



# IEC 61850 Certificate Level A<sup>1</sup>

Ref. No: 2016TS03528

Issued to:  
**HYOSUNG Corporation**  
119, Mapo-daero, Mapo-gu, Seoul  
Republic of Korea, 04144

For the server product:  
**HS-CSD**  
**Controlled Switching Device**  
**Firmware version 1.001A**

Issued by:  
**Korea Electrotechnology Research Institute**  
111, Hanggaul-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, 15588, Republic of Korea

The server product has not been shown to be non-conforming to:  
**IEC 61850 First Edition Parts 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, UCA International Users Group Device Test Procedures version 3.03, the product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in <HS-CSD>, v1.0", "Model Implementation Conformance Statement for the IEC 61850 interface in <HS-CSD>, v1.0", "TISSUES Implementation Conformance Statement for the IEC 61850 interface in <HS-CSD>, v1.0" and product's extra information for testing "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in <HS-CSD>, v1.0".

The following IEC 61850 conformance blocks are tested with a positive result (number of relevant and executed test cases / total number of test cases) :

|                                |                               |
|--------------------------------|-------------------------------|
| 1 Basic Exchange (21/24)       | 13 Time Synchronization (4/5) |
| 2 Data Sets (3/6)              | 14 File Transfer (4/7)        |
| 2+ Data Set Definition (24/24) |                               |
| 6 Buffered Reporting (25/27)   |                               |

This Certificate includes a summary of the test results as carried out at KERI in Republic of Korea with UniCA 61850 Client simulator version 4.29.03 with test suite version 3.29.03(TP 3.0) and UniCA 61850 analyzer version 5.31.00. This document has been issued for information purposes only, and the original paper copy of the KERI report: 2016TS03528 will prevail.

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

Republic of Korea, December 5, 2016

Y. J. Lee  
Executive Director  
Power Apparatus Testing and Evaluation Division

J. I. Jeong  
Technical Manager

<sup>1</sup> Level A – Independent Tester with certified ISO 17025 Quality System





Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 3.03

| Conformance Block        | Mandatory  | Conditional  |
|--------------------------|--|--|
| 1: Basic Exchange        | Ass1, Ass2, Ass3, AssN2, AssN4, AssN5<br>Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4  | AssN3<br>Srv6, Srv7, Srv8, SrvN1e, SrvN1f,<br>SrvN2, SrvN3 |
| 2: Data Sets             | Dset1, Dset10a, DsetN1ae   |  |
| 2+: Data Sets Definition | Dset2, Dset3, Dset4, Dset5, Dset6, Dset7,<br>Dset8, Dset9<br>DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5,<br>DsetN6, DsetN7, DsetN8, DsetN9, DsetN10,<br>DsetN11, DsetN12, DsetN13, DsetN14 | DsetN15a, DsetN15b   |
| 6: Buffered Reporting    | Br1, Br2, Br3, Br4, Br9, Br20, Br21, Br22, Br25,<br>Br26, Br27, Br28<br>BrN1, BrN2, BrN3, BrN4, BrN5, BrN8   | Br5, Br6, Br7, Br8, Br10, Br11, Br12                       |
| 13: Time sync            | Tm1, Tm2   | TmN1, TmN2   |
| 14: File transfer        | Ft1, Ft2ab, Ft4, FtN1ab  |  |