

IEC 61850 Certificate Level A¹

Issued to:

Prosoft-Systems Ltd.
Volgogradskaya Str., 194a
620102 Yekaterinburg
Russian Federation

For the server product:

AVANT K400 (ABAHT K400)
Control signals and commands transceiver
Software version: 1.0.0
Hardware version: K400-TX32-RX32-HF
S/N: 05211666

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 2.0.4 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in AVANT, Date 07 November 2021, version 1.0", "Model Implementation Conformance Statement for the IEC 61850 interface in AVANT, Date 07 November 2021, version 1.0" and "TISSUES Implementation Conformance Statement (TICS) for the IEC Edition 2 61850 Server interface in AVANT, version 1.0 Date 07 November 2021" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 server interface in AVANT, version 1.0 Date 07 November 2021".


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 (25/26)	12a Direct Control (9/18)
2 Data Sets (4/7)	12b SBO Control (17/27)
2+ Data Set Definition (24/24)	12c Enhanced Direct Control (9/20)
5 Unbuffered Reporting (21/23)	12d Enhanced SBO Control (17/28)
6 Buffered Reporting (29/33)	13 Time Synchronization (6/7)
9a GOOSE Publish (10/13)	14 File Transfer (8/8)
9b GOOSE Subscribe (20/20)	

This certificate includes a summary of the test results as carried out at NTC FSK UES in Russia with UniGrid SA Simulator 1.8.1 with test suite 20210930.1 and UniCA 61850 Analyzer 6.40.01. This document has been issued for information purposes only, and the archived DNV verification report No. 10320627-DSO 21-3497 rev 3 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV by Prosoft-Systems Ltd.. 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, February 15, 2022



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

Issued by:




R. Schimmel
Verification Manager

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

IEC 61850 Certificate Level A

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.4

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv9, sSrv10, sSrv12, sSrv13, sSrvN1e, sSrvN2, sSrvN3
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
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	sGop1, sGop6, sGopN1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b, sGos13
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl2, sCtl15, sCtl16, sCtl17, sCtl18
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl2, sCtl4, sCtl6, sCtl15, sCtl16, sCtl17, sCtl18, sCtl27
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl2, sCtl15, sCtl16, sCtl17, sCtl18
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2, sCtl4, sCtl6, sCtl15, sCtl16, sCtl17, sCtl18
13: Time sync	sTm1, sTm2, sTmN1	sTm4, sTm5, sTmN2
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFt3, sFtN1c

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

- AVANT R400 (ABAHT P400) Relay protection signals transceiver
- AVANT RZSK (ABAHT P3CK) Relay protection signals and commands transceiver