IEC 61850 Certificate Level A[1]

Issued to:

HD Hyundai Electric Co., Ltd.
477, Bundangsuseo-ro, Bundang-gu,
Seongnam-si, Gyeonggi-do,
Republic of Korea, 13553

For the server product:

Intelligent Switching Device
HiSD
IEC 61850 software version : 2.00
Hardware : HiSD
OS : Linux 4.1.18
S/N: 23-0001

Issued by: **Korea Testing Laboratory**

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

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 ("UCATestProcedureServer61850-8-1Ed2Amd1_Rev1p3.pdf") with product's protocol, model and tissues implementation conformance statements: "HD Hyundai Electric_HiSD_PICS_Server_Ed2.1", "HD Hyundai Electric_HiSD_MICS_Server_Ed2.1", "HD Hyundai Electric_HiSD_TICS_Server_Ed2.1" and product's extra information for testing: "HD Hyundai Electric_HiSD_PIXIT_Server_Ed2.1".
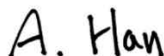
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test):

1a	Basic Exchange (26/31)		12a	Direct Control (6/19)
2	Data Sets (4/7)		12d	Enhanced SBO Control (16/29)
2+	Data Set Definition (24/24)		13a	Time Synchronization with SNTP (5/8)
5	Unbuffered Reporting (25/26)		14	File Transfer (5/8)
6	Buffered Reporting (35/36)		15	Service Tracking (4/19)
9a	GOOSE Publish (12/14)			

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. 25-025494-01-1 will prevail.

The test has been carried out on the specimen[s] of the product as referred above and submitted to KTL by HD Hyundai Electric Co., Ltd. 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 13, 2025

A. Han

Ah Han
Principal Engineer

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

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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, sSrv9, sSrv10, sSrv12, sSrv15, sSrv16, sSrv17, sSrvN1e, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
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
9a: GOOSE Publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12, sGop13	sGop1, sGop6, sGopN1, sGopN2
12a: Direct Control	sCtl5a, sCtl10a, sDOns1, sDOns2	sCtl15a, sCtl29a
12d: Enhanced SBO Control	sCtl4d, sCtl5d, sCtl8d, sCtl9d, sCtl10d, sCtl11d, sCtl25d, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl6d, sCtl7d, sCtl15d, sCtl16d, sCtl26d
13a: Time Sync SNTP	sTm1, sTm2, sTm7, sTmN1	sTmN2
14: File Transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	
15: Service Tracking		sTrk1, sTrk2, sTrk8, sTrk9

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