



IEC 61850 Certificate Level A¹

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No. 3082035-Consulting 09-1116

Issued to:
Siemens A.G., PTD EA
Protection and Substation Control Systems
Wernerwerkdamm 5
D-13623 Berlin
Germany

For the product:
Siprotec V4
7SK80 Motor protection
Firmware V04.60
EN100 V04.03



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: "SIPROTEC 4 Ethernet Module EN100 IEC 61850 Electrical / Optical Interface 100 MBit Manual, Edition May 2007, C53000-G1100-C167-7", "MICS, Mapping family 7SX8XX, Mappingversion 1 Revision 0" and product's extra information for testing: "SIPROTEC Multi-Functional Protectiv Relays 7SJ61...7SJ64 V4.7 Overcurrent Protection 7SJ80 V4.6 Motor Protection 7SK80 V4.6 IEC 61850 PIXIT, C53000-G1140-C211-2"

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 (19/24) | 9a GOOSE Publish (7/12) |
| 2+ Data Set Definition (26/29) | 9b GOOSE Subscribe (9/10) |
| 4 Setting Group Selection (2/3) | 12a Direct Control (5/12) |
| 5 Unbuffered Reporting (16/18) | 12c Enhanced Direct Control (4/13) |
| 6 Buffered Reporting (17/20) | 12d Enhanced SBO Control (12/20) |
| 6+ Enhanced buffered reporting (12/12) | 13 Time Synchronization (3/5) |
| | 14 File Transfer (4/7) |

This Certificate includes a summary of the test results as carried out at Berlin in Germany with UniCASim 61850 version 3.18 with test suite 3.18.01 and UniCA 61850 analyzer 4.18. 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. 3082035-Consulting 09-1115 will prevail.

The test has been carried out on one single specimen of the products as referred above and submitted to KEMA by Siemens. 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, June 5, 2009

W. Strassburg
Manager intelligent Networks and Communication

R. Schimmel
Certification Manager

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, 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 | |
| 4: Setting Group Selection | Sg1, SgN1a | |
| 5: Unbuffered Reporting | Rp1, Rp2, Rp3, Rp4, Rp7, Rp10 RpN1, RpN2, RpN3, RpN4 | Rp5, Rp6, Rp8, Rp9, Rp11 RpN5 |
| 6: Buffered Reporting | Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12 BrN1, BrN2, BrN3, BrN4, BrN5 | Br5, Br10, Br11, Br13 |
| 6+: Enhanced buffered reporting (tissue #453) | BrE1, BrE2, BrE3, BrE6, BrE7, BrE8, BrE9, BrE10, BrE11 | BrE4, BrE5, BrE12 |
| 9a: GOOSE publish | Gop2, Gop3, Gop4, Gop7, Gop9 | Gop1, GopN1 |
| 9b: GOOSE subscribe | Gos1, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6 | |
| 12a: Direct control | CltN3, CltN8 DOs1, DOs3 | Ctl2 |
| 12c: Enhanced Direct Control | CltN3, CltN8 DOes2, DOes5 | |
| 12d: Enhanced SBO control | Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3 | Ctl2, Ctl7, CtlN11 |
| 13: Time sync | Tm1, Tm2, TmN1 | |
| 14: File transfer | Ft1, Ft2ab, FtN1ab | Ft4 |