

No. 10096707-INC 18-2566

**Issued to:**

JSC VNIIR  
Yakovleva avenue, 4  
428024 Cheboksary  
Russian Federation

**For the server product:**

RITM 02-T4 (PITM 02-T4)  
Transformer protection, automation and control  
IEC 61850 software version: 1.0  
S/N: 160019

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 RITM 02-T4, version 1.0, may 2018", "Model Implementation Conformance Statement for the IEC 61850 interface in RITM 02-T4, may 2018, version 1.0" and "Tissues Implementation Conformance Statement for the IEC 61850 Ed1 interface in RITM 02-T4, may 2018, version 1.0, may 2018" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in RITM 02-T4 may 2018, version 1.0".

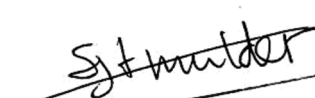
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

|                                   |                                 |
|-----------------------------------|---------------------------------|
| 1 Basic Exchange (19/24)          | 9a GOOSE Publish (10/12)        |
| 2 Data Sets (3/6)                 | 9b GOOSE Subscribe (10/11)      |
| 2+ Data Set Definition (22/24)    | 12a Direct Control (4/11)       |
| 4 Setting Group Selection (3/3)   | 12d Enhanced SBO Control (9/19) |
| 4+ Setting Group Definition (7/7) | 13 Time Synchronization (3/5)   |
| 5 Unbuffered Reporting (15/18)    | 14 File Transfer (6/7)          |
| 6 Buffered Reporting (22/27)      |                                 |

This certificate includes a summary of the test results as carried out at NTC FSK UES in the Russian Federation with UniGrid SA 1.4.361.30 with test suite 1.0.55 and UniCA 61850 Analyzer 5.34.01. This document has been issued for information purposes only, and the archived DNV GL report No. 10096707-INC 18-2565 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by VNIIR. 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, May 18, 2018



**S.J.T. Mulder**  
Business Leader  
Interoperability of Smart Power Systems

**Issued by:**



**DNV-GL**  
DNV KEMA is now DNV GL



**R. Schimmel**  
Verification Manager

<sup>1</sup> 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            | Mandatory  | Conditional                                |
|------------------------------|--|--|
| 1: Basic Exchange            | Ass1, Ass2, Ass3, AssN2, AssN4, AssN5<br>Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd,<br>SrvN4   | AssN3, AssN6, Srv6, Srv7, SrvN1e,<br>SrvN3 |
| 2: Data Sets                 | Dset1, Dset10a, DsetN1ae   |  |
| 2+: Data Set Definition      | Dset2, Dset3, Dset4, Dset5, Dset6, Dset7,<br>Dset8, Dset9<br>DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5,<br>DsetN6, DsetN7, DsetN8, DsetN9, DsetN10,<br>DsetN11, DsetN12, DsetN13, DsetN14 |  |
| 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,<br>RpN4, RpN8   | Rp8, Rp10, Rp11, Rp12, RpN5                |
| 6: Buffered Reporting        | Br1, Br2, Br3, Br4, Br9, Br20, Br21, Br22,<br>Br25, Br26, Br27, Br28, BrN1, BrN2, BrN3,<br>BrN4, BrN5, BrN8  | Br8, Br10, Br11, Br12                      |
| 9a: GOOSE Publish            | Gop2, Gop3, Gop4, Gop9, Gop10a   | Gop1, Gop6, Gop7, Gop10b, GopN1            |
| 9b: GOOSE Subscribe          | Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3,<br>GosN4, GosN5, GosN6   | Gos1b                                      |
| 12a: Direct Control          | CtIN3, DOns1   | CtIN11, DOns3                              |
| 12d: Enhanced SBO Control    | CtIN1, CtIN2, CtIN3, CtIN4, CtIN9,<br>SBOes1, SBOes2, SBOes3   | CtIN11                                     |
| 13: Time Sync                | Tm1, Tm2   | TmN1                                       |
| 14: File Transfer            | Ft1, Ft2ab, Ft4, FtN1ab  | Ft2c, FtN1c                                |