IEC 61850 Certificate Level A[1]

No. 10072000-INC 18-2173 Rev1

Issued to:

Schneider Electric
Yrittäjänkatu 15
65101 Vaasa
Finland

For the server product:

Easergy P3U30 Protection relay
Software version: V30.105
Hardware version: P3U30-5AAA1BCA
S/N: EB172710016

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] 1.2.4 with product's protocol, model and technical issue implementation conformance statements and the extra information for testing: "Easergy P3 protection relays with embedded IEC 61850 Ed. 2 server interface; Conformance Statement for Easergy P3U30, P3U20, P3T32, P3G32, P3G30, P3M32, P3M30, P3F30, P3L30, version 0.1.0".
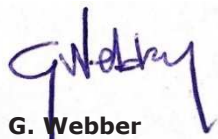
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1	Basic Exchange (20/26)	9a	GOOSE Publish (12/13)
2	Data Sets (4/7)	9b	GOOSE Subscribe (12/14)
2+	Data Set Definition (24/24)	12a	Direct Control (5/18)
5	Unbuffered Reporting (21/21)	12b	SBO Control (11/27)
6	Buffered Reporting (30/30)	12c	Enhanced Direct Control (6/20)
		12d	Enhanced SBO Control (12/28)
		13	Time Synchronization (3/7)
		14	File Transfer (7/8)

This certificate includes a summary of the test results as carried out at INFO TECH sp.j. in Poland with UniGrid SA Client Simulator 1.4 with test suite Ed2 1.0.46 and UniCA 61850 Analyzer 5.34.01. This document has been issued for information purposes only, and the original paper copy of the DNV GL verification report No. 10072000-INC 18-2172 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by Schneider Electric. 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, February 2, 2018

G. Webber
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 1.2.4

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, sRp13, 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, sBr13, sBr23, sBr24
9a:	GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11	sGop1, sGop5, sGop6, sGop7, sGopN1, sGopN2
9b:	GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
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	sCtl14, sCtl16
12d:	Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl16, sCtl26
13:	Time sync	sTm1, sTm2, sTmN1	
14:	File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c

All configuration file and data model tests have been successfully performed for the product variants using the same communication hardware and software version:

- P3F30   Feeder relay
- P3G30   Generator relay
- P3G32   Generator differential relay
- P3L30   Line differential and distance relay
- P3M30   Motor relay
- P3M32   Motor differential relay
- P3T32   Transformer protection relay
- P3U20   Protection relay