



IEC 61850 Certificate Level A¹

International Usersgroup

No. 30720460-Consulting 07-1365

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

For the product:
Siprotec V4
6MD66 High Voltage Bay Unit
Firmware V04.70
EN100 V04.00



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 6MD66x_6.ixd, Mappingversion 1 Revision 12" and product's extra information for testing: "SIPROTEC High Voltage Bay Control Unit 6MD66x V4.6 IEC 61850 PIXIT, C53000-G1176-C178-4".

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) | 9ab Generic Object Oriented Substation Event (16/22) |
| 2+ Data Set Definition (26/29) | 12a Direct Control (5/12) |
| 5 Unbuffered Reporting (15/18) | 12d Enhanced SBO Control (12/20) |
| 6 Buffered Reporting (16/20) ² | 13 Time Synchronization (3/5) |
| | 14 File Transfer (4/7) |

This Certificate includes a summary of the test results as carried out at in with UniCAsim 61850 version 3.16.00 with test suite 3.16.01 and UniCA 61850 analyzer 4.15. 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. 30720460-Consulting 07-1364 will prevail.

The tests have been carried out on one single specimen of the product 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, October 11, 2007

S.J.L.M. Janssen
Managing Director KEMA Consulting

R. Schimmel
Certification Manager

¹ Level A - Independent Test lab with certified ISO 9000 or ISO 17025 Quality System
² Buffered reporting may cause interoperability issues due to implementation of tissue #453



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 | |
| 5: Unbuffered Reporting | Rp1, Rp2, Rp3, Rp4, Rp7, Rp10 RpN1, RpN2, RpN3, RpN4 | Rp5, Rp6, RpN5, Rp8, Rp9, Rp11 |
| 6: Buffered Reporting ³ | Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, BrN1, BrN2, BrN3, BrN4, BrN5 | Br5, Br10, Br11, Br13 |
| 9a: GOOSE publish | Gop2, Gop3, Gop4, Gop7, Gop10 | Gop1, GopN1 |
| 9b: GOOSE subscribe | Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6 | |
| 12a Direct control | CtlN3, CtlN8 DOs1, DOs3 | Ctl2 |
| 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, Ft4, FtN1ab | |

³ Buffered reporting tissue #453 has successfully been tested, compare test report for details