



IEC 61850 Certificate Level A¹

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No. 30820245-Consulting 08-2690

Issued to:
HYOSUNG Corporation
454-2 Nae-Dong
Changwon
Korea (641-712)

For the product:
T-LU Local Unit for Transformer
Firmware version: 3.0
Hardware version: 1.0



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: "T-LU Protocol Implementation Conformance Statement (PICS), version 1.0", "T-LU Model Implementation Conformance Statement (MICS), version 1.0", "T-LU Tissues Conformance Statement (TICS), version 1.0" and product's extra information for testing: "T-LU Protocol Implementation eXtra Information for Testing (PIXIT), version 1.1".

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 test procedures revision 2.2):

1 Basic Exchange (19/24)	6 Buffered Reporting (18/20)
2+ Data Set Definition (25/28)	13 Time Synchronization (3/4)
5 Unbuffered Reporting (16/17)	

This Certificate includes a summary of the test results as carried out at KEMA in the Netherlands with UniCAsim 61850 version 3.18.00 with test suite 3.18.00 and UniCA 61850 analyzer 4.18.01. The test is based on the "Conformance Test Procedures for Server Devices with IEC 61850-8-1 interface, revision 2.2". This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 30820245-Consulting 08-2689 will prevail.

The test has been carried out on one single specimen of the products as referred above and submitted to KEMA by HYOSUNG. 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, 4 December 2008

W. Strabbing
Manager Intelligent Networks and Communication

E.F. Melenhorst
Senior Test Engineer

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

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Relevant and executed test cases from the "Conformance Test Procedures for Server Devices with IEC 61850-8-1 interface, revision 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, SrvN3
2+: Data Set Definition	Dset1, Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9, Dset10a, DsetN1acde, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14, DsetN15	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp8 RpN1, RpN2, RpN3, RpN4	Rp5, Rp6, Rp9, Rp10, RpN5, RpN6
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br10, Br12 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br6, Br11, BrN6
13: Time sync	Tm1, Tm2, TmN1	