

No. 84000187-INC 17-2731

Issued to:

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

For the server product:

IRL-F Directional Overcurrent Protection with
Sensitive Ground
Software version: 0.7.1
Hardware version: IRL-F-1BCAAABAA0A
S/N: 100160

The server product has not been shown to be non-conforming to:

IEC 61850 First Edition Parts 6, 7-1, 7-2, 7-3, 7-4 and 8-1

Communication networks and systems in substations

The conformance test has been performed according to IEC 61850-10, the UCA International Users Group Server Device Test Procedures version 3.04, the product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in IRL-F from ZIV Aplicaciones y Tecnología 19/07/2017, V0.0, IRL-F-1##AAAB (2017/10/18)", "Model Implementation Conformance Statement for the IEC 61850 interface in IRL-F from ZIV Aplicaciones y Tecnología 19/07/2017, V0.0, IRL-F-1##AAAB (2017/09/22)" and "Tissues Implementation Conformance Statement for the IEC 61850 Ed1interface in IRL-F 19/07/2017, V0.0, IRL-F-1##AAAB (2017/09/22)" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in IRL-F from ZIV Aplicaciones y Tecnología 19/07/2017, V0.0, IRL-F-1##AAAB (2017/10/18)".

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 (22/24)	9b GOOSE Subscribe (10/11)
2 Data Sets (3/6)	12a Direct Control (6/11)
4 Setting Group Selection (3/3)	12b SBO Control (9/14)
4+ Setting Group Definition (7/7)	12c Enhanced Direct Control (8/13)
5 Unbuffered Reporting (16/18)	12d Enhanced SBO Control (13/19)
6 Buffered Reporting (23/27)	13 Time Synchronization (4/5)
9a GOOSE Publish (11/12)	14 File Transfer (5/7)

This certificate includes a summary of the test results as carried out at ZIV in Spain with UniCA 61850 Client Simulator 4.31.02 with test suite 3.31.00 and UniCA 61850 Analyzer 5.31.00. This document has been issued for information purposes only, and the original paper copy of the DNV GL report No. 84000187-INC 17-2730 will prevail.

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

Arnhem, September 29, 2017



P. Cioci
Business Director
Intelligent Networks and Communication

Issued by:



DNV-GL
DNV KEMA is now DNV GL



R. Schimmel
Verification Manager

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



Applicable Test Procedures from the UCA International Users Group Server Device Test Procedures version 3.04

Conformance Block	Mandator	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3, AssN6, Srv6, Srv7, Srv8, SrvN1e, SrvN1f, SrvN2, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
4: Setting Group Selection	Sg1, Sg3, SgN1a	
4+: Setting Group Definition	Sg2, Sg4, SgN1b, SgN2, SgN3, SgN4, SgN5	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp9, RpN1, RpN2, RpN3, RpN4, RpN8	Rp5, Rp8, Rp10, Rp11, Rp12, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br9, Br20, Br21, Br22, Br25, Br26, Br27, Br28, BrN1, BrN2, BrN3, BrN4, BrN5, BrN8	Br5, Br8, Br10, Br11, Br12
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop9, Gop10a	Gop1, Gop6, Gop7, Gop10b, GopN1, GopN2
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct Control	CtIN3, DOns1	Ctl2, Ctl7, CtlN10, DOns3
12b: SBO Control	CtIN1, CtIN2, CtIN3, CtIN4, SBOs2	Ctl2, Ctl3, Ctl7, CtlN10
12c: Enhanced Direct Control	CtIN3, DOes2, DOes5	Ctl2, Ctl7, CtlN6, CtlN8, CtlN10
12d: Enhanced SBO Control	CtIN1, CtIN2, CtIN3, CtIN4, CtIN9, SBOes1, SBOes2, SBOes3	Ctl2, Ctl3, Ctl7, CtlN6, CtlN10
13: Time Sync	Tm1, Tm2	Tm3, TmN1
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft3