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

GB/T 14810-2014

Replacing GB/T 14810-1993

**Alternating current switches for rated voltages of 72.5 kV and
above**

额定电压72.5 kV及以上交流负荷开关

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 14810-1993 "110kV and above AC high voltage load switch." this standard compared with GB/T 14810-1993, the main difference is.

--- Scope. Rated voltage generated by the "110kV and above" to "72.5kV and above," and added to determine the transmission system in use Private and special-purpose load switch requirements.

--- Increases the switching means, terminology and definitions load switch components, operations, and other aspects of the characteristic parameters.

--- In the "design and structure" of the increased reliance power operation, the storage operation, do not rely on human power or operation, nameplates, Interlock installed Shot, corrosion.

--- Increasing the protection level verification, X-ray test additional testing electromagnetic compatibility test, auxiliary and control circuits, vacuum interrupter Inspection procedures and capacitor bank current switching test (in accordance with the provisions of GB 1984. introduction of the C1 and C2 grade level).

--- Increasing the cable or line charging current of the earth fault current and ground fault conditions (test mode 7a and 7b) and related Test circuit.

--- Add special purpose load switch in frequent operation, the mechanical life test (M1 grade, M2 grade).

--- Increasing the mechanical operation test load state of the switch and after the test.

--- For the breaking test, frequency test voltage shall be maintained at least at the rear open time from 0.1s up to 0.3s.

--- Improved test mode load switch 3, 4a and 4b test mode and test mode 5b like operating cycles.

--- Added "guide for the selection of the load switch" "Query, the information provided by the

tender and order," "transportation, storage, installation, operation and maintenance Protection rules "," security "," impact on the environment "and so on.

This standard uses redrafted law revision using IEC 62271-104:2009 "Part 104 high-voltage switchgear and control equipment. the amount Constant voltage 52kV and above AC load switch. " this standard and IEC 62271-104. compared to 2009, the main difference is.

--- Scope. According to the actual situation of China's power grid, removing the IEC 62271-104. in 2009 related to the nominal frequency of 60Hz Content; according to the division of the habit of pressure applied by the rated voltage "52kV and above" to "72.5kV and above."

--- Rated voltage. Removed and the rated voltage value independent of the power grid, according to GB/T 11022-2011 (or GB/T 156) Listed voltage given; and based on actual operating experience and development status of the grid given rated voltage 1100kV Relevant parameters.

--- Normative documents according to the actual situation of our country has been adjusted.

--- According to GB 1985 increased the level load switch M0, M1 class load switch, requirements and test methods M2 level load switch.

--- According to China's power grid voltage level standards, according to the formula provided in IEC 62271-104 for TRV standard parameters involved Number was recalculated OK.

--- Modify the test mode 2a and 2b as a closed loop power transmission lines and transformer shunt current switching test test circuit, with Increases under ground fault conditions breaking test test circuit (test mode 7a and 7b).

--- Remove the short-circuit during the test load switch may have been damaged and need to maintain content, such as replacement parts, updates off Arc media or cleaning and adjusting the load switch is restored to its state before the test.

--- Nameplate information in accordance with China's actual made the appropriate changes, such as by GB/T 11022-2011 provisions of the rated short duration Between the 1s to 2s.

--- Improve the "guide for the selection of the load switch," increases the load on the switch for a variety of applications and features, such as circuit breakers and replaced Effectively limit GIS appearing fast transient overvoltage (VFTO) and GIS housing on the ground transient voltage (TVE) and the like.

This standard and GB/T 11022 used together, unless otherwise specified in this standard, this standard reference GB/T 11022. To simplify phase Off it requires repeated statements, this standard reg number and GB/T 11022 same. Supplement these clauses references to the contents under the same title Given, and additional terms numbered starting from 101.

The standard proposed by China Electrical Equipment Industrial Association.

This standard by the national high-voltage switch equipment Standardization Technical Committee (SAC/TC65) centralized.

This standard was drafted. the high level group, Ltd., Xi'an High Voltage Apparatus Research Institute Co., Ltd., Xi'an Electric Switch Electric Co.

The company, Alstom Grid China Technology Center, TBEA (Shanghai) issued in accordance with Pao EHV Electric Co., Ltd., Shanghai days Ling Switch Factory has Ltd., New Northeast Electric Group Co., high-voltage switch, when the Zhejiang-Electric Manufacturing Co., Ltd., Beijing Northern Electric Co., Ltd.

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This standard superseded standard previously issued as follows.

--- GB/T 14810-1993.

Rated voltage of 72.5kV and above AC load switch

1.1 Scope

This standard applies to the rated voltage of 72.5kV and above, rated frequency 50Hz, with a closing and breaking current ratings, for indoor and three-pole AC load switch for outdoor installation.

This standard also applies to the actuator and its auxiliary equipment load switches.

Note 1: This standard covers gas-insulated metal-enclosed switchgear (GIS) in the load switch.

Note 2: The load switch with isolating function that is a load isolation switch should also meet the requirements of GB 1985.

Note 3: This standard does not cover the ground switch. As an integral part of the grounding switch load switch is included in the GB 1985.

The main objective of this standard is to determine the required load switches used in power transmission systems. Designed for this purpose to meet the common load switch Run the following requirements.

--- Continuous support rated current;

--- Within the prescribed period of time carrying the short-circuit current;