



# SLOVENSKI STANDARD

## SIST EN 62689-1:2017

01-februar-2017

---

**Tokovna in napetostna zaznavala ali detektorji, ki se uporabljajo za javljanje mesta okvare - 1. del: Sistemski vidiki (IEC 62689-1:2016)**

Current and Voltage sensors or detectors, to be used for fault passage indication purposes - Part 1: System aspects (IEC 62689-1:2016)

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

Ta slovenski standard je istoveten z: **EN 62689-1:2016**  
<https://standards.iteh.ai/catalog/standards/sist/d284ebb5-5d4e-4051-9946-d1a3d7614fb6/sist-en-62689-1-2017>

---

**ICS:**

17.220.20	Merjenje električnih in magnetnih veličin	Measurement of electrical and magnetic quantities
-----------	---	---

**SIST EN 62689-1:2017**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 62689-1:2017

<https://standards.iteh.ai/catalog/standards/sist/d284ebb5-5d4e-4051-9946-d1a3d7614fb6/sist-en-62689-1-2017>

EUROPEAN STANDARD

**EN 62689-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2016

ICS 17.220.20

English Version

Current and voltage sensors or detectors, to be used for fault  
passage indication purposes - Part 1: General principles and  
requirements  
(IEC 62689-1:2016)

Capteurs ou détecteurs de courant et de tension, à utiliser  
pour indiquer le passage d'un courant de défaut -  
Partie 1: Exigences et principes généraux  
(IEC 62689-1:2016)

Strom- und Spannungs-Sensoren oder Anzeigergeräte zur  
Erkennung von Kurz- und Erdschlüssen - Teil 1: Allgemeine  
Grundsätze und Anforderungen  
(IEC 62689-1:2016)

This European Standard was approved by CENELEC on 2016-06-16. 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.

<https://standards.iteh.ai/catalog/standards/sist/d284ebb5-5d4e-4051-9946->

[d1a3d7614fb6/sist-en-62689-1-2017](https://standards.iteh.ai/catalog/standards/sist/d1a3d7614fb6/sist-en-62689-1-2017)

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, 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

**EN 62689-1:2016****European foreword**

The text of document 38/503/FDIS, future edition 1 of IEC 62689-1, prepared by IEC/TC 38 "Instrument transformers" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62689-1:2016.

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) 2017-06-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-12-16

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

**Endorsement notice**

The text of the International Standard IEC 62689-1:2016 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 60044-7	NOTE	Harmonized as EN 60044-7.
IEC 60044-8	NOTE	Harmonized as EN 60044-8.
IEC 60068-2-64	NOTE	Harmonized as EN 60068-2-64.
IEC 60068-2-75	NOTE	Harmonized as EN 60068-2-75.
IEC 60255-1:2009	NOTE	Harmonized as EN 60255-1:2010 (not modified).
IEC 60660	NOTE	Harmonized as EN 60660
IEC 60695-1-10	NOTE	Harmonized as EN 60695-1-10.
IEC 60721-3-3	NOTE	Harmonized as EN 60721-3-3.
IEC 60721-3-4	NOTE	Harmonized as EN 60721-3-4.
IEC 61000-4-30	NOTE	Harmonized as EN 61000-4-30.
IEC 61109	NOTE	Harmonized as EN 61109.
IEC 61850-6	NOTE	Harmonized as EN 61850-6.
IEC 61850-7-3	NOTE	Harmonized as EN 61850-7-3.
IEC 61850-7-4	NOTE	Harmonized as EN 61850-7-4.
IEC 61869-1	NOTE	Harmonized as EN 61869-1.
IEC 61869-2	NOTE	Harmonized as EN 61869-2.
IEC 61869-3	NOTE	Harmonized as EN 61869-3.
IEC 61869-4	NOTE	Harmonized as EN 61869-4.
IEC 61869-6	NOTE	Harmonized as EN 61869-6.
IEC 62262	NOTE	Harmonized as EN 62262.
IEC 62689-2	NOTE	Harmonized as EN 62689-2.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

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](http://www.cenelec.eu)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60028	-	International standard of resistance for copper	-	-
IEC 60038	-	IEC standard voltages	EN 60038 <sup>1)</sup>	-
IEC 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60068-2-1	-	Environmental testing - Part 2-1: Tests - Test A: Cold	EN 60068-2-1	-
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-2	-	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	-
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-30	-	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	-
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC 60071-1	-	Insulation co-ordination - Part 1: Definitions, principles and rules	EN 60071-1	-
IEC 60085	-	Electrical insulation - Thermal evaluation and designation	EN 60085	-
IEC 60121	-	Recommendation for commercial annealed-aluminium electrical conductor wire	-	-
IEC 60270	-	High-voltage test techniques - Partial discharge measurements	EN 60270	-
IEC 60417-DB	-	Graphical symbols for use on equipment	-	-

<sup>1)</sup> The title of EN 60038 is "CENELEC standard voltages".

## EN 62689-1:2016

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60455	Series	Resin based reactive compounds used for electrical insulation	EN 60455	Series
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60695-1-30	-	Fire hazard testing - Part 1-30: Guidance for assessing the fire hazard of electrotechnical products - Preselection testing process - General guidelines	EN 60695-1-30	-
IEC 60695-7-1	-	Fire hazard testing - Part 7-1: Toxicity of fire effluent - General guidance	EN 60695-7-1	-
IEC/TS 60815	Series	Selection and dimensioning of high-voltage-insulators intended for use in polluted conditions		-
IEC/TS 60815-1	-	Selection and dimensioning of high-voltage-insulators intended for use in polluted conditions - Part 1: Definitions, information and general principles		-
IEC/TS 60815-2	-	Selection and dimensioning of high-voltage-insulators intended for use in polluted conditions - Part 2: Ceramic and glass insulators for a.c. systems		-
IEC/TS 60815-3	-	Selection and dimensioning of high-voltage-insulators intended for use in polluted conditions - Part 3: Polymer insulators for a.c. systems		-
IEC 60870-5-101	-	Telecontrol equipment and systems - Part 5-101: Transmission protocols - Companion standard for basic telecontrol tasks	EN 60870-5-101	-
IEC 60870-5-104	-	Telecontrol equipment and systems - Part 5-104: Transmission protocols - Network access for IEC 60870-5-101 using standard transport profiles	EN 60870-5-104	-
IEC 61000-4-10	-	Electromagnetic compatibility (EMC) - Part 4-10: Testing and measurement techniques - Damped oscillatory magnetic field immunity test	EN 61000-4-10	-
IEC 61000-4-11	-	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	-
IEC 61000-4-12	-	Electromagnetic compatibility (EMC) - Part 4-12: Testing and measurement techniques - Ring wave immunity test	EN 61000-4-12	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-16	-	Electromagnetic compatibility (EMC) - Part 4-16: Testing and measurement techniques - Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz	EN 61000-4-16	-
IEC 61000-4-18	-	Electromagnetic compatibility (EMC) - Part 4-18: Testing and measurement techniques - Damped oscillatory wave immunity test	EN 61000-4-18	-
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-
IEC 61000-4-3	-	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	-
IEC 61000-4-4	-	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	-
IEC 61000-4-5	-	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	-
IEC 61000-4-6	-	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	-
IEC 61000-4-8	-	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	-
IEC 61000-4-9	-	Electromagnetic compatibility (EMC) - Part 4-9: Testing and measurement techniques - Pulse magnetic field immunity test	EN 61000-4-9	-
IEC 61000-6-2	2005	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments	EN 61000-6-2	2005
IEC 61850-7-2	-	Communication networks and systems for power utility automation - Part 7-2: Basic information and communication structure - Abstract communication service interface (ACSI)	EN 61850-7-2	-
IEC 60255-27	2013	Measuring relays and protection equipment - Part 27: Product safety requirements	EN 60255-27	2014

**EN 62689-1:2016**

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-13	-	Electromagnetic compatibility (EMC) - Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signaling at a.c. power port, low frequency immunity tests	EN 61000-4-13	-
IEC 61000-4-29	-	Electromagnetic compatibility (EMC) - Part 4-29: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests	EN 61000-4-29	-

## **iTeh STANDARD PREVIEW** **(standards.iteh.ai)**

[SIST EN 62689-1:2017](https://standards.iteh.ai/catalog/standards/sist/d284ebb5-5d4e-4051-9946-d1a3d7614fb6/sist-en-62689-1-2017)

<https://standards.iteh.ai/catalog/standards/sist/d284ebb5-5d4e-4051-9946-d1a3d7614fb6/sist-en-62689-1-2017>





IEC 62689-1

Edition 1.0 2016-05

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Current and voltage sensors or detectors, to be used for fault passage indication purposes –**  
**Part 1: General principles and requirements**

**Capteurs ou détecteurs de courant et de tension à utiliser pour indiquer le passage d'un courant de défaut –**  
**Partie 1: Exigences et principes généraux**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 17.220.20

ISBN 978-2-8322-3361-0

**Warning! Make sure that you obtained this publication from an authorized distributor.**  
**Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## CONTENTS

FOREWORD.....	7
INTRODUCTION.....	9
1 Scope.....	11
2 Normative references.....	11
3 Terms, definitions, abbreviations and symbols.....	13
3.1 General terms and definitions.....	14
3.2 Terms and definitions related to neutral point treatment.....	18
3.3 Terms and definitions related to dielectrics ratings.....	19
3.4 Terms and definitions related to current ratings.....	21
3.5 Terms and definitions related to other ratings.....	21
3.6 Abbreviations and symbols.....	21
4 Choice of FPI requirements according to network and fault type.....	22
5 Overview of applications.....	22
5.1 General description.....	22
5.2 Application with regard to installation type.....	24
5.2.1 Overhead line applications.....	24
5.2.2 Underground cable application.....	24
5.3 Application with regard to fault detection capability.....	24
5.3.1 Single phase application.....	24
5.3.2 Three-phase application.....	24
5.3.3 Residual current application.....	25
5.3.4 Three-phase and residual current application.....	25
6 Application with regard to network configuration and operation.....	25
7 FPI's/DSU's main elements.....	25
7.1 General.....	25
7.2 Current and voltage sensors.....	25
7.2.1 General.....	25
7.2.2 Accuracy for current (and voltage) sensors.....	26
7.3 Transmission of signals between sensors and CPIU.....	26
7.4 Conditioning, processing and indicating unit (CPIU).....	26
7.5 Human–Machine Interface (HMI).....	26
7.5.1 General.....	26
7.5.2 Local display.....	27
7.5.3 Remote display.....	27
8 FPI/DSU classification and usage classes (data model and profile definition, testing).....	27
8.1 General.....	27
8.2 Integration of FPIs in the electrical grid.....	28
8.2.1 FPI for local indication of fault detection.....	28
8.2.2 FPIs for remote indication of fault detection.....	29
8.2.3 DSUs fully integrated in network operation system (SCADA).....	29
8.3 Information from FPIs/DSUs.....	29
8.3.1 General.....	29
8.3.2 Information from FPIs for local indication of fault detection.....	30
8.3.3 Information from FPIs for remote indication of fault detection.....	30

8.3.4	Information from DSUs fully integrated in network operation system (SCADA).....	31
8.4	FPI/DSU classification through performance/capabilities classes.....	32
8.4.1	General .....	32
8.4.2	Fault detection capability class.....	34
8.4.3	Communication capability class.....	34
8.4.4	Power supply class .....	35
8.4.5	FPI/DSU additional optional feature classes not strictly related to pure fault detection .....	35
8.4.6	Complete FPI/DSU classification through performance/capability classes .....	36
9	Service conditions .....	41
9.1	General.....	41
9.2	Normal service conditions .....	41
9.2.1	Auxiliary power supply .....	41
9.2.2	Ambient air temperature .....	41
9.2.3	Altitude .....	42
9.2.4	Vibrations or earth tremors .....	42
9.2.5	Other service conditions for indoor FPI/DSU .....	42
9.2.6	Other service conditions for outdoor FPI/DSUs .....	42
9.3	Special service conditions.....	43
9.3.1	General .....	43
9.3.2	Altitude .....	43
9.3.3	Vibration or earthquakes .....	43
10	Ratings.....	43
10.1	General.....	43
10.2	Rated primary voltage .....	44
10.3	Standard values of rated voltage factor.....	44
10.3.1	Earthed electronic voltage transformers.....	44
10.3.2	Unearthed electronic voltage transformers.....	44
10.4	Highest insulation levels for FPI primary terminals .....	44
10.4.1	General .....	44
10.4.2	Other requirements for FPI/DSU primary terminals insulation.....	46
10.4.3	Insulation requirements for low voltage components (terminals of secondary voltage sensors).....	46
10.5	Rated frequency range .....	48
10.6	Rated primary current.....	48
10.7	Rated short-time thermal current .....	48
10.8	Rated dynamic current .....	48
10.9	Rated supply voltage of auxiliary and control circuits .....	48
10.10	Rated supply frequency of auxiliary circuits .....	49
11	Design and construction .....	49
11.1	General.....	49
11.2	Requirement for insulation material in equipment.....	49
11.3	Requirements for temperature rise of sensor parts and components.....	49
11.3.1	General .....	49
11.3.2	Influence of altitude on temperature-rise.....	50
11.4	Earthing of equipment .....	51
11.4.1	General .....	51

11.4.2	Electrical continuity .....	51
11.5	Maximum mass for clip on installation .....	51
11.6	Marking and additional information .....	52
11.6.1	Rating plate markings .....	52
11.6.2	Terminal markings .....	52
11.7	Degree of protection by enclosures.....	53
11.7.1	General .....	53
11.7.2	Protection of persons against access to hazardous parts and protection of the equipment against ingress of solid foreign objects.....	53
11.7.3	Protection against ingress of water.....	53
11.7.4	Recommended IP degrees: indoor installation .....	54
11.7.5	Recommended IP degrees: outdoor installation .....	54
11.7.6	Protection of equipment against mechanical impact under normal service conditions .....	54
11.8	Creepage distances .....	54
11.8.1	Pollution .....	54
11.8.2	Corrections .....	55
11.9	Flammability .....	55
11.10	Environmental compatibility .....	55
11.10.1	General .....	55
11.10.2	Requirements for electromagnetic compatibility (EMC).....	56
11.10.3	Requirements for climatic immunity .....	58
11.10.4	Mechanical requirements .....	59
11.11	Mechanical stresses on terminals (optional).....	59
12	Tests.....	59
12.1	General.....	59
12.1.1	Classification of tests .....	59
12.1.2	List of tests .....	60
12.2	Type tests .....	60
12.2.1	General provisions for type tests .....	60
12.2.2	Information for identification of specimen.....	61
12.2.3	Information to be included in type test reports.....	61
12.2.4	Short time current test.....	62
12.2.5	Power-frequency voltage withstand tests on primary terminals .....	62
12.2.6	Temperature-rise test.....	63
12.2.7	Lightning impulse voltage test on primary terminals .....	63
12.2.8	Wet test for outdoor type transformers.....	64
12.2.9	Low-voltage component voltage withstand test .....	64
12.2.10	Electromagnetic Compatibility (EMC) tests. ....	64
12.2.11	Partial discharge test on primary terminals .....	65
12.2.12	Verification of markings.....	66
12.2.13	Verification of the degree of protection by enclosures .....	66
12.2.14	Functional tests .....	66
12.2.15	Climatic tests .....	66
12.2.16	Mechanical tests .....	67
12.3	Routine tests.....	67
12.3.1	General .....	67
12.3.2	Power-frequency voltage withstand test for primary terminals.....	67
12.3.3	Power-frequency voltage withstand test for low-voltage components .....	67

12.3.4	Partial discharge test on primary terminals .....	67
12.3.5	Functional tests .....	67
12.3.6	Verification of markings .....	67
12.4	Special tests .....	67
12.4.1	General .....	67
12.4.2	Chopped impulse voltage withstand test on primary terminals .....	67
12.4.3	Fire hazard test.....	68
12.4.4	Ageing test .....	68
12.4.5	Mechanical stresses on terminals test .....	68
Annex A (informative)	Example of guide for the selection of equipment according to use – information to be provided with inquiries, tenders, and orders.....	69
Annex B (informative)	Examples of possible FPI/DSU architectures .....	70
Annex C (informative)	Examples of FPI/DSU regarding communication capabilities .....	75
Bibliography	.....	83
Figure 1	– General architecture of an FPI.....	10
Figure 2	– Possible architecture of a typical FPI .....	22
Figure 3	– Possible detailed architecture of a DSU in a wide extended configuration .....	23
Figure 4	– Example of possible coexistence of different performance level FPIs/DSUs on the same MV feeder.....	28
Figure 5	– Example of possible ports to consider concerning insulation requirements for LV components.....	47
Figure 6	– Altitude correction factor for the temperature rise .....	51
Figure B.1	– Example of a F5NC(or C) – T2 – P3 – 3 class FPI for underground cable application.....	70
Figure B.2	– Example of a F3NC(or C) – T1 – P2 – max 2 class FPI for underground cable application.....	71
Figure B.3	– Example of an F6NC –T4 – P3 – 4 class DSU for underground cable application.....	72
Figure B.4	– Example of an F6NC –T4 – P3 – 4 class DSU for underground cable application.....	73
Figure B.5	– Example of a F5C(or NC) – T2 – P4 – 3 class FPI for underground cable application.....	74
Figure C.1	– Example of an F1 (F2/F3) C (NC) – T2 – P2 – 1 (2) class FPI for outdoor installation on overhead conductors .....	75
Figure C.2	– Examples of an F4 (F5/F6) C (NC) – T2 – P3 (P4) – 3 (4) class DSU for underground cable application .....	77
Figure C.3	– Examples of an F4 (F5/F6) C (NC) – T2 – P3 (P4) – 4 class DSU for underground cable application .....	79
Figure C.4	– Examples of a F4 (F5/F6) C (NC) – T3 (T4) – P3 (P4) – 3(4) class DSU for underground cable application .....	82
Table 1	– FPI/DSU classification principles through classes to be used for data model and profile definitions and testing.....	33
Table 2	– FPI fault detection capability classes to be used for data model and profile definition and testing.....	34
Table 3	– Communication capability to be used for data model and profile definition and testing .....	35
Table 4	– Power supply class.....	35

Table 5 – Additional optional feature classes (not strictly related to pure fault detection) .....	35
Table 6 – FPIs usage classes: fault detection capabilities and communication capabilities .....	37
Table 7 – FPI/DSU minimum and maximum temperatures .....	41
Table 8 – Standard values of rated voltage factor ( $k_U$ ) .....	44
Table 9 – Rated insulation levels .....	45
Table 10 – Partial discharge test voltages and permissible levels .....	46
Table 11 – Rated values of auxiliary supply voltage – d.c. voltage .....	48
Table 12 – Rated values of auxiliary supply voltage – a.c. voltage .....	49
Table 13 – Limits of temperature rise for various parts, materials and dielectrics of sensors .....	50
Table 14 – Unified specific creepage distance (USCD) .....	55
Table 15 – Fire hazard of electrotechnical products .....	55
Table 16 – Electromagnetic immunity requirements .....	56
Table 17 – Climatic immunity requirements .....	58
Table 18 – Mechanical immunity requirements .....	59
Table 19 – List of tests .....	60
Table 20 – EMC test .....	64
Table 21 – Climatic tests .....	66
Table 22 – Mechanical tests .....	67

[SIST EN 62689-1:2017](https://standards.iteh.ai/catalog/standards/sist/d284ebb5-5d4e-4051-9946-d1a3d7614fb6/sist-en-62689-1-2017)  
<https://standards.iteh.ai/catalog/standards/sist/d284ebb5-5d4e-4051-9946-d1a3d7614fb6/sist-en-62689-1-2017>

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CURRENT AND VOLTAGE SENSORS OR DETECTORS,  
TO BE USED FOR FAULT PASSAGE INDICATION PURPOSES –**

**Part 1: General principles and requirements**

**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 62689-1 has been prepared by IEC technical committee 38: Instrument transformers.

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

FDIS	Report on voting
38/503/FDIS	38/510/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.