IEC 61850 Certificate Level A[1]

Issued to:

ZIV Aplicaciones y Tecnología SL
Parque Tecnológico de Bizkaia, 210
48170 Zamudio, Vizcaya
Spain

For the server product:

IRFA
Feeder Protection / Bay Control
Software version: 0.10.0
Hardware version: IRFA-2A24322A000000C010
S/N: 160537

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 2.0.4 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in IRF/IDF/ZLF/DLF/RTF from ZIV Aplicaciones y Tecnología, V0.0, Date 15/05/2021", "Model Implementation Conformance Statement for the IEC 61850 interface in IRF, V0.0, Date 28/04/2021" and "TISSUES Implementation Conformance Statement for the IEC 61850 Ed2 interface in IRF/IDF/ZLF/DLF/RTF, V0.0, Date 15/05/2021" and product's extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 server interface in IRF/IDF/ZLF/DLF/RTF from ZIV Aplicaciones y Tecnología, V0.0, Date 15/05/2021".

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 (26/26)		9a	GOOSE Publish (12/13)
2	Data Sets (4/7)		9b	GOOSE Subscribe (20/20)
3	Substitution (3/3)		12a	Direct Control (9/19)
4	Setting Group Selection (4/4)		12b	SBO Control (16/28)
4+	Setting Group Definition (13/13)		12c	Enhanced Direct Control (11/21)
5	Unbuffered Reporting (21/23)		12d	Enhanced SBO Control (17/29)
6	Buffered Reporting (31/33)		13	Time Synchronization (6/7)
			14	File Transfer (6/8)

This certificate includes a summary of the test results as carried out at DNV in Spain with UniGrid SA Simulator 1.8.0 with test suite IEC61850ServerTP_2.0.1-v1.1.0 and UniCA 61850 Analyzer 5.34.02. This document has been issued for information purposes only, and the archived DNV verification report No. 10282777-INC 21-2970 rev 0 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV by ZIV. 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 09, 2021

Issued by:

N.A. Heijker
Business Leader
Interoperability of Smart Power Systems

R. Schimmel
Verification Manager

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

IEC 61850 Certificate Level A

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.4

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcdf, sSrvN4	sAssN6, sSrv6, sSrv9, sSrv10, sSrv12, sSrv13, sSrvN1e, sSrvN1f, sSrvN2, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
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, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp8, sRp10, sRp11, sRp12, sRp13, sRp15, sRp17, 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, sBr17, sBr23, sBr24
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGop5, sGop6, sGopN1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b, sGos13
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl2, sCtl7, sCtl13, sCtl16, sCtl17
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl2, sCtl4, sCtl6, sCtl7, sCtl16, sCtl17, sCtl27
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl2, sCtl7, sCtl13, sCtl14, sCtl16, sCtl17, sCtl26
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2, sCtl4, sCtl6, sCtl7, sCtl16, sCtl17, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTm3, sTm4, sTm5
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt3

All configuration file and data model tests have been successfully performed for the product variants using the same communication hardware and software version:

- RTFA Automatic Voltage Regulator

- IDFE Transformer Differential Protection Relay

- ZLFB Distance Protection Relay

- DLFA Line Differential Protection Relay