IEC 61850 Certificate Level B^1

No. 50745.6871.303

Issued to:
ALSTOM Grid UK LTD
St. Leonards Avenue
Stafford, ST17 4LX United Kingdom

Issued by:
ALSTOM Grid UK LTD
Automation Products Laboratories

UCA International Users Group

For the product:
Bitronics 70 Series M871
Measurement & Recording System IED
Software Version 4.08.4
Hardware Version 1.34

The product has not been shown to be non-conforming to:

IEC 61850 First Edition Parts 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, the UCA International Users Group Device Test Procedures version 2.3 with TPCL^2 version 1.7.3, with product's protocol, model and technical issue implementation conformance statements: "Bitronics 70 Series IED IEC61850 Protocol Manual V14 Rev O, Section 2", "Bitronics 70 Series IED IEC61850 Protocol Manual V14 Rev O, Section 3", "Bitronics 70 Series IED IEC61850 Protocol Manual V14 Rev O, Section 4" and extra information for testing "Bitronics 70 Series IED IEC61850 Protocol Manual V14 Rev O, Section 5".

The following IEC 61850 conformance blocks are tested with a positive result (number of relevant and executed test cases / total number of test cases):

1	Basic Exchange (20/24)	12a	Direct Control (3/12)
2	Data Sets (3/6)	12b	SBO Control (6/14)
5	Unbuffered Reports (15/19)	13	Time Synchronization (4/5)
6	Buffered Reports (17/21)	14	File Transfer (4/7)
9a	GOOSE Publish (10/13)		
9b	GOOSE Subscribe (11/11)		

This certificate includes a summary of the test results as carried out at ALSTOM's laboratories in Stafford, UK with UniCA 61850 client simulator version 4.28.05 with test suite 3.28.00 and the UniCA 61850 analyzer version 5.27.04. This document has been issued for information purposes only, and the original paper copy of the ALSTOM report: No. 50745.6871.803 will prevail.

The tests have been carried out on one single specimen of the product as referred above and submitted to Automation Product Laboratories by ALSTOM. The manufacturer's product process has not been assessed. This certificate does not imply that Automation Product Laboratories has approved any product other than the specimen.

Stafford, 25-03-2015

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IEC 61850 Technical Lead

^{1} Level B – Tester with ISO 9001 Quality System
^{2} TPCL – Test Procedure Change List

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Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL version 1.7.3

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5, Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3, Srv6, Srv7, Srv8, SrvN1e, SrvN1f, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12, RpN1, RpN2, RpN3, RpN4	Rp5, Rp9, RpN5, RpN6
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14, BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br11, BrN6
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7, Gop9, Gop10a	Gop1, Gop6, Gop8, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b, Gos4
12a: Direct control	CtlN3, CtlN8, DOns1	
12b: SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, SBOns2	
13: Time sync	Tm1, Tm2	Tm3, TmN1
14: File transfer	Ft1, Ft2ab, Ft4, FtN1ab	

All configuration file and data model tests have been successfully performed for the product variants using the same hardware and software version: M872

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