IEC 61850 Certificate Level A[1]

Issued to:

Hitachi Energy Sweden AB
GA Products
SE-721 59 Västerås
Sweden

For the server product:

PWC600 Point-on-Wave Controller IED
Product version: 3.0.1
Software version: 0.6.17.284
S/N: T2344095

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: "Protocol Implementation Conformance Statement for the IEC 61850 Edition 2 and 2.1 interface in Relion Switchsync® PWC600 Version 3.0.1, 1MRG518080, Rev. A", "Model Implementation Conformance Statement for the IEC 61850 Ed2 interface in Relion Switchsync® PWC600, version 3.0.1, 1MRG043435, Rev. A" and "TISSUEs Implementation Conformance Statement (TICS) for the IEC 61850 Edition 2 server interface in Relion Switchsync® PWC600 Version 3.0.1, 1MRG518079, Rev. A" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 and 2.1 server interface in Relion Switchsync® PWC600 Version 3.0.1, 1MRG518081, Rev. A".

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 (21/26)		9a	GOOSE Publish (10/13)
2	Data Sets (4/7)		9b	GOOSE Subscribe (21/21)
3	Substitution (3/3)		13	Time Synchronization (7/7)
4	Setting Group Selection (4/4)		14	File Transfer (7/8)
5	Unbuffered Reporting (20/23)		15	Service Tracking (9/17)
6	Buffered Reporting (30/33)			

This certificate includes a summary of the test results as carried out at DNV in The Netherlands with UniGrid SA Simulator 2.2.1 with test suite 20240314 and UniCA 61850 Analyzer 6.41.00. This document has been issued for information purposes only, and the archived DNV verification report No. 10452508-DSO 24-4134 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 Hitachi Energy Sweden AB. 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, April 24, 2024

Issued by:

R. Botezatu
Test Engineer

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

IEC 61850 Certificate Level A

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, sSrvN1abcdf, sSrvN4	sAssN6, sSrv9, sSrv10, sSrv12, sSrv13
2:	Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
3:	Substitution	sSub1, sSub2, sSub3	
4:	Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
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, sGopN1, sGopN2
9b:	GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGos23, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b, sGos13
13:	Time sync	sTm1, sTm2, sTmN1	sTm3, sTm4, sTm5, sTmN2
14:	File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c
15:	Service tracking		sTrk1, sTrk2, sTrk4, sTrk7, sTrk8, sTrk9, sTrk10, sTrk11, sTrk17