

IEC 61850 Certificate Level A¹

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

For the server product:
IEC 61850 IED (Intelligent Electronic Device)
T-IED 170kV
Software Version 2.0.0
HW : T-IED 170kV
OS : GNU/Linux armv71 ver. 4.1.18
S/N : TIED170-60-2305001

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: "KMDATA_T-IED 170kV_PICS_v.1.0", "KMDATA_T-IED 170kV_MICS_v.1.0", "KMDATA_T-IED 170kV_TICS_v.1.0" and the extra information for testing: "KMDATA_T-IED 170kV_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 (23/26)	9b	GOOSE Subscribe (20/20)
2	Data Sets (4/7)	12a	Direct Control (10/19)
2+	Data Set Definition (24/24)	12d	Enhanced SBO Control (15/29)
4	Setting Group Selection (4/4)	13	Time Sync (4/7)
5	Unbuffered Reporting (22/23)	14	File Transfer (5/8)
6	Buffered Reporting (32/33)	15	Service Tracking (7/17)
9a	GOOSE Publish (8/13)		

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-23-029992-01-1 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KTL by 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, May 24, 2023

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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, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv10, sSrv12, 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
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
9a: GOOSE Publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1
9b: GOOSE Subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGos23, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b
12a: Direct Control	sCtl5a, sCtl10a, sDOns1, sDOns2	sCtl2a, sCtl7a, sCtl13a, sCtl15a, sCtl16a, sCtl21a
12d: Enhanced SBO Control	sCtl5d, sCtl8d, sCtl9d, sCtl10d, sCtl11d, sCtl25d, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2d, sCtl4d, sCtl7d, sCtl15d, sCtl16d
13: Time Sync	sTm1, sTm2, sTmN1	sTmN2
14: File Transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	
15: Service Tracking		sTrk1, sTrk2, sTrk8, sTrk9, sTrk10, sTrk11, sTrk13