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Australian STANDARD®

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Instrument transformers

Part 3: Additional requirements for inductive voltage transformers (IEC 61869-3:2011 (ED.1.0) MOD)



AS 61869.3:2021

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Part 3: Additional requirements for inductive voltage transformers (IEC 61869-3:2011 (ED.1.0) MOD)

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Preface

This Standard was prepared by the Standards Australia Committee EL-013, Measurement and Protection Transformers, to supersede AS 60044.2—2007, *Instrument transformers, Part 2: Inductive voltage transformers (IEC 60044-2:Ed.1.2 (2003) MOD).*

〉A1〈 Amendment No. 1 to this document was prepared by the Standards Australia Committee EL-013, Measurement and Protection Transformers. 〉A1〈

〉A1〈 *This Standard incorporates Amendment No. 1 (June 2026). The start and end of changes introduced by the Amendment are indicated in the text by tags including the Amendment number 1.* 〉A1〈

The objective of this document applies to new inductive voltage transformers for use with electrical measuring instruments and electrical protective devices at frequencies from 15 Hz to 100 Hz.

Requirements specific to three-phase voltage transformers are not included in this document but, so far as they are relevant, the requirements in Clauses 4 to 10 apply to these transformers.

This document is an adoption with national modifications, and has been reproduced from, IEC 61869-3:2011, *Instrument transformers — Part 3: Additional requirements for inductive voltage transformers.* The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to IEC 61869-3:2011 (ED. 1.0) for the application of this document in Australia. 〉A1〈 Appendix ZA provides technical advice on the accuracy testing of three-phase voltage transformers (VTs) for metering applications. 〉A1〈

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(a) In the source text “this part of 61869” should read “this document”.

(b) A full point substitutes for a comma when referring to a decimal marker.

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The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INSTRUMENT TRANSFORMERS –

Part 3: Additional requirements for inductive voltage transformers

FOREWORD

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This International Standard IEC 61869-3 has been prepared by subcommittee 38: Instrument transformers.

This standard replaces IEC 60044-2: Inductive Voltage Transformers.

The text of this standard is based on the following documents:

FDIS	Report on voting
38/410/FDIS	38/413/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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This standard is Part 3 of IEC 61869, published under the general title *Instrument transformers*.

This part 3 is to be read in conjunction with, and is based on, IEC 61869-1, *General Requirements* - first edition (2007)- however the reader is encouraged to use its most recent edition.

This Part 3 follows the structure of IEC 61869-1 and supplements or modifies its corresponding clauses.

When a particular clause/subclause of Part 1 is not mentioned in this Part 3, that clause/subclause applies as far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the relevant text in Part 1 is to be adapted accordingly.

For additional clauses, subclauses, figures, tables, annexes or notes, the following numbering system is used:

– clauses, subclauses, tables, figures and notes that are numbered starting from 301 are additional to those in Part 1;
– additional annexes are lettered 3A, 3B, etc.

An overview of the planned set of standards at the date of publication of this document is given below. The updated list of standards issued by IEC TC38 is available at the website: www.iec.ch.

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PRODUCT FAMILY STANDARDS		PRODUCT STANDARD	PRODUCTS	OLD STANDARD
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		61869-4	ADDITIONAL REQUIREMENTS FOR COMBINED TRANSFORMERS	60044-3
		61869-5	ADDITIONAL REQUIREMENTS FOR CAPACITIVE VOLTAGE TRANSFORMERS	60044-5
	61869-6 ADDITIONAL GENERAL REQUIREMENT FOR ELECTRONIC INSTRUMENT TRANSFORMERS AND LOW POWER STAND ALONE SENSORS	**61869-7**	ADDITIONAL REQUIREMENTS FOR ELECTRONIC VOLTAGE TRANSFORMERS	60044-7
		61869-8	ADDITIONAL REQUIREMENTS FOR ELECTRONIC CURRENT TRANSFORMERS	60044-8
		61869-9	DIGITAL INTERFACE FOR INSTRUMENT TRANSFORMERS	
		61869-10	ADDITIONAL REQUIREMENTS FOR LOW-POWER STAND-ALONE CURRENT SENSORS	
		61869-11	ADDITIONAL REQUIREMENTS FOR LOW POWER STAND ALONE VOLTAGE SENSOR	60044-7
		61869-12	ADDITIONAL REQUIREMENTS FOR COMBINED ELECTRONIC INSTRUMENT TRANSFORMER OR COMBINED STAND ALONE SENSORS	
		61869-13	STAND ALONE MERGING UNIT	

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INSTRUMENT TRANSFORMERS –

Part 3: Additional requirements for inductive voltage transformers

1 Scope

This part of IEC 61869 applies to new inductive voltage transformers for use with electrical measuring instruments and electrical protective devices at frequencies from 15 Hz to 100 Hz.

NOTE 301 Requirements specific to three-phase voltage transformers are not included in this standard but, so far as they are relevant, the requirements in clauses 4 to 10 apply to these transformers and a few references to them are included in those clauses (e.g. see 3.1.303, 5.301.1, 5.301.2, 5.5.301, 6.13.301.1 and Table 304).

All the transformers shall be suitable for measuring purposes, but, in addition, certain types may be suitable for protection purposes. Transformers for the dual purpose of measurement and protection shall comply with all clauses of this standard.

2 Normative references

Clause 2 of IEC 61869-1:2007 is applicable with the following additions:

IEC 60028, *International Standard of resistance for copper*

IEC 60038, *IEC standard voltages*

IEC 61869-1:2007, *Instrument transformers – Part 1: General requirements*

3 Terms, definitions and abbreviations

For the purposes of this document, the terms and definitions in IEC 61869-1:2007 apply with the following additions:

3.1 General definitions

3.1.301
voltage transformer
instrument transformer in which the secondary voltage, in normal conditions of use, is substantially proportional to the primary voltage and differs in phase from it by an angle which is approximately zero for an appropriate direction of the connections

[IEC 60050-321:1986, 321-03-01]

3.1.302
unearthed voltage transformer
voltage transformer which has all parts of its primary winding, including terminals, insulated from earth to a level corresponding to its rated insulation level

3.1.303
earthed voltage transformer
single-phase voltage transformer which is intended to have one end of its primary winding directly earthed or a three-phase voltage transformer which is intended to have the star-point of its primary winding directly earthed

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