

No. 10012256-OPE/INC 15-2732

Issued to:

Research Centre Bresler, LLC
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For the server product:

TOR 300 AUV (TOP 300 AYB)
Line Protection Relay with Circuit Breaker Control
Firmware version: v2.15_T
S/N: 1393

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 TPCL² version 1.8, the product's protocol, model and technical issue implementation conformance statements: "«TOR 300» Protocol Implementation Conformance Statement (IEC 61850 PICS), Revision 27.10.2015", "«TOR 300 AUV» Model Implementation Conformance Statement (IEC 61850 MICS), Revision 27.10.2015" and "TISSUES Implementation Conformance Statement for the IEC 61850 interface in TOR 300 (IEC 61850 TICS), Revision 27.10.2015" and the extra information for testing: "«TOR 300» Protocol Implementation Extra Information for Testing (IEC 61850 PIXIT), Revision 27.10.2015".

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 (16/24)	9a GOOSE Publish (10/12)
2 Data Sets (3/6)	9b GOOSE Subscribe (11/11)
5 Unbuffered Reporting (19/19)	12a Direct Control (4/12)
6 Buffered Reporting (26/28)	12b SBO Control (6/14)
	13 Time Synchronization (3/5)
	14 File Transfer (4/7)

This certificate includes a summary of the test results as carried out at NTC FSK UES in Russia with UniCA 61850 Client Simulator 4.29.02 with test suite 4.29.01 and UniCA 61850 Analyzer 4.29.02. This document has been issued for information purposes only, and the original paper copy of the DNV GL report No. 10012256-OPE/INC 15-2731 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by Research Centre Bresler. 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, November 3, 2015



M. Adriaensen
Head of Department
Operational Excellence

Issued by:



DNV KEMA is now DNV GL



R. Schimmel
Verification Manager

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

² TPCL - Test procedures change list

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Applicable Test Procedures from the UCA International Users Group Server Device Test Procedures version 2.3 with TPCL 1.8

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3, Srv8, SrvN1f
2: Data Sets	Dset1, Dset10a, DsetN1ae	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp9, Rp15, RpN1, RpN2, RpN3, RpN4, RpN8	Rp5, Rp6, Rp7, Rp8, Rp10, Rp11, Rp12, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br9, Br15, Br20, Br21, Br22, Br25, Br26, Br27, Br28, BrN1, BrN2, BrN3, BrN4, BrN5, BrN8	Br5, Br6, Br7, Br8, Br10, Br11, Br12
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop9, Gop10a	Gop1, Gop5, Gop7, Gop10b, GopN2
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b, Gos4
12a: Direct Control	CtIN3, CtIN8, DOns1	DOns3
12b: SBO Control	CtI3, CtIN1, CtIN2, CtIN3, CtIN4, SBOs2	
13: Time Sync	Tm1, Tm2	Tm3
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	

All configuration file and data model tests have been successfully performed for the product variant using the same communication hardware and software version: TOR 300 KSZ (TOP 300 KC3) Line Protection with Distance Protection