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(JEMA/JSA)

**Instrument transformers for metering
service — Part 2: Measuring instruments
used in transaction or certification**

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Japan Electrical Manufacturers' Association (JEMA)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS C 1736-2 : 2009**), which has been technically revised.

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JIS C 1736 series consists of the following 2 parts under the general title *Instrument transformers for metering service* :

JIS C 1736-1 *Part 1: General measuring instrument*

JIS C 1736-2 *Part 2: Measuring instruments used in transaction or certification*

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Instrument transformers for metering service — Part 2 : Measuring instruments used in transaction or certification

1 Scope

This Standard specifies requirements for the instrument transformers for metering service used in combination with a maximum demand watt-hour meter, a watt-hour meter or a var-hour meter, which is used in the measurement in transaction or certification.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS C 1216-2 *Alternating-current watt-hour meters (for connection through instrument transformer) — Part 2 : Measuring instruments used in transaction or certification*

JIS C 1263-2 *Electromechanical var-hour meters — Part 2 : Measuring instruments used in transaction or certification for connection through transformer*

JIS C 1271-2 *Alternating-current static meters for active energy — Classes 1 and 2 — Part 2 : Measuring instruments used in transaction or certification*

JIS C 1272-2 *Alternating-current static meters for active energy — Classes 0.2 S and 0.5 S — Part 2 : Measuring instruments used in transaction or certification*

JIS C 1273-2 *Alternating-current static meters for reactive energy — Part 2 : Measuring instruments used in transaction or certification*

JIS C 1283-2 *Maximum demand meter — Part 2 : Measuring instruments used in transaction or certification*

JIS C 1736-1 *Instrument transformers for metering service — Part 1 : General measuring instrument*

3 Terms and definitions

For the purposes of this Standard, the terms and definitions given in Clause 3 of JIS C 1736-1, and the following apply.

3.1

specified measuring instrument

measuring instrument stipulated in a cabinet order (Measurement Act Enforcement Order) based on the necessity to establish the standard concerning the structure or the instrumental error in order to secure implementation of proper measurement among measuring instruments which are used in the measurement in transaction or certification or used mainly for the life of general consumers

3.2**electric meter**

maximum demand watt-hour meter, watt-hour meter and var-hour meter among the specified measuring instruments of mechanical type, induction type and electronic type

3.3**instrumental error**

rate of the value obtained by subtracting the true value from the measurement value to the true value

3.4**inspection of electric meter with transformer**

inspection performed on the electric meter and the instrument transformer used together with this which are stipulated in the Measurement Act

NOTE It is so stipulated in the Measurement Act that those who inspect the electric meter with transformer are the Japan Electric Meters Inspection Corporation or a designated verification body.

3.5**tolerance**

tolerance indicated by the absolute value of the algebraic sum of the instrumental error of an electric meter and the resultant error of an instrument transformer under the inspection of electric meter with transformer when the electric meter is used with the instrument transformer concerned

3.6**tolerance while in service**

tolerance indicated by the absolute value of the algebraic sum of the instrumental error of an electric meter under the inspection while in service and the resultant error of an instrument transformer when the electric meter is used with the instrument transformer concerned

3.7**matching number**

number which specifies the combination of an electric meter and an instrument transformer used together with this

3.8

digital indication mechanism

set of the scale mark which displays the measurement value intermittently at regular intervals, which is also called “digital type”

3.9

analogue indication mechanism

set of the scale mark which displays the measurement value continuously, which is also called “analogue type”

4 Structure

4.1 General

The structure shall be in accordance with Clause 5 of JIS C 1736-1 and the following.

4.2 Matching number plate

The instrument transformer shall have the structure in which the matching number plate in the Measurement Act can be applied.

4.3 Sealing

The instrument transformer shall have the structure in which sealing can be applied at the following location.

- a) Location where unless sealing is broken, characteristics cannot be changed by modifying a winding or an iron core.
- b) Location where unless sealing is broken, the combination of the current transformer and the voltage transformer of a combined instrument transformer cannot be changed.
- c) Location where unless sealing is broken, for the multiple rating type, the rating other than the rating which has been undergone the inspection of electric meter with transformer cannot be used.

4.4 Material and structure

The instrument transformer shall be manufactured with materials having strength and durability such that there is no trouble in the performance due to the effect of humidity under the normal service condition.

5 Performance

5.1 Temperature rise

The instrument transformer shall be free from any troubles in the performance due to temperature rise of windings and oil under the normal service condition.

The temperature rise of the instrument transformer shall be tested in accordance with 6.1, and shall not exceed the limit of temperature rise according to the heat re-