IEC 61850 Certificate Level A[1]

No. 30710139-Consulting 07-2496

Issued to:

INGETEAM T&D, S.A.
Pol. Ind. Artunduaga
Usausuaga, 7 - 1º
48970 Basauri, Vizcaya
Spain

For the product:

TCP-IH
Integrated Protection & Control System
Hardware version 06.02.06
Software revision S

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 PICS – Protocol Implementation Conformance Statement TCP-IH, version TCP61850_PICS/F", "IEC 61850 MICS – Model Implementation Conformance Statement TCP-IH, version TCP61850_MICS/F", "IEC 61850 TICS – Technical Issues Implementation Conformance Statement, version TCP61850_TICS/D" and product's extra information for testing: "IEC 61850 PIXIT – Protocol Implementation eXtra Information for Testing, version TCP61850_PIXIT/G".

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):
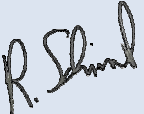
1	Basic Exchange (19/23)	12a	Direct Control (5/11)
2	Data Sets (2/5)	12b	SBO Control (7/15)
4	Setting Group Selection (2/3)	12c	Enhanced Direct Control (5/11)
5	Unbuffered Reporting (11/13)	12d	Enhanced SBO Control (10/17)
6	Buffered Reporting (14/15)	13	Time Synchronization (4/4)
9a	GOOSE Publish (8/11)	14	File Transfer (5/6)
9b	GOOSE Subscribe (9/9)		

This Certificate includes a summary of the test results as carried out at Robotiker in Spain with UniCAsim 61850 version 3.16.00 with test suite 3.16.03 and UniCA 61850 analyzer version 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. 30710139-Consulting 07-2495 will prevail.

The test have been carried out on one single specimen of the products as referred above and submitted to KEMA by INGETEAM T&D. 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, December 19, 2007

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

R.Schimmel
Certification Manager

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, SrvN3
2: Data Sets	Dset1, DsetN1ae	
4: Setting Group Selection	Sg1, SgN1	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7 RpN1, RpN2, RpN3, RpN4	Rp5, RpN6
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, BrN6
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7, Gop9	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 SBOns1, SBOns2	Ctl2
12c: Enhanced Direct Control	CltN3, CtlN8 DOes2, DOes5	Ctl2
12d: Enhanced SBO Control	Ctl3, CltN1, CltN2, CltN3, CltN4, CtlN9, SBOes1, SBOes2, SBOes3	Ctl2
13: Time sync	Tm1, Tm2, TmN1	TmN2
14: File transfer	Ft1, Ft2ab, FtN1ab	Ft2c, FtN1c