

IEC 61850 Certificate Level A¹

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No. 21-040748-01-1

Issued to:
Hyosung Heavy Industries Co., Ltd.
119, Mapo-daero (Gongdeok-dong)
Mapo-gu, Seoul,
Republic of Korea

For the server product:
SA Information Collecting Device ; SA-ICD
HS-TNM-61850S-001
Software Version 1.0
HW : Lenovo ThinkSystem SR530
OS : CentOS
S/N : HS-TNM-61850S-00001

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 2.0.5 with product's protocol, model and technical issue implementation conformance statements: "Hyosung Heavy Industries_SA-ICD_PICS_v.1.0", "Hyosung Heavy Industries_SA-ICD_MICS_v.1.0", "Hyosung Heavy Industries_SA-ICD_TICS_v.1.0" and product's extra information for testing: "Hyosung Heavy Industries_SA-ICD_PIXIT_v.1.0".

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 (19/26)	6	Buffered Reporting (29/33)
2	Data Sets (4/7)	13	Time Synchronization (4/7)
2+	Data Set Definition (24/24)	14	File Transfer (5/8)

This Certificate includes a summary of the test results as carried out at Korea Testing Laboratory in Republic of Korea with IEC 61850 Ed2 KTL Testing Tool 1.0 with test suite IEC 61850 Ed2 Server Conformance Test V.1.0 and IEC 61850 Ed2 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- 21-040748-01-1 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KTL by Hyosung Heavy Industries 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, Oct. 13, 2021

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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 Server Device Test Procedures version 2.0.5

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrvN1e
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
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, sBr15
13 Time sync	sTm1, sTm2, sTmN1	sTmN2
14 File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	