

No. 10261711-INC 20-3068

Issued to:

Protecta Electronics Ltd
Késmárk str. 7/A
1158 Budapest
Hungary

For the server product:

EuroProt+ (IED-EP+) DTVA
High-voltage distance protection, control and
automation device
System version: 2.10 revision 1.3000
S/N: 202741

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 2.0.3 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement (PICS) for the IEC 61850 Edition 2 server interface in Europrot+ product family, version 1.02", "Model Implementation Conformance Statement (MICS) for the IEC 61850 Edition 2 server interface in DTVA product, version 1.02" and "TISSUES Implementation Conformance Statement (TICS) for the IEC 61850 Edition 2 server interface in Europrot+ product family, version 1.0" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 server interface in Europrot+ product family, version 1.03".

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 (20/26) | 12a Direct Control (7/18) |
| 2 Data Sets (4/7) | 12c Enhanced Direct Control (8/20) |
| 4 Setting Group Selection (4/4) | 12d Enhanced SBO Control (14/28) |
| 5 Unbuffered Reporting (21/23) | 13 Time Synchronization (5/7) |
| 6 Buffered Reporting (29/33) | 14 File Transfer (8/8) |
| 9a GOOSE Publish (11/13) | 15 Service Tracking (7/17) |
| 9b GOOSE Subscribe (19/20) | |

This certificate includes a summary of the test results as carried out at DNV GL in The Netherlands with UniGrid SA Simulator 1.7.1 with test suite 20201005.1 and UniCA 61850 Analyzer 6.40.1 This document has been issued for information purposes only, and the archived DNV GL verification report No. 10261711-INC 20-3067 rev1 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by Protecta Electronics. 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, December 8, 2020


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

Issued by:



DNV KEMA is now DNV GL


R. Schimmel
Verification Manager

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

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.3

| Conformance Block | Mandatory | Conditional |
|------------------------------|--|---|
| 1: Basic Exchange | sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4 | sAssN6, sSrv9, sSrv10, sSrv12 |
| 2: Data Sets | sDs1, sDs10a, sDsN1ae | sDs15 |
| 4: Setting Group Selection | sSg1, sSg3, sSgN1 | sSg11 |
| 5: Unbuffered Reporting | sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8 | sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp15, 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 | sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr15 |
| 9a: GOOSE publish | sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12 | sGop1, sGop6, sGopN1, sGopN2 |
| 9b: GOOSE subscribe | sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6 | sGos6b, sGos13 |
| 12a: Direct control | sCtl5, sCtl10, sDOs1, sDOs2 | sCtl7, sCtl15, sCtl16 |
| 12c: Enhanced Direct Control | sCtl5, sCtl10, sDOes1, sDOes2 | sCtl7, sCtl14, sCtl15, sCtl16 |
| 12d: Enhanced SBO Control | sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8 | sCtl6, sCtl7, sCtl15, sCtl16 |
| 13: Time sync | sTm1, sTm2, sTmN1 | sTm3, sTmN2 |
| 14: File transfer | sFt1, sFt2ab, sFt4, sFt5, sFtN1ab | sFt2c, sFt3, sFtN1c |
| 15: Service tracking | | sTrk1, sTrk2, sTrk4, sTrk7, sTrk8, sTrk9, sTrk11 |

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

- DTRV Transformer Protection & Control, Generator Protection, Automatic Voltage Regulator, Impedance Protection
- DTIVA Feeder OC Protection & Control, Motor Protection & Control, Voltage Protection, Capacitor Bank Protection, Catenary Protection
- DVEZ Bay Control Unit
- DGYD/OGYD Centralized Busbar Protection, Distributed Busbar Protection
- DAUT Special Automation & Control
- DGEN Generator Block Protection & Control