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AS IEC 62271.105:2015

Australian STANDARD

High-voltage switchgear and control gear

Part 105: Alternating current switch-fuse combinations for rated voltages above 1 kV up to and including 52 kV

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- Engineers Australia
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PREFACE

This Standard was prepared by the Standards Australia Committee EL-007, Industrial Switchgear and Controlgear.

The objective of this Standard is to specify requirements for three-pole units for public and industrial distribution systems, which are functional assemblies of switches including switch-disconnectors and current limiting fuses.

This Standard is identical with, and has been reproduced from IEC 62271-105 Ed.2.0 (2012), *High-voltage switchgear and controlgear*, Part 105: *Alternating current switch-fuse combinations for rated voltages above 1 kV up to and including 52 kV*.

This Standard is to be read in conjunction with IEC 62271-1 (which has been adopted as AS 62271.1) and to which it refers and which is applicable, unless otherwise specified in this Standard. In order to simplify the indication of corresponding requirements, the same numbering of clauses is used as in IEC 62271-1. Variations to these clauses are given under the same numbering, while additional subclauses are numbered from 101.

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

(a) In the source text 'this part of IEC 62271' should read 'this Australian Standard'.

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

References to International Standards should be replaced by references to Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
IEC		AS	
62271	High-voltage switchgear and controlgear	62271	High-voltage switchgear and controlgear
62271-1*	Part 1: Common specifications	62271.1*	Part 1: Common specifications
62271-100	Part 100: Alternating-current circuit-breakers	62271.100	Part 100: High-voltage alternating-current circuit-breakers (IEC 62271-100, Ed.1.2 (2006) MOD)
62271-102	Part 102: Alternating current disconnectors and earthing switches	62271.102	Part 102: Alternating current disconnectors and earthing switches (IEC 62271-102, Ed.1.0 (2003) MOD)

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

The terms 'normative' and 'informative' have been used in this Standard 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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* The source text specifically references the 2007 edition of IEC 62271-1. IEC released an Amendment to that edition in 2011 and incorporated it into IEC 62271-1 Ed.1.1 (2011). The IEC incorporated edition was adopted as AS 62271.1—2012. For the application of this Standard, the Australian adoption of IEC 62271-1 is recommended.

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1 General

1.1 Scope

Subclause 1.1 of IEC 62271-1:2007 is not applicable, and is replaced as follows:.

This part of IEC 62271 applies to three-pole units for public and industrial distribution systems which are functional assemblies of switches including switch-disconnectors and current-limiting fuses designed so as to be capable of

– breaking, at the rated recovery voltage, any current up to and including the rated short-circuit breaking current;
– making, at the rated voltage, circuits to which the rated short-circuit breaking current applies.

It does not apply to fuse-circuit-breakers, fuse-contactors, combinations for motor-circuits or to combinations incorporating single capacitor bank switches.

In this standard, the word “combination” is used for a combination in which the components constitute a functional assembly. Each association of a given type of switch and a given type of fuse defines one type of combination.

In practice, different types of fuses may be combined with one type of switch, which give several combinations with different characteristics, in particular concerning the rated currents. Moreover, for maintenance purposes, the user should know the types of fuses that can be combined to a given switch without impairing compliance to the standard, and the corresponding characteristics of the so-made combination.

A switch-fuse combination is then defined by its type designation and a list of selected fuses is defined by the manufacturer, the so-called “reference list of fuses”. Compliance with this standard of a given combination means that every combination using one of the selected fuses is proven to be in compliance with this standard.

The fuses are incorporated in order to extend the short-circuit breaking rating of the combination beyond that of the switch alone. They are fitted with strikers in order both to open automatically all three poles of the switch on the operation of a fuse and to achieve a correct operation at values of fault current above the minimum melting current but below the minimum breaking current of the fuses. In addition to the fuse strikers, the combination may be fitted with either an over-current release or a shunt release.

NOTE In this standard the term “fuse” is used to designate either the fuse or the fuse-link where the general meaning of the text does not result in ambiguity.

This standard applies to combinations designed with rated voltages above 1 kV up to and including 52 kV for use on three-phase alternating current systems of either 50 Hz or 60 Hz.

Fuses are covered by IEC 60282-1.

Devices that require dependent manual operation are not covered by this standard.

