

No. 10060939-INC 19-2030

Issued to:

GE Power Conversion
18 Avenue du Québec
91140 Villebon-sur-Yvette
France

For the server product:

HPCi High Performance Controller
61850 Firmware: V4.1.2
S/N: 63216912

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 1.0 with TPCL² 1.2.6 with product's protocol, model and technical issue implementation conformance statements and the extra information for testing: "HPCi IEC 61850 Ed.2 Server Conformance Statement, 4FQR0004 Revision 5".

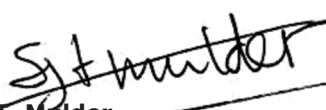
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1 Basic Exchange (20/26)	9a GOOSE Publish (10/13)
2 Data Sets (4/7)	9b GOOSE Subscribe (13/14)
5 Unbuffered Reporting (18/21)	12a Direct Control (5/18)
6 Buffered Reporting (25/30)	12b SBO Control (11/27)
	12c Enhanced Direct Control (5/20)
	12d Enhanced SBO Control (12/28)
	13 Time Synchronization (4/7)
	15 Service Tracking (5/17)

This certificate includes a summary of the test results as carried out at DNV GL in The Netherlands with UniGrid SA Simulator 1.4.26 with test suite 1.0.43 and UniCA 61850 Analyzer 5.34.02. This document has been issued for information purposes only, and the archived DNV GL verification report No. 10060939-INC 19-2029 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by GE. The manufacturer's production process has not been assessed. This certificate does not imply that DNV GL has approved any product other than the specimen tested.

Arnhem, January 11, 2019



S.J.T. Mulder
Business Leader
Interoperability of Smart Power Systems

Issued by:



DNV-GL
DNV KEMA is now DNV GL



R. Schimmel
Verification Manager

¹ Level A - Independent test lab with certified ISO 9001 Quality System

² TPCL - Test procedures change list

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL 1.2.6

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv8, sSrvN1e, sSrvN1f, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp8, sRp10, sRp11, sRp12, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr15, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr8, sBr10, sBr11, sBr12
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11	sGop1, sGop6, sGop7, sGopN1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl16
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl6, sCtl16
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl16
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl6, sCtl16
13: Time sync	sTm1, sTm2, sTmN1	sTm5
15: Service tracking		sTrk1, sTrk2, sTrk4, sTrk10, sTrk17