



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

No. 30920376-Consulting 09-1001

Issued to:  
EFACEC  
Rua Eng. Frederico Ulrich, Guardedeiras  
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Portugal

For the product:  
BCU 500  
Firmware version: 1.0



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: "Protocol Implementation Conformance Statement (PICS) for BCU 500 Product, version 1.0, rev 1", "Model Implementation Conformance Statement (MICS) for BCU 500 Product, version 1.0, rev 1", "IEC 61850 Tissues Conformance Statement (TICS) for BCU 500 Product, version 1.0, rev 1" and product's extra information for testing: "Protocol Implementation Extra Information for Testing (PIXIT) of the IEC 61850 Communication Interface in BCU 500 Product, version 2.0, rev 2".

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 v2.2):

1 Basic Exchange (19/23)	9a GOOSE Publish (8/11)
2 Data Sets (3/5)	9b GOOSE Subscribe (9/9)
5 Unbuffered Reporting (14/18)	12a Direct Control (5/11)
6 Buffered Reporting (16/20)	13 Time Synchronization (3/4)

This Certificate includes a summary of the test results as carried out at Efacec in Portugal with UniCASim 61850 version 3.19.01 with test suite 3.19.00 and UniCA 61850 analyzer 4.17.01. The test is based on the UCA International Users Group Device Test Procedures version 2.2. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 30920376-Consulting 09-1000 will prevail.

The test has been carried out on one single specimen of the products as referred above and submitted to KEMA by Efacec. 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, May 20, 2009

  
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Manager Intelligent Networks and Communication

  
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Senior test engineer

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 2.2

<b>Conformance Block</b>	<b>Mandatory</b>	<b>Conditional</b>
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	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10 RpN1, RpN2, RpN3, RpN4	Rp5, Rp8, Rp9, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10, Br11
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7	Gop1, Gop6, GopN1
9b: GOOSE subscribe	Gos1, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	
12a: Direct control	CtIN3, CtIN8 DOns1, DOns3	CtIN11
13: Time sync	Tm1, Tm2, (TmN1)	

Note: TmN1: timequality bits are supported but are never set.