IEC 61850 Certificate Level A[1]

Issued to:
DAONSYS Limited Company
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For the server product:
Substation Automation Operation Processing Device
DAONSYS SA-HMI
Software Version 1.0
Window Server 2012 R2

Issued by: **KOREA TESTING LABORATORY**

The client system has not shown to be non-conforming to:
IEC 61850 First Edition Parts 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 version 1.2.3 with client system's protocol, model and technical issue implementation conformance statements: "DAONSYS_SA-HMI_PICS_v.1", "DAONSYS_SA-HMI_MICS_v.1", "DAONSYS _SA-HMI_TICS_v.1" and the extra information for testing: "DAONSYS_SA-HMI_PIXIT_v.1".

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 (21/22)		12a	Direct Control (7/7)
2	Data Sets (7/9)		12b	SBO Control (9/9)
2+	Data Set Definition (6/6)		12c	Enhanced Direct Control (7/7)
4	Setting Group Selection (3/4)		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 (5/8)
6	Buffered Reporting (20/22)			

This certificate includes a summary of the test results as carried out at KTL in the Republic of Korea with IEC 61850 Virtual Server with test suite IEC 61850 Client Conformance Verifier1.0 and KEPCO ANALYZER 1.0. This document has been issued for information purposes only, and the original paper copy of KTL report: No. TR-18-063957-01-1 will prevail.

Seoul, Nov. 6, 2018

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1 Level A - Independent Test lab with accredited ISO/IEC 17025 Quality System
2 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 1.2.3

Conformance Block		Mandatory	Conditional
1:	Basic Exchange	cAss1, cAss2, cAss3, cAss4, cAssN1, cAssN4, cAssN5, cAssN6	cAssN7 cSrv1, cSrv2, cSrv3, cSrv4, cSrv5, cSrv6, cSrv7, cSrvN1, cSrvN3, cSrvN4, cSrvN5, cSrvN6
2:	Data Sets		cDs1, cDs2, cDs3, cDs5, cDsN1a, cDsN1b, cDsN2
2+:	Data Set Definition	cDsN4	cDs6a, cDs6b, cDs7a, cDs7b, 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, cBr6, cBr7, cBr13, cBrN1, cBrN4
12a:	Direct control	cCtl4, cCtlN1 cDOns1, cDOns2	cCtl1, cCtl2, cCtl3
12b:	SBO control	cCtl4, cCtlN1 cSBOns1, cSBOns2, cSBOns3	cCtl1, cCtl2, cCtl3, cSBOns4
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	