IEC 61850 Certificate Level A[1]

No. 30530055-Consulting 2006-0139

Issued to:
ABB Power Technology AB
SA Products
S-721 59 Västerås
Sweden

For the product:
REL 670 1.0 Line Distance Protection
Software version 1p1r12
Hardware version 1MRK002800-AA

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 and model implementation conformance statements: "1MRK114-320, rev D; IED 670 PICS - IEC 61850 Protocol Information Conformance Statement; 1MRK114 – 210, rev H; IED 670 series - IEC 61850 MICS, and technical issue (TICS) and extra information for testing (PIXIT) "1MRK114-318, rev J; IED 670 PIXIT - IEC 61850 Protocol Extra Information".

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 (15/23)		9ab	GOOSE (14/20)
2	Data Sets (2/5)		12a	Direct Control (4/11)
3	Substitution (3/3)		12d	Enhanced SBO Control (9/18)
4	Setting Group Selection (2/3)		13	Time Synchronization (4/4)
6	Buffered Reports (13/15)			

This Certificate includes a summary of the test results as carried out at ABB Västerås, Sweden with UniCAsim 61850 version 2.12.03 test system running test suite "61850 Conformance Test v2.12.01", UniCA 61850 analyzer version 4.13.00. 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. 30530055-Consulting 2006-0140 will prevail.

The test have been carried out on one single specimen of the products as referred above and submitted to KEMA by ABB Power Technology. 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, March 2, 2006

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

Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 1.1

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	Srv6
2: Data Sets	Dset1, DsetN1ae	
3: Substitution	Sub1, Sub2, SubN1	
4: Setting Group Selection	Sg1, SgN1	
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9 BrN1, BrN2, BrN3, BrN4, BrN5	Br5
9a: GOOSE publish	Gop2, Gop4, Gop7, Gop9	Gop1
9b: GOOSE subscribe	Gos1, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	
12a: Direct control	CltN3, CtlN8 DOns1, DOns3	
12d: Enhanced SBO control	Ctl3, CltN1, CltN2, CltN3, CltN4, CtlN9 SBOes1, SBOes2, SBOes3	
13: Time sync	Tm1, Tm2, TmN1	TmN2