IEC 61850 Certificate Level A[1]

No. 10157161-INC 19-2520

Issued to:

Sprecher Automation GmbH
Franckstraße 51
4020 Linz
Austria

For the server product:

SPRECON-E-C Protection and Control Unit
Firmware version: 8.64
Hardware version/Serial Number: 206.040/G046

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: "SPRECON-E IEC 61850 - Edition 2 Protocol Implementation Conformance Statement Server + Client, doc.nr. 94.2.918.80 Issue D", "SPRECON-E IEC 61850 - Edition 2 Model Implementation Conformance Statement, doc.nr. 94.2.918.55 Issue D" and "SPRECON-E IEC 61850 - Edition 2 Tissues Implementation Conformance Statement Server + Client, doc.nr. 94.2.918.86 Issue D" and the extra information for testing: "SPRECON-E Protocol Implementation Extra Information For Testing For Server, doc.nr. 94.2.918.82 Issue D".

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 (21/26)	9a	GOOSE Publish (10/13)
2	Data Sets (4/7)	9b	GOOSE Subscribe (12/14)
2+	Data Set Definition (24/24)	12a	Direct Control (4/18)
3	Substitution (3/3)	12c	Enhanced Direct Control (9/20)
4	Setting Group Selection (4/4)	12d	Enhanced SBO Control (17/28)
5	Unbuffered Reporting (20/21)	13	Time Synchronization (5/7)
6	Buffered Reporting (27/30)	14	File Transfer (5/8)
		15	Service Tracking (3/17)

This certificate includes a summary of the test results as carried out at DNV GL in The Netherlands with UniGrid SA Simulator 1.5.0 with test suite 1.0.15 and UniCA 61850 Analyzer 5.34.01. This document has been issued for information purposes only, and the archived DNV GL verification report No. 10157161-INC 19-2519 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by Sprecher Automation. 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, May 23, 2019

E. Henriquez
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, sSrv9, 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
3:	Substitution	sSub1, sSub2, sSub3	
4:	Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
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
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	
12a:	Direct control	sCtl5, sCtl10, sDOns1, sDOns2	
12c:	Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl7, sCtl14, sCtl16, sCtl17, sCtl18
12d:	Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl6, sCtl7, sCtl16, sCtl17, sCtl18, sCtl26
13:	Time sync	sTm1, sTm2, sTmN1	sTm3, sTmN2
14:	File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	
15:	Service tracking		sTrk7, sTrk8, sTrk9