

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Low-voltage switchgear and controlgear – Product data and properties for information exchange

Appareillage à basse tension – Données et propriétés de produits pour l'échange d'informations



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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	9
2 Normative references	9
3 Terms and definitions	9
4 General	10
5 Properties.....	10
5.1 Criteria for naming properties.....	10
5.2 Attributes of a property	10
6 Block of properties.....	11
7 Device classes	12
7.1 Device class attributes	12
7.2 Classification of low-voltage switchgear and controlgear	12
7.3 Properties of device classes	18
7.3.1 General	18
7.3.2 Circuit-breaker.....	19
7.3.3 Release for circuit-breaker.....	21
7.3.4 Residual current release for circuit-breaker	22
7.3.5 Shunt release for circuit-breaker	23
7.3.6 Under-voltage release for circuit-breaker	24
7.3.7 Motor-operator for circuit-breaker	25
7.3.8 Switch-disconnector.....	26
7.3.9 Switch-disconnector-fuse.....	28
7.3.10 Fuse-switch-disconnector	30
7.3.11 Motor protection circuit-breaker	32
7.3.12 Motor management device.....	33
7.3.13 Motor management device, extension module.....	34
7.3.14 Motor management device, operator panel	36
7.3.15 Motor-starter combination	37
7.3.16 Motor-starter.....	38
7.3.17 AC semiconductor motor controller	39
7.3.18 Power contactor, a.c. switching	41
7.3.19 Capacitor contactor	42
7.3.20 Combination of contactors	43
7.3.21 Power contactor, d.c. switching	44
7.3.22 Thermal overload relay	45
7.3.23 Electronic overload relay	46
7.3.24 Relay for thermistor protection (PTC).....	47
7.3.25 Electromechanical contactor for household and similar purposes.....	48
7.3.26 Inductive proximity switch.....	49
7.3.27 Capacitive proximity switch.....	50
7.3.28 Non-mechanical magnetic proximity switch	51
7.3.29 Ultrasonic proximity switch	51
7.3.30 Through beam photoelectric proximity switch.....	51
7.3.31 Retroreflective photoelectric proximity switch.....	51

7.3.32	Diffuse reflective photoelectric proximity switch	51
7.3.33	Diffuse reflective photoelectric proximity switch with background suppression	51
7.3.34	Auxiliary contact block	52
7.3.35	Contactor relay	53
7.3.36	Position switch	54
7.3.37	Rotary limit switch	55
7.3.38	Safety position switch with separate actuator	55
7.3.39	Safety position switch with interlocking	55
7.3.40	Trip wire switch	55
7.3.41	Hinge switch	55
7.3.42	Push-button	56
7.3.43	Rotary button	58
7.3.44	Front element for rotary button	60
7.3.45	Joy stick	60
7.3.46	Foot switch	61
7.3.47	Emergency stop push-button	61
7.3.48	Indicator light	63
7.3.49	Indicating tower	64
7.3.50	Front element for push-button	65
7.3.51	Contact block for control circuit	66
7.3.52	Front element for emergency stop push-button	67
7.3.53	Module for indicating tower	68
7.3.54	Transfer switching equipment	68
7.3.55	Feed-through terminal block	69
7.3.56	Disconnect terminal block	70
7.3.57	Protective conductor terminal block	71
7.3.58	Fuse terminal block	72
8	Device properties	73
	Bibliography	107
	Figure 1 – Height of the device	103
	Figure 2 – Width of the device	104
	Figure 3 – Length of the device	104
	Table 1 – Library of blocks used in the device classes of low-voltage switchgear	11
	Table 2 – Low-voltage switchgear and controlgear classification	12
	Table 3 – Circuit-breaker	19
	Table 4 – Release for circuit-breaker	21
	Table 5 – Residual current release for circuit-breaker	22
	Table 6 – Shunt release for circuit-breaker	23
	Table 7 – Under-voltage release for circuit-breaker	24
	Table 8 – Motor-operator for circuit-breaker	25
	Table 9 – Switch-disconnector	26
	Table 10 – Switch-disconnector-fuse	28
	Table 11 – Fuse-switch-disconnector	30
	Table 12 – Motor protection circuit-breaker	32

Table 13 – Motor management device	33
Table 14 – Motor management device, extension module	34
Table 15 – Motor management device, operator panel	36
Table 16 – Motor-starter combination	37
Table 17 – Motor-starter	38
Table 18 – AC semiconductor motor controller	39
Table 19 – Power contactor, a.c. switching	41
Table 20 – Capacitor contactor	42
Table 21 – Combination of contactors	43
Table 22 – Power contactor, d.c. switching	44
Table 23 – Thermal overload relay	45
Table 24 – Electronic overload relay	46
Table 25 – Relay for thermistor protection (PTC)	47
Table 26 – Electromechanical contactor for household and similar purposes	48
Table 27 – Inductive proximity switch	49
Table 28 – Capacitive proximity switch	50
Table 29 – Auxiliary contact block	52
Table 30 – Contactor relay	53
Table 31 – Position switch	54
Table 32 – Push-button	56
Table 33 – Rotary button	58
Table 34 – Front element for rotary button	60
Table 35 – Emergency stop push-button	61
Table 36 – Indicator light	63
Table 37 – Indicating tower	64
Table 38 – Front element for push-button	65
Table 39 – Contact block for control circuit	66
Table 40 – Front element for emergency stop push-button	67
Table 41 – Module for indicating tower	68
Table 42 – Feed-through terminal block	69
Table 43 – Disconnect terminal block	70
Table 44 – Protective conductor terminal block	71
Table 45 – Fuse terminal block	72
Table 46 – Library of properties used in the device classes	73
Table 47 – Value lists of properties	104

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –
PRODUCT DATA AND PROPERTIES FOR INFORMATION EXCHANGE**

FOREWORD

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International Standard IEC 62683 has been prepared by subcommittee 121A: Low-voltage switchgear and controlgear, of the IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage.

This second edition cancels and replaces the first edition published in 2013. This edition constitutes a technical revision.

This present edition includes the following significant technical changes with respect to the first edition:

- a) new descriptions of 41 classes for the families of circuit-breakers and their associated devices (ACC2xx), switches and disconnectors (ACC3xx), control switches (ACC5xx) and terminal blocks (ACC7xx) in addition to 14 classes for motor-starters of the first edition;
- b) new associated properties and value lists necessary for the new classes;
- c) three new blocks of properties: ACC017 Head of the control circuit device, ACC018 Light block of the control circuit device and ACC041 Over-current release;

- d) use of LEVEL_TYPE for replacing minimum and maximum properties into a single property with two values.

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

FDIS	Report on voting
121A/47/FDIS	121A/53/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.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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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INTRODUCTION

Mainly large customers and wholesalers are requesting standardized product descriptions and product properties from product manufacturers. However, all stakeholders will benefit from this standardised presentation and data exchange.

Multiple associations or groups of actors launched different initiatives to try to respond to this demand but, due to the lack of standardisation of classes and properties, the situation is not satisfactory neither for customers nor for manufacturers.

In order to keep the lead of product description, IEC proposes a new consistent solution within its product standards.

The purpose of this International Standard is to:

- define device classes and properties for low-voltage switchgear and controlgear in a dedicated standard,
- provide a basis for introduction of the low-voltage switchgear and controlgear classes and properties into the [IEC 61360 database](http://std.iec.ch/iec61360) maintained by IEC/SC3D (see <http://std.iec.ch/iec61360>).

This standard is not intended to establish a hierarchy of product classes called classification.

The intended benefits of this standard are to:

- reduce the time and efforts of mapping data for each customer request;
- optimize the workflow of B2B exchanges;
- minimize duplication of articles in customer inventories and in databases;
- minimize losses and misinterpretation of data during exchanges;
- facilitate the selection of a product, especially regarding reliability and safety;
- give access to product data everywhere regardless of country, language and culture;
- provide product data related to environmental aspects such as material declaration;
- contribute to the fast growth of the e-business by simplifying the development of:
 - e-Catalogue allowing the differentiation of products performances, certifications and approvals, etc;
 - e-commerce: use of electronic networks to exchange information, products, services and payments for commercial and communication purposes between individuals (consumers) and businesses, between businesses themselves.

The output of this standard consists of:

- reference dictionary of low-voltage switchgear and controlgear using existing terms from IEC standards. However, terminology used in e-business may be relevant for the purpose of naming classes in this standard to get a high level of acceptance;
- properties for e-commerce purposes, conformity of properties with product standards being the main goal of this standard.

NOTE The classes "under consideration" are for information only and are intended to be completed during the next maintenance cycle.

For this project, the introduction of low-voltage switchgear and controlgear within the IEC 61360 database needs to address the following technical aspect:

- IEC 61360 requires mandatory attributes. The complete set of mandatory attributes with additional relevant attributes for low-voltage switchgear and controlgear will be available within the IEC 61360 database. At the development stage, the [CDD 62683](#) database is

available at the following address:

<http://std.iec.ch/cdd/iec62683/cdddev.nsf/Welcome?OpenPage> . Within the present document, only the most useful attributes will be presented;

- The switchgear and controlgear data model is implemented in an appropriate domain of the IEC Component Data Dictionary (CDD), IEC 61360, by creating dictionaries of blocks, classes and properties.

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR – PRODUCT DATA AND PROPERTIES FOR INFORMATION EXCHANGE

1 Scope

This International Standard establishes the reference dictionary of the general description of low-voltage switchgear and controlgear classes based on defined properties.

This dictionary is used to facilitate the exchange in electronic format of data describing low-voltage switchgear and controlgear.

This standard provides clear and unambiguous definitions of a limited number of properties and classes which are mainly used for presentation, selection and identification of products particularly in electronic catalogues.

Each property has an unambiguously defined meaning and naming, and where relevant, a defined value list, a defined format and a defined unit.

The intention is not to cover manufacturer specific features.

2 Normative references

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

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60947-1:2007, *Low-voltage switchgear and controlgear – Part 1: General rules*

IEC 60947-1:2007/AMD1:2010

IEC 60947-1:2007/AMD2:2014

IEC 61360-1, *Standard data element types with associated classification scheme for electric items – Part 1: Definitions – Principles and methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions of IEC 60947-1, as well as the following terms and definitions apply.

3.1

attribute

data element for description of a property, a relation or a device class

EXAMPLE The name of a property, the code of a class, the measure unit of a property.

3.2

block (of properties)

collection of properties describing one common aspect of the device class

EXAMPLE Diagnostic functions, control circuit.