

SINGAPORE STANDARD

Low-voltage switchgear and controlgear assemblies

– Part 3 : Distribution boards intended to be operated by ordinary persons (DBO)

[Modified adoption of IEC 61439-3:2012]

Published by

Enterprise
Singapore

SS 619 : Part 3 : 2016
IEC 61439-3:2012, MOD
(ICS 29.130.20)

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assemblies**

– Part 3 : Distribution boards intended to be operated by ordinary
persons (DBO)

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ISBN 978-981-4726-70-2

This Singapore Standard was approved by the Electrical and Electronic Standards Committee on behalf of the Standards Council of Singapore on 6 October 2016.

First published, 2017

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CPG Consultants Pte Ltd

Energy Market Authority

Housing & Development Board

Institution of Engineers Singapore

JTC Corporation

Land Transport Authority

Singapore Electrical Contractors and Licenced Electrical Workers Association

Singapore Electrical Testing Services

Singapore Electrical Trades Association

SP PowerGrid Ltd

Sunlight Electrical Pte Ltd

TUV SUD PSB Pte Ltd

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National Foreword

This Singapore Standard was prepared by the Working Group appointed by the Technical Committee on Power Systems and Utilisation under the direction of the Electrical and Electronic Standards Committee.

This standard is a modified adoption of IEC 61439-3 : 2012, 'Low-voltage switchgear and controlgear assemblies', published by the International Electrotechnical Commission (IEC). The modifications to suit local context are given as follows:

- Under Clause 1, apart from control and/or signaling devices associated with the distribution of electrical energy, DBOs may include measuring devices as well. Segregation between the electrical energy circuits and the measuring/signaling circuits is required.
- Paragraph 2 of 8.5.3 is to be disregarded as it is not applicable in Singapore.

Attention is drawn to the following:

1. Where appropriate, the words 'International Standard' shall be read as 'Singapore Standard'. The references to International Standards shall be replaced by the following Singapore Standards:

International Standard	Corresponding Singapore Standard
IEC 61008-1	SS 97
IEC 61009-1	SS 480
IEC 61439-1	SS 619-1

2. The comma has been used throughout as a decimal marker in IEC 61439-3 whereas in Singapore Standards it is a practice to use a full point on the baseline as the decimal marker.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES –

**Part 3: Distribution boards intended to be operated
by ordinary persons (DBO)**

FOREWORD

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International Standard IEC 61439-3 has been prepared by subcommittee 17D: Low-voltage switchgear and controlgear assemblies, of IEC technical committee 17: Switchgear and controlgear.

This first edition cancels and replaces the first edition of IEC 60439-3 (1990), Amendment 1 (1993) and Amendment 2 (2001). It constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 60439-3 (including the amendments):

- alignment with IEC 61439-1:2011.

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

FDIS	Report on voting
17D/448/FDIS	17D/450/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 standard is to be read in conjunction with IEC 61439-1. The provisions of the general rules dealt with in IEC 61439-1 (hereinafter referred to as Part 1) are applicable to this standard where they are specifically cited. When this standard states "addition" "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

Subclauses that are numbered with a 101 (102, 103, etc.) suffix are additional to the same subclause in Part 1.

Tables and figures in this Part 3 that are new are numbered starting with 101.

New annexes in this Part 3 are lettered AA, BB, etc.

The "in some countries" notes regarding differing national practices are contained in the following subclauses:

- 3.1.102
- 6.1
- 8.2.1
- 8.5.3
- 8.6.1
- 8.8

A list of all parts of the IEC 61439 series, under the general title *Low-voltage switchgear and controlgear assemblies* can be found on the IEC website.

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

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.

The contents of the corrigendum of September 2013 have been included in this copy.

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES –

Part 3: Distribution boards intended to be operated by ordinary persons (DBO)

1 Scope

This part of IEC 61439 defines the specific requirements for distribution boards intended to be operated by ordinary persons (DBO).

DBOs have the following criteria:

- intended to be operated by ordinary persons (e.g. switching operations and replacing fuse-links), e.g. in domestic (household) applications;
- outgoing circuits contain protective devices, intended to be operated by ordinary persons, complying e.g. with IEC 60898-1, IEC 61008, IEC 61009, IEC 62423 and IEC 60269-3;
- rated voltage to earth does not exceed 300 V a.c.;
- rated current (I_{nC}) of the outgoing circuits does not exceed 125 A and the rated current (I_{nA}) of the DBO does not exceed 250 A;
- intended for the distribution of electrical energy;
- enclosed, stationary;
- for indoor or outdoor use.

DBOs may also include control and/or signaling devices associated with the distribution of electrical energy.

This standard applies to all DBOs whether they are designed, manufactured and verified on a one-off basis or fully standardised and manufactured in quantity.

DBOs may be assembled outside the factory of the original manufacturer.

This standard does not apply to individual devices and self-contained components, such as circuit breakers, fuse switches, electronic equipment, etc. which will comply with the relevant product standards.

This standard does not apply to the specific types of ASSEMBLIES covered by other parts of IEC 61439.

2 Normative references

This clause of Part 1 applies except as follows.

Addition:

IEC 60068-2-75, *Environmental testing – Part 2:Tests – Test Eh: Hammer tests*

IEC 60269-3, *Low-voltage fuses – Part 3: Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications) – Examples of standardized systems of fuses A to F*

IEC 60898-1:2010, *Electrical accessories – Circuit-breakers for overcurrent protection for household and similar installations – Part 1: Circuit-breakers for a.c. operation*

IEC 61008 (all parts), *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs)*

IEC 61009 (all parts), *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs)*

IEC 61439-1:2011, *Low-voltage switchgear and controlgear assemblies – Part 1: General rules*

IEC 62423:2009, *Type F and type B residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses*