

## IEC 61850 Certificate Level A<sup>1</sup>

**Issued to:**

Stucke Elektronik GmbH  
Merkurring 26  
22143 Hamburg  
Germany

**For the server product:**

SYMAP®-Compact+  
Protection & Control Relay  
Firmware version: 1.0-1.31.0  
Hardware version: 1-2.7  
S/N: 2291

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 2.0.5 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in SYMAP®-Compact(+), version 1.0.5", "Model Implementation Conformance Statement (MICS) for the IEC 61850 Edition2 server interface in SYMAP®-Compact(+), version 1.0.3" and "Tissue Implementation Conformance Statement (TICS) for the IEC 61850 Edition 2 server interface in SYMAP®-Compact(+), version 1.0.1" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 server interface in SYMAP®-Compact(+), version 1.0.7".


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 (18/26)	9a GOOSE Publish (9/13)
2 Data Sets (4/7)	9b GOOSE Subscribe (17/20)
2+ Data Set Definition (24/24)	12a Direct Control (4/19)
4 Setting Group Selection (4/4)	12d Enhanced SBO Control (13/29)
5 Unbuffered Reporting (21/23)	13 Time Synchronization (4/7)
6 Buffered Reporting (29/33)	14 File Transfer (5/8)

This certificate includes a summary of the test results as carried out at DNV in The Netherlands with UniGrid SA Simulator 1.8.0 with test suite 20210415.1 and UniCA 61850 Analyzer 6.40.01. This document has been issued for information purposes only, and the archived DNV verification report No. 10286824-INC 21-3186 rev 1 will prevail.

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

Arnhem, August 16, 2021



**N.A. Heijker**  
Business Leader  
Interoperability of Smart Power Systems

**Issued by:**




**R. Schimmel**  
Verification Manager

<sup>1</sup> Level A - Independent test lab with certified ISO 9001 Quality System

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.5

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4	sAssN6, sSrv12
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
2+: Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs11, sDs12, sDsN11, sDsN12
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp15, sRpN5
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	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr15
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop6, sGopN1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl7, sCtl16, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTm3
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	