

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

No. 23TC200184

Issued to:  
**Sanion Co, Ltd.**  
**13, Geomdan-ro, 114-gil, Seo-gu, Incheon, 22663,**  
**Republic of Korea**

For the server product:  
**Protection IED (SUR5000-LP)**  
**MPU version: 1.00**  
**DSP version: 1.00**  
**IEC 61850 version: 1.00/Ed2.0**

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

**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 2.0.5 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in <<SUR5000-LP\_PICS v.1.0>>", "Model Implementation Conformance Statement for the IEC 61850 interface in <<SUR5000-LP\_MICS v.1.0>>", "TISSUES Implementation Conformance Statement for the IEC 61850 interface in <<SUR5000-LP\_TICS v.1.0>>" and product's extra information for testing: "Protocol Implementation eXtra Information for Testing for the IEC 61850 interface in <<SUR5000-LP\_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 (19/26)        | 9a  | GOOSE Publish (9/13)         |
| 2  | Data Sets (4/7)               | 9b  | GOOSE Subscribe (20/20)      |
| 2+ | Data Set Definition (24/24)   | 12a | Direct Control (8/19)        |
| 4  | Setting Group Selection (4/4) | 12d | Enhanced SBO Control (16/29) |
| 5  | Unbuffered Reporting (22/23)  | 13  | Time Synchronization (4/7)   |
| 6  | Buffered Reporting (32/33)    | 14  | File Transfer (5/8)          |
|    |                               | 15  | Service Tracking (7/17)      |

This certificate includes a summary of the test results as carried out at KERI in Republic of Korea with UniGrid v.2.0.1 with test suite Ed2\_Server\_TP2.0.5\_v1.1.1+755 and UniCA Analyzer v.5.40.01. This document has been issued for information purposes only, and the original paper copy of the KERI report: No. 23TC200184 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KERI by Sanion Co., Ltd. The manufacturer's production process has not been assessed. This certificate does not imply that KERI has certified or approved any product other than the specimen tested.

Republic of Korea, March 28, 2023



J. H. Kim  
Technical Manager  
Power Apparatus Testing and Evaluation Division



S. J. Rim  
Principal Engineer

<sup>1</sup> Level A - Independent Test lab with certified ISO/IEC 17025 Quality System  
UCA Users Group, P.O. Box 315, Shell Knob, MO 65747, USA



Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test  
Procedures version 2.0.5

| Conformance Block          | Mandatory   | Conditional  |
|----------------------------|---|--|
| 1: Basic Exchange          | sAss1, sAss2, sAss3, sAss4, sAssN2,<br>sAssN3, sAssN4, sAssN5, sSrv1, sSrv2,<br>sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcdf,<br>sSrvN4                          | sAssN6, sSrv6, sSrv12  |
| 2: Data Sets               | sDs1, sDs10a, sDsN1ae   | sDs15  |
| 2+: Data Set Definition    | sDs2, sDs3, sDs4, sDs5, sDs6, sDs7,<br>sDs8, sDs9, sDs13, sDs14, sDsN1cd,<br>sDsN2, sDsN3, sDsN4, sDsN5, sDsN6,<br>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,<br>sRp14, sRp16, sRpN1, sRpN2, sRpN3,<br>sRpN4, sRpN8   | sRp6, sRp7, sRp8, sRp10, sRp11,<br>sRp12, sRp13, sRp15, sRpN5        |
| 6: Buffered Reporting      | sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14,<br>sBr16, sBr20, sBr21, sBr22, sBr25, sBr26,<br>sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3,<br>sBrN4, sBrN5, sBrN8 | sBr6, sBr7, sBr8, sBr10, sBr11,<br>sBr12, sBr13, sBr15, sBr23, sBr24 |
| 9a: GOOSE publish          | sGop2a, sGop3, sGop4, sGop9, sGop10,<br>sGop11, sGop12  | sGop1, sGop5   |
| 9b: GOOSE subscribe        | sGos1, sGos2, sGos3, sGos5, sGos6a,<br>sGos7, sGos8, sGos9, sGos10, sGos11,<br>sGos12, sGosN1, sGosN2, sGosN3,<br>sGosN4, sGosN5, sGosN6                    | sGos4, sGos6b, sGos13  |
| 12a Direct control         | sCtl5, sCtl10, sDOns1, sDOns2   | sCtl7, sCtl13, sCtl15, sCtl16  |
| 12d Enhanced SBO control   | sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25,<br>sSBOes1, sSBOes2, sSBOes6, sSBOes8  | sCtl4, sCtl6, sCtl7, sCtl15, sCtl16,<br>sCtl20                       |
| 13 Time sync               | sTm1, sTm2, sTmN1   | sTmN2  |
| 14 File transfer           | sFt1, sFt2ab, sFt4, sFt5, sFtN1ab   |  |
| 15 Service tracking        |   | sTrk1, sTrk2, sTrk7, sTrk8, sTrk9,<br>sTrk10, sTrk11                 |

