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System och nät för kommunikation i stationer och ställverk – Del 7-410: Vattenkraftstationer – Kommunikation för övervakning och styrning

*Communication networks and systems for power utility automation –
Part 7-410: Hydroelectric power plants –
Communication for monitoring and control*

Som svensk standard gäller europastandarden EN 61850-7-410:2007. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61850-7-410:2007.

Nationellt förord

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ICS 33.200

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EUROPEAN STANDARD

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**Communication networks and systems for power utility automation -
Part 7-410: Hydroelectric power plants -
Communication for monitoring and control
(IEC 61850-7-410:2007)**

Réseaux et systèmes de communication
pour l'automatisation des services
de distribution d'énergie -
Partie 7-410: Centrales hydroélectriques -
Communication pour la surveillance
et le contrôle-commande
(CEI 61850-7-410:2007)

Kommunikationsnetze und -systeme
für die Automatisierung
in der elektrischen Energieversorgung -
Teil 7-410: Wasserkraftwerke -
Kommunikation für Überwachung,
Regelung und Steuerung
(IEC 61850-7-410:2007)

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

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CENELEC

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

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SEK Svensk Elstandard

Foreword

The text of document 57/886/FDIS, future edition 1 of IEC 61850-7-410, 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 61850-7-410 on 2007-10-01.

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) 2008-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2010-10-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61850-7-410:2007 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 61362	NOTE	Harmonized as EN 61362:1998 (not modified).
IEC 61400-25-2	NOTE	Harmonized as EN 61400-25-2:2007 (not modified).
IEC 61850-7-1	NOTE	Harmonized as EN 61850-7-1:2003 (not modified).
IEC 61850-10	NOTE	Harmonized as EN 61850-10:2005 (not modified).
IEC 61970-301	NOTE	Harmonized as EN 61970-301:2004 (not modified).
IEC 62270	NOTE	Harmonized as EN 62270:2004 (not modified).

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/TS 61850-2	– ¹⁾	Communication networks and systems in substations - Part 2: Glossary	–	–
IEC 61850-5	– ¹⁾	Communication networks and systems in substations - Part 5: Communication requirements for functions and device models	EN 61850-5	2003 ²⁾
IEC 61850-6	– ¹⁾	Communication networks and systems in substations - Part 6: Configuration description language for communication in electrical substations related to IEDs	EN 61850-6	2004 ²⁾
IEC 61850-7-2	2003	Communication networks and systems in substations - Part 7-2: Basic communication structure for substation and feeder equipment - Abstract communication service interface (ACSI)	EN 61850-7-2	2003
IEC 61850-7-3	2003	Communication networks and systems in substations - Part 7-3: Basic communication structure for substation and feeder equipment - Common data classes	EN 61850-7-3	2003
IEC 61850-7-4	2003	Communication networks and systems in substations - Part 7-4: Basic communication structure for substation and feeder equipment - Compatible logical node classes and data classes	EN 61850-7-4	2003

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

CONTENTS

1	Scope.....	9
2	Normative references	9
3	Terms and definitions	10
4	Abbreviations	10
5	Basic concepts for hydropower plant control and supervision	11
5.1	Functionality of a hydropower plant	11
5.2	Principles for water control in a river system	11
5.2.1	General	11
5.2.2	Principles for electrical control of a hydropower plant	12
5.3	Logical structure of a hydropower plant	13
6	Modelling concepts and examples	19
6.1	The concept of Logical Devices	19
6.2	Logical nodes for sensors, transmitters, supervising and monitoring functions.....	19
6.3	Address strings	20
6.4	Naming of logical nodes	21
6.5	Recommended naming structure for automatic control functions	21
6.6	Summary of logical nodes to be used in hydropower plants	22
6.6.1	General	22
6.6.2	Group C – Control functions	23
6.6.3	Group F – Functional blocks	23
6.6.4	Group H – Hydropower specific logical nodes	23
6.6.5	Group I – Interface and archiving.....	24
6.6.6	Group K – Mechanical and non-electrical primary equipment.....	25
6.6.7	Group L – Physical devices and common logical nodes	25
6.6.8	Group M – Metering and measurement.....	25
6.6.9	Group P – Protection functions	25
6.6.10	Group R – Protection related functions	26
6.6.11	Group S – Supervision and monitoring.....	26
6.6.12	Group T – Transducers and instrument transformers	27
6.6.13	Group X – Switchgear.....	27
6.6.14	Group Y – Power transformers	27
6.6.15	Group Z – Power system equipment	28
7	Logical Node Classes	28
7.1	Abbreviations and definitions used in Logical Node tables.....	28
7.1.1	Interpretation of Logical Node tables	28
7.1.2	Abbreviated terms used in Attribute Names	29
7.2	Logical Nodes representing functional blocks LN group F.....	30
7.2.1	Modelling remarks	30
7.2.2	LN: Counter Name: FCNT.....	30
7.2.3	LN: Curve shape description Name: FCSD	30
7.2.4	LN: Generic Filter Name: FFIL	31
7.2.5	LN: Control function output limitation Name: FLIM	31
7.2.6	LN: PID regulator Name: FPID.....	32

7.2.7	LN: Ramp function Name: FRMP	33
7.2.8	LN: Set-point control function Name: FSPT	34
7.2.9	LN: Action at over threshold Name: FXOT	35
7.2.10	LN: Action at under threshold Name: FXUT	35
7.3	Hydropower specific Logical Nodes LN group H	36
7.3.1	Modelling remarks	36
7.3.2	LN: Turbine – generator shaft bearing Name: HBRG	36
7.3.3	LN: Combinator Name: HCOM	36
7.3.4	LN: Hydropower dam Name: HDAM	37
7.3.5	LN: Dam leakage supervision Name: HDLS	37
7.3.6	LN: Gate position indicator Name: HGPI	37
7.3.7	LN: Dam gate Name: HGTE	38
7.3.8	LN: Intake gate Name: HITG	38
7.3.9	LN: Joint control Name: HJCL	39
7.3.10	LN: Leakage supervision Name: HLKG	40
7.3.11	LN: Water level indicator Name: HLVL	40
7.3.12	LN: Mechanical brake Name: HMBR	41
7.3.13	LN: Needle control Name: HNDL	41
7.3.14	LN: Water net head data Name: HNHD	41
7.3.15	LN: Dam over-topping protection Name: HOTP	42
7.3.16	LN: Hydropower/water reservoir Name: HRES	42
7.3.17	LN: Hydropower unit sequencer Name: HSEQ	43
7.3.18	LN: Speed monitoring Name: HSPD	43
7.3.19	LN: Hydropower unit Name: HUNT	44
7.3.20	LN: Water control Name: HWCL	45
7.4	Logical Nodes for interface and archiving LN group I	45
7.4.1	Modelling remarks	45
7.4.2	LN: Safety alarm function Name: ISAF	46
7.5	Logical Nodes for mechanical and non-electric primary equipment LN group K	46
7.5.1	Modelling remarks	46
7.5.2	LN: Fan Name: KFAN	46
7.5.3	LN: Filter Name: KFIL	47
7.5.4	LN: Pump Name: KPMP	47
7.5.5	LN: Tank Name: KTNK	48
7.5.6	LN: Valve control Name: KVLV	48
7.6	Logical Nodes for metering and measurement LN group M	49
7.6.1	Modelling remarks	49
7.6.2	LN: Environmental information Name: MENV	49
7.6.3	LN: Hydrological information Name: MHYD	49
7.6.4	LN: DC measurement Name: MMDC	50
7.6.5	LN: Meteorological information Name: MMET	50
7.7	Logical Nodes for protection functions LN group P	51
7.7.1	Modelling remarks	51
7.7.2	LN: Rotor protection Name: PRTR	52
7.7.3	LN: Thyristor protection Name: PTHF	52
7.8	Logical nodes for protection related functions LN Group R	52
7.8.1	Modelling remarks	52
7.8.2	LN: synchronising or synchro-check device Name: RSYN	52

7.9	Logical Nodes for supervision and monitoring LN group S	54
7.9.1	Modelling remarks	54
7.9.2	LN: temperature supervision Name: STMP	54
7.9.3	LN: vibration supervision Name: SVBR.....	54
7.10	Logical Nodes for instrument transformers and sensors LN group T	55
7.10.1	Modelling remarks	55
7.10.2	LN: Angle sensor Name: TANG	55
7.10.3	LN: Axial displacement sensor Name: TAXD.....	55
7.10.4	LN: Distance sensor Name: TDST	56
7.10.5	LN: Flow sensor Name: TFLW	56
7.10.6	LN: Frequency sensor Name: TFRQ	56
7.10.7	LN: Humidity sensor Name: THUM	57
7.10.8	LN: Level sensor Name: TLEV.....	57
7.10.9	LN: Magnetic field sensor Name: TMGF	57
7.10.10	LN: Movement sensor Name: TMVM.....	57
7.10.11	LN: Position indicator Name: TPOS	58
7.10.12	LN: Pressure sensor Name: TPRS.....	58
7.10.13	LN: Rotation transmitter Name: TRTN	58
7.10.14	LN: Sound pressure sensor Name: TSND	59
7.10.15	LN: Temperature sensor Name: TTMP.....	59
7.10.16	LN: Mechanical tension /stress sensor Name: TTNS.....	59
7.10.17	LN: Vibration sensor Name: TVBR.....	60
7.10.18	LN: Water pH sensor Name: TWPH	60
7.11	Logical Nodes for power system equipment LN group Z	60
7.11.1	Modelling remarks	60
7.11.2	LN: Neutral resistor Name: ZRES	60
7.11.3	LN: Semiconductor rectifier controller Name: ZSCR.....	61
7.11.4	LN: Synchronous machine Name: ZSMC	61
8	Data name semantics	63
9	Common data classes	76
9.1	General.....	76
9.2	Device ownership and operator (DOO)	76
9.3	Maintenance and operational tag (TAG)	76
9.4	Operational restriction (RST).....	77
10	Data attribute semantics.....	77
Annex A (informative) Algorithms used in logical nodes for automatic control		80
Bibliography.....		86
Figure 1 – Structure of a hydropower plant		11
Figure 2 – Principles for the joint control function.....		13
Figure 3 – Water control functions		14
Figure 4 – Water flow control of a turbine.....		15
Figure 5 – Typical turbine control system.....		16
Figure 6 – Excitation system.....		17
Figure 7 – Electrical protections of a generating unit.....		18

Figure 8 – Conceptual use of transmitters	19
Figure 9 – Logical Device Name	20
Figure 10 – Example of naming structure, in a pumped storage plant, based on IEC 61346-1	20
Figure A.1 – Example of curve based on an indexed gate position providing water flow	80
Figure A.2 – Example of curve based on an indexed guide vane position (x axis) vs net head (y axis) giving an interpolated Runner Blade position (Z axis)	81
Figure A.3 – Example of a proportional-integral-derivate controller	82
Figure A.4 – Example of a Power stabilisation system	83
Figure A.5 – Example of a ramp generator	83
Figure A.6 – Example of an interface with a set-point algorithm	84
Figure A.7 – Example of a physical connection to a set-point device	85
Table 1 – Example of Logical Device over-current protection	19
Table 2 – recommended LN prefixes	22
Table 3 – Logical nodes for control functions	23
Table 4 – Logical nodes representing functional blocks	23
Table 5 – Hydropower specific logical nodes	23
Table 6 – Logical nodes for interface and archiving	24
Table 7 – Logical nodes for mechanical and non-electric primary equipment	25
Table 8 – Logical nodes for physical devices and common LN	25
Table 9 – Logical nodes for metering and measurement	25
Table 10 – Logical nodes for protections	26
Table 11 – Logical nodes for protection related functions	26
Table 12 – Logical nodes for supervision and monitoring	26
Table 13 – Logical nodes for sensors	27
Table 14 – Logical nodes for switchgear	27
Table 15 – Logical nodes for power transformers	27
Table 16 – Logical nodes for power system equipment	28
Table 17 – Interpretation of Logical Node tables	28
Table 18 – Conditional attributes in FPID	32
Table 19 – Description of data	63
Table 20 – Semantics of data attributes	78

COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

Part 7-410: Hydroelectric power plants – Communication for monitoring and control

1 Scope

IEC 61850-7-410 is part of the IEC 61850 series. This part of IEC 61850 specifies the additional common data classes, logical nodes and data objects required for the use of IEC 61850 in a hydropower plant.

The Logical Nodes and Data Objects defined in this part of IEC 61850 belong to the following fields of use:

- **Electrical functions.** This group includes LN and DO used for various control functions, essentially related to the excitation of the generator. New LN and DO defined within this group are not specific to hydropower plants; they are more or less general for all types of larger power plants.
- **Mechanical functions.** This group includes functions related to the turbine and associated equipment. The specifications of this document are intended for hydropower plants, modifications might be required for application to other types of generating plants. Some more generic functions are though defined under Logical Node group K.
- **Hydrological functions.** This group of functions includes objects related to water flow, control and management of reservoirs and dams. Although specific for hydropower plants, the LN and DO defined here can also be used for other types of utility water management systems.
- **Sensors.** A power plant will need sensors providing measurements of other than electrical data. With a few exceptions, such sensors are of general nature and not specific for hydropower plants.

NOTE All Logical Nodes with names not starting with the letter "H" will be included in a future edition 2 of IEC 61850-7-4. When that document is published, the Logical Nodes in IEC 61850-7-4 (Edition 2) will take precedence over Logical Nodes with the same name in this part IEC 61850-7-410.

2 Normative references

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:

IEC 61850-2, *Communication networks and systems in substations – Part 2: Glossary*

IEC 61850-5, *Communication networks and systems in substations – Part 5: Communication requirements for functions and device models*

IEC 61850-6, *Communication networks and systems in substations – Part 6: Configuration description language for communication in electrical substations related to IEDs*

IEC 61850-7-2:2003, *Communication networks and systems in substations – Part 7-2: Basic communication structure for substation and feeder equipment – Abstract communication services interface (ACSI)*