



BSI Standards Publication

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

Part 1: Catalogue data (IEC 62683-1:2017)

National foreword

This British Standard is the UK implementation of EN 62683-1:2017. It is identical to IEC 62683-1:2017. It supersedes BS EN 62683:2015, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/121/1, Low voltage switchgear and controlgear.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2017
Published by BSI Standards Limited 2017

ISBN 978 0 580 93729 3

ICS 29.130.20

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 October 2017.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

English Version

**Low-voltage switchgear and controlgear - Product data and
properties for information exchange - Part 1: Catalogue data
(IEC 62683-1:2017)**

Appareillage à basse tension - Données et propriétés de
produits pour l'échange d'informations - Partie 1: Données
de catalogue
(IEC 62683-1:2017)

Niederspannungsschaltgeräte - Produktdaten und -
eigenschaften für den Informationsaustausch - Teil 1:
Katalogdaten
(IEC 62683-1:2017)

This European Standard was approved by CENELEC on 2017-08-16. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 121A/152a/FDIS, future edition 1 of IEC 62683-1, prepared by SC 121A "Low-voltage switchgear and controlgear" of IEC/TC 121 "Switchgear and controlgear and their assemblies for low voltage" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62683-1:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-05-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-08-16

This document supersedes EN 62683:2015.

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

Endorsement notice

The text of the International Standard IEC 62683-1:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC/TS 60034-20-1:2002	NOTE	Harmonized as CLC/TS 60034-20-1:2004.
IEC 60127-1	NOTE	Harmonized as EN 60127-1.
IEC 60529:1989	NOTE	Harmonized as EN 60529:1991.
IEC 60529:1989/AMD1:1999	NOTE	Harmonized as EN 60529:1991/A1:2000.
IEC 60529:1989/AMD2:2013	NOTE	Harmonized as EN 60529:1991/A2:2013.
IEC 62262:2002	NOTE	Harmonized as EN 62262:2002.
IEC 60715	NOTE	Harmonized as EN 60715.
IEC 60825-1	NOTE	Harmonized as EN 60825-1.
IEC 60947-2:2016	NOTE	Harmonized as EN 60947-2:2017.
IEC 60947-3	NOTE	Harmonized as EN 60947-3.
IEC 60947-4 (series)	NOTE	Harmonized as EN 60947-4 (series).
IEC 60947-4-1:2009	NOTE	Harmonized as EN 60947-4-1:2010.

IEC 60947-4-1:2009/AMD1:2012	NOTE	Harmonized as EN 60947-4-1:2010/A1:2012.
IEC 60947-4-2	NOTE	Harmonized as EN 60947-4-2.
IEC 60947-4-3	NOTE	Harmonized as EN 60947-4-3.
IEC 60947-5-1:2016	NOTE	Harmonized as EN 60947-5-1:2016.
IEC 60947-5-2:2007	NOTE	Harmonized as EN 60947-5-2:2007.
IEC 60947-5-2:2007/AMD1:2012	NOTE	Harmonized as EN 60947-5-2:2007/A1:2012.
IEC 60947-5-5:1997	NOTE	Harmonized as EN 60947-5-5:1997.
IEC 60947-5-5:1997/AMD1:2005	NOTE	Harmonized as EN 60947-5-5:1997/A1:2005.
IEC 60947-5-5:1997/AMD2:2016	NOTE	Harmonized as EN 60947-5-5:1997/A2:2017.
IEC 60947-6-1:2005	NOTE	Harmonized as EN 60947-6-1:2005.
IEC 60947-6-1:2005/AMD1:2013	NOTE	Harmonized as EN 60947-6-1:2005/A1:2014.
IEC 60947-6-2	NOTE	Harmonized as EN 60947-6-2.
IEC 60947-7-1:2009	NOTE	Harmonized as EN 60947-7-1:2009.
IEC 60947-7-2:2009	NOTE	Harmonized as EN 60947-7-2:2009.
IEC 60947-7-3:2009	NOTE	Harmonized as EN 60947-7-3:2009.
IEC 60947-8	NOTE	Harmonized as EN 60947-8.
IEC 60999-1:1999	NOTE	Harmonized as EN 60999-1:2000.
IEC 61058-1:2016	NOTE	Harmonized as EN 61058-1:2017.
IEC 61095	NOTE	Harmonized as EN 61095.
IEC 61140:2016	NOTE	Harmonized as EN 61140:2016.
IEC 61672-1:2013	NOTE	Harmonized as EN 61672-1:2013.
IEC 61987-10	NOTE	Harmonized as EN 61987-10.
IEC 62271-1:2007	NOTE	Harmonized as EN 62271-1:2008.
IEC 62474	NOTE	Harmonized as EN 62474.
IEC 82079-1:2012	NOTE	Harmonized as EN 82079-1:2012.
ISO 13850:2015	NOTE	Harmonized as EN ISO 13850:2015.
ISO 14025	NOTE	Harmonized as EN ISO 14025.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60947-1	2007	Low-voltage switchgear and controlgear - Part 1: General rules	EN 60947-1	2007
+ A1	2010		+ A1	2011
+ A2	2014		+ A2	2014
IEC 61360-1	-	Standard data element types with associated classification scheme - Part 1: Definitions - Principles and methods	EN 61360-1	-

CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	10
2 Normative references	10
3 Terms and definitions	10
4 General	11
5 Properties.....	11
5.1 Criteria for naming properties.....	11
5.2 Attributes of a property	12
6 Block of properties.....	12
7 Device classes	12
7.1 Device class attributes	12
7.2 Classification of low-voltage switchgear and controlgear.....	13
7.3 Properties of circuit-breaker classes	20
7.3.1 General	20
7.3.2 Circuit-breaker.....	20
7.3.3 Release for circuit-breaker.....	22
7.3.4 Residual current release for circuit-breaker	23
7.3.5 Shunt release for circuit-breaker	24
7.3.6 Under-voltage release for circuit-breaker	25
7.3.7 Motor-operator for circuit-breaker	26
7.3.8 Plug-in base for circuit-breaker	27
7.3.9 Draw-out cradle for circuit-breaker.....	28
7.4 Properties of switch classes.....	28
7.4.1 General	28
7.4.2 Switch-disconnector.....	29
7.4.3 Switch-disconnector-fuse.....	31
7.4.4 Fuse-switch-disconnector	33
7.5 Properties of contactors, starters and similar equipment classes.....	34
7.5.1 General	34
7.5.2 Motor protection circuit-breaker	35
7.5.3 Motor management device.....	36
7.5.4 Motor management device, extension module.....	38
7.5.5 Motor management device, operator panel	39
7.5.6 Motor-starter combination	40
7.5.7 Motor-starter.....	41
7.5.8 AC semiconductor motor controller	42
7.5.9 Power contactor, AC switching	43
7.5.10 Capacitor contactor	44
7.5.11 Combination of contactors	45
7.5.12 Power contactor, DC switching	46
7.5.13 Thermal overload relay	47
7.5.14 Electronic overload relay	48
7.5.15 Relay for thermistor protection (PTC).....	49
7.5.16 Electromechanical contactor for household and similar purposes.....	50
7.5.17 Transient suppressor	

7.5.18	Mechanical interlocking device	51
7.5.19	Motor-starter enclosure.....	52
7.5.20	Coil for contactor or contactor relay	53
7.5.21	Electromechanical latching device	53
7.5.22	Control interface for contactor	54
7.6	Properties of control switch classes	55
7.6.1	General	55
7.6.2	Inductive proximity switch	55
7.6.3	Capacitive proximity switch.....	56
7.6.4	Non-mechanical magnetic proximity switch	57
7.6.5	Ultrasonic proximity switch	57
7.6.6	Through beam photoelectric proximity switch	58
7.6.7	Retroreflective photoelectric proximity switch.....	59
7.6.8	Diffuse reflective photoelectric proximity switch	60
7.6.9	Diffuse reflective photoelectric proximity switch with background suppression	62
7.6.10	Auxiliary contact block	63
7.6.11	Contactor relay	64
7.6.12	Position switch.....	65
7.6.13	Rotary limit switch	66
7.6.14	Safety position switch with separate actuator.....	66
7.6.15	Guard locking safety position switch	66
7.6.16	Trip wire switch	67
7.6.17	Hinge switch	67
7.6.18	Push-button	68
7.6.19	Rotary button.....	69
7.6.20	Front element for rotary button	71
7.6.21	Joy stick	72
7.6.22	Foot switch	73
7.6.23	Emergency stop push-button	74
7.6.24	Indicator light.....	75
7.6.25	Indicating tower	76
7.6.26	Front element for push-button.....	77
7.6.27	Contact block for control circuit.....	78
7.6.28	Front element for emergency stop push-button	79
7.6.29	Module for indicating tower	80
7.6.30	Reflector for reflective photoelectric proximity switch	81
7.6.31	Lamp for control device	82
7.6.32	Label holder for push-button and indicator light	82
7.6.33	Label plate for control operation	83
7.6.34	Protective cover for control device	84
7.6.35	Pneumatic time delay auxiliary contact block	84
7.6.36	Electronic time delay auxiliary block	85
7.6.37	Time relay	86
7.6.38	Rotary encoder	87
7.6.39	Linear encoder	88
7.7	Properties of multiple function equipment classes	89
7.8	Properties of terminal block classes	89
7.8.1	General	89

7.8.2	Feed-through terminal block	89
7.8.3	Disconnect terminal block	90
7.8.4	Protective conductor terminal block	91
7.8.5	Fuse terminal block	92
8	Products properties	93
	Bibliography.....	134
	Figure 1 – Height of the device	129
	Figure 2 – Width of the device	129
	Figure 3 – Length of the device.....	129
	Table 1 – Library of blocks used in the device classes of low-voltage switchgear	12
	Table 2 – Low-voltage switchgear and controlgear classification	13
	Table 3 – Circuit-breaker	20
	Table 4 – Release for circuit-breaker	22
	Table 5 – Residual current release for circuit-breaker	23
	Table 6 – Shunt release for circuit-breaker	24
	Table 7 – Under-voltage release for circuit-breaker.....	25
	Table 8 – Motor-operator for circuit-breaker	26
	Table 9 – Plug-in base for circuit-breaker.....	27
	Table 10 – Draw-out cradle for circuit-breaker	28
	Table 11 – Switch-disconnector	29
	Table 12 – Switch-disconnector-fuse	31
	Table 13 – Fuse-switch-disconnector	33
	Table 14 – Motor protection circuit-breaker	35
	Table 15 – Motor management device	36
	Table 16 – Motor management device, extension module	38
	Table 17 – Motor management device, operator panel	39
	Table 18 – Motor-starter combination.....	40
	Table 19 – Motor-starter	41
	Table 20 – AC semiconductor motor controller.....	42
	Table 21 – Power contactor, AC switching	43
	Table 22 – Capacitor contactor	44
	Table 23 – Combination of contactors	45
	Table 24 – Power contactor, DC switching	46
	Table 25 – Thermal overload relay	47
	Table 26 – Electronic overload relay	48
	Table 27 – Relay for thermistor protection (PTC)	49
	Table 28 – Electromechanical contactor for household and similar purposes	50
	Table 29 – Transient suppressor.....	51
	Table 30 – Mechanical interlocking device	51
	Table 31 – Motor-starter enclosure	52
	Table 32 – Coil for contactor or contactor relay.....	53
	Table 33 – Electromechanical latching device.....	53

Table 34 – Control interface for contactor	54
Table 35 – Inductive proximity switch	55
Table 36 – Capacitive proximity switch	56
Table 37 – Through beam photoelectric proximity switch	58
Table 38 – Retroreflective photoelectric proximity switch	59
Table 39 – Diffuse reflective photoelectric proximity switch	60
Table 40 – Diffuse reflective photoelectric proximity switch with background suppression	62
Table 41 – Auxiliary contact block	63
Table 42 – Contactor relay	64
Table 43 – Position switch	65
Table 44 – Trip wire switch	67
Table 45 – Push-button	68
Table 46 – Rotary button	69
Table 47 – Front element for rotary button	71
Table 48 – Joy stick	72
Table 49 – Foot switch	73
Table 50 – Emergency stop push-button	74
Table 51 – Indicator light	75
Table 52 – Indicating tower	76
Table 53 – Front element for push-button	77
Table 54 – Contact block for control circuit	78
Table 55 – Front element for emergency stop push-button	79
Table 56 – Module for indicating tower	80
Table 57 – Reflector for reflective photoelectric proximity switch	81
Table 58 – Lamp for control device	82
Table 59 – Label holder for push-button and indicator light	82
Table 60 – Label plate for control operation	83
Table 61 – Protective cover for control device	84
Table 62 – Pneumatic time delay auxiliary contact block	84
Table 63 – Electronic time delay auxiliary block	85
Table 64 – Time relay	86
Table 65 – Rotary encoder	87
Table 66 – Linear encoder	88
Table 67 – Feed-through terminal block	89
Table 68 – Disconnect terminal block	90
Table 69 – Protective conductor terminal block	91
Table 70 – Fuse terminal block	92
Table 71 – Library of properties used in the device classes	93
Table 72 – Value lists of properties	130

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –
PRODUCT DATA AND PROPERTIES FOR INFORMATION EXCHANGE –****Part 1: Catalogue data****FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62683-1 has been prepared by subcommittee 121A: Low-voltage switchgear and controlgear, of IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage.

This first edition cancels and replaces the second edition of IEC 62683 published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the second edition of IEC 62683:

- a) new device class descriptions;
- b) new associated properties;
- c) slight modifications of some properties.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
121A/152/FDIS	121A/156/RVD

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

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

A list of all parts in the IEC 62683 series, published under the general title *Low-voltage switchgear and controlgear – product data and properties for information exchange*, can be found on the IEC website.

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

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Mainly large customers and wholesalers are requesting standardized product descriptions and product properties to product manufacturers. However, all stakeholders will benefit from this standardized 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 standardization 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 document 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 maintained by IEC SC3D (see <http://std.iec.ch/iec61360>).

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

The intended benefits of this document are to:

- reduce the costs, 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 e-business by simplifying the development of
 - e-catalogue allowing the differentiation of products performances, certificates, etc;
 - e-commerce: use of electronic networks to exchange information, products, services and payments for commercial and communication purposes between individuals (consumers) and businesses, and between businesses themselves.

The output of this document 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 document to get a high level of acceptance;
- properties for e-commerce purposes, conformity of properties with product standards being the main goal of this document.

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 aspects:

- 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:

<https://cdd.iec.ch/cdd/iec62683/iec62683.nsf>. 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 –

Part 1: Catalogue data

1 Scope

This document 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 document 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 are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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 given in IEC 60947-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

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 unit of measure of a property

3.2

block (of properties)

collection of properties describing one common aspect of the device class

Note 1 to entry: A block is a feature class in the sense of IEC 61360-1 and ISO 13584-42.

EXAMPLE Diagnostic functions, control circuit.

3.3

cardinality

pattern defining the number of times a concept reoccurs within a description

Note 1 to entry: Cardinality allows a block of properties contained in a list of properties to be used more than once for a particular transaction in order to describe, for example, a device with several different outputs or more than one process case.

Note 2 to entry: Cardinality is defined by IEC 61987-10.

3.4

device

material element or assembly of such elements intended to perform a required function

Note 1 to entry: In this document, a device corresponds to a low voltage switchgear and controlgear.

[SOURCE: IEC 60050-151:2001, 151-11-20, modified – The note has been modified.]

3.5

device class

set of properties which gives a description of a device

3.6

polymorphism

pattern that allows substitution of a single concept in the same context by a different more specific (specialized) concept

Note 1 to entry: A specialized polymorphic block of properties can replace a more generic one in the same context. A polymorphic operator (control property) can act in selecting between various specializations.

Note 2 to entry: Polymorphism is defined by IEC 61987-10.

3.7

property

defined parameter suitable for the description and differentiation of a specific characteristic describing an aspect of device class

4 General

The attributes shall follow IEC 61360-1.

Based on IEC 61360-1 data model, the structured data called cardinality and polymorphism may be used.

5 Properties

5.1 Criteria for naming properties

In order to maintain consistency and clarity in the naming of properties, terms from product standards shall be used when they are available.

Synonymous names may be associated with the property name when well established terms are used on the market.

5.2 Attributes of a property

The following attributes of a property are considered in this document: identifier, preferred name, definition, source document, data type, unit of measure, value format, value list.

6 Block of properties

A property within a block shall describe one common aspect covered by the definition of this block.

The list of blocks of properties is defined in Table 1.

Table 1 – Library of blocks used in the device classes of low-voltage switchgear

Block name	Definition	Source	Class ID
Identification	information necessary for unambiguous identification of the device		ACC011
General technical data	general technical aspects of the device		ACC012
Diagnostic functions	ability to analyse a situation corresponding to a predefined set of parameters of the device		ACC013
Main circuit (of a switching device)	all the conductive parts of a switching device included in the circuit which it is designed to close or open	IEC 60050-441: 1984, 441-15-02	ACC014
Input / Output circuit	circuit of the device used to receive or to send signals or data		ACC015
Control and auxiliary circuits	all the conductive parts of the device which are intended to be included in a circuit other than the main circuit		ACC016
Head of the control circuit device	part which contains and supports the actuator or contains the lens of an indicator light, fixed on an enclosure or on the body of the device		ACC017
Light block of the control circuit device	part which contains and supports the lamp, fixed on an enclosure or on the body of the device		ACC018
Short-circuit	short-circuit conditions, stated by the manufacturer, which the device can make, withstand or break satisfactorily		ACC040
Over-current release	release which causes a mechanical switching device to open when the current in the release exceeds a predetermined value	2.4.25 of IEC 60947-1: 2007, modified	ACC041
Data communication	communication function for the transfer of information between the device and the system		ACC050
Installation, mounting and dimensions	physical information of the device for installation		ACC066
Connection facilities	terminals, screws or other parts, used for the electrical connection of conductors of external circuits of the device	IEC 60050-426: 2008, 426-04-25, modified	ACC068
Product certificates and standards	conformity of a device with specified requirements and compliance with recognized product standards		ACC070

7 Device classes

7.1 Device class attributes

The attributes of the device class shall follow IEC 61360-1.

The following attributes of a device class are considered in this document: identifier, preferred name, definition, synonymous name and source document.

NOTE The synonymous names are limited to those necessary to avoid confusion when selecting a device class.

7.2 Classification of low-voltage switchgear and controlgear

Table 2 gives the classification of low-voltage switchgear and controlgear domain based on the corresponding product standards. The class name column is structured in four levels of hierarchy using indent alignments.

Table 2 – Low-voltage switchgear and controlgear classification

Class name	Synonymous name	Definition	Source	Class ID
LV switchgear and controlgear domain		domain covering switching devices and their combination with associated control, measuring, protective and regulating equipment, also assemblies of such devices and equipment with associated interconnections, accessories, enclosures and supporting structures	2.1.1 of IEC 60947-1: 2007, modified	ACC001
LV switchgear and controlgear classes		set of switching devices and their combination with associated control, measuring, protective and regulating equipment, also assemblies of such devices and equipment with associated interconnections, accessories, enclosures and supporting structures	2.1.1 of IEC 60947-1: 2007, modified	ACC100
Circuit-breaker classes		set of circuit-breakers, their releases and accessories		ACC200
Circuit-breaker	Moulded case circuit breaker	mechanical switching device, capable of making, carrying and breaking currents under normal circuit conditions and also making, carrying for a specified time and breaking currents under specified abnormal circuit conditions such as those of short-circuit	IEC 60050-441:1984, 441-14-20	ACC201
Release for circuit-breaker	Trip unit	unit connected to a circuit-breaker which initiates action that causes the protected circuit to be switched off when a preset threshold is exceeded		ACC202
Residual current release for circuit-breaker	Earth leakage module	unit connected to a circuit-breaker which concurrently performs residual current detection, compares such measurements with a preset value and initiates action that causes the protected circuit to be switched off when this value is exceeded		ACC203
Shunt release for circuit-breaker	Shunt trip	release energized by a source of voltage	IEC 60050-441:1984, 441-16-41, modified	ACC204
Under-voltage release for circuit-breaker	Under-voltage trip	release which permits a circuit-breaker to open with or without time-delay, when the voltage across the terminals of the release falls below a predetermined value		ACC205
Motor-operator for circuit-breaker		dependent power operator capable of closing and opening the circuit-breaker		ACC206
Plug-in base for circuit-breaker		fixed part of a plug-in circuit breaker, which allows the circuit-breaker to be removed from the installation	derived from 2.4 of IEC 60947-2:2016	ACC207

Class name	Synonymous name	Definition	Source	Class ID
Draw-out cradle for circuit-breaker		fixed part of a withdrawable circuit-breaker, which allows the circuit-breaker to be disconnected from the main circuit, in the withdrawn position, to achieve the isolation of the downstream circuit	derived from 2.5 of IEC 60947-2:2016	ACC208
Switch classes		set of mechanical switching devices capable of making, carrying and breaking currents under normal circuit conditions which may include specified operating overload conditions and also carrying for a specified time currents under specified abnormal circuit conditions such as those of short-circuit	IEC 60050-441:1984, 441-14-10, modified	ACC300
Switch-disconnector		switch which, in the open position, satisfies the isolating requirements specified for a disconnector	IEC 60050-441:1984, 441-14-12	ACC301
Switch-disconnector-fuse		switch-disconnector in which one or more poles have a fuse in series in a composite unit	IEC 60050-441:1984, 441-14-16	ACC302
Fuse-switch-disconnector		switch-disconnector in which a fuse-link or a fuse-carrier with fuse-link forms the moving contact	IEC 60050-441:1984, 441-14-19	ACC303
Contactors, starters and similar equipment classes		set of devices including: – contactors – motor-starters – motor protective devices NOTE See IEC 60947-4 series.		ACC400
Motor protection circuit-breaker		circuit-breaker providing overload protection to the motor and the circuit NOTE See IEC 60947-4 series.		ACC401
Motor management device		electronic overload relay for motor, including extended functions with communication ability	derived from 3.4.31 of IEC 60947-4-1:2009/AMD1:2012	ACC402
Motor management device, extension module		module providing at least one extended function to a motor management device		ACC403
Motor management device, operator panel		human-machine interface dedicated to a motor management device		ACC404
Motor-starter combination	Protected starter, Combination starter	equipment consisting of a starter, a manually-operated switching device and a short-circuit protective device, which may or may not incorporate an isolating function NOTE See also IEC 60947-6-2.	derived from 3.4.8 of IEC 60947-4-1:2009	ACC405
Motor-starter	Starter	combination of all the switching means necessary to start and stop a motor in combination with suitable overload protection	IEC 60050-441:1984, 441-14-38, modified	ACC415

Class name	Synonymous name	Definition	Source	Class ID
AC semiconductor motor controller	Soft-starter	semiconductor switching device that provides the starting function for an AC motor and an OFF-state NOTE 1 Because dangerous levels of leakage currents can exist in a semiconductor motor controller in the OFF-state, the load terminals should be considered as live parts at all times. NOTE 2 In a circuit where the current passes through zero (alternately or otherwise), the effect of "not making" the current following such a zero value is equivalent to breaking the current.	3.3.2 of IEC 60947-4-2: 2011	ACC406
Power contactor, AC switching		mechanical switching device having only one position of rest, operated otherwise than by hand, capable of making, carrying and breaking AC currents under normal circuit conditions including operating overload conditions NOTE See IEC 60947-4-1.		ACC407
Capacitor contactor		contactor used to switch capacitor load NOTE See IEC 60947-4-1.		ACC408
Combination of contactors	Star-delta contactors, Reversing contactors	arrangement of several contactors for star-delta, reversing or two-step motor switching NOTE See IEC 60947-4-1.		ACC409
Power contactor, DC switching		mechanical switching device having only one position of rest, operated otherwise than by hand, capable of making, carrying and breaking DC currents under normal circuit conditions including operating overload conditions NOTE See IEC 60947-4-1.		ACC410
Thermal overload relay		inverse time-delay overload relay depending for its operation (including its time-delay) on the thermal action of the current flowing in the relay NOTE See IEC 60947-4-1.	2.4.31 of IEC 60947-1: 2007	ACC411
Electronic overload relay		inverse time-delay overload relay depending for its operation (including its time-delay) on the electronic thermal model of the current flowing in the relay NOTE See IEC 60947-4-1.		ACC412
Relay for thermistor protection (PTC)	Control unit for built-in thermal protection (PTC) for rotating electrical machines	device which controls a switching function using the variation of the characteristic of a thermal detector made by a PTC thermistor NOTE See IEC 60947-8.		ACC413

Class name	Synonymous name	Definition	Source	Class ID
Electromechanical contactor for household and similar purposes		electromechanical air break contactor for household and similar purposes provided with main contacts intended to be connected to circuits, the rated voltage of which does not exceed 440 V a.c. (between phases) with rated operational currents less than or equal to 63 A for utilization category AC-7a and 32 A for utilization categories AC-7b and AC-7c, and rated conditional short-circuit current less than or equal to 6 kA. NOTE See IEC 61095.		ACC414
Transient suppressor	Surge suppressor	filter intended to limit the transient voltage of the back electromotive force (e.m.f.) from a coil (e.g. of a contactor) during switching off		ACC416
Mechanical interlocking device	Interlock	mechanical device which makes the operation of a switching device dependent upon the position or operation of one or more other pieces of equipment	3.5.48 of IEC 62271-1: 2007, modified	ACC417
Motor-starter enclosure		protective enclosure, equipped with control switch, intended for incorporating a motor starter		ACC418
Coil for contactor or contactor relay		component of an electromagnetic device, element of a contactor or the contactor relay allowing it to be remotely operated		ACC419
Electromechanical latching device		electromechanical device attached to a contactor or contactor relay, the moving elements of which are prevented from returning to the position of rest when the operating means are de-energized	Derived from IEC 60050-441:1984, 441-14-34	ACC420
Control interface for contactor	Semiconductor interface; Solid state interface; Amplifier module; Interface relay	interface performed electronically or electromechanically from a low current circuit to a higher current circuit needed for the coil of the contactor to be operated remotely		ACC421
Control switch classes		set of mechanical switching device which serves the purpose of controlling the operation of switchgear or controlgear, including signalling, electrical interlocking, etc.	IEC 60050-441:1984, 441-14-46, modified	ACC500
Inductive proximity switch		proximity switch producing an electromagnetic field within a sensing zone and having a semiconductor switching element	2.1.1.1 of IEC 60947-5-2: 2007	ACC501
Capacitive proximity switch		proximity switch producing an electric field within a sensing zone and having a semiconductor switching element	2.1.1.2 of IEC 60947-5-2: 2007	ACC502
Non-mechanical magnetic proximity switch		proximity switch which senses the presence of a magnetic field and has a semiconductor switching element and no moving parts in the sensing element	2.1.1.5 of IEC 60947-5-2: 2007	ACC503
Ultrasonic proximity switch		proximity switch transmitting and receiving ultrasound waves within a sensing zone and having a semiconductor switching element	2.1.1.3 of IEC 60947-5-2: 2007	ACC504

Class name	Synonymous name	Definition	Source	Class ID
Through beam photoelectric proximity switch	Photoelectric proximity switch type T	photoelectric proximity switch which is indirectly operated through lateral approach of its reference axis between emitter and receiver by a defined object	2.1.1.4.3 of IEC 60947-5-2: 2007, modified	ACC505
Retroreflective photoelectric proximity switch	Photoelectric proximity switch type R	photoelectric proximity switch which is indirectly operated through lateral approach to its reference axis between emitter-receiver and reflector by a defined object	2.1.1.4.2 of IEC 60947-5-2: 2007, modified	ACC506
Diffuse reflective photoelectric proximity switch	Photoelectric proximity switch type D	photoelectric proximity switch which is directly operated through lateral or axial approach to its reference axis by a defined object	2.1.1.4.1 of IEC 60947-5-2: 2007, modified	ACC507
Diffuse reflective photoelectric proximity switch with background suppression	Photoelectric proximity switch type D with background suppression	photoelectric proximity switch with adjustment of usable operating distance, which is directly operated through lateral or axial approach to its reference axis by a defined object NOTE See IEC 60947-5-2.		ACC508
Auxiliary contact block	Contact unit	a contact element or contact element combination which can be combined with similar units operated by a common actuating system of a power switching device	2.3.3.10 of IEC 60947-5-1: 2016, modified	ACC509
Contactor relay	Auxiliary contactor	contactor used as a control switch	IEC 60050-441:1984, 441-14-35	ACC510
Position switch	Limit switch	pilot switch, the actuating system of which is operated by a moving part of a machine, when this part reaches a predetermined position	IEC 60050-441:1984, 441-14-49	ACC511
Rotary limit switch	Screw limit switch	a positive opening pilot switch, the actuating member of which is a shaft or a spindle which has to be rotated to one or more indexed positions in order to achieve a change in contact state		ACC512
Safety position switch with separate actuator	Key-operated safety switch	a positive opening pilot switch, the actuating system of which is operated by a separate actuator, when this actuator reaches a predetermined position		ACC513
Guard locking safety position switch	Safety position switch with interlocking	switch for use in a safety control system intended to monitor the position of a guard and to lock it in the closed position until the release is activated		ACC514
Trip wire switch	Emergency stop rope pull switch	control switch in which the actuator is a rope, a wire or similar means		ACC515
Hinge switch		a positive opening pilot switch, the actuating system of which is operated by the pivoting of a guard, when this guard reaches a predetermined angle		ACC516
Push-button		control switch having an actuator intended to be operated by force exerted by a part of the human body, usually the finger or palm of the hand, and having stored energy (spring) return	IEC 60050-441:1984, 441-14-53	ACC517
Rotary button	Selector switch	combination of push-button type switching elements having an actuator operated by a manual rotation	2.2.2.4 of IEC 60947-5-1: 2016, modified	ACC518

Class name	Synonymous name	Definition	Source	Class ID
Front element for rotary button	Actuator of selector switch	actuator of a control switch intended to be operated by rotation		ACC519
Joy stick	Joystick controller	control switch having an actuator consisting of a pin or stick projecting essentially at a right angle from the panel or enclosure when in one of its positions and intended to be operated by angular displacement NOTE 1 A joy stick may have more than two positions associated with different directions of the displacement of the stick and operating the contact elements differently: such a joy stick is referred to as a joy stick selector. NOTE 2 The pin or stick may or may not have a spring return.	2.2.2.19 of IEC 60947-5-1: 2016	ACC520
Foot switch	Pedal	control switch having an actuator intended to be operated by force exerted by a foot	2.2.2.21 of IEC 60947-5-1: 2016	ACC521
Emergency stop push-button	E-stop, Emergency stop device	manually actuated control device used to initiate an emergency stop function	3.3 of ISO 13850: 2015	ACC522
Indicator light	Signal light, Pilot light	light signal giving information either by lighting or extinguishing	J.2.1 of IEC 60947-5-1: 2016	ACC523
Indicating tower	Signal column, Signal tower, Control tower stack lights	assembly including one or more signalling units giving information by visible or audible signals NOTE Other elements, e.g. network interface elements, can be added.	J.2.5 of IEC 60947-5-1: 2016	ACC524
Front element for push-button		actuator of the switching device intended to be operated by force exerted by a part of the human body, usually the finger or palm of the hand, and having stored energy (spring) return		ACC525
Contact block for control circuit	Contact unit	a contact element or contact element combination which can be combined with similar units operated by a common actuating system	2.3.3.10 of IEC 60947-5-1: 2016	ACC526
Front element for emergency stop push-button		actuator of the switching device intended to be operated by force exerted by a part of the human body in emergency situations, usually the finger or palm of the hand, and having stored energy (spring) return		ACC527
Module for indicating tower		assembly composed of a bezel and a lens for providing information either by lighting or sound signalling		ACC528
Reflector for reflective photoelectric proximity switch	Reflector	a specified device used to reflect light back to the receiver for type R photoelectric proximity switches	2.2.14 of IEC 60947-5-2: 2007	ACC529
Lamp for control device		source made in order to produce an optical radiation, usually visible, intended to be mounted in a control device NOTE This term is also sometimes used for certain types of luminaires.	derived from IEC 60050-845:1987, 845-07-03	ACC530

Class name	Synonymous name	Definition	Source	Class ID
Label holder for push-button and indicator light	Label mount, Sign holder	support for label intended for equipping a push-button or an indicator light to allow disclosure of the nature of a control or a state		ACC531
Label plate for control operation		plate which displays information related to a control or a state		ACC532
Protective cover for control device	Boot, Protective hood	removable protection providing a degree of protection of the control device		ACC533
Pneumatic time delay auxiliary contact block	Mechanical time delay auxiliary contact block	auxiliary contact block actuated mechanically by the contactor or the contactor relay on which it is mounted, providing a time delay performed pneumatically before the auxiliary contacts are operated		ACC534
Electronic time delay auxiliary block	Timing module, Coil module	auxiliary block for controlling the coil providing a time delay performed electronically triggered by a control signal		ACC535
Time relay		all-or-nothing relay with one or more time functions	IEC 60050-445:2010, 445-01-01	ACC536
Rotary encoder	Shaft encoder	transducer converting the angular position or the angular displacement of an axis to an analogue or digital code		ACC540
Linear encoder		transducer converting its linear position or its linear displacement along a scale of an analogue or digital code		ACC541
Multiple function equipment classes		set of switching devices performing multiple functions		ACC600
Transfer switching equipment	Manual transfer switch, Remote transfer switch, Automatic transfer switch	equipment containing one or more switching devices for disconnecting load circuits from one supply and connecting to another supply	3.1.1 of IEC 60947-6-1: 2005	ACC601
Terminal block classes		set of insulating parts carrying one or more mutually insulated terminal assemblies and intended to be fixed to a support	2.2.20 of IEC 60947-1: 2007, modified	ACC700
Feed-through terminal block	Terminal strip	insulating part carrying one or more mutually insulated pairs of terminals interconnected on opposite sides and intended to be fixed to a support		ACC701
Disconnect terminal block	Knife terminal block	feed-through terminal block for which each circuit can be disconnected		ACC703
Protective conductor terminal block		device with one or more clamping units for connecting and/or joining protective conductors (PE and PEN conductors) with conducting connection to their supports, which may be designed with screw-type or screwless-type fixing means	2.1 of IEC 60947-7-2: 2009	ACC704
Fuse terminal block		terminal block base with a fuse carrier	2.1 of IEC 60947-7-3: 2009	ACC705

7.3 Properties of circuit-breaker classes

7.3.1 General

Table 3 to Table 10 give the lists of properties for each device class.

7.3.2 Circuit-breaker

Table 3 – Circuit-breaker

Properties of each class	Class ID	Property ID
Circuit-breaker	ACC201	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
type of actuator		ACE214
degree of protection of front face		ACE247
degree of protection of terminals		ACE248
isolating function		ACE204
provision for locking		ACE243
motor-operator		ACE239
Main circuit (of a switching device)	ACC014	
number of poles		ACE401
rated current		ACE424
rated operational voltage, a.c.		ACE457
rated impulse withstand voltage		ACE460
ambient air temperature		ACE440
Short-circuit	ACC040	
rated ultimate short-circuit breaking capacity, a.c., 230 V		ACE716
rated ultimate short-circuit breaking capacity, a.c., 400 V		ACE702
rated ultimate short-circuit breaking capacity, a.c., 690 V		ACE717
rated service short-circuit breaking capacity, a.c., 230 V		ACE715
rated service short-circuit breaking capacity, a.c., 400 V		ACE701
rated service short-circuit breaking capacity, a.c., 690 V		ACE718
interrupting rating, a.c., 120 V		ACE700
interrupting rating, a.c., 480 V		ACE703
interrupting rating, a.c., 600 V		ACE704
rated short-time withstand current, a.c., 1 s		ACE712
rated operational voltage for IT systems		ACE721

Properties of each class	Class ID	Property ID
Over-current release	ACC041	
reference temperature of compensated release		ACE743
reference temperature of non-compensated release		ACE744
over-current release technology		ACE740
overload release capability		ACE742
overload release current setting		ACE741
overload current setting of the neutral pole		ACE745
short-time delay release		ACE746
instantaneous short-circuit current setting		ACE747
ground fault current release		ACE760
ground fault current setting		ACE761
residual current release		ACE750
residual current protection type		ACE751
rated operational voltage of the residual current release, limits		ACE752
residual operating current setting		ACE753
residual current time-delay setting		ACE755
Control and auxiliary circuits	ACC016	
number of auxiliary contacts, normally open		ACE511
number of auxiliary contacts, normally open, additional		ACE512
number of auxiliary contacts, normally closed		ACE508
number of auxiliary contacts, normally closed, additional		ACE509
number of auxiliary contacts, changeover		ACE514
number of auxiliary contacts, changeover, additional		ACE515
Data communication	ACC050	
communication protocol		ACE361
Installation, mounting and dimensions	ACC066	
height of the device		ACE801
width of the device		ACE802
length of the device		ACE803
mounting onto standard rail		ACE804
product mass		ACE808
Connection facilities	ACC068	
clamping unit of main circuit		ACE852
position of the connection of the main circuit		ACE870
disconnecting method		ACE855
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.3.3 Release for circuit-breaker

Table 4 – Release for circuit-breaker

Properties of each class	Class ID	Property ID
Release for circuit-breaker	ACC202	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
type of associated circuit-breaker		ACE219
rated current		ACE424
Over-current release	ACC041	
reference temperature of compensated release		ACE743
reference temperature of non-compensated release		ACE744
over-current release technology		ACE740
overload release capability		ACE742
overload release current setting		ACE741
overload current setting of the neutral pole		ACE745
short-time delay release		ACE746
instantaneous short-circuit current setting		ACE747
ground fault current release		ACE760
ground fault current setting		ACE761
residual current release		ACE750
residual current protection type		ACE751
rated operational voltage of the residual current release, limits		ACE752
residual operating current setting		ACE753
residual current time-delay setting		ACE755
Data communication	ACC050	
communication protocol		ACE361
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.3.4 Residual current release for circuit-breaker

Table 5 – Residual current release for circuit-breaker

Properties of each class	Class ID	Property ID
Residual current release for circuit-breaker	ACC203	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
suitable for use in single phase		ACE206
type of associated circuit-breaker		ACE219
Main circuit (of a switching device)	ACC014	
number of poles		ACE401
rated current		ACE424
rated operational voltage		ACE455
Over-current release	ACC041	
functionally dependent on line voltage		ACE756
residual current protection type		ACE751
residual operating current setting		ACE753
residual current time-delay setting		ACE755
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.3.5 Shunt release for circuit-breaker

Table 6 – Shunt release for circuit-breaker

Properties of each class	Class ID	Property ID
Shunt release for circuit-breaker	ACC204	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
type of associated circuit-breaker		ACE219
Control and auxiliary circuits	ACC016	
rated control voltage, a.c., 50 Hz		ACE602
rated control voltage, a.c., 60 Hz		ACE604
rated control voltage, d.c.		ACE606
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.3.6 Under-voltage release for circuit-breaker

Table 7 – Under-voltage release for circuit-breaker

Properties of each class	Class ID	Property ID
Under-voltage release for circuit-breaker	ACC205	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
type of associated circuit-breaker		ACE219
Control and auxiliary circuits	ACC016	
rated control voltage, a.c., 50 Hz		ACE602
rated control voltage, a.c., 60 Hz		ACE604
rated control voltage, d.c.		ACE606
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.3.7 Motor-operator for circuit-breaker

Table 8 – Motor-operator for circuit-breaker

Properties of each class	Class ID	Property ID
Motor-operator for circuit-breaker	ACC206	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
type of associated circuit-breaker		ACE219
Control and auxiliary circuits	ACC016	
motor-operator closing time		ACE521
motor-operator opening time		ACE522
rated control voltage, a.c., 50 Hz		ACE602
rated control voltage, a.c., 60 Hz		ACE604
rated control voltage, d.c.		ACE606
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.3.8 Plug-in base for circuit-breaker

Table 9 – Plug-in base for circuit-breaker

Properties of each class	Class ID	Property ID
Plug-in base for circuit-breaker	ACC207	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
type of associated circuit-breaker		ACE219
Connection facilities	ACC068	
clamping unit of main circuit		ACE852
position of the connection of the main circuit		ACE870
Main circuit (of a switching device)	ACC014	
number of poles		ACE401
rated current		ACE424
rated operational voltage, a.c.		ACE457
rated impulse withstand voltage		ACE460
Installation, mounting and dimensions	ACC066	
height of the device		ACE801
width of the device		ACE802
length of the device		ACE803
product mass		ACE808
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.3.9 Draw-out cradle for circuit-breaker

Table 10 – Draw-out cradle for circuit-breaker

Properties of each class	Class ID	Property ID
Draw-out cradle for circuit-breaker	ACC208	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
type of associated circuit-breaker		ACE219
provision for locking		ACE243
Connection facilities	ACC068	
clamping unit of main circuit		ACE852
position of the connection of the main circuit		ACE870
Main circuit (of a switching device)	ACC014	
number of poles		ACE401
rated current		ACE424
rated operational voltage, a.c.		ACE457
rated impulse withstand voltage		ACE460
Installation, mounting and dimensions	ACC066	
height of the device		ACE801
width of the device		ACE802
length of the device		ACE803
product mass		ACE808
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.4 Properties of switch classes

7.4.1 General

Table 11 to Table 13 give the lists of properties for each device class.

7.4.2 Switch-disconnector

Table 11 – Switch-disconnector

Properties of each class	Class ID	Property ID
Switch-disconnector	ACC301	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
degree of protection of the device		ACE218
main contact fully visible in open position		ACE234
type of actuator		ACE214
isolating function		ACE204
provision for locking		ACE243
Main circuit (of a switching device)	ACC014	
number of poles		ACE401
rated current		ACE424
rated operational current, AC-21, 230 V		ACE476
rated operational current, AC-21, 400 V		ACE471
rated operational current, AC-21, 690 V		ACE472
rated operational current, AC-22, 230 V		ACE477
rated operational current, AC-22, 400 V		ACE432
rated operational current, AC-22, 690 V		ACE473
rated operational voltage, AC-22		ACE475
rated operational current, AC-23, 230 V		ACE478
rated operational current, AC-23, 400 V		ACE435
rated operational current, AC-23, 690 V		ACE474
rated operational current, DC-21		ACE479
rated operational voltage, DC-21		ACE480
rated operational current, DC-22		ACE426
rated operational voltage, DC-22		ACE459
rated operational current, DC-23		ACE481
rated operational voltage, DC-23		ACE482
category of operating cycles		ACE463
rated operational power, AC-3, 400 V		ACE413
3 ph horsepower rating, 460 V, 60 Hz		ACE418
3 ph horsepower rating, 575 V, 60 Hz		ACE419
1 ph horsepower rating, 120 V, 60 Hz		ACE443

Properties of each class	Class ID	Property ID
conventional enclosed thermal current		ACE439
ambient air temperature		ACE440
rated impulse withstand voltage		ACE460
Short-circuit	ACC040	
rated short-time withstand current, a.c., 1 s		ACE712
rated conditional short-circuit current, a.c., 230 V		ACE722
rated conditional short-circuit current, a.c., 400 V		ACE708
rated conditional short-circuit current, a.c., 690 V		ACE723
rated short-circuit making capacity, a.c., 230 V		ACE724
rated short-circuit making capacity, a.c., 400 V		ACE725
rated short-circuit making capacity, a.c., 690 V		ACE726
Installation, mounting and dimensions	ACC066	
height of the device		ACE801
width of the device		ACE802
length of the device		ACE803
mounting onto standard rail		ACE804
panel mounting		ACE805
door mounting		ACE806
Connection facilities	ACC068	
clamping unit of main circuit		ACE852
position of the connection of the main circuit		ACE870
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.4.3 Switch-disconnector-fuse

Table 12 – Switch-disconnector-fuse

Properties of each class	Class ID	Property ID
Switch-disconnector-fuse	ACC302	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
degree of protection of the device		ACE218
type of actuator		ACE214
isolating function		ACE204
provision for locking		ACE243
double opening of the circuit		ACE236
Main circuit (of a switching device)	ACC014	
number of poles		ACE401
number of protected poles		ACE410
rated current		ACE424
fuse system		ACE453
characteristic of the fuse-link		ACE452
size of the fuse-link		ACE454
rated operational current, AC-21, 230 V		ACE476
rated operational current, AC-21, 400 V		ACE471
rated operational current, AC-21, 690 V		ACE472
rated operational current, AC-22, 230 V		ACE477
rated operational current, AC-22, 400 V		ACE432
rated operational current, AC-22, 690 V		ACE473
rated operational voltage, AC-22		ACE475
rated operational current, AC-23, 230 V		ACE478
rated operational current, AC-23, 400 V		ACE435
rated operational current, AC-23, 690 V		ACE474
rated operational current, DC-21		ACE479
rated operational voltage, DC-21		ACE480
rated operational current, DC-22		ACE426
rated operational voltage, DC-22		ACE459
rated operational current, DC-23		ACE481
rated operational voltage, DC-23		ACE482
category of operating cycles		ACE463

Properties of each class	Class ID	Property ID
rated operational power, AC-3, 400 V		ACE413
3 ph horsepower rating, 460 V, 60 Hz		ACE418
3 ph horsepower rating, 575 V, 60 Hz		ACE419
1 ph horsepower rating, 120 V, 60 Hz		ACE443
conventional free air thermal current		ACE438
conventional enclosed thermal current		ACE439
ambient air temperature		ACE440
rated impulse withstand voltage		ACE460
Short-circuit	ACC040	
rated conditional short-circuit current, a.c., 230 V		ACE722
rated conditional short-circuit current, a.c., 400 V		ACE708
rated conditional short-circuit current, a.c., 690 V		ACE723
Installation, mounting and dimensions	ACC066	
height of the device		ACE801
width of the device		ACE802
length of the device		ACE803
mounting onto standard rail		ACE804
panel mounting		ACE805
Connection facilities	ACC068	
clamping unit of main circuit		ACE852
position of the connection of the main circuit		ACE870
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.4.4 Fuse-switch-disconnector

Table 13 – Fuse-switch-disconnector

Properties of each class	Class ID	Property ID
Fuse-switch-disconnector	ACC303	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
degree of protection of the device		ACE218
type of actuator		ACE214
double opening of the circuit		ACE236
isolating function		ACE204
provision for locking		ACE243
Main circuit (of a switching device)	ACC014	
number of poles		ACE401
number of protected poles		ACE410
rated current		ACE424
fuse system		ACE453
characteristic of the fuse-link		ACE452
size of the fuse-link		ACE454
rated operational current, AC-21, 230 V		ACE476
rated operational current, AC-21, 400 V		ACE471
rated operational current, AC-21, 690 V		ACE472
rated operational current, AC-22, 230 V		ACE477
rated operational current, AC-22, 400 V		ACE432
rated operational current, AC-22, 690 V		ACE473
rated operational current, AC-23, 230 V		ACE478
rated operational current, AC-23, 400 V		ACE435
rated operational current, AC-23, 690 V		ACE474
rated operational current, DC-21		ACE479
rated operational voltage, DC-21		ACE480
rated operational current, DC-22		ACE426
rated operational voltage, DC-22		ACE459
category of operating cycles		ACE463
3 ph horsepower rating, 460 V, 60 Hz		ACE418
3 ph horsepower rating, 575 V, 60 Hz		ACE419
1 ph horsepower rating, 120 V, 60 Hz		ACE443

Properties of each class	Class ID	Property ID
conventional free air thermal current		ACE438
conventional enclosed thermal current		ACE439
ambient air temperature		ACE440
rated impulse withstand voltage		ACE460
Short-circuit	ACC040	
rated conditional short-circuit current, a.c., 230 V		ACE722
rated conditional short-circuit current, a.c., 400 V		ACE708
rated conditional short-circuit current, a.c., 690 V		ACE723
Installation, mounting and dimensions	ACC066	
height of the device		ACE801
width of the device		ACE802
length of the device		ACE803
mounting onto standard rail		ACE804
panel mounting		ACE805
Connection facilities	ACC068	
clamping unit of main circuit		ACE852
position of the connection of the main circuit		ACE870
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.5 Properties of contactors, starters and similar equipment classes

7.5.1 General

Table 14 to Table 34 give the lists of properties for each device class.

7.5.2 Motor protection circuit-breaker

Table 14 – Motor protection circuit-breaker

Properties of each class	Class ID	Property ID
Motor protection circuit-breaker	ACC401	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
type of actuator		ACE214
degree of protection of the device		ACE218
type of over-current release		ACE215
trip class		ACE213
Main circuit (of a switching device)	ACC014	
rated operational power, AC-3, 400 V		ACE413
rated operational power, AC-3, 230 V		ACE412
3 ph horsepower rating, 460 V, 60 Hz		ACE418
3 ph horsepower rating, 575 V, 60 Hz		ACE419
rated operational current, 400 V		ACE429
ambient air temperature		ACE440
Over-current release	ACC041	
overload release current setting		ACE741
temperature compensated overload protection		ACE748
sensitive to phase loss		ACE749
Control and auxiliary circuits	ACC016	
number of auxiliary contacts, normally open		ACE511
number of auxiliary contacts, normally closed		ACE508
Short-circuit	ACC040	
rated ultimate short-circuit breaking capacity, a.c., 400 V		ACE702
rated ultimate short-circuit breaking capacity, a.c., 230 V		ACE716
rated service short-circuit breaking capacity, a.c., 400 V		ACE701
rated service short-circuit breaking capacity, a.c., 230 V		ACE715
short-circuit current rating, 480 Y/277 V		ACE713
short-circuit current rating, 600 Y/347 V		ACE714
Installation, mounting and dimensions	ACC066	
mounting onto standard rail		ACE804
Connection facilities	ACC068	
clamping unit of main circuit		ACE852

Properties of each class	Class ID	Property ID
clamping unit of auxiliary and/or control circuits		ACE854
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.5.3 Motor management device

Table 15 – Motor management device

Properties of each class	Class ID	Property ID
Motor management device	ACC402	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
suitable for use in single phase		ACE206
self-powered device		ACE207
nature of the reset of the overload release		ACE208
degree of protection of the device		ACE218
trip class		ACE213
built-in current sensor		ACE216
load shedding		ACE205
ground/earth fault detection		ACE220
jam detection		ACE222
stall detection		ACE221
over and/or under current detection		ACE223
over and/or under voltage detection		ACE224
current imbalance detection		ACE225
phase reversal detection		ACE227
Diagnostic functions	ACC013	
$\cos(\varphi)$ variation detection		ACE302
voltage monitoring		ACE301
under power detection		ACE303
Over-current release	ACC041	
overload release current setting		ACE741
sensitive to phase loss		ACE749
Input / Output circuit	ACC015	

Properties of each class	Class ID	Property ID
number of PTC thermistor inputs		ACE334
number of analogue inputs		ACE331
number of digital outputs		ACE333
number of digital inputs (current sinking)		ACE332
Control and auxiliary circuits	ACC016	
kind of current		ACE601
rated control voltage, a.c., 50 Hz		ACE602
rated control voltage, a.c., 60 Hz		ACE604
rated control voltage, d.c.		ACE606
Data communication	ACC050	
communication protocol		ACE361
HMI port		ACE362
Installation, mounting and dimensions	ACC066	
mounting onto standard rail		ACE804
Connection facilities	ACC068	
clamping unit of main circuit		ACE852
clamping unit of auxiliary and/or control circuits		ACE854
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.5.4 Motor management device, extension module

Table 16 – Motor management device, extension module

Properties of each class	Class ID	Property ID
Motor management device, extension module	ACC403	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
degree of protection of the device		ACE218
load shedding		ACE205
ground/earth fault detection		ACE220
over and/or under voltage detection		ACE224
over and/or under current detection		ACE223
jam detection		ACE222
stall detection		ACE221
current imbalance detection		ACE225
voltage asymmetry detection		ACE226
phase reversal detection		ACE227
Diagnostic functions	ACC013	
$\cos(\varphi)$ variation detection		ACE302
under power detection		ACE303
Input / Output circuit	ACC015	
number of analogue inputs		ACE331
number of PTC thermistor inputs		ACE334
number of digital outputs		ACE333
number of digital inputs (current sinking)		ACE332
Control and auxiliary circuits	ACC016	
kind of current		ACE601
rated control voltage, a.c., 50 Hz		ACE602
rated control voltage, a.c., 60 Hz		ACE604
rated control voltage, d.c.		ACE606
Data communication	ACC050	
communication protocol		ACE361
HMI port		ACE362
Installation, mounting and dimensions	ACC066	
mounting onto standard rail		ACE804
Connection facilities	ACC068	

Properties of each class	Class ID	Property ID
clamping unit		ACE850
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903

7.5.5 Motor management device, operator panel

Table 17 – Motor management device, operator panel

Properties of each class	Class ID	Property ID
Motor management device, operator panel	ACC404	
Identification	ACC011	
Global Trade Item Number (GTIN)		ACE101
manufacturer name		ACE102
manufacturer product number		ACE103
product family		ACE104
product name		ACE105
supplier name		ACE106
supplier product number		ACE107
product online information URL		ACE108
customs tariff number		ACE109
General technical data	ACC012	
degree of protection of the device		ACE218
Product certificates and standards	ACC070	
certificates and approvals		ACE902
product standards		ACE901
environmental declaration		ACE903