

IEC 61850 Conformance Certificate Level B¹

Issued to:
Hitachi Energy Switzerland Ltd
Communication Networks
CH-5400 Baden/Switzerland

For the server product:
FOX612 with BIGO1 IEC61850 interface
Firmware version R16A07
Teleprotection device

Issued by: Hitachi Energy Switzerland Ltd, SVC Baden

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 2.0.6 with product's protocol, model and technical issue implementation conformance statements: "1KHW003999 FOX61x BIGO1 IEC61850 PICS", "1KHW003998 FOX61x BIGO1 IEC61850 MICS", "1KHW004011 FOX61x BIGO1 IEC61850 TICS" and product's extra information for testing: "1KHW004010 FOX61x BIGO1 IEC61850 PIXIT".

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 (9/13)
2	Data Sets (4/7)	9b	GOOSE subscribe (19/21)
5	Unbuffered Reporting (20/23)	13	Time Synchronization (4/7)
6	Buffered Reporting (30/33)		

This Certificate includes a summary of the test results as carried out at the SVC Baden in Switzerland with Unigrd Version 2.1.0 with test suite based on IEC61850Ed2ServerTP2.0.5 and UniCA Analyzer Version 6.41.00. This document has been issued for information purposes only, and the original paper copy of the SVC Baden report No. 1KHL050135 will prevail.

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

Baden, 2022-09-21

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Test Lead

C. Zehnder

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Test engineer

¹ Level B - Tester with ISO 9001 Quality System

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.6

Conformance Block	Mandatory	Conditional
1 Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5 sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4	sAssN6 sSrv9, sSrv10, sSrv12
2 Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
5 Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp8, sRp10, sRp11, sRp12, sRp13, 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	sBr8, sBr10 sBr11, sBr12, sBr13, sBr15, sBr23, sBr24
9a GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGopN2
9b GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGos23, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4
13 Time Synchronization	sTm1, sTm2, sTmN1	sTmN2