

Australian Standard™

**Instrument transformers**

**Part 3: Combined transformers**

This Australian Standard was prepared by Committee EL-013, Measurement and Protection Transformers. It was approved on behalf of the Council of Standards Australia on 25 November 2003 and published on 30 January 2004.

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The following are represented on Committee EL-013:

Australian Electrical and Electronic Manufacturers Association  
Cigre AP12  
CSIRO Telecommunications and Industrial Physics  
Electricity Supply Association of Australia  
University of South Australia

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**Instrument transformers**

**Part 3: Combined transformers**

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## PREFACE

This Standard was prepared by the Standards Australia Committee EL-013, Measurement and Protection Transformers.

The objective of this Standard is to provide users and manufacturers of combined transformers with definitions of terms, safety requirements, methods of specifying performance and methods of test.

This Standard is Part Three of a series covering instrument transformers. The series consists of the following Standards:

AS

- 60044 Instrument transformers
- 60044.1 Part 1: Current transformers
- 60044.2 Part 2: Single-phase conductive voltage transformers
- 60044.3 Part 3: Combined transformers (this Standard)
- 60044.5 Part 5: Capacitor voltage transformers

This Standard is identical with, and has been reproduced from IEC 60044-3:2002, *Instrument transformers – Part 3: Combined transformers*.

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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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## STANDARDS AUSTRALIA

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**Australian Standard****Instrument transformers  
Part 3: Combined transformers**

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**1 Scope and object**

This part of ~~IEC 60044~~ AS 60044 applies to newly manufactured combined transformers for use with electrical measuring instruments and electrical protective devices at frequencies from 15 Hz to 100 Hz.

The requirements and tests of this standard, in addition to the requirements and tests of ~~IEC 60044-1~~ AS 60044.1, ~~IEC 60044-2~~ AS 60044.2 and ~~IEC 60044-5~~ AS 60044.5 cover current, voltage and capacitor voltage transformers, that are necessary for combined instrument transformers.

**2 Definitions**

For the purposes of this part of ~~IEC 60044~~ AS 60044, the definitions given in ~~IEC 60044-1~~ AS 60044.1 and ~~IEC 60044-2~~ AS 60044.2 and the following definition apply.

**2.1 Combined instrument transformer**

Instrument transformer consisting of a current and a voltage transformer in the same case

**3 Normal and special service conditions**

For the purposes of this part of ~~IEC 60044~~ AS 60044, Clause 3 of ~~IEC 60044-1~~ AS 60044.1 and Clause 4 of ~~IEC 60044-2~~ AS 60044.2 apply to current and voltage transformers respectively.

**4 Ratings****4.1 General**

For the purposes of this part of ~~IEC 60044~~ AS 60044, in addition to Clause 4 of ~~IEC 60044-1~~ AS 60044.1 and Clause 5 of ~~IEC 60044-2~~ AS 60044.2, the following subclause applies.

**4.2 Limits of temperature rise**

The temperature rise of a combined instrument transformer shall not exceed the appropriate values of 4.6 of ~~IEC 60044-1~~ AS 60044.1 and of 5.4 of ~~IEC 60044-2~~ AS 60044.2 respectively, if a voltage as indicated in ~~IEC 60044-2~~ AS 60044.2, 5.4, is applied to it and the current transformer is carrying a primary current equal to the rated continuous thermal current. The current transformer is connected to a unity power factor burden corresponding to the rated output and with the voltage transformer being loaded at rated burden, or at the highest rated burden if there are several rated burdens, and at a power factor between 0,8 lagging and unity. The additional tolerance of 10 K proposed in some cases for the voltage transformers is also applicable for the current transformers of the combined instrument transformers.