Indian Standard

ALTERNATING CURRENT DIRECT CONNECTED STATIC PREPAYMENT METERS FOR ACTIVE ENERGY (CLASS 1 AND 2) — SPECIFICATION

1 SCOPE

This standard applies to direct connected static watt hour prepayment meters of accuracy classes 1 and 2, for the measurement, registration and dispensation of alternating current electrical active energy of 50 Hz for single-phase and three-phase balanced and unbalanced loads in accordance with available credit. It applies to their type, acceptance and routine tests.

It applies to static watt-hour prepayment meters consisting of a measuring element and register(s) enclosed together in a meter case. It also applies to operation indicator(s) and test output(s). This standard also applies for additional prepayment functional element(s) which may include user/token interface credit transfer, credit accounting, load switch and time keeping in the same case.

It applies to indoor applications only.

It does not apply to:

a) Watt-hour meters where the voltage across the connection terminals exceeds 600 V (line-to line voltage for meters of poly phase systems),
b) Watt-hour meters for outdoor applications,
c) Meters with an external switch,
d) Meters for load control applications, and
e) Multi-part payment meter installation.

The long-term reliability aspect is not covered in this standard, as there are no short-term test procedures available yet, which would fit into type test documents to satisfactorily check this requirement.

This standard does not cover the software requirement for prepayment meters.

2 REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
1401 : 2008/ IEC 61032 : 1999	Protection of persons and equipment by enclosure – Probes for verification (*second revision*)
2071 (Part 1) : 1993/ IEC Pub 60-1 : 1989	High voltage test techniques: Part 1 General definitions and test requirements
9000 (Part 3/Sec 1 to 4) : 1977	Basic environmental testing procedures for electronic and electrical items: Part 2 Cold test
9000 (Part 3/Sec 1 to 5) : 1977	Basic environmental testing procedures for electronic and electrical items: Part 3 Dry heat test
9000 (Part 5/Sec 1 and 2) : 1981	Basic environmental testing procedures for electronic and electrical items: Part 5 Damp heat (cyclic) test
9000 (Part 7/Sec 1) : 2006/ IEC 60068-2-27 : 1987	Basic environmental testing procedures for electronic and electrical Items: Part 7 Impact test, Section 1 Shock (Test Ea)
9000 (Part 8) : 1981	Basic environmental testing procedures for electronic and electrical items: Part 8 Vibration (sinusoidal) test
11000 (Part 2/Sec 1) : 1984/ IEC 695-2-1 : 1980	Fire hazard testing: Part 2 Test methods, Section 1 Glow-wire test and guidance
12032(Part 1) : 1987 / IEC 617-1 : 1985	Graphical symbols for diagrams in the field of electro-technology: Part 1 General information
12032 (Part 2) : 1987/ IEC 617-2 : 1983	Graphical symbols for diagrams in the field of electro-technology: Part 2 Symbols elements, qualifying symbols and other symbols having general application
12032 (Part 3) : 1987/ IEC 617-3 : 1983	Graphical symbols for diagrams in the field of electrotechnology: Part 3 Conductors and connecting devices
12032 (Part 4) : 1987 IEC 617-4 : 1983	Graphical symbols for diagrams in the field of electro-technology: Part 4 Passive components
12032 (Part 5) : 1993/ IEC 617-5 : 1983	Graphical symbols for diagrams in the field of elector-technology: Part 5 Semiconductors and electron tubes
12032 (Part 6) : 1987/ IEC 617-6 : 1983	Graphical symbols for diagrams in the field of electro-technology: Part 6 Production and conversion of electrical energy
12032 (Part 7) : 1987/ IEC 617-7 : 1983	Graphical symbols for diagrams in the field of electro-technology: Part 7 Switchgear, control gear and protective devices
12032 (Part 8) : 1987/ IEC 617-7 : 1983	Graphical symbols for diagrams in the field of electro-technology: Part 7 Switchgear, control gear and protective devices
12032 (Part 9) : 1993/ IEC 617-9 : 1983	Graphical symbols for diagrams in the field of electro- technology: Part 9 Telecommunications, switching and peripheral equipment
12032 (Part 11) : 1987/ IEC 617-11 : 1983	Graphical symbols for diagrams in the field of electro- technology: Part 11 Architectural and topographical installation plans and diagrams
12032 (Part 12) : 1994/ IEC 617-12 : 1983	Graphical symbols for diagrams in the field of electro-technology: Part 12 Binary logic elements
12032 (Part 13) : 1992/ IEC Pub 617-13 : 1978	Graphical symbols for diagrams in the field of electrotechnology : Part 13 Analogue elements
12063 : 1987	Classification of degrees of protection provided by enclosures of electrical equipment
IS 13360 (Part 6/Sec 17) : 1997/ ISO 75-2 : 1993	Plastics— Methods of testing: Part 6 Thermal properties, Section 17 Determination of temperature of defection under load — Plastics and ebonite
13779 : 1999	ac Static watt-hour meters, Class 1and 2 — Specification
14700 (Part 4/Sec 2) : 1999/ IEC 61000-4-2 : 1995	Electromagnetic compatibility (EMC) : Part 4 Testing and measurement techniques, Section 2 Electrostatic discharge immunity test

14700 (Part 4/Sec 3) : 2005/ IEC 61000-4-3 : 2002	Electromagnetic compatibility (EMC) : Part 4 Testing and measurement techniques, Section 3 Radiated, radio frequency, electromagnetic field immunity test
14700 (Part 4/Sec 4) : 1999/ IEC 61000-4-4 : 1995	Electromagnetic compatibility (EMC) : Part 4 Testing and measurement techniques, Section 4 Electrical fast transient/burst immunity test
IEC 61000-4-5 : 2005	Electromagnetic compatibility (EMC) — Part 4-5 : Testing and measurement techniques — Surge immunity test
IEC 61000-4-6 : 2008	Electromagnetic compatibility (EMC) — Part 4-6 : Testing and measurement techniques — Immunity to conducted disturbances, induced by radio-frequency fields
IEC 62052-11 : 2003	Electricity metering equipment (AC) — General requirements, tests and conditions — Part 11 : Metering equipment