

IEC 61850 Conformance Certificate Level B¹

Issued to:
ABB AB
Grid Automation Products
SE-721 59 Västerås, Sweden

For the server product:
RELION® REB500 Distributed busbar protection
Version 8.3
Hardware 1MRK010003-AD

Issued by: ABB Switzerland Ltd, Power Grids, 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 1.0 with TPCL² version 1.2.6, the product's protocol, model and technical issue implementation conformance statements: "1KHL501807 REB500 V8.3 - IEC61850 PICS-MICS", "1KHL501828 REB500 V8.3 - IEC61850 TICS Ed.2" and the extra information for testing: "1KHL501829 REB500 V8.3 - IEC61850 PIXIT".

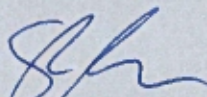
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1	Basic Exchange (23/26)	9a	GOOSE publish (9/13)
2	Data Sets (3/7)	9b	GOOSE subscribe (12/14)
4	Setting Group Selection (4/4)	12a	Direct Control (4/18)
5	Unbuffered Reporting (17/21)	13	Time Synchronization (5/7)
6	Buffered Reporting (25/30)	14	File Transfer (7/8)

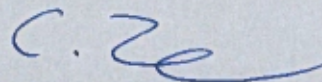
This Certificate includes a summary of the test results as carried out at the SVC Baden in Switzerland with UniGrid SA Ver 1.4.431.115 with test suite based on IEC61850Ed2Servertpcl1.2.6-v1.0.4 and UniCA Analyzer 5.31.00.0. This document has been issued for information purposes only, and the original paper copy of the SVC Baden report: No. 1KHL050122 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to SVC Baden by ABB AB. 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, 2019-08-06



S. Möler
Certification Manager



C. Zehnder
Test engineer

1 Level B - Tester with ISO 9001 Quality System
2 TPCL - Test procedures change list

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL version 1.2.6.

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv8, sSrv9, sSrv10, sSrv12, sSrvN1e, sSrvN1f, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp8, sRp11, sRp12, sRp13
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr15, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr8, sBr11, sBr12, sBr13
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10 ³ , sGop11 ⁴	sGop1, sGop7, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a Direct control	sCtl5, sCtl10, sDOns1, sDOns2	
13: Time sync	sTm1, sTm2, sTmN1	sTm3, sTmN2
14 File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c

³ sGop10: Test executed with modified exception (part a passed, part b N/A)

⁴ sGop11: Test executed with modified exception (unmodified length of GOOSE attributes)