IEC 61850 Certificate Level A[1]

Issued to:
KMDATA INC.
505-2, Daeryung Techno Town 1-cha 18,
Gasan Digital 2-ro, Geumcheon-gu,
Seoul, Republic of Korea

For the server product:
154kV T/L Protection IED
T-IED K-110L
IEC 61850 software version: 2.01
Hardware : T-IED K-110L
OS : Linux 4.1.18
S/N: 24-0007

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: "KMDATA_T-IED K-110L_PICS_Ed.2.1_v.1.0", "KMDATA_T-IED K-110L_MICS_Ed.2.1_v.1.0", "KMDATA_T-IED K-110L_TICS_Ed.2.1_v.1.0" and product's extra information for testing: "KMDATA_T-IED K-110L_PIXIT_Ed.2.1_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):

1a	Basic Exchange (26/31)		9b	GOOSE Subscribe (28/29)
2	Data Sets (4/7)		12a	Direct Control (9/19)
2+	Data Set Definition (24/24)		12d	Enhanced SBO Control (16/29)
4	Setting Group Selection (5/5)		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 (6/19)
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. 25-026679-01-1 will prevail.

The test has been carried out on the specimen[s] of the product as referred above and submitted to KTL by KMDATA INC. 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, July 11, 2025

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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, sSrv10, sSrv12, sSrv15, sSrv16, sSrv17, sSrvN1e, sSrvN2, 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
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11, sSg13
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
9b: GOOSE Subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGos14, sGos15, sGos16, sGos17, sGos20, sGos21, sGos22, sGos23, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6, sGosN7	sGos4, sGos6b
12a: Direct Control	sCtl5a, sCtl10a, sDOns1, sDOns2	sCtl2a, sCtl7a, sCtl13a, sCtl15a, sCtl16a
12d: Enhanced SBO Control	sCtl4d, sCtl5d, sCtl8d, sCtl9d, sCtl10d, sCtl11d, sCtl25d, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2d, 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, sTrk10, sTrk11