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

GB/T 18802.311-2017

Replacing GB/T 18802.311-2007

**Components for low-voltage surge protective devices -- Part
311: Performance requirements and test circuits for gas
discharge tubes (GDT)**

低压电涌保护器元件 第311部分：气体放电管(GDT)的性能要求和测试回路
(English Translation)

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Table 4 three-pole GDT DC voltage test circuit components parameters

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Foreword

GB/T 18802 "low voltage surge protector components" is divided into the following sections.

- Part 311. Performance requirements and test circuits for gas discharge tubes (GDTs);
- Part 312. Guidance on the selection and use of gas discharge tubes (GDTs);
- Part 321 avalanche breakdown diode (ABD) specification;
- Part 331. Metal Oxide Varistor (MOV) specification;
- Part 341. Surge suppression thyristor (TSS) specification.

This section GB/T 18802 Part 311.

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

This Part replaces GB/T 18802.311-2007 "Low-voltage Surge Protector Components Part 311. Gas Discharge Tube (GDT) Regulation Fan. " Compared with GB/T 18802.311-2007, the main technical changes are as follows.

- Expand the scope of GDT, which not only applies to communications and signaling systems, but also for low-voltage distribution network;
- Combined "dc discharge voltage (dcsparkovervoltage) and DC breakdown voltage (dcbreakdownvoltage) two the term;
- Increase the "arc voltage" "fault short circuit" "freewheeling" and other terms, an increase of "GDT volt-ampere characteristics curve" and its description, delete in addition to the term "transition time" and its definition;
- "4 operating conditions" increase the atmospheric pressure and altitude and relative humidity parameters, added with and without Short circuit GDT work and storage temperature range;

- Clear GDT can not contain radioactive material requirements;
- Modify the requirements of the GDT mark, added the manufacturing date and safety certification mark and other requirements;
- Revised "Table 1 DC and surge discharge voltage of the initial demand value", DC spark discharge voltage preferred value from the previous version of 70V ~ 1800V modified to 75V ~ 4500V, 100V/s ~ 2kV/s the impact of spark discharge voltage minimum and maximum Large value by 56V ~ 1440V and 84V ~ 2160V revised to 57V ~ 3600V and 93V ~ 5400V, the impact spark discharge voltage range of 1 kV/ μ s is modified from < 750 V ~ < 3600 V to < 650 V ~ < 6000 V, and Remove the content of the upper limit of the DC spark discharge voltage negotiated by both parties;
- Insulation resistance of the initial value of 100Mohm increased to 1Gohm;
- revised load test discharge voltage parameter table;
- Added a load test on the frequency of freewheeling and fault short-circuit mechanism of the technical requirements and test methods;
- Revised GDT flow capacity requirements;
- DC spark discharge voltage test and the impact of spark discharge voltage test, GDT placed in the dark time unified adjustment is not Less than 15min, the previous version of the standard provisions of the former 24h, which is 15min;
- Revised 8.7.2 DC holding voltage parameters in Table 3 and Table 4 Test 1 loop R3 parameter values from the previous version of 260ohm adjusted to the new version of.200ohm;
- Adjust the chapter, map, table writing order and insert location.

This section uses the translation method identical with IEC 61643-311:2013 "Low-voltage surge protection components Part 311. Gas discharge tube (GDT) performance requirements and test loop. " this section made the following editorial changes.

- In 7.2.3, an increase of Note;
- Increase in the note of 7.3.3 (including our country).

This part is proposed by China Electrical Equipment Industry Association.

This part of the National Arrester Standardization Technical Committee (SAC/TC81) centralized.

This section is drafted unit. Dongguan City, the new platinum rhenium Electronics Co., Ltd., Xi'an Institute of High Voltage Electric Co., Ltd., Shanghai Lightning in the Heart, Changzhou City, a lightning anti-Jie Electronics Co., Ltd., Changzhou Huayi Lightning Technology Co., Ltd., Shenzhen Iron Technology Co., Ltd., Shanghai Lei Lightning