

## IEC 61850 Certificate Level A<sup>1</sup>

**Issued to:**

ABB Oy  
Distribution Solutions  
Muottitie 2A  
FI-65101 Vaasa  
Finland

**For the server product:**

REX640 Protection and Control Relay  
Software version: 1.3  
Product version: 1  
S/N: 1VHR81010050

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 1.1 with product's protocol and model issue implementation conformance statements: "Protocol Implementation Conformance Statement (PICS) for the IEC 61850 interface in REX640, 1MRS759029, revision B" and "IEC 61850 Ed2 Model Implementation Conformance Statement (MICS) for REX640, 1MRS759028, revision B" and the extra information for testing: "Protocol Implementation extra Information for Testing (PIXIT) for the IEC 61850 interface in REX640, 1MRS759030, revision B".

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 (25/29)	12a Direct Control (8/18)
2 Data Sets (4/7)	12d Enhanced SBO Control (17/28)
4 Setting Group Selection (4/4)	13a Time Synchronization with SNTP (7/8)
4+ Setting Group Definition (12/13)	13b Time Synchronization with PTP (4/4)
5 Unbuffered Reporting (22/26)	14 File Transfer (7/8)
6 Buffered Reporting (32/36)	
9a GOOSE publish (11/13)	
9b GOOSE subscribe (26/27)	

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 20220404.1 and UniCA 61850 Analyzer 6.41.00. This document has been issued for information purposes only, and the archived DNV verification report No. 10358145-DSO 22-3008 rev 2 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV by ABB Oy. 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, June 28, 2022



**G. Akse**  
Business Development Manager  
Interoperability of Smart Power Systems

Issued by:




**R. Schimmel**  
Verification Manager

<sup>1</sup> Level A - Independent test lab with certified ISO 9001 Quality System

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Applicable Server Test Procedures from the UCA International Users Group Edition 2 with Amendment 1 Server Test Procedures version 1.1

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, sSrv13, sSrv15, sSrvN1e, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
4+: Setting Group Definition	sSg2, sSg4, sSg6, sSg7, sSg8, sSg10, sSg12, sSgN2, sSgN3, sSgN4, sSgN5	sSg9
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRp23, sRpN1, sRpN2, sRpN3, sRpN4, sRpN5, sRpN7, sRpN8, sRpN9	sRp8, sRp10, sRp11, sRp12, sRp15
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	sBr8, sBr10, sBr11, sBr12, sBr15
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGop6, sGopN1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGos14, sGos15, sGos20, sGos21, sGos22, sGos23, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6, sGosN7	sGos6b, sGos13
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl7, sCtl15, sCtl16, sCtl17
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl6, sCtl7, sCtl15, sCtl16, sCtl17, sCtl26
13a: Time sync SNTP	sTm1, sTm2, sTm7, sTmN1	sTm3, sTm4, sTm5
13b: Time sync PTP	sTmP1, sTmP2, sTmPN1	sTmP5
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c