**UCA** International Users Group

**DNV**

# IEC 61850 Certificate Level A[1]

**Issued to:**
Siemens AG, SI EA
Wernerwerkdamm 5
13629 Berlin
Germany

**For the server product**:
SIPROTEC
7SJ66 Multifunction protection
Software version: 4.40
S/N: GF2103502856

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, extra information and technical issue implementation conformance statements: "SIEMENS SIPROTEC 7SJ66 IEC61850 PIXIT, PICS, TICS, C53000-G1140-C383-3" and the model information for testing: "Model Implementation Conformance Statement (MICS) according to IEC 61850, Mapping family 7SJ6XX, Mapping version 1 Revision 9".

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):

| | | | | |
|---|---|---|---|---|
| 1 | Basic Exchange (23/26) | | 9a | GOOSE Publish (11/13) |
| 2 | Data Sets (4/7) | | 9b | GOOSE Subscribe (18/20) |
| 2+ | Data Set Definition (24/24) | | 12a | Direct Control (5/18) |
| 4 | Setting Group Selection (4/4) | | 12c | Enhanced Direct Control (5/20) |
| 5 | Unbuffered Reporting (21/23) | | 12d | Enhanced SBO Control (15/28) |
| 6 | Buffered Reporting (31/33) | | 13 | Time Synchronization (5/7) |
| | | | 14 | File Transfer (5/8) |

This certificate includes a summary of the test results as carried out at DNV in China with UniGrid SA Simulator 2.1.0 with test suite 20220718.1 and UniCA 61850 Analyzer 6.41.00. This document has been issued for information purposes only, and the archived DNV verification report No. 10358143-DSO 22-3103 rev 2 will prevail.

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

Arnhem, August 26, 2022

**G. Akse**
Business Development Manager
Interoperability of Smart Power Systems

**Issued by:**

**DNV**

**R. Schimmel**
Verification Manager

[1] Level A - Independent test lab with certified ISO 9001 Quality System

UCA International Users Group  P.O. Box 315, Shell Knob, MO 65747 USA

# IEC 61850 Certificate Level A

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, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcdf, sSrvN4 | sAssN6, sSrv6, sSrv9, sSrv10, Srv12, sSrvN1e, 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, 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, sBr15, sBr23, sBr24 |
| 9a: GOOSE publish | sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12 | sGop1, sGop6, sGopN1, sGopN2 |
| 9b: GOOSE subscribe | sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6 | sGos13 |
| 12a: Direct control | sCtl5, sCtl10, sDOns1, sDOns2 | sCtl16 |
| 12c: Enhanced Direct Control | sCtl5, sCtl10, sDOes1, sDOes2 | sCtl16 |
| 12d: Enhanced SBO Control | sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8 | sCtl4, sCtl6, sCtl7, sCtl16, sCtl26 |
| 13: Time sync | sTm1, sTm2, sTmN1 | sTm3, sTmN2 |
| 14: File transfer | sFt1, sFt2ab, sFt4, sFt5, sFtN1ab | |