IEC 61850 Certificate Level A[1]

No. 30630033-Consulting 2006-0398

Issued to:

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

For the product:

Siprotec V4
7UM62 Multifunction Generator
Protection Relay
Firmware V04.61.01
EN100 V03.07.01

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, version 1.5.1, Edition February 2006, C53000-G1140-C167-6", "MICS, Mapping family 7UM62, Mappingversion 1 Revision 4" and product's extra information for testing: "SIPROTEC Multifunctional Generator, Motor and Transformer Protection 7UM62 V4.6 IEC 61850 PIXIT, Edition 21-06-06, C53000-G1176-C181-2".

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):

1	Basic Exchange	(19/23)	12a	Direct Control	(6/11)
2+	Data Set Definition	(25/28)	12d	Enhanced SBO Control	(11/17)
4	Setting Group Selection	(2/3)	13	Time Synchronization	(3/4)
5	Unbuffered Reporting	(12/13)	14	File Transfer	(3/6)
9a	GOOSE Publish	(5/11)			
9b	GOOSE Subscribe	(9/9)			

This Certificate includes a summary of the test results as carried out at the KEMA laboratory at Arnhem, The Netherlands, with UniCAsim 61850 version 2.14.00 test system running test suite "61850 Conformance Test 2.13.10", UniCAsim GOOSE version 2.13.00 with test suite "GOOSE conformance Test version 2.12.05" and UniCA 61850 analyzer version 4.13.02. The test is based on the UCA International Users Group Device Test Procedures version 1.1. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 30630033-Consulting 2006-0399 will prevail.

The tests have 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, May 18, 2006

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

E.F. Melenhorst
Senior Test Engineer

1 Level A – Independent Test Lab with certified ISO 9000 or ISO 17025 Quality System

Performed test cases:

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, DsetN1ae	
2+: Data Set Definition (SCL-DynDataSet)	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 (SCL-ConfSG)	Sg1, SgN1	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, RpN1, RpN2, RpN3, RpN4	Rp5, Rp6, RpN5
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7	Gop1
9b: GOOSE subscribe	Gos1, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	
12a Direct control	CtlN3, CtlN8, DOns1, DOns3	Ctl2, Ctl7
12d Enhanced SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9, SBOes1, SBOes2, SBOes3	Ctl2, Ctl7
13 Time sync	Tm1, Tm2, TmN1	
14 File transfer	Ft1, Ft2ab, FtN1ab	