IEC 61850 Certificate Level A[1]

No. 74106308-OPE/INC 14-2728

Issued to:
Siemens AG, IC SG EA
Protection and Substation Control Systems
Wernerwerkdamm5
D-13623 Berlin
Germany

For the server product:
SIPROTEC V4
7VU683 High Speed Busbar Transfer
Firmware V04.70
EN100 Communication Module V04.23

Issued by: **KEMA** / DNV

The server product has not shown to be non-conforming to:

IEC 61850 First Edition Parts 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, the UCA International Users Group Server Device Test Procedures version 2.3 with TPCL[2] version 1.7.4, the product's protocol, model, technical issue implementation conformance statements and the extra information for testing: "SIPROTEC Model Implementation Conformance Statement (MICS), Mapping family 7UT6, Mapping version 1 revision 5" and "Siemens SIPROTEC 4 SIPROTEC Compact Reyrolle IEDs EN100 Communication Module IEC 61850 PIXIT, PICS, TICS Manual, C53000-G1140-C385-2".

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):

1	Basic Exchange (20/24)		9a	GOOSE Publish (10/13)
2	Data Sets (3/6)		9b	GOOSE Subscribe (11/11)
2+	Data Set Definition (23/23)		12a	Direct Control (5/11)
4	Setting Group Selection (3/3)		12c	Enhanced Direct Control (6/13)
5	Unbuffered Reporting (16/19)		12d	Enhanced SBO Control (12/19)
6	Buffered Reporting (18/21)		13	Time Synchronization (5/5)
6+	Enhanced buffered reporting (12/12)		14	File Transfer (4/7)

This certificate includes a summary of the test results as carried out at Siemens in China with UniCA 61850 Client Simulator 4.28.05 with test suite 3.28.02 and UniCA 61850 Analyzer 5.28.04. This document has been issued for information purposes only, and the original paper copy of the DNV KEMA report No. 74106308-OPE/INC 14-2727 will prevail.

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

Arnhem, September 30, 2014

M. Adriaensen
Head of Department Operational Excellence

R. Schimmel
Certification Manager

[1] Level A - Independent test lab with certified ISO 9001 Quality System
[2] TPCL - Test procedures change list

Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL version 1.7.4.

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3 Srv6, Srv7, Srv8, SrvN1e, SrvN1f, 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, Sg3, SgN1a	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12 RpN1, RpN2, RpN3, RpN4	Rp5, Rp6, Rp8, Rp9, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br6, Br10, Br11
6+: Enhanced Buffered Reporting	BrE1, BrE2, BrE3, BrE6, BrE7, BrE8, BrE9, BrE10, BrE11	BrE4, BrE5, BrE12
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop7, Gop9, Gop10a	Gop1, Gop6, Gop10b, GopN1
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b, Gos4
12a: Direct Control	CtlN3 DOns1	Ctl2, CtlN11 DOns3
12c: Enhanced Direct Control	CtlN3, CtlN8 DOes2, DOes5	Ctl2, CtlN11
12d: Enhanced SBO Control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3	Ctl2, Ctl7, CtlN11
13: Time Sync	Tm1, Tm2	Tm3, TmN1, TmN2
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	