IEC 61850 Certificate Level A[1]

No. 10174000-INC 19-3184

Issued to:

GE Grid Solutions (UK) Ltd
Lissue Industrial Estate East
Unit 1, 7 Lissue Walk, Lisburn
BT28 2LU, County Antrim
United Kingdom

For the server product:
KELMAN DGA 900 Dissolved Gas Analyser
Firmware version: 1.30.0.2514
S/N: D90S-00612

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 TPCL[2] 1.2.6 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in DGA900, Version 1.30 November 2019", "Model Implementation Conformance Statement (MICS) for the IEC 61850 Edition 2 server interface in DGA900, Version 1.0 November 2019" and "TICS Document for DGA900 Edition 2 Server and Client, Version 1.0 November 2019" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 server interface in DGA900, Version 1.0.0 November 2019".

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)		13	Time Synchronization (3/7)
2	Data Sets (4/7)			
2+	Data Set Definition (24/24)			
5	Unbuffered Reporting (20/21)			
6	Buffered Reporting (27/30)			

This certificate includes a summary of the test results as carried out at DNV GL in The Netherlands with UniGrid SA Simulator 1.6.4.0 with test suite 1.0.21 and UniCA 61850 Analyzer 5.34.02. This document has been issued for information purposes only, and the archived DNV GL verification report No. 10174000-INC 19-3183 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 Grid Solutions. 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, December 12, 2019

N. A. Heijker
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

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
2+:	Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs11, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs12, sDsN11, sDsN12
5:	Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, 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	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12
13:	Time sync	sTm1, sTm2, sTmN1	