



IEC 61850 Certificate Level B¹

No. 50745.6F650.801

Issued to:
GE Power Management S.L
Av. Pinoa 10
48170 Zamudio Spain



For the server product:
F650 Digital Bay Controller
Firmware Version 7.52 Boot Version 7.12
Hardware Version 10

The server 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 Server Device Test Procedures version 3.03, the product's protocol, model and technical issue implementation conformance statements: "PICS for F650 relay V1_6 firm7_52", "MICS For F650 relay V1_40 firm7_52", "TICS For F650 relay V3_05 firm7_52" and extra information for testing "PIXIT For F650 relay V1_10 firm7_52".

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

1	Basic Exchange (22/24)	9a	GOOSE Publish (10/12)
2	Data Sets (3/6)	9b	GOOSE Subscribe (11/11)
4	Setting Group Selection (3/6)	12a	Direct Control (4/ 11)
5	Unbuffered Reporting (16/18)	12b	SBO Control (7/ 14)
6	Buffered Reporting (23/27)	12c	Enhanced Direct Control (6/ 13)
		12d	Enhanced SBO Control (11/ 19)
		13	Time Synchronization (4/5)
		14	File Transfer (4/ 7)

This certificate includes a summary of the test results as carried out at Grid Automation Laboratories in UK Grid Solutions Limited in Stafford, United Kingdom with UniCA 61850 client simulator version 4.29.03 with test suite version 3.29.00 and the UniCA 61850 Analyzer version 5.28. This document has been issued for information purposes only, and the original paper copy of the Grid Automation Laboratories report: No. 50745.6F650.301 will prevail.

The tests have been carried out on one single specimen of the product as referred above and submitted to Grid Automation Laboratories by GE Power Management. The manufacturer's production process has not been assessed. This certificate does not imply Grid Automation Laboratories at UK Grid Solutions Limited has approved any product other than the specimen tested.

Stafford, 08-06-2017

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¹ Level B - Test lab at least following ISO 9001



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Applicable Test Procedures from the UCA International Users Group Server Device Test Procedures version 3.03

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3 Srv6, Srv7, Srv8, Srv10, SrvN1e, SrvN1f, SrvN2, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
4: Setting Group	Sg1, SgN1a, Sg3	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp9, RpN1, RpN2, RpN3, RpN4, RpN8	Rp5, Rp8, Rp10, Rp11, Rp12, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br9, Br20, Br21, Br22, Br25, Br26, Br27, Br28 BrN1, BrN2, BrN3, BrN4, BrN5, BrN8	Br5, Br8, Br10, Br11, Br12
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop9, Gop10a	Gop1, Gop6, Gop7, Gop10b, GopN1
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b, Gos4
12a: Direct Control	CtlN3, DOns1	CtlN11, DOns3
12b: SBO Control	CtlN1, CtlN2, CtlN3, CtlN4, SBOns2	Ctl3, CtlN11
12c: Enhanced Direct Control	CtlN3, DOes2, DOes5	CtlN6, CtlN8, CtlN11
12d: Enhanced SBO Control	CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3	Ctl3, CtlN6, CtlN11
13: Time sync	Tm1, Tm2	Tm3, TmN1
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	

