

No. 74101841-OPE/INC 15-1150

**Issued to:**

ZIV GRID Automation S.L.  
Parque Tecnológico, 210  
48170 Zamudio, Bizkaia  
Spain

**For the server product:**

RTV  
Automatic voltage regulator  
Software version: 7.6S  
Hardware version: 6RTV-P4N-22Y1A6SML

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 2.3 with TPCL<sup>2</sup> version 1.7, the product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in RTV from ZIV Aplicaciones y Tecnologia", v1.0, "Model Implementation Conformance Statement for the IEC 61850 interface in RTV from ZIV Aplicaciones y Tecnologia", v1.0 and "TISSUES Implementation Conformance Statement for the IEC 61850 interface in RTV from ZIV Aplicaciones y Tecnologia", v1.0 and the extra information for testing: "Protocol Implementation eXtra Information for Testing for the IEC 61850 interface in RTV from ZIV Aplicaciones y Tecnologia", v1.0.

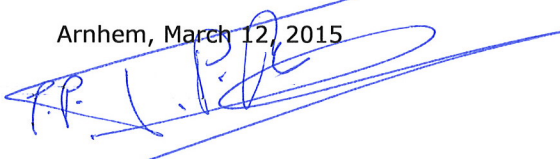
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1 Basic Exchange (21/24)	9a GOOSE Publish (11/13)
2 Data Sets (3/6)	9b GOOSE Subscribe (10/11)
4 Setting Group Selection (3/3)	12a Direct Control (6/12)
4+ Setting Group Definition (7/7)	12b SBO Control (8/14)
5 Unbuffered Reporting (15/19)	12c Enhanced Direct Control (6/13)
6 Buffered Reporting (18/21)	12d Enhanced SBO Control (11/19)
	13 Time Synchronization (4/5)
	14 File Transfer (6/7)

This certificate includes a summary of the test results as carried out at ZIV in Spain with UniCA 61850 Client Simulator 4.29.03 with test suite 3.29.00 and UniCA 61850 Analyzer 5.29.02. This document has been issued for information purposes only, and the original paper copy of the DNV GL report No. 74101841-OPE/INC 15-1151 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, March 12, 2015



**M. Adriaensen**  
Head of Department  
Operational Excellence

Issued by:




**R. Schimmel**  
Certification Manager

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

<sup>2</sup> TPCL - Test procedures change list

Applicable Test Procedures from the UCA International Users Group Server Device Test Procedures version 2.3 with TPCL 1.7

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	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, Rp7, Rp10, Rp12 RpN1, RpN2, RpN3, RpN4	Rp5, Rp8, Rp9, RpN6
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10, Br11, BrN6
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop7, Gop9, Gop10a	Gop1, Gop6, Gop10b, GopN1, GopN2
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct Control	CtlN3, CtlN8, DOs1	Ctl2, Ctl7, DOs3
12b: SBO Control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, SBOs2	Ctl2, Ctl7
12c: Enhanced Direct Control	CtlN3, CtlN8, DOes2, DOes5	Ctl2, Ctl7
12d: Enhanced SBO Control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9, SBOes1, SBOes2, SBOes3	Ctl2, Ctl7
13: Time Sync	Tm1, Tm2, TmN1	Tm3
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, FtN1c