IEC 61850 Certificate Level A[1]

Issued to:

HANSHIN ELECTRIC Co., Ltd.
42, Sanbon-ro 48beon-gil,
Gunpo-si, Gyeonggi-do,
Republic of Korea, 15846

For the server product:

SA Information Connecting Device ; SA-ICD
HS-ICD
IEC 61850 software version: 1.0
Hardware : ADVANTECH ECU-4784-BTO
OS : Window Server 2019
S/N: HS24-ICD-001

Issued by: **Korea Testing Laboratory**

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

The conformance test has been performed according to IEC 61850-10 Edition 2, the UCA International Users Group Edition 2 Server Test Procedures version 2.0.6 with product's protocol, model and technical issue implementation conformance statements: "PICS_HanShin_HS-ICD_Ed.2.0_v1.0", "MICS_HanShin_HS-ICD_Ed.2.0_v1.0", "TICS_HanShin_HS-ICD_Ed.2.0_v1.0" and the extra information for testing: "PIXIT_HanShin_HS-ICD_Ed.2.0_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):

1	Basic Exchange (23/26)	12a	Direct Control (5/18)
2	Data Sets (7/7)	12d	Enhanced SBO Control (12/28)
2+	Data Set Definition (24/24)	13	Time Sync (4/7)
5	Unbuffered Reporting (22/23)	14	File Transfer (8/8)
6	Buffered Reporting (32/33)	15	Service Tracking (4/17)

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. 25-000679-01-4 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KTL by HANSHIN 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, April 28, 2025

A. Han

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

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Device Test Procedures version 2.0.6

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcdf, sSrvN4	sAssN6, sSrv6, sSrv9, sSrv10, 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, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp13, sRp15, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr13, sBr15, sBr23, sBr24
12a: Direct Control	sCtl5a, sCtl10a, sDOns1, sDOns2	sCtl16a
12d: Enhanced SBO Control	sCtl5d, sCtl8d, sCtl9d, sCtl10d, sCtl11d, sCtl25d, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl6d, sCtl16d
13: Time Sync	sTm1, sTm2, sTmN1	sTmN2
14: File Transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFt3, sFtN1c
15: Service Tracking		sTrk1, sTrk2, sTrk8, sTrk9