

SLOVENSKI STANDARD

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Komunikacijska omrežja in sistemi za avtomatizacijo porabe električne energije - 8-1. del: Preslikava posebne komunikacijske storitve - Preslikave v MMS (ISO 9506-1 in ISO 9506-2) in v ISO/IEC 8802-3

Communication networks and systems for power utility automation - Part 8-1: Specific Communication Service Mapping (SCSM) - Mappings to MMS (ISO 9506-1 and ISO 9506-2) and to ISO/IEC 8802-3

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Kommunikationsnetze und -systeme für die Automatisierung der elektrischen Energieversorgung - Teil 8-1: Spezifische Abbildung von Kommunikationsdiensten (SCSM) - Abbildungen auf MMS (nach ISO 9506-1 und ISO 9506-2) und ISO/IEC 8802-3

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Réseaux et systèmes de communication pour l'automatisation des systèmes électriques - Partie 8-1: Mise en correspondance des services de communication spécifiques (SCSM) - Mises en correspondance pour MMS (ISO 9506-1 et ISO 9506-2) et pour l'ISO/CEI 8802-3

Ta slovenski standard je istoveten z: **EN 61850-8-1:2011**

ICS:

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

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en

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**EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 61850-8-1

September 2011

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English version

**Communication networks and systems for power utility automation -
Part 8-1: Specific communication service mapping (SCSM) -
Mappings to MMS (ISO 9506-1 and ISO 9506-2) and to ISO/IEC 8802-3
(IEC 61850-8-1:2011)**

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques -
Partie 8-1: Mise en correspondance des services de communication spécifiques (SCSM) -
Mises en correspondance pour MMS (ISO 9506-1 et ISO 9506-2) et pour l'ISO/CEI 8802-3 (CEI 61850-8-1:2011)

Kommunikationsnetze und -systeme für die Automatisierung der elektrischen Energieversorgung -
Teil 8-1: Spezifische Abbildung von Kommunikationsdiensten (SCSM) -
Abbildungen auf MMS (nach ISO 9506-1 und ISO 9506-2) und ISO/IEC 8802-3 (IEC 61850-8-1:2011)

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 57/1109/FDIS, future edition 2 of IEC 61850-8-1, prepared by IEC TC 57, Power systems management and associated information exchange, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61850-8-1 on 2011-07-22.

This European Standard supersedes EN 61850-8-1:2004.

The main changes with respect to EN 61850-8-1:2004 are listed below:

- the support of gigabit Ethernet,
- the link layer redundancy,
- the extension of the length of the object reference,
- the extension of the reason for inclusion type for comprehensive logging,
- the mapping of the tracking services,
- a second mapping of the objectReference when used in the tracking services, or as linking,
- the extension of the AdditionalCause enumeration,
- the simulation of GOOSE telegram,
- the so-called fixed-length encoded GOOSE,

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– the removal of the SCL Control Block,
– the mappings of ACSI service error codes and ISO 9506 error codes have changed (see 8.1.3.4). One change that should be noted is the change in usage of object-undefined. The object-undefined code has been replaced by object-non-existent in many responses.
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The following dates were fixed:

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2012-04-22 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2014-07-22 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61850-8-1:2011 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 referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60874-10-1	1997	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	1997	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	-	-
IEC 60874-10-3	1997	Connectors for optical fibres and cables - Part 10-3: Detail specification for fibre optic adapter type BFOC/2,5 for single and multimode fibre	-	-
IEC 61850	Series	Communication networks and systems in substations	EN 61850	Series
IEC/TS 61850-2	-	Communication networks and systems in substations - https://standards.iec.ch/catalog/standards/sist/1077cd8d-0ce7-4126-b918-5c3b2e55/sist-en-61850-8-1-2011 Part 2: Glossary	-	-
IEC 61850-5	-	Communication networks and systems in substations - Part 5: Communication requirements for functions and device models	EN 61850-5	-
IEC 61850-6	2009	Communication networks and systems for power utility automation - Part 6: Configuration description language for communication in electrical substations related to IEDs	EN 61850-6	2010
IEC 61850-7-1	201X ¹⁾	Communication networks and systems for power utility automation - Part 7-1: Basic communication structure - Principles and models	EN 61850-7-1	201X ¹⁾
IEC 61850-7-2	2010	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	2010
IEC 61850-7-3	2010	Communication networks and systems for power utility automation - Part 7-3: Basic communication structure - Common data classes	EN 61850-7-3	2011

¹⁾ At draft stage.

IEC 61850-7-4	2010	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	2010
IEC 61850-9-1	2003	Communication networks and systems in substations - Part 9-1: Specific Communication Service Mapping (SCSM) - Sampled values over serial unidirectional multidrop point to point link	EN 61850-9-1	2003
IEC 61850-9-2	201X ¹⁾	Communication networks and systems for power utility automation - Part 9-2: Specific Communication Service Mapping (SCSM) - Sampled values over ISO/IEC 8802-3	EN 61850-9-2	201X ¹⁾
IEC/TS 62351-6	-	Power systems management and associated information exchange - Data and communications security - Part 6: Security for IEC 61850	-	-
IEC 62439-3 + A1	2010 201X ¹⁾	Industrial communication networks - High availability automation networks - Part 3: Parallel Redundancy Protocol (PRP) and High availability Seamless Redundancy (HSR)	EN 62439-3 + A1	2010 201X ¹⁾
ISO/IEC 7498-1	1994	Information technology - Open Systems Interconnection - Basic Reference Model: The Basic Model	-	-
ISO/IEC 7498-3	1997	Information technology - Open Systems Interconnection - Basic Reference Model: Naming and addressing	-	-
ISO/IEC 8072	1996	Information technology - Open systems interconnection - Transport service definition	-	-
ISO/IEC 8073	1997	Information technology - Open Systems Interconnection - Protocol for providing the connection-mode transport service	-	-
ISO/IEC 8326	1996	Information technology - Open systems Interconnection - Session service definition	-	-
ISO/IEC 8327-1	1997	Information technology - Open Systems Interconnection - Connection-oriented Session protocol: Protocol specification	-	-
ISO/IEC 8348	2002	Information technology - Open Systems Interconnection - Network service definition	-	-
ISO/IEC 8473-1	1998	Information technology - Protocol for providing - the connectionless-mode network service: Protocol specification	-	-
ISO/IEC 8473-2	1996	Information technology - Protocol for profiding - the connectionless mode network service - Part 2: Provision of the underlying service by an ISO/IEC 8802 subnetwork	-	-
ISO/IEC 8602	1995	Information technology - Protocol for providing - the OSI connectionless-mode transport service	-	-

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ISO/IEC 8649	1996	Information technology - Open systems interconnection - Service definition for the Association Control Service Element (ACSE)	-	-
ISO/IEC 8650-1	1996	Information technology - Open systems interconnection - Connection-oriented protocol for the association control service element: Protocol specification	-	-
ISO/IEC 8802-2	1998	Information technology - Telecommunications - and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 2: Logical link control	-	-
ISO/IEC 8802-3	2000	Information technology - Telecommunications - and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications	-	-
ISO/IEC 8822	1994	Information technology - Open Systems Interconnection - Presentation service definition	-	-
ISO/IEC 8823-1	1994	Information technology - Open Systems Interconnection -Connection-oriented presentation protocol: Protocol specification	-	-
ISO/IEC 8824-1	2008	Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation	-	-
ISO/IEC 8825-1	2008	SIST EN 61850-8-1:2011 https://standards.iec.ch/catalog/standards/ssv/077/cod0-0ce-4126-b918-3594-1a07-5/SIST-EN-61850-8-1-2011	-	-
ISO/IEC 8877	1992	Information technology - Telecommunications - and information exchange between systems - Interface connector and contact assignments for ISDN Basic Access Interface located at reference points S and T	-	-
ISO/IEC 9542	1988	Information processing systems - Telecommunications and information exchange between systems - End system to intermediate system routing exchange protocol for use in conjunction with the Protocol for providing the connectionless-mode network service (ISO 8473)	-	-
ISO/IEC 9548-1	1996	Information technology - Open Systems Interconnection - Connectionless Session protocol: Protocol specification	-	-
ISO/IEC 9576-1	1995	Information technology - Open Systems Interconnection - Connectionless Presentation protocol: Protocol specification	-	-
ISO/IEC 10035-1 + A1	1995 1998	Information technology - Open Systems Interconnection - Connectionless protocol for the Association Control Service Element: Protocol specification	-	-

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ISO/IEC ISP 10608-1	1992	Information technology - International Standardized Profile TAnnnn - Connection-mode Transport Service over Connectionless-mode Network Service - Part 1: General overview and subnetwork-independent requirements	-	-
ISO/IEC ISP 10608-2	1992	Information technology - International Standardized Profile TAnnnn - Connection-mode Transport Service over Connectionless-mode Network Service - Part 2: TA51 profile including subnetwork-dependent requirements for CSMA/CD Local Area Networks (LANs)	-	-
ISO/IEC 11188-1	1995	Information technology - International Standardized Profile - Common upper layer requirements - Part 1: Basic connection oriented requirements	-	-
ISO/IEC 11188-3	1996	Information technology - Common upper layer - requirements - Part 3: Minimal OSI upper layer facilities	-	-
ISO 9506	Series	Industrial automation systems - Manufacturing - Message Specification	-	-
ISO 9506-1	2003	Industrial automation systems - Manufacturing - Message Specification - Part 1: Service definition	-	-
ISO 9506-2	2003	Industrial automation systems - Manufacturing - Message Specification - Part 2: Protocol specification	-	-
ISO/ISP 14226-1	1996	Industrial automation systems - International Standardized Profile AMM11: MMS General Applications Base Profile - Part 1: Specification of ACSE, Presentation and Session protocols for the use by MMS	https://standards.iteh.ai/catalog/standards/sist/077cd8d-0cc7-4126-b918-35e0431a0727/SN-EN-61850-8-1-2011	-
ISO/ISP 14226-2	1996	Industrial automation systems - International Standardized Profile AMM11: MMS General Applications Base Profile - Part 2: Common MMS requirements	-	-
ISO/ISP 14226-3	1996	Industrial automation systems - International Standardized Profile AMM11: MMS General Applications Base Profile - Part 3: Specific MMS requirements	-	-
IEEE C37.111	1999	IEEE Standard for Common Format for Transient Data Exchange (COMTRADE) for Power Systems	-	-
IEEE 754	1985	Binary Floating-Point Arithmetic (R1990)	-	-
IEEE 802.1Q	1998	IEEE Standard for Local and Metropolitan Area Networks: Virtual Bridged Local Area Networks	-	-
IEEE 802.1D	2004	IEEE Standard for Local and Metropolitan Area Networks - Media Access Control (MAC) Bridges	-	-
RFC 614	-	Comments on the File Transfer Protocol	-	-
RFC 640	-	Revised FTP reply codes	-	-

RFC 768	-	User Datagram Protocol	-	-
RFC 791	-	Internet Protocol - DARPA Internet Program Protocol Specification	-	-
RFC 792	-	Internet Control Message Protocol	-	-
RFC 793	-	Transmission Control Protocol - DARPA Internet Program Protocol Specification	-	-
RFC 826	-	Ethernet Address Resolution Protocol	-	-
RFC 894	-	Standard for the Transmission of IP Datagrams over Ethernet Networks	-	-
RFC 922	-	Broadcasting Internet Datagrams in the presence of subnets	-	-
RFC 950	-	Internet Standard Subnetting Procedure	-	-
RFC 1006	-	ISO transport services on top of TCP: Version 3	-	-
RFC 1112	-	Host Extensions for IP Multicasting	-	-
RFC 1122	-	Requirements for Internet Hosts - Communication Layers	-	-
RFC 1123	-	Requirements for Internet Hosts - Application and Support	-	-
RFC 4330	-	Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI	-	-

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Communication networks and systems for power utility automation –
Part 8-1: Specific communication service mapping (SCSM) – Mappings to MMS
(ISO 9506-1 and ISO 9506-2) and to ISO/IEC 8802-3**

**Réseaux et systèmes de communication pour l'automatisation des systèmes
électriques –
Partie 8-1: Mise en correspondance des services de communication spécifiques
(SCSM) – Mises en correspondance pour MMS (ISO 9506-1 et ISO 9506-2) et pour
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CONTENTS

FOREWORD	11
INTRODUCTION	13
1 Scope	14
2 Normative references	14
3 Terms and definitions	18
4 Abbreviations	20
5 Overview	22
5.1 General	22
5.2 MMS communication profiles	23
5.3 Non-MMS communication profiles	23
5.4 MMS objects being used	23
6 Communication stack	24
6.1 Overview of the protocol usage	24
6.2 Client/server services and communication profiles	25
6.2.1 Client/server services	25
6.2.2 A-Profile	26
6.2.3 TCP/IP T-Profile	26
6.2.4 OSI T-Profile	28
6.3 GSE management and GOOSE services communication profiles	29
6.3.1 GSE mapping overview	29
6.3.2 A-Profile	29
6.3.3 T-Profile	29
6.4 Time sync	30
6.4.1 Conformance statement	30
6.4.2 A-Profile	31
6.4.3 T-Profile	31
7 Objects of IEC 61850	32
7.1 Server	32
7.2 Logical device (LD)	32
7.3 Logical node (LN)	32
7.3.1 General	32
7.3.2 Mapping of LNReference to VariableAccessSpecifications	34
7.3.3 DataObjects	34
7.3.4 DataAttributes (DataAttr)	35
8 Mapping of IEC 61850-7-2 and IEC 61850-7-3 data attributes	35
8.1 Mapping of Attributes specified in IEC 61850-7-2	35
8.1.1 BasicTypes	35
8.1.2 Additional definitions of BasicType	36
8.1.3 Common ACSITypes	37
8.2 Mapping of quality common data attribute type specified in IEC 61850-7-3	55
9 Server class model	55
9.1 Server mapping	55
9.2 Server class attributes	56
9.2.1 ServiceAccessPoint	56
9.2.2 Logical devices	56

9.2.3	Files	56
9.2.4	Client associations	56
9.3	Server class service GetServerDirectory	56
10	Association model	58
10.1	Association relation to communication profiles	58
10.2	Two party association model for client/server communication profile	58
10.2.1	Association mapping.....	58
10.2.2	Association services	59
10.3	Two party association model for GSE management communication profile	60
10.4	Two party association model for time sync	60
10.5	Multicast association model.....	60
11	Logical device model	60
12	Logical node model	60
12.1	GenLogicalNodeClass	60
12.2	GenLogicalNodeClass attributes.....	61
12.3	GenLogicalNodeClass services	61
12.3.1	GetLogicalNodeDirectory.....	61
12.3.2	GetAllDataValues	62
13	DataObject, DataAttribute, SubDataAttribute model	63
13.1	GenDataObjectClass.....	63
13.2	GenDataAttributeClass	63
13.3	GenSubDataAttributeClass	64
13.4	GenDataObjectClass services	64
13.4.1	GetDataValues	64
13.4.2	http://tv1mls.iteh.ai/catalog/standards/sist/077cd8d-0ce7-4126-b918-35e643fa0775/sist-en-61850-8-1-2011	64
13.4.3	GetDataDirectory.....	64
13.4.4	GetDataDefinition	65
14	Data set class model	65
14.1	Data set class	65
14.2	Data set attributes	65
14.3	Data set services.....	65
14.3.1	GetDataSetValues	65
14.3.2	SetDataSetValues	66
14.3.3	CreateDataSet.....	66
14.3.4	DeleteDataSet	67
14.3.5	GetDataSetDirectory.....	67
15	ServiceTracking model	68
15.1	General	68
15.2	Common Service Tracking – CST	68
15.3	Mapping of the Buffered Report Tracking Service – BTS.....	70
15.4	Mapping of the Unbuffered Report Tracking Service – UTS	71
15.5	Mapping of the Log Control Block Tracking Service Tracking – LTS.....	71
15.6	Mapping of the Log Tracking Service – OTS	72
15.7	Mapping of the GOOSE Control Block Tracking Service – GTS.....	72
15.8	Mapping of the Setting Group Control Block Tracking Service – STS.....	72
15.9	Mapping of the tracking service for MSVCB control block – MTS	73
15.10	Mapping of the tracking service of the USVCB control block – NTS	73
16	Setting group control class model	73

16.1	Setting group control block definition	73
16.2	Setting group control class services	74
16.2.1	SelectActiveSG	74
16.2.2	SelectEditSG	74
16.2.3	SetEditSGValue.....	74
16.2.4	ConfirmEditSGValues	74
16.2.5	GetEditSGValue	75
16.2.6	GetSGCBValues.....	75
17	Reporting and logging class model	75
17.1	Report model – Report control blocks.....	75
17.1.1	Functional Constraint for Report Control Blocks	75
17.1.2	Buffered report control block.....	75
17.1.3	Unbuffered report control block.....	76
17.2	Reporting services	77
17.2.1	Report service	77
17.2.2	GetBRCBValues	79
17.2.3	SetBRCBValues	80
17.2.4	GetURCBValues.....	80
17.2.5	SetURCBValues	80
17.3	Log model	80
17.3.1	General	80
17.3.2	Mapping of log control class	80
17.3.3	Mapping of log class	80
17.3.4	Mapping of log and log control services	85
17.3.5	Conformance	86
18	Mapping of the generic substation event model (GSE)	87
18.1	Generic object oriented substation event (GOOSE)	87
18.1.1	GOOSE control definition	87
18.1.2	GOOSE services	88
19	Transmission of sampled values class model	97
20	Control class model	97
20.1	General	97
20.2	Control service parameters.....	97
20.3	Mapping of control objects and CO_CtrlObjectRef	97
20.4	Mapping of control services	99
20.5	Select.....	100
20.5.1	Select service parameter mapping.....	100
20.5.2	Mapping of the select service	100
20.5.3	Select request	100
20.5.4	Select response+.....	100
20.5.5	Select response-.....	100
20.6	SelectWithValue	101
20.6.1	SelectWithValue service parameter mapping	101
20.6.2	Mapping of the SelectWithValue service	101
20.6.3	SelectWithValue request	102
20.6.4	SelectWithValue response+.....	102
20.6.5	SelectWithValue response-.....	103
20.7	Cancel.....	103

20.7.1	Cancel service parameter mapping.....	103
20.7.2	Mapping of the Cancel service.....	103
20.7.3	Cancel request	104
20.7.4	Cancel response+.....	104
20.7.5	Cancel response-.....	104
20.8	Operate	105
20.8.1	Operate service parameter mapping	105
20.8.2	Mapping of the Operate service	105
20.8.3	Operate request	106
20.8.4	Operate response+.....	106
20.8.5	Operate response-.....	107
20.9	CommandTermination	107
20.9.1	CommandTermination service parameter mapping	107
20.9.2	Mapping of the CommandTermination service	107
20.10	TimeActivatedOperate	108
20.10.1	TimeActivatedOperate service parameter mapping.....	108
20.10.2	Mapping of the TimeActivatedOperate service.....	108
20.10.3	Mapping of the TimeActivatedOperateTermination service	110
20.11	AdditionalCauseDiagnosis in negative control service responses.....	111
21	Time and time synchronization model.....	113
22	Naming conventions.....	113
23	File transfer	114
23.1	File transfer model	114
23.2	File services	115
23.2.1	GetFile.....	115
23.2.2	SetFile.....	117
23.2.3	DeleteFile.....	119
23.2.4	GetFileAttributeValue.....	119
24	Conformance	120
24.1	Notation	120
24.2	PICS	120
24.2.1	Profile conformance.....	120
24.2.2	MMS conformance.....	121
24.3	PICS Statement.....	132
24.3.1	General	132
24.3.2	Logical device	132
24.3.3	GOOSE Services.....	132
24.3.4	Substation configuration language.....	133
25	Substation Configuration Language (SCL).....	133
25.1	SCL file and SCL extensions	133
25.2	General	133
25.3	SCSM specific address element definitions	133
25.3.1	Client/server addressing – element “address”	133
25.3.2	GOOSE addressing	134
25.3.3	GSSE definition	135
25.4	Subnetwork protocol type	135
25.5	SCSM NameSpace.....	135