IEC 61850 Certificate Level A[1]

No. 30720460-Consulting 07-1379

Issued to:

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

For the product:

Siprotec V4
7SS52 Distributed Busbar and Circuit-Breaker Failure Protection Relay
Firmware V04.61
EN100 V04.00

Issued by: **KEMA**

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 7SS52, Mappingversion 1 Revision 1" and product's extra information for testing: "SIPROTEC Distributed Busbar/Breaker Failure Protection 7SS52 V4.6 IEC 61850 PIXIT, C53000-G1176-C180-3".

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 (16/24)	9ab	Generic Object Oriented Substation Event (15/21)
2+	Data Set Definition (26/29)	12a	Direct Control (5/12)
4	Setting Group Selection (2/3)	13	Time Synchronization (3/5)
5	Unbuffered Reporting (15/18)	14	File Transfer (4/7)
6	Buffered Reporting (16/20)[2]		

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 2.0. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 30720460-Consulting 07-1378 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, Srv8
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, RpN5, Rp8, Rp9
6: Buffered Reporting[3]	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10, Br11
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7	Gop1, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	
12a Direct control	CtlN3, CtlN8 DOns1, DOns3	Ctl2
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