motor protection devices;
- GB/T 14598.1871 Measuring relays and protection devices Part 187-1. Functional requirements for differential protection of motors, Generator and transformer ratio restrained differential protection and differential quick-break protection.

This document replaces GB/T 14598.27-2017 "Measuring relays and protection devices Part 27: Product safety requirements" and Compared with GB/T 14598.27-2017, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) The following terms and definitions have been changed. "accessible conductive parts" (see 3.1, 3.18 of the 2017 edition), "accessible parts" (see 3.2, 3.1 of the 2017 edition), "adjacent circuits" (see 3.3, 3.2 of the 2017 edition), "fences" (see 3.5, 3.4), "Extra-low voltage" (see 3.16, 3.16 of the 2017 edition), "Functional grounding circuit" (see 3.18, 3.20 of the 2017 edition), "Hazardous live parts" (see 3.21, 3.23 of the 2017 edition), "Hazardous live voltage" (see 3.22, 3.24 of the 2017 edition), "High "Integrity components" (see 3.23, 3.27 of the 2017 edition), "Class I equipment" (see 3.33, 3.7 of the 2017 edition), "Class II equipment" (see 3.34, 3.8 of the 2017 edition), "pollution degree" (see 3.37, 3.39 of the 2017 edition), "primary circuit" (see 3.38,

2017 Edition), "Protective bonding resistor" (see 3.40, 3.46 of the 2017 Edition), "Protective conductor" (see 3.41, 3.47), "Protective earthing" (see 3.42, 3.48 of the 2017 edition), "Protective equipotential bonding circuit" (see 3.43, 3.36), "Protective extra-low voltage circuits" (see 3.44, 3.37 of the 2017 edition), "Protective shielding" (see 3.46, 2017 edition 3.50), "Protective isolation" (see 3.47, 3.51 of the 2017 edition), "Rated voltage" (see 3.50, 3.54 of the 2017 edition), "Reinforced "Insulation" (see 3.51, 3.55 of the 2017 edition), "Restricted access area" (see 3.52, 3.56 of the 2017 edition), "Key safety devices "Parts" (see 3.54, 3.58 of the 2017 edition), "Safety Extra Low Voltage Circuits" (see 3.55, 3.60 of the 2017 edition), "Single Fault Status" (see 3.57, 3.61 of the 2017 edition);

b) Added the following terms and definitions. "basic protection" (see 3.7), "cabinet" (see 3.9), "low power transformer" (see 3.25), "low "Power current transformer" (see 3.26), "Low power voltage transformer" (see 3.27), "Maintenance use" (see 3.28), "Normal use" (see 3.30), "solid insulation" (see 3.58) and "wired network port" (see 3.63);

c) The following terms and definitions have been deleted. "communication circuits/networks" (see 3.12 of the 2017 edition), "HB40 grade materials" (see 3.25 of the 2017 edition), "HB75 grade materials" (see 3.26 of the 2017 edition), "maintenance operators" (see 3.30 of the 2017 edition), "micro "Observational Environment" (see 3.31 of the 2017 edition), "Normal Conditions" (see 3.33 of the 2017 edition), "Pollution Level 1" (see 3.40 of the 2017 edition), "Pollution Level 2" (see 3.41 of the 2017 edition), "Pollution Level 3" (see 3.42 of the 2017 edition), "Pollution Level 4" (see 3.43 of the 2017 edition);

d) Added "Equipment enclosure requirements for electric shock protection" (see 4.1.3);

e) Changed the documentation requirements (see 8.2.1, 9.2.1 of the 2017 edition);

f) Changed the scope of the safety assessment basis clause (see 9.1, 10.1 of the 2017 edition);

g) Added environmental tests (see 9.6.1.1) and dielectric voltage tests and insulation