

IEC 61850 Certificate Level A¹

Issued to:

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
32825 Blomberg
Germany

For the server product:

AXC F 2152 PLCnext Control
Software version: PLCnext IEC 61850 V1.1.0
Hardware version: 06

The server product has not been shown to be non-conforming to:

IEC 61850 Edition 2 with Amendment 1 Parts 6, 7-1, 7-2, 7-3, 7-4, 8-1

Communication networks and systems for power utility automation

The conformance test has been performed according to IEC 61850-10 and the UCA International Users Group Edition 2 with Amendment 1 Server Test Procedures version 1.2 with product's protocol, model and tissues implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 Edition 2 Amendment 1 server interface in "PLCnext App IEC 61850 in AXC F 2152" v1.1.0", "Model Implementation Conformance Statement for the IEC 61850 Edition 2 Amendment 1 server interface in "PLCnext App IEC 61850 in AXC F 2152", v1.1.0", "TISSUES Implementation Conformance Statement(TICS) For the IEC 61850 Edition 2 Amendment 1 Server Interface in "PLCnext App IEC 61850 in AXC F 2152" v1.1.0", and the extra information for testing: "Protocol Implementation eXtra Information für Testing(PIXIT) for the IEC 61850 Edition 2 Amendment 1 server interface in "PLCnext App IEC 61850 in AXC F 2152", v1.2".

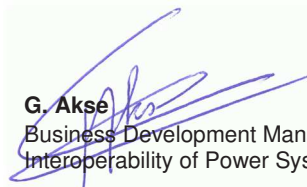
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1a Basic Exchange (24/29)	12a Direct Control (7/18)
2 Data Sets (7/7)	12b SBO Control (15/28)
2+ Data Set Definition (24/24)	12c Enhanced Direct Control (8/20)
3 Substitution (3/3)	12d Enhanced SBO Control (17/28)
4 Setting Group Selection (4/5)	13a Time Synchronization with SNTP (4/8)
4+ Setting Group Definition (13/14)	
5 Unbuffered Reporting (26/26)	
6 Buffered Reporting (36/36)	
9a GOOSE publish (11/13)	

This certificate includes a summary of the test results as carried out at DNV in The Netherlands with UniGrid SA Simulator 2.0.2 with test suite 20230928.1 and UniCA 61850 Analyzer 6.45.01. This document has been issued for information purposes only, and the archived DNV verification report No. 10472987-DSO 23-3287 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV by PHOENIX CONTACT GmbH & Co. KG. 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, November 20, 2023



G. Akse
Business Development Manager
Interoperability of Power Systems

Issued by:




R. Schimmel
Verification Manager

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

UCA International Users Group P.O. Box 315, Shell Knob, MO 65747 USA

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Applicable Server Test Procedures from the UCA International Users Group Edition 2 with Amendment 1 Server Test Procedures version 1.2

Conformance Block	Mandatory	Conditional
1a: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv9, sSrv10, sSrv12, sSrv15, sSrvN1e, 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
3: Substitution	sSub1, sSub2, sSub3	
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
4+: Setting Group Definition	sSg2, sSg4, sSg6, sSg7, sSg8, sSg10, sSg12, sSgN2, sSgN3, sSgN4, sSgN5	sSg5, sSg9
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRp23, sRpN1, sRpN2, sRpN3, sRpN4, sRpN5, sRpN7, sRpN8, sRpN9	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp13, sRp15, sRp17
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr23, sBr24, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN7, sBrN8, sBrN9, sBrN10	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr13, sBr15, sBr17
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGop6, sGopN1, sGopN2
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl7, sCtl15, sCtl16
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6, sSBOns8	sCtl4, sCtl6, sCtl7, sCtl15, sCtl16
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl7, sCtl15, sCtl16, sCtl26
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl6, sCtl7, sCtl15, sCtl16, sCtl21, sCtl26
13a: Time sync SNTP	sTm1, sTm2, sTm7, sTmN1	

Test case	Comment or Limitation
sDs10b, sDsN1b, sDsN13	SetDataSetValues is not supported by the test tool
sGom1, sGom2, sGomN1	GOOSE management is not supported by the test tool