IEC 61850 Certificate Level A[1]

No. 30820032-Consulting 08-1095

Issued to:
EFACEC
Rua Eng. Frederico Ulrich, Guardeiras
4470-605 MAIA
Portugal

For the product:
UAC 420 Automation and Control Unit
Version UAC 420-Ed1-S-v6.4

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: "X420 - Indicação de Conformidade com IEC 61850 (PICS) UK (1.1)", "UAC420 - Model Implementation Conformance Statement (MICS) UK (1.0)", "X420 - 61850 Tissues Conformance Statement (TICS) UK (1.1)" and product's extra information for testing: "X420 - Protocol Implementation eXtra Information for Testing (PIXIT) UK (1.1)".

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 (19/23)	9a	GOOSE Publish (7/11)
2	Data Sets (2/5)	9b	GOOSE Subscribe (9/9)
5	Unbuffered Reporting (11/13)	12a	Direct Control (5/11)
6	Buffered Reporting (13/15)	12b	SBO Control (6/15)
		13	Time Synchronization (3/4)

This Certificate includes a summary of the test results as carried out at EFACEC in Lisbon, Portugal with UniCAsim 61850 version 3.17.01 with test suite 3.16.07 and UniCA 61850 analyzer 4.17.01. 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. 30820032-Consulting 08-1094 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, 14-05-2008

W. Strabbing
Manager Intelligent Networks and Communication

S.J.T. Mulder
Senior Testengineer

1 Level A - Independent Test lab with certified ISO 9000 or ISO 17025 Quality System

KEMA Nederland B.V.
Utrechtseweg 310, 6812 AR Arnhem P.O.Box 9035, 6800 ET Arnhem The Netherlands
T +31 26 356 61 42 F +31 26 351 54 56 sales@kema.com www.kema.com

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	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7 RpN1, RpN2, RpN3, RpN4	RpN5, RpN6
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9 BrN1, BrN2, BrN3, BrN4, BrN5	BrN6
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	CltN3, CtlN8 DOns1, DOns3	Ctl2
12b: SBO control	Ctl3, CltN1, CltN2, CltN4, SBOns2	Ctl2
13: Time sync	Tm1, Tm2, TmN1	