



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

No. 30520008-Consulting 2005-0513

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

For the product:  
REF545 V3.0  
with SPA-ZC 400 V1.02



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 REF545 and SPA-ZC40x v1.4.doc" and "IEC 61850 Tissues conformance statement for REF545 and SPA-ZC 40x v1.0.doc", and extra information for testing (PIXIT) "IEC 61850 PIXIT for REF545 and SPA-ZC 40x v1.5.doc".

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):

Basic Exchange (19/23) Data Sets (2/5) Unbuffered Reports (11/13) Buffered Reports (14/15)	Direct Control (4/11) Enhanced SBO Control (9/18) Time Synchronization (3/4)
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KEMA grants this Certificate on account of tests performed at the KEMA laboratory in Arnhem, The Netherlands. These tests are performed with UniCASim 61850 version 2.12.01 test system running test suite "61850 Conformance Test v1.17", UniCA 61850 analyzer version 4.11.01. The test is based on the UCA International Users Group Device Test Procedures version 1.1. The results are described in KEMA report: No. 30520008-Consulting 2005-0514.

The tests have been carried out on one single specimen of the above-mentioned products, submitted by ABB. The Certificate does not include an assessment of the manufacturer's production process. Conformity of his production process with the specimen tested by KEMA is not the responsibility of KEMA.

Arnhem, August 29, 2005

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

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