IEC 61850 Certificate Level A[1]

No. 30710144-Consulting 08-0115

Issued to:
ABB Oy
Distribution Automation
FI-65101 Vaasa
FINLAND

For the product:
REF615 Feeder Protection Relay
Version: V1.0.1

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: IEC 61850 Conformance Statement for RE_615, 1MRS756465 B", "IEC 61850 Model Implementation Conformance Statement (MICS) for RE_615, 1MRS756467 A", "IEC 61850 Tissues Conformance Statement for RE_615, 1MRS756466 B" and product's extra information for testing: "IEC 61850 Protocol Implementation extra Information for Testing (PIXIT) for RE_615, 1MRS756464 B".

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 v1.1):

1	Basic Exchange (20/23)	9a	GOOSE Publish (6/11)
2	Data Sets (2/5)	9b	GOOSE Subscribe (9/9)
4+	Setting Group Definition (10/10)	12a	Direct Control (4/11)
5	Unbuffered Reporting (10/13)	12d	Enhanced SBO Control (9/17)
6	Buffered Reporting (13/15)	13	Time Synchronization (3/4)
		14	File Transfer (5/6)

This Certificate includes a summary of the test results as carried out at KEMA in The Netherlands with UniCAsim 61850 version 3.16.00 with test suite 3.16.06 and UniCA 61850 analyzer 4.16.00. 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. 30710144-Consuling 08-0114 will prevail.

The test have been carried out on one single specimen of the products as referred above and submitted to KEMA by ABB. 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, 28 January 2008

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

Richard 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, Srv7, Srv8, SrvN1e, SrvN2, SrvN3
2: Data Sets	Dset1, DsetN1ae	
4+: Setting Group Definition	Sg1, Sg2, Sg3, Sg4, Sg5 SgN1, SgN2, SgN3, SgN4, SgN5	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7 RpN1, RpN2, RpN3, RpN4	Rp5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9 BrN1, BrN2, BrN3, BrN4, BrN5	Br5
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7	Gop1, Gop6
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	
14: File transfer	Ft1, Ft2ab, FtN1ab	FtN1c, Ft2c