IEC 61850 Certificate Level A[1]

International Usersgroup

No. 74102440-MOC/INC 13-1129

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

For the product:
REL 650 1.3.0.0
Firmware version 1.3.0.17
Hardware version 1MRK 008512-AD

Issued by: **KEMA**

The 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 Device Test Procedures version 2.3 with TPCL[2] version 1.5, the product's protocol, model and technical issue implementation conformance statements: "ABB 650 series version 1.3 – IEC 61850 PICS", "ABB 650 series version 1.3 – IEC 61850 MICS" and "ABB 650 series version 1.3 – IEC 61850 TICS" and the extra information for testing: "ABB 650 series version 1.3 – IEC 61850 PIXIT".
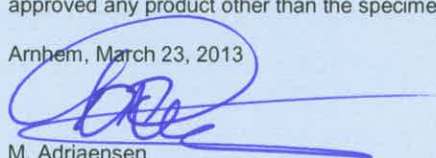
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

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

This certificate includes a summary of the test results as carried out at ABB AB in Sweden with UniCA 61850 Client simulator 4.26.00 with test suite 4.26.00 and UniCA 61850 Analyzer 4.25.03. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 74102440-MOC/INC 13-1130 will prevail.

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

Arnhem, March 23, 2013

M. Adriaensen
Director Intelligent Networks & Communication

R. Schimmel
Certification Manager

1 Level A - Independent test lab with certified ISO 9001 quality system
2 TPCL   - Test procedures change list

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Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL version 1.5

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	
3: Substitution	Sub1, Sub2, Sub3, SubN1	
4: Setting Group Selection	Sg1, SgN1a	Sg3
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12 RpN1, RpN2, RpN3, RpN4	Rp5, Rp8, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7, Gop10a	Gop1, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct control	CtlN3, CtlN8, DOns1, DOns3	Ctl7, CtlN10, CtlN11
12d: Enhanced SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3	Ctl7, CtlN10, CtlN11
13: Time sync	Tm1, Tm2, TmN1	TmN2
14: File transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, FtN1c

All configuration file and data model tests have been successfully performed for the product variants using the same hardware and software version: REB650, REC650, REG650, REQ650, RET650.