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**JJF**

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**Calibration Specification for On-line Monitoring Devices of  
Capacitive Equipment  
(English Translation)**

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## 5 Measurement characteristics (2)

### 5.1

Reference voltage (2)

### 5.2

Full current (2)

### **5.3**

Dielectric loss factor (2)

### **5.4**

Electric capacity(2)

## **6 Calibration conditions (2)**

### **6.1**

Environmental conditions (2)

### **6.2**

Measurement standards and auxiliary equipment (3)

## **7 Calibration items and calibration methods (3)**

### **7.1**

Calibration items (3)

### **7.2**

Calibration method (4)

## **8 Calibration result expression (6)**

### **8.1**

Data processing (6)

### **8.2**

Calibration certificate (6)

## **9 Recheck interval (7)**

Appendix A Calibration method of monitoring device after installation and in operation (8)

Appendix B: Calibration Original Record Format (10)

Appendix C Internal page format of calibration certificate (13)

Appendix D Examples of Measurement Uncertainty Evaluation (16)

## **Introduction**

JJF 1001-2011 "General Metrology Terms and Definitions", JJF 1059.1-2012 "Measuring Uncertainty Evaluation and Representation" and JJF 1071-2010 "Rules for the Compilation of National Metrology and Calibration Specifications" together constitute the foundation

supporting this specification Series specifications: This specification refers to DL/T 1562-2016 "Calibration Specification for Capacitive Equipment Monitoring Device":

This specification is released for the first time:

Calibration specification for online monitoring device of capacitive equipment

## 1 Scope

This specification applies to online monitoring devices for high-voltage electrical equipment with capacitive insulation structures (hereinafter referred to as "monitoring devices"):

Set") calibration:

2 Reference documents this specification refers to the following documents:

DL/T 1562-2016 Calibration specification for capacitive equipment monitoring device for dated reference documents, only the dated version applies to the specification; for undated references the latest version (including all amendments) is applicable to this specification:

## 3 term

3.1 Capacitive equipment High-voltage electrical equipment with capacitive insulation structure:

3.2 Online monitoring device A device used for continuous monitoring and measurement of high-voltage equipment without power failure:

3.3 (of the monitoring device) reference voltage (ofthemonitoringdevice) the voltage used as the phase reference when measuring the dielectric loss factor: This voltage is obtained through the secondary side of the voltage transformer:

It is often power frequency 100V/3 or 100V:

3:4 totalcurrent

The total current through the current acquisition unit of the monitoring device:

## 4 overview

The monitoring device measures the full current  $I$ , dielectric loss factor  $D$  and reference voltage  $U$  of the capacitive equipment, etc:

To reflect the insulation status of capacitive equipment in real time: The monitoring device consists of a reference voltage acquisition unit, a full current acquisition unit, Signal processing and analysis unit, communication display unit: Its working principle is shown in Figure 1: