
**Komunikacijska omrežja in sistemi za avtomatizacijo porabe električne energije - 9
-2. del: Preslikave posebne komunikacijske storitve (SCSM) - Vzorčne/odčitane
vrednosti po ISO/IEC 8802-3 - Dopnilo A1**

Communication networks and systems for power utility automation - Part 9-2: Specific communication service mapping (SCSM) - Sampled values over ISO/IEC 8802-3

Kommunikationsnetze und -systeme für die Automatisierung in der elektrischen Energieversorgung - Teil 9-2: Spezifische Abbildung von Kommunikationsdiensten (SCSM) - Abgetastete Werte über ISO/IEC 8802-3

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques - Partie 9-2: Mise en correspondance des services de communication spécifiques (SCSM) - Valeurs échantillonnées sur l'ISO/CEI 8802-3

Ta slovenski standard je istoveten z: EN 61850-9-2:2011/A1:2020

ICS:

29.240.30	Krmilna oprema za elektroenergetske sisteme	Control equipment for electric power systems
33.200	Daljinsko krmiljenje, daljinske meritve (telemetrija)	Telecontrol. Telemetry

SIST EN 61850-9-2:2012/A1:2020 en

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Communication networks and systems for power utility
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(SCSM) - Sampled values over ISO/IEC 8802-3
(IEC 61850-9-2:2011/A1:2020)

Réseaux et systèmes de communication pour
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spécifiques (SCSM) - Valeurs échantillonnées sur ISO/IEC
8802-3
(IEC 61850-9-2:2011/A1:2020)

Kommunikationsnetze und -systeme für die
Automatisierung in der elektrischen Energieversorgung -
Teil 9-2: Spezifische Abbildung von
Kommunikationsdiensten (SCSM) - Abgetastete Werte über
ISO/IEC 8802-3
(IEC 61850-9-2:2011/A1:2020)

This amendment A1 modifies the European Standard EN 61850-9-2:2011; it was approved by CENELEC on 2020-03-18. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 61850-9-2:2011/A1:2020 (E)**European foreword**

The text of document 57/2112/FDIS, future IEC 61850-9-2/A1, prepared by IEC/TC 57 "Power systems management and associated information exchange" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61850-9-2:2011/A1:2020.

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) 2020-12-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-03-18

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Endorsement notice

SIST EN 61850-9-2:2012/A1:2020

The text of the International Standard IEC 61850-9-2:2011/A1:2020 was approved by CENELEC as a European Standard without any modification.

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.

Delete the following references:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC/TR 61850-1	-	Communication networks and systems in substations - Part 1: Introduction and overview	-	-
IEC 61850-7-1	-	Communication networks and systems for power utility automation - Part 7-1: Basic communication structure - Principles and models	EN 61850-7-1	-
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 60874-10-1	-	Connectors for optical fibres and cables - Part 10-1: Detail specification for fibre optic connector type BFOC/2,5 terminated to multimode fibre type A1	-	-
IEC 60874-10-2	-	Connectors for optical fibres and cables - Part 10-2: Detail specification for fibre optic connector type BFOC/2,5 terminated to single-mode fibre type B1	-	-
ISO/IEC 7498-1	-	Information technology - Open Systems Interconnection - Basic reference model: The basic model	-	-

EN 61850-9-2:2011/A1:2020 (E)

Add the following references:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61588	2009	Precision clock synchronization protocol for networked measurement and control systems	-	-
IEC/IEEE 61850-9-3	-	Communication networks and systems for power utility automation - Part 9-3: Precision time protocol profile for power utility automation	-	-
IEC/TR 61850-90-4	-	Communication networks and systems for power utility automation - Part 90-4: Network engineering guidelines	-	-
ISO 4217	2015	Codes for the representation of currencies	-	-
RFC 2460	-	Internet Protocol, Version 6 (IPv6) Specification	-	-

Update the following references:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC/TS 61850-2	-	Communication networks and systems in substations - Part 2: Glossary	-	-
IEC/TS 62351-6 ¹	-	Power systems management and associated information exchange - Data and communications security - Part 6: Security for IEC 61850	-	-
IEC 62439-3	2016	Industrial communication networks - High availability automation networks - Part 3: Parallel Redundancy Protocol (PRP) and High-availability Seamless Redundancy (HSR)	-	-
ISO/IEC/IEEE 8802-3	-	Standard for Ethernet	-	-

¹ Under preparation. Stage at the time of publication: IEC TS/PRVC 62351-6:2020.



INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
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**Communication networks and systems for power utility automation –
Part 9-2: Specific communication service mapping (SCSM) – Sampled values
over ISO/IEC 8802-3**

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FOREWORD

This amendment has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

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

FDIS	Report on voting
57/2112/FDIS	57/2135/RVD

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

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

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

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[SIST EN 61850-9-2:2012/A1:2020](https://standards.iteh.ai/catalog/standards/sist/39f0f614-bb0d-4bc2-900c-a3b3e393d07b/sist-en-61850-9-2-2012-a1-2020)

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2 Normative references

Remove the following existing references:

IEC/TR 61850-1

IEC 61850-7-1

IEC 61850-7-4

IEC 60874-10-1

IEC 60874-10-2

IEC 60874-10-2

ISO/IEC 7498-1

Add the following new references:

IEC 61588:2009, *Precision clock synchronization protocol for networked measurement and control systems*

IEC 61850-9-2:2011/AMD1:2020 – 3 –
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IEC/IEEE 61850-9-3, *Communication networks and systems for power utility automation - Part 9-3: Precision Time Protocol Profile for Power Utility Automation*

IEC TR 61850-90-4, *Communication networks and systems for power utility automation - Part 90-4: Network engineering guidelines*

ISO 4217:2015, *Code for the representation of currencies*

RFC 2460, *Internet Protocol, Version 6 (IPv6) Specification*, IETF, available at <http://www.ietf.org>

Update the following existing references:

IEC TS 61850-2, *Communication networks and systems for power utility automation - Part 2: Glossary*

IEC TS 62351-6¹, *Power systems management and associated information exchange - Data and communications security - Part 6: Security for IEC 61850*

IEC 62439-3:2016, *Industrial communication networks - High availability automation networks - Part 3: Parallel Redundancy Protocol (PRP) and High-availability Seamless Redundancy (HSR)*

ISO/IEC/IEEE 8802-3, *Standard for Ethernet*

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4 Abbreviations

SIST EN 61850-9-2:2012/A1:2020

Remove the following abbreviations: <https://standards.iteh.ai/catalog/standards/sist/39f0f614-bb0d-4bc2-900c-a3b3e393d07b/sist-en-61850-9-2-2012-a1-2020>

CSMA/CD

ECT

EVT

GSSE

MAU

Add the following new abbreviation:

PTP Precision Time Protocol, referring to IEC 61588:2009

¹ Under preparation. Stage at the time of publication: IEC TS/PRVC 62351-6:2020.

5 Communication stack

5.2 Client/server services and communication profiles

Replace the existing text of Subclause 5.2 by the following new text:

Content removed; see IEC 61850-8-1.

5.3 SV service and communication profile

5.3.1 SV mapping overview

Table 4 – Service requiring SV communication profile

Replace existing Table 4 with the following new Table 4:

Model	IEC 61850-7-2 service
Multicast sampled value class model	Multicast SV message
Unicast sampled value class model	Unicast SV message (deprecated)

5.3.2 A-Profile

Table 5 – Service and protocols for SV communication A-Profile

Replace existing Table 5 with the following new Table 5:

OSI model layer	Specification		m/o	
	Name	Service specification		Protocol specification
Application	SendMSVMessage service	See clause 8.5	m	
	Security	IEC 62351-6	o	
Presentation	Abstract syntax	ISO/IEC 8824-1:2008	ISO/IEC 8825-1	m
Session				

Remove the third paragraph of Subclause 5.3.2.

5.3.3 T-Profile

Add a new heading 5.3.3.1 General before the first paragraph and renumber subsequent subclauses accordingly.

Table 6 – SV T-Profile

Replace existing Table 6 with the following new Table 6:

OSI model layer	Specification			m/o
	Name	Service specification	Protocol specification	
Transport				
Network				
Link Redundancy	Parallel redundancy protocol and high availability seamless ring	IEC 62439-3:2016		o
DataLink	Priority tagging/VLAN	IEEE 802.1Q		m
	Standard for Ethernet	ISO/IEC/IEEE 8802-3		m
Physical	Interface	IEC TR 61850-90-4		c

c If the product standard profiling this standard is not specifying another physical interface, IEC/TR 61850-90-4 applies

Add the following new note after Table 6:

NOTE This document only considers layer 2 sampled values transmission. Routable sampled values mechanisms are defined in IEC 61850-8-1.

5.3.3.2 Physical layer: Specifications for the medium attachment unit (MAU)

Remove existing Subclause 5.3.3.2 (formerly 5.3.3.1).

5.3.3.2 Link layer: Ethernet addresses

Replace the reference to ISO/IEC 8802-3 multicast/unicast address with ISO/IEC/IEEE 8802-3 multicast.

5.3.3.3 Link layer: Priority tagging/virtual LAN

Replace the existing text of Subclause 5.3.3.3 with the following new text:

IEEE 802.1Q field shall be present in the egress frames from a SV publisher.

Priority tagging according to IEEE 802.1Q is used to separate time-critical and high-priority bus traffic for protection-relevant applications from low priority bus loads.

Subscribers conformant to this document shall be prepared that the Virtual LAN tag might have been removed or modified by the network on the path from the publisher to the subscriber.

See Figure 2 for the structure of the tag header.

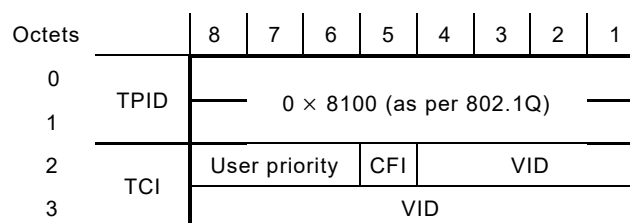


Figure 2 – Structure of the tag header