



# SLOVENSKI STANDARD SIST EN IEC 61869-13:2021

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**Instrumentni transformatorji - 13. del: Samostojni koncentrador (SAMU) (IEC 61869-13:2021)**

Instrument transformers - Part 13: Stand-alone merging unit (SAMU) (IEC 61869-13:2021)

Messwandler - Teil 13: Unabhängige Merging Unit (IEC 61869-13:2021)

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Transformateurs de mesure - Partie 13: Concentrateur autonome (SAMU) (IEC 61869-13:2021)

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**Ta slovenski standard je istoveten z: EN IEC 61869-13:2021**

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**ICS:**

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

EN IEC 61869-13

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2021

ICS 17.220.20

English Version

Instrument transformers - Part 13: Stand-alone merging unit  
(SAMU)  
(IEC 61869-13:2021)

Transformateurs de mesure - Partie 13: Concentrateur  
autonome (SAMU)  
(IEC 61869-13:2021)

Messwandler - Teil 13: Unabhängige Merging Unit  
(IEC 61869-13:2021)

This European Standard was approved by CENELEC on 2021-03-10. 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.

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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**EN IEC 61869-13:2021 (E)****European foreword**

The text of document 38/634/FDIS, future edition 1 of IEC 61869-13, prepared by IEC/TC 38 "Instrument transformers" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61869-13:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-01-16 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-07-16 document have to be withdrawn

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

IEC 60255 series	NOTE Harmonized as EN 60255 series
IEC 60255-1	NOTE Harmonized as EN 60255-1
IEC 60255-21-1	NOTE Harmonized as EN 60255-21-1
IEC 60255-21-2	NOTE Harmonized as EN 60255-21-2
IEC 60255-21-3	NOTE Harmonized as EN 60255-21-3
IEC 60255-26:2013	NOTE Harmonized as EN 60255-26:2013 (not modified)
IEC 61000-6-5	NOTE Harmonized as EN 61000-6-5
IEC 61850-9-2	NOTE Harmonized as EN 61850-9-2
IEC 61869-3	NOTE Harmonized as EN 61869-3
IEC 61869-4	NOTE Harmonized as EN 61869-4
IEC 61869-5	NOTE Harmonized as EN 61869-5
IEC 62052 series	NOTE Harmonized as EN 62052 series
IEC 62053 series	NOTE Harmonized as EN 62053 series

IEC 62053-22 NOTE Harmonized as EN IEC 62053-22  
IEC 62271 series NOTE Harmonized as EN 62271 series  
IEC 62271-1 NOTE Harmonized as EN 62271-1  
IEC 62271-3 NOTE Harmonized as EN 62271-3

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## 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 Where 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 60068-2-1	2007	Environmental testing - Part 2-1: Tests Test A: Cold	-EN 60068-2-1	2007
IEC 60068-2-2	2007	Environmental testing - Part 2-2: Tests Test B: Dry heat	-EN 60068-2-2	2007
IEC 60068-2-14	2009	Environmental testing - Part 2-14: Tests Test N: Change of temperature	-EN 60068-2-14	2009
IEC 60068-2-30	2005	Environmental testing - Part 2-30: Tests Test Db: Damp heat, cyclic (12 h + 12 h cycle)	-EN 60068-2-30	2005
IEC 60068-2-78	2012	Environmental testing - Part 2-78: Tests Test Cab: Damp heat, steady-state	-EN 60068-2-78	2013
IEC 60255-27	2013	Measuring relays and protection equipment - Part 27: Product safety requirements	EN 60255-27	2014
IEC 60664-1	2020	Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests	EN IEC 60664-1	2020
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009
IEC 61000-4-3	2006	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2006
+ A1	2007		+ A1	2008
+ A2	2010		+ A2	2010
IEC 61000-4-4	2012	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2012

IEC 61000-4-5	2014	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2014
IEC 61000-4-6	2013	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2014
IEC 61000-4-8	2009	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	2010
IEC 61000-4-9	2016	Electromagnetic compatibility (EMC) - Part 4-9: Testing and measurement techniques - Impulse magnetic field immunity test	EN 61000-4-9	2016
IEC 61000-4-10	2016	Electromagnetic compatibility (EMC) - Part 4-10: Testing and measurement techniques - Damped oscillatory magnetic field immunity test	EN 61000-4-10	2017
IEC 61000-4-11	2020	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase	EN IEC 61000-4-11	2020
IEC 61000-4-13	-	Electromagnetic compatibility (EMC) - Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests	EN 61000-4-13	-
IEC 61000-4-16	2015	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	2016
IEC 61000-4-17	1999	Electromagnetic compatibility (EMC) - Part 4-17: Testing and measurement techniques - Ripple on d.c. input power port immunity test	EN 61000-4-17	1999
+ A1	2001		+ A1	2004
+ A2	2008		+ A2	2009
IEC 61000-4-18	2006	Electromagnetic compatibility (EMC) - Part 4-18: Testing and measurement techniques - Damped oscillatory wave immunity test	EN 61000-4-18	2007
-	-		+ corrigendum	Sep. 2007
+ A1	2010		+ A1	2010
IEC 61000-4-29	2000	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	2000

## EN IEC 61869-13:2021 (E)

IEC 61850-7-4	-	Communication networks and systems for power utility automation - Part 7-4: Basic communication structure - Compatible logical node classes and data object classes	EN 61850-7-4	-
IEC 61869-1 (mod)	2007	Instrument transformers - Part 1: General requirements	EN 61869-1	2009
IEC 61869-2	2012	Instrument transformers - Part 2: Additional requirements for current transformers	EN 61869-2	2012
IEC 61869-6	2016	Instrument transformers - Part 6: Additional general requirements for low-power instrument transformers	EN 61869-6	2016
IEC 61869-9	2016	Instrument transformers - Part 9: Digital interface for instrument transformers	EN IEC 61869-9	2019
IEC 61869-10	2017	Instrument transformers - Part 10: Additional requirements for low-power passive current transformers	EN IEC 61869-10	2018
IEC 61869-11	2017	Instrument transformers - Part 11: Additional requirements for low-power passive voltage transformers	EN IEC 61869-11	2018
CISPR 11	-	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	-
CISPR 32	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements	EN 55032	2015
+ A1	2019	<a href="https://standards.iteh.ai/catalog/standards/sist/40b99995-ce4f-4d3b-a559-a0033e099e54/sist-en-iec-61869-13-2021">SIST EN IEC 61869-13:2021</a>	+ A1	2020
-	-	<a href="https://standards.iteh.ai/catalog/standards/sist/40b99995-ce4f-4d3b-a559-a0033e099e54/sist-en-iec-61869-13-2021">https://standards.iteh.ai/catalog/standards/sist/40b99995-ce4f-4d3b-a559-a0033e099e54/sist-en-iec-61869-13-2021</a>	+ A11	2020





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Edition 1.0 2021-02

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Instrument transformers –**  
**Part 13: Stand-alone merging unit (SAMU)**

**Transformateurs de mesure –**  
**Partie 13: Concentrateur autonome (SAMU)**

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## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	7
1 Scope.....	9
2 Normative references .....	9
3 Terms and definitions .....	11
4 Normal and special service conditions .....	14
5 Ratings.....	15
6 Design and construction .....	23
7 Tests .....	32
8 Rules for transport, storage, erection, operation and maintenance.....	49
9 Safety.....	49
Annex 13A (informative) Measurement chain accuracy class considerations .....	50
Annex 13B (informative) Measurement examples of switching and lightning surge voltage in gas-insulated switchgear .....	52
Annex 13C (normative) Low-power instrument transformer inputs .....	63
Bibliography.....	67
Figure 1301 – Stand-alone merging unit (functional concept example).....	7
Figure 1302 – Stand-alone merging unit application example.....	7
Figure 1303 – Illustration of the SAMU position in relation to other devices and standards in the functional chain.....	8
Figure 1304 – Specified input current time constant $T_1$ .....	13
Figure 1305 – Dynamic range concept example .....	19
Figure 604 (modified) – Examples of subassembly subjected to EMC tests – Usual structure used in HV AIS applications .....	34
Figure 1306 – Gradual shutdown – Startup test .....	38
Figure 1307 – C-O-C-O duty cycle .....	39
Figure 13A.1 – SAMU application example .....	50
Figure 13B.1 – Constructional example of GIS with typical surge voltage sources.....	52
Figure 13B.2 – Measured 550 kV GIS construction .....	53
Figure 13B.3 – Measurement results showing a switching surge peak voltage magnitude caused by the DS operation in Figure 13B.2 .....	54
Figure 13B.4 – Measured 275 kV GIS construction .....	55
Figure 13B.5 – Switching and lightning surge voltage waveforms.....	56
Figure 13B.6 – Switching surge voltage measurement setup on a 550 kV GIS with/without an insulating flange surge absorber .....	57
Figure 13B.7 – Switching surge voltage measurement results when the DS was operated with/without the surge absorber.....	58
Figure 13B.8 – CT secondary circuit configuration for the 500 kV GIS .....	59
Figure 13B.9 – DS control circuit configuration for the 500 kV GIS test.....	59
Figure 13B.10 – Waveforms of switching surge voltage at measured point I (see Table 13B.3).....	60
Figure 13B.11 – Block diagram of the electronic VT with amplifier tested in the 500 kV GIS system .....	61

Figure 13B.12 – Lightning surge voltage as a function of surge absorbing capacitor value...	61
Figure 13B.13 – Lightning surge voltage as a function of coaxial cable length .....	62
Table 1301 – Insulation requirements for analogue inputs.....	16
Table 1302 – Measuring accuracy class 0,05.....	17
Table 1303 – Limits of current error and phase error for SAMU measuring accuracy current channels .....	18
Table 1304 – Limits of current errors for SAMU TPM class rated protection accuracy current channels .....	20
Table 1305 – Limits of voltage error and phase error for SAMU voltage channels .....	21
Table 1306 – SAMU TCTR class settings.....	23
Table 1307 – SAMU TVTR class settings.....	23
Table 1308 – Immunity requirements and tests .....	24
Table 1309 – Acceptance criteria for EMC immunity tests.....	25
Table 1310 – Radiated emissions tests .....	27
Table 1311 – Conducted emissions tests .....	27
Table 1312 – SAMU rating plate markings .....	28
Table 1313 – Ratings defined in accordance with IEC 61850-7-4 .....	32
Table 10 – List of tests.....	33
Table 1314 – Dry-heat test – Operational.....	44
Table 1315 – Cold test – Operational.....	44
Table 1316 – Dry-heat test at maximum storage temperature .....	45
Table 1317 – Cold test at minimum storage temperature .....	45
Table 1318 – Change of temperature (Cyclic temperature test).....	46
Table 1319 – Damp heat steady state test .....	47
Table 1320 – Cyclic temperature with humidity test.....	48
Table 13A.1 – Combined accuracy class table .....	50
Table 13B.1 – Measurement results showing switching and lightning surge voltage recorded for the setup in Figure 13B.4 .....	55
Table 13B.2 – Measurement results of switching surge voltage on CT secondary circuit.....	59
Table 13B.3 – Measurement results showing the switching surge voltage coupling to the DS control circuit .....	59
Table 13C.1 – ITRat setting units.....	65
Table 13C.2 – SAMU rating plate marking modifications .....	65

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## INSTRUMENT TRANSFORMERS –

## Part 13: Stand-alone merging unit (SAMU)

## FOREWORD

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International Standard IEC 61869-13 has been prepared by IEC technical committee 38: Instrument transformers.

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

FDIS	Report on voting
38/634/FDIS	38/640/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 61869 series, published under the general title *Instrument transformers*, can be found on the IEC website.

This Part 13 is to be used in conjunction with IEC 61869-9:2016, *Digital interface for instrument transformers*, and IEC 61869-6:2016, *Additional general requirements for low-power instrument transformers*, which, in turn, are based on IEC 61869-1:2007, *General requirements*.

This Part 13 follows the structure of IEC 61869-1:2007 and IEC 61869-6:2016 and supplements or modifies their corresponding clauses.

When a particular clause/subclause of Part 1 or Part 6 is not mentioned in this Part 13, that subclause applies. When this document states "addition", "modification" or "replacement", the relevant text in Part 1 or Part 6 is to be adapted accordingly.

For additional clauses, subclauses, figures, tables, annexes or note, the following numbering system is used:

- clauses, subclauses, tables, figures and notes that are numbered starting from 1301 are additional to those in Part 1 and Part 6;
- additional annexes are lettered 13A, 13B, etc.

An overview of the planned set of standards at the date of publication of this document is given below. The updated list of standards issued by IEC TC 38 is available at the website: [www.iec.ch](http://www.iec.ch).

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PRODUCT FAMILY STANDARDS IEC	PRODUCT STANDARD IEC	PRODUCTS	OLD STANDARD IEC	
61869-1 GENERAL REQUIREMENTS FOR INSTRUMENT TRANSFORMERS	61869-2	ADDITIONAL REQUIREMENTS FOR CURRENT TRANSFORMERS	60044-1 60044-6	
	61869-3	ADDITIONAL REQUIREMENTS FOR INDUCTIVE VOLTAGE TRANSFORMERS	60044-2	
	61869-4	ADDITIONAL REQUIREMENTS FOR COMBINED TRANSFORMERS	60044-3	
	61869-5	ADDITIONAL REQUIREMENTS FOR CAPACITOR VOLTAGE TRANSFORMERS	60044-5	
	61869-6 ADDITIONAL GENERAL REQUIREMENTS FOR LOW-POWER INSTRUMENT TRANSFORMERS	61869-7	ADDITIONAL REQUIREMENTS FOR ELECTRONIC VOLTAGE TRANSFORMERS	60044-7
		61869-8	ADDITIONAL REQUIREMENTS FOR ELECTRONIC CURRENT TRANSFORMERS	60044-8
		61869-9	DIGITAL INTERFACE FOR INSTRUMENT TRANSFORMERS	
		61869-10	ADDITIONAL REQUIREMENTS FOR LOW-POWER PASSIVE CURRENT TRANSFORMERS	
		61869-11	ADDITIONAL REQUIREMENTS FOR LOW-POWER PASSIVE VOLTAGE TRANSFORMERS	60044-7
		61869-12	ADDITIONAL REQUIREMENTS FOR COMBINED ELECTRONIC INSTRUMENT TRANSFORMERS AND COMBINED STAND-ALONE SENSORS	
		61869-13	STAND-ALONE MERGING UNIT	
		61869-14	ADDITIONAL REQUIREMENTS FOR CURRENT TRANSFORMERS FOR DC APPLICATIONS	
		61869-15	ADDITIONAL REQUIREMENTS FOR VOLTAGE TRANSFORMERS FOR DC APPLICATIONS	

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

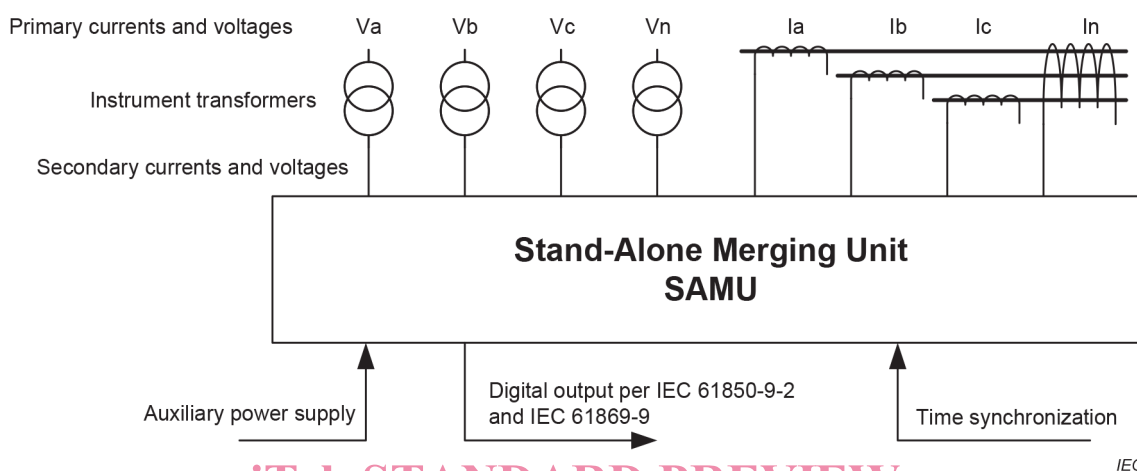
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## INTRODUCTION

**General**

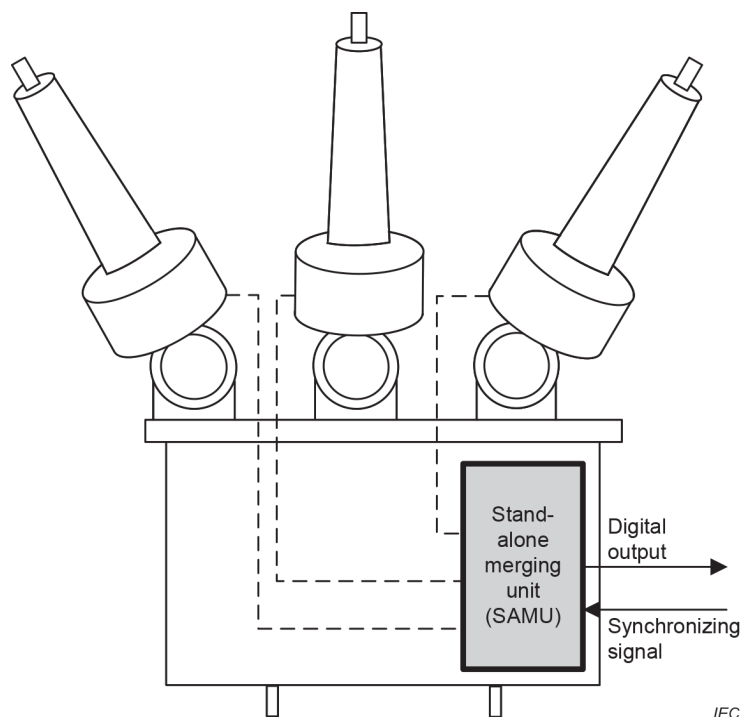
This document is an IEC 61869 series product standard which defines additional requirements for a stand-alone merging unit (SAMU).

The general block diagram showing a typical SAMU application example is given in Figure 1301.



**Figure 1301 – Stand-alone merging unit (functional concept example)**

An application example showing a three-phase dead tank circuit breaker equipped with bushing type current transformers and a stand-alone merging unit mounted inside the breaker control cabinet is shown in Figure 1302.



**Figure 1302 – Stand-alone merging unit application example**

The SAMU output may be used by many devices and is therefore of interest to multiple technical committees in addition to TC 38, for example: TC 57: Power systems management and