IEC 61850 Certificate Level A[1]

Issued to:
DAONSYS Limited Company
#1803, M-dong, 32, Songdogwahak-ro,
Yeonsu-gu, Incheon,
Republic of Korea, 21984

For the server product:
Substation Automation Local Information
Processing Device
DAONSYS MSA-LGateway
Software Version 1.0
Hardware : ADVANTEC ECU-4784
OS : Windows Server 2012 R2
S/N : DO-MSA-LGW00100

Issued by: **Korea Testing Laboratory**

The server product has not been 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, the UCA International Users Group Server Device Test Procedures version 3.2, the product's protocol, model and technical issue implementation conformance statements: "DAONSYS_MSA-LGateway_PICS_v.1", "DAONSYS_MSA- LGateway_MICS_v.1", "DAONSYS_MSA-LGateway_TICS_v.1" and the extra information for testing: "DAONSYS_MSA- LGateway_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 (20/25)		12a	Direct Control (4/11)	
2	Data Sets (3/6)		12c	Enhanced Direct Control (6/13)	
2+	Data Set Definition (24/24)		12d	Enhanced SBO Control (11/19)	
5	Unbuffered Reporting (18/18)		13	Time Synchronization (4/5)	
6	Buffered Reporting (25/27)		14	File Transfer (7/7)	
9a	GOOSE Publish (8/12)				
9b	GOOSE Subscribe (10/11)				

This Certificate includes a summary of the test results as carried out at KTL in Republic of Korea with IEC 61850 KTL Testing Tool with test suite IEC 61850 Server Conformance Test V.1.0 and IEC 61850 KTL Trace Manager V.1.0. This document has been issued for information purposes only, and the original paper copy of the KTL report: No. TR-19-082856-04-5 will prevail.

Seoul, Apr. 29, 2020

A. Han

Ah Han
Senior Engineer
Digital New Business Center

Jinyong Kim

Jinyong Kim
Principal Engineer
Digital New Business Center

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

Applicable Test Procedures from the UCA International Users Group Server Device Test Procedures version 3.2.

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3, AssN6 Srv6, Srv7, Srv8, SrvN1e, SrvN1f
2: Data Sets	Dset1, Dset10a, DsetN1ae	
2+: Data Set Definition	Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9 DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14	DsetN15a, DsetN15b
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp9, RpN1, RpN2, RpN3, RpN4, RpN8	Rp5, Rp6, Rp7, Rp8, Rp10, Rp11, Rp12, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br9, Br20, Br21, Br22, Br25, Br26, Br27, Br28 BrN1, BrN2, BrN3, BrN4, BrN5, BrN8	Br5, Br6, Br7, Br8, Br10, Br11, Br12
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop9, Gop10a	Gop1, Gop7, GopN2
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct Control	CtlN3, DOns1	CtlN11, DOns3
12c: Enhanced Direct Control	CtlN3, DOes2, DOes5	CtlN6, CtlN8, CtlN11
12d: Enhanced SBO Control	CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3	Ctl3, CtlN6, CtlN11
13: Time Sync	Tm1, Tm2	TmN1, TmN2
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, Ft3, FtN1c