



IEC 61850 Certificate Level A¹

No. 30107072-Consulting 10-2513

Issued to:
KEPCO KDN Co., Ltd.
1355 Seocho 2 Dong, Seocho Gu
Seoul, 137-862
South Korea

For the product:
Kipro-T
Version 1.0
Main Transformer Protection IED with
protection, monitoring, control, and
interlocking



The product has not shown to be non-conforming to:
IEC 61850-6, 7-1, 7-2, 7-3, 7-4 and 8-1
Communication networks and systems in substations

The conformance test has been performed according to IEC 61850-10 with product's protocol, model and technical issue implementation conformance statements: "IEC 61850_PICS_Kipro-F_20101116", "IEC 61850_MICS_Kipro-F_20101116", "IEC 61850_TICS_Kipro-F_20101116" and product's extra information for testing: "IEC 61850_PIXIT_Kipro-F_20101116".

The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases as defined in the UCA International Users Group Device Test procedures v2.2):

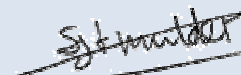
| | |
|--------------------------------|-------------------------------|
| 1 Basic Exchange (20/24) | 9a GOOSE Publish (7/12) |
| 2 Data Sets (3/6) | 9b GOOSE Subscribe (9/10) |
| 2+ Data Set Definition (23/29) | 12a Direct Control (7/11) |
| 5 Unbuffered Reporting (15/18) | 13 Time Synchronization (3/4) |
| 6 Buffered Reporting (17/20) | 14 File Transfer (4/7) |

This Certificate includes a summary of the test results as carried out at KEPRI in Republic of Korea with UniCasim 61850 version 3.21.02 with test suite version 3.21.00 and UniCA 61850 analyzer 4.21.03. The test is based on the UCA International Users Group Device Test Procedures version 2.2. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 30107072 Consulting 10-2512 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KEMA by KEPCO-KDN. The manufacturer's production process has not been assessed. This Certificate does not imply that KEMA has certified or approved any product other than the specimen tested.

Arnhem, December 7, 2010


M. A. Jansen
Manager Intelligent Networks and Communication


S.J.T. Mulder
Senior Test Engineer

1 Level A - Independent Test lab with certified ISO 9000 or ISO 17025 Quality System

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Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.2

| Conformance Block | Mandatory | Conditional |
|-------------------------|--|--|
| 1: Basic Exchange | Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4 | Srv6, Srv7, Srv8, SrvN1e, SrvN2, SrvN3 |
| 2: Data Sets | Dset1, Dset10a, DsetN1ae | |
| 2+: Data Set Definition | Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9 DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14, DsetN15 | |
| 5: Unbuffered Reporting | Rp1, Rp2, Rp3, Rp4, Rp7, Rp10 RpN1, RpN2, RpN3, RpN4 | Rp5, Rp6, Rp8, Rp9, RpN5 |
| 6: Buffered Reporting | Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12 BrN1, BrN2, BrN3, BrN4, BrN5 | Br5, Br6, Br10, Br11 |
| 9a: GOOSE publish | Gop2, Gop3, Gop4, Gop7 | Gop1, Gop10, GopN1 |
| 9b: GOOSE subscribe | Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6 | |
| 12a: Direct control | CltN3, CtlN8, DOns1, DOns3 | Ctl2, Ctl7, CtlN11 |
| 13: Time sync | Tm1, Tm2, TmN1 | |
| 14: File transfer | Ft1, Ft2ab, FtN1ab | Ft4, FtN1c |