



# IEC 61850 Certificate Level A<sup>1</sup>

No. 30710088-Consulting 2007-0713

Issued to:  
ABB Oy  
Distribution Automation  
Muottitie 2 A  
FI-65101 Vaasa  
Finland

For the product:  
REF542plus Feeder Terminal  
with IEC 61850 interface ETH V1E.04b



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: "IEC61850 Conformance Statement for REF542plus, version V4E04a" and "IEC 61850 Tissues Conformance Statement for REF542plus, version V4E04a", and extra information for testing (PIXIT): "IEC61850 Protocol Implementation extra Information for Testing (PIXIT) for REF542plus, version V4E04a".

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)	12a Direct Control (4/11)
2 Data Sets (2/5)	12d Enhanced SBO Control (11/18)
5 Unbuffered Reports (9/13)	13 Time Synchronization (3/4)
6 Buffered Reports (10/15)	

This Certificate includes a summary of the test results as carried out at ABB in Ratingen, Germany. These tests are performed with UniCASim 61850 version 2.15 test system running test suite "IEC 61850 Conformance Test v2.15", UniCA 61850 analyzer version 4.15. 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. 30710088-Consulting 07-0712 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, April 5, 2007

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

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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	Srv8
2: Data Sets	Dset1, DsetN1ae	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7 RpN1, RpN2, RpN3, RpN4	
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7 BrN1, BrN2, BrN3, BrN4, BrN5	
12a: Direct control	CtlN3, CtlN8, DOns1, Dons3	
12d: Enhanced SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9, SBOes1, SBOes2, SBOes3	Ctl2, Ctl7
13: Time sync	Tm1, Tm2, TmN1	



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