IEC 61850 Certificate Level B[1]

No. 50745.614D.803

Issued to:
GE Renewable Energy Ltd.
St. Leonards Building, Harry Kerr Drive
Stafford, ST16 1WT
United Kingdom

For the server product:
GE Multilin Agile
P14DL Feeder Protection System
Software version: 05
Hardware version: E
S/N: P14PSN1

Issued by:
Grid Automation Laboratories, UK Grid Solutions Limited

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

IEC 61850 Edition 2 Parts 6, 7-1, 7-2, 7-3, 7-4 and 8-1

Communication networks and systems for power utility automation

The conformance test has been performed according to IEC 61850-10 Edition 2, the UCA International Users Group Edition 2 Server Test Procedures version 2.0.6 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement (PICS) for the IEC 61850 Edition 2 server interface in P40 Agile Enhanced PICS ver 3.2", "Model Implementation Conformance Statement (MICS) for the IEC 61850 Edition 2 server interface in P40 Agile Enhanced MICS ver 3.5", "Technical Issues Conformance Statement (TICS) for the IEC 61850 Edition 2 server interface in P40 Agile Enhanced TICS ver 3.4" and extra information for testing "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 server interface in P40 Agile Enhanced PIXIT ver 3.3".

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):

1	Basic Exchange (23/26)	12a	Direct Control (7/18)
2	Data Sets (4/7)	12b	SBO Control (13/27)
4	Setting Group Selection (4/4)	12c	Enhanced Direct Control (9/20)
5	Unbuffered Reporting (20/23)	12d	Enhanced SBO Control (14/28)
6	Buffered Reporting (28/33)	13	Time Synchronization (7/7)
9a	GOOSE Publish (13/13)	14	File Transfer (5/8)
9b	GOOSE Subscribe (21/21)		

This certificate includes a summary of the test results as carried out at Stafford, United Kingdom with UniGrid SA version 2.2.1 with test suite ED2_Server_TP2.0.6_AmdTP1.2_v2.2.1-alpha.34 and UniCA 61850 Analyzer version 6.40.05. This document has been issued for information purposes only, and the original paper copy of the Grid Automation Laboratories report: No. 50745.614D.303 will prevail.

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

Stafford, 1st November 2023

Allen Millard
Grid Automation Laboratories Manager

Hector Zhang
Grid Automation Laboratories Test Engineer

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[1] Level B - Test lab with certified ISO 9001 Quality System.
UCA Users Group, P.O. Box 315, Shell Knob, MO 65747, USA

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.6.

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcdf, sSrvN4	sAssN6, sSrv6, sSrv9, sSrv12, sSrvN1e, sSrvN2, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp8, sRp10, sRp11, sRp12, sRp15, sRp17, RpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr8, sBr10, sBr11, sBr12, sBr15, sBr17
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGop2b, sGop5, sGop6, sGopN1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGos23, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b, sGos13
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl2, sCtl13, sCtl16
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl2, sCtl6, sCtl16, sCtl27
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl2, sCtl13, sCtl14, sCtl16, sCtl26
12d: Enhanced SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2, sCtl6, sCtl16, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTm3, sTm4, sTm5, sTmN2
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	

All configuration file and data model tests have been succsessfully performed for the product variants using the same communication hardware and software version:
P14NB, P94VP.