IEC 61850 Certificate Level A[1]

Issued to:
LS ELECTRIC
127, LS-ro, Dongan-gu, Anyang-si,
Gyeonggi-do, Republic of Korea

For the server product:
Smart Transmission Data Acquisition Unit
ST DAU
IEC 61850 software version: 1.0
Hardware : 1.0
OS : LINUX am335x-evm 3.2.0
S/N: 23K23443730023

Issued by: **Korea Testing Laboratory**

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The server product has not been shown to be non-conforming to:
IEC 61850 Edition 2 with Amendment 1 Parts 6, 7-1, 7-2, 7-3, 7-4, 8-1
Communication networks and systems for power utility automation

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The conformance test has been performed according to IEC 61850-10, name space definition 7-4:2007B5, the UCA International Users Group Edition 2 with Amendment 1 Server Test Procedures version 1.3 ("UCATestProcedureServer 61850-8-1Ed2Amd1_Rev1p3.pdf") with product's protocol, model and tissues implementation conformance statements: "PICS_LS ELECTRIC_ST DAU_Ed.2.1_v1.0", "MICS_LS ELECTRIC_ST DAU_Ed.2.1_v1.0", "TICS_LS ELECTRIC_ ST DAU_Ed.2.1_v1.0" and product's extra information for testing: "PIXIT_ LS ELECTRIC_ST DAU_Ed.2.1_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):

1a	Basic Exchange (22/31)		12a	Direct Control (4/19)
2	Data Sets (7/7)		12d	Enhanced SBO Control (12/29)
2+	Data Set Definition (24/24)		13a	Time Synchronization with SNTP (5/8)
5	Unbuffered Reporting (25/26)		14	File Transfer (6/8)
6	Buffered Reporting (35/36)			

This certificate includes a summary of the test results as carried out at Seoul in the Republic of Korea with IEC 61850 Server Test Tool v1.0 with test suite v1.0 and Wireshark Version 2.9.0-skunkworks.1. This document has been issued for information purposes only, and the original paper copy of the KTL report: No. 25-018975-01-1 will prevail.

The test has been carried out on the specimen[s] of the product as referred above and submitted to KTL by LS ELECTRIC. The manufacturer's production process has not been assessed. This certificate does not imply that KTL has certified or approved any product other than the specimen tested.

Seoul, June 17, 2025

Ah Han
Principal Engineer

YoungKwang Yun
Assistant Research Engineer

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

Korea Testing Laboratory
08389, 87, Digital-ro 26-gil, Guro-gu, Seoul, Rep. of KOREA
Tel: +82-2-860-1474   Fax: +82-2-860-1419

UCA International Users Group
P.O. Box 315, Shell Knob
MO 65747 USA

Applicable Server Test Procedures from the UCA International Users Group Edition 2 Amendment 1 Server Test Procedures version 1.3.

Conformance Block	Mandatory	Conditional
1a: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv6, sSrv8, sSrvN1abcdf, sSrvN4	sAssN6, sSrv17, sSrvN1e, sSrvN2, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs10b, sDs15, sDsN1b, sDsN13
2+: Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs11, sDs12, sDsN11, sDsN12
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRp23, sRpN1, sRpN2, sRpN3, sRpN4, sRpN5, sRpN7, sRpN8, sRpN9	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp13, sRp15
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr23, sBr24, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN7, sBrN8, sBrN9, sBrN10	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr13, sBr15
12a: Direct Control	sCtl5a, sCtl10a, sDOns1, sDOns2	
12d: Enhanced SBO Control	sCtl4d, sCtl5d, sCtl8d, sCtl9d, sCtl10d, sCtl11d, sCtl25d, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl6d
13a: Time Sync SNTP	sTm1, sTm2, sTm7, sTmN1	sTmN2
14: File Transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt3