



International  
Usersgroup

# IEC 61850 Certificate Level A<sup>1</sup>

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Issued to:

KEPCO-KDN

60, 72Gil, Hyoryeong-Ro, Seocho-gu,  
Seoul 137-862, KOREA

No. 74101721-MOC/INC 12-01301

For the client system:

KDN-STAS

Software Ver. 1.0

Hardware Ver. HP-Z800

OS: Windows 7

Issued by:



The client system has not shown to be non-conforming to:

## IEC 61850-6, 7-1, 7-2, 7-3, 7-4 and 8-1

Communication networks and systems in substations

The conformance test has been performed according to IEC 61850-10 and UCA IUG Conformance Test Procedures for Client System with IEC 61850-8-1 interface, revision 1.1 with TPCL<sup>2</sup> version 1.2 with client system's protocol, model and technical issue implementation conformance statements: "KDN-STAS-PICS-V1.0", "KDN-STAS-MICS-V1.0", "KDN-STAS-TICS-V1.0" and product's extra information for testing: "KDN-STAS-PIXIT-V1.0".

The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1 Basic Exchange (19/22)	12a Direct Control (7/7)
2 Data Sets (4/8)	12b SBO Control (9/9)
2+ Data Set Definition (4/4)	12c Enhanced Direct Control (7/7)
4 Setting Group Selection (3/3)	12d Enhanced SBO Control (9/9)
4+ Setting Group Definition (2/2)	13 Time Synchronization (4/4)
5 Unbuffered Reporting (16/18)	14 File Transfer (6/8)
6 Buffered Reporting (20/22)	

This certificate includes a summary of the test results as carried out at KEMA in the Netherlands with UniCA Multi IED Simulator version 2.0.0.5 and UniCA 61850 Analyzer version 4.25.00. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 74101721-MOC/INC 12-01300 will prevail.

The test has been carried out on one single specimen of the client system as referred above and submitted to KEMA by KEPCO-KDN. The manufacturer's production process has not been assessed. This attestation does not imply that KEMA has approved any product other than the specimen tested.

Arnhem, July 16, 2012

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Regional Director Management & Operations Consulting

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<sup>1</sup> Level A - Independent test lab with certified ISO 9000 or ISO 17025 Quality System

<sup>2</sup> TPCL - Test Procedure Change List



Applicable Test Procedures from the UCA IUG Conformance Test Procedures for Client System with IEC 61850-8-1 interface, revision 1.1 with TPCL version 1.2

Conformance Block	Mandatory	Conditional
1: Basic Exchange	cAss1, cAss2, cAss3, cAss4, cAssN1, cAssN4, cAssN5, cAssN6	cSrv1, cSrv2, cSrv3, cSrv4, cSrv5, cSrv6, cSrv7, cSrvN1, cSrvN3, cSrvN5, cSrvN6
2: Data Sets		cDs1, cDs2, cDs5, cDsN1
2+: Data Set Definition	cDs6, cDsN4	cDs7, cDsN5
4: Setting Group Selection	cSg2, cSgN1	cSg1
4+: Setting Group Definition	cSg3, cSg4	
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRpN2, cRpN3, cRpN7, cRpN8	cRp1, cRp2, cRp6, cRp7, cRpN1, cRpN4
6: Buffered Reporting	cBr3, cBr4, cBr5, cBr8, cBr9, cBr10, cBr11, cBr12, cBrN2, cBrN3, cBrN7, cBrN8, cBrN9	cBr1, cBr2, cBrN1 cBr6, cBr7, cBr13, cBrN4
12a: Direct control	cCtl4, cCtlN1 cDOs1, cDOs2	cCtl1, cCtl2, cCtl3
12b: SBO control	cCtl4, cCtlN1 cSBOs1, cSBOs2, cSBOs3	cCtl1, cCtl2, cCtl3, cSBOs4
12c: Enhanced Direct Control	cCtl4, cCtlN1 cDOes1, cDOes2	cCtl1, cCtl2, cCtl3
12d: Enhanced SBO control	cCtl4, cCtlN1, cSBOes1, cSBOes2, cSBOes3	cCtl1, cCtl2, cCtl3 cSBOes4
13: Time sync	cTm1	cTm2, cTmN1, cTmN2
14: File transfer	cFt1, cFt2, cFt3, cFtN1, cFtN2	cFt5