Australian Standard™

Electricity metering equipment (AC)—Particular requirements

Part 22: Static meters for active energy (classes 0.2 S and 0.5 S)

STANDARDS AUSTRALIA

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Australian Electrical and Electronic Manufacturers Association
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Australian Standard™

Electricity metering equipment (AC)—Particular requirements

Part 22: Static meters for active energy (classes 0.2 S and 0.5 S)

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PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/ Standards New Zealand Committee EL-011, Electricity Metering to supersede AS 1284.9—1993, *Electricity metering* Part 9: *Electronic watthour meters (Classes 0.2 S and 0.5 S)*. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian, rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide electricity utilities and meter manufacturers with requirements and tests for classes 0.2 and 0.5 watthour meters.

This Standard is identical with, and has been reproduced from IEC 62053-22, Ed.1.0 (2003), *Electricity metering equipment (AC) – Particular requirements – Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

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The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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INTRODUCTION

References to international standards that are struck through are replaced by references to Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is identified as such.

This part of IEC 62053 is to be used with the following relevant parts of the IEC 62052, IEC 62053 and IEC 62059 series, Electricity metering equipment:

~~IEC 62052-11:2003, *Electricity metering equipment (a.c.) – General requirements, tests and test conditions – Part 11: Metering equipment*~~

AS 62052.11, *Electricity metering equipment (a.c.)—General requirements, tests and test conditions*, Part 11: *Metering equipment*

~~IEC 62053-11:2003, *Electricity metering equipment (a.c.) – Particular requirements – Part 11: Electromechanical meters for active energy (classes 0,5, 1 and 2)*~~

AS 62053.11, *Electricity metering equipment (a.c.)– Particular requirements*, Part 11: *Electromechanical meters for active energy (classes 0,5, 1 and 2)*

Replaces particular requirements of IEC 60521: 1988 (2nd edition)

~~IEC 62053-21:2003, *Electricity metering equipment (a.c.) – Particular requirements* – Part 21: *Static meters for active energy (classes 1 and 2)*~~

AS 62053-21, *Electricity metering equipment (a.c.)—Particular requirements*, Part 21: *Static meters for active energy (classes 1 and 2)*

Replaces particular requirements of IEC 61036: 2000 (2nd edition)

IEC 62053-22:2003, *Electricity metering equipment (a.c.) – Particular requirements – Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)*

Replaces particular requirements of IEC 60687: 1992 (2nd edition)

IEC 62053-31:1998, *Electricity metering equipment (a.c.) – Particular requirements – Part 31: Pulse output devices for electromechanical and electronic meters (two wires only)*

IEC 62053-61:1998, *Electricity metering equipment (a.c.) – Particular requirements – Part 61: Power consumption and voltage requirements*

IEC 62059-11:2002, *Electricity metering equipment (a.c.) – Dependability – Part 11: General concepts*

IEC 62059-21:2002, *Electricity metering equipment (a.c.) – Dependability – Part 21: Collection of meter dependability data from the field*

This part is a standard for type testing electricity meters. It covers the particular requirements for meters, being used indoors. It does not deal with special implementations (such as metering-part and/or displays in separate housings).

This standard is intended to be used in conjunction with IEC 62052-11. When any requirement in this standard concerns an item already covered in IEC 62052-11, the requirements of this standard take precedence over the requirements of IEC 62052-11.

This standard distinguishes:

– between accuracy class index 0,2 S and accuracy class index 0,5 S meters;

– between protective class I and protective class II meters;

– between meters for use in networks equipped with or without earth fault neutralizers.

The test levels are regarded as minimum values that provide for the proper functioning of the meter under normal working conditions. For special application, other test levels might be necessary and should be agreed on between the user and the manufacturer.

NOTES

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Australian Standard

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1 Scope

This part of AS 62053~~IEC 62053~~ applies only to newly manufactured static watt-hour meters of accuracy classes 0,2 S and 0,5 S, for the measurement of alternating current electrical active energy in 50 Hz or 60 Hz networks and it applies to their type tests only.

It applies only to transformer-operated static watt-hour meters for indoor application 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). If the meter has a measuring element for more than one type of energy (multi-energy meters), or when other functional elements, like maximum demand indicators, electronic tariff registers, time switches, ripple control receivers, data communication interfaces, etc. are enclosed in the meter case, then the relevant standards for these elements also apply.

NOTE IEC 60044-1 describes transformers having a measuring range of 0,01 I_n to 1,2 I_n, or of 0,05 I_n to 1,5 I_n, or of 0,05 I_n to 2 I_n and transformers having a measuring range of 0,01 I_n to 1,2 I_n for accuracy classes 0,2 S and 0,5 S. As the measuring ranges of a meter and its associated transformers have to be matched and as only transformers of classes 0,2 S and 0,5 S have the accuracy required to operate the meters of this standard, the measuring range of the meter will be 0,01 I_n to 1,2 I_n.

It does not apply to:

– watt-hour meters where the voltage across the connection terminals exceeds 600 V (line-to-line voltage for meters for polyphase systems);

– portable meters and meters for outdoor use;

– data interfaces to the register of the meter;

– reference meters.

The dependability aspect is covered by the documents of the IEC 62059 series.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

References to international standards that are struck through in this clause are replaced by references to Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is identified as such.

~~IEC 60044-1:1996, *Instrument transformers – Part 1: Current transformers*~~

AS 60044.1, *Instrument transformers,* Part 1: *Current transformers*

IEC 60736:1982, *Testing equipment for electrical energy meters*

