



4085

IEC 61850 Certificate Level B¹

No. 50745.6645.801

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Issue to:
GE Power
St. Leonards Building, Redhill Business Park
Stafford, UK, ST16 1WT



For the server product:
MiCOM P40 Agile P645
Transformer Protection
Software Version 07

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 3.2, the product's protocol, model and technical issue implementation conformance statements: "MiCOM P40 Agile Px4x PICS Protocol Implementation Conformance – IEC 61850 Edition 1: Px4x-EN-PC1-D", "MiCOM P40 Agile P645 MICS Model Implementation Conformance Statement: P645-MC-EN-2.3 ", "MiCOM P40 Agile P642, P643, P645 TICS Tissues Implementation Conformance: P64x-TC-EN-2.3" and extra information for testing "MiCOM P40 Agile P642, P643, P645 PIXIT Protocol Implementation eXtra Information for Testing: P64x-PX-EN-2.3".

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

| | | | |
|----|-------------------------------|-----|---------------------------------|
| 1 | Basic Exchange (21/25) | 12a | Direct Control (4/ 11) |
| 2 | Data Sets (3/6) | 12b | SBO Control (7/ 14) |
| 4 | Setting Group Selection (3/3) | 12c | Enhanced Direct Control (6/ 13) |
| 5 | Unbuffered Reporting (16/18) | 12d | Enhanced SBO Control (11/ 19) |
| 6 | Buffered Reporting (23/27) | 13 | Time Synchronization (4/5) |
| 9a | GOOSE Publish (12/12) | 14 | File Transfer (6/ 7) |
| 9b | GOOSE Subscribe (11/11) | | |

This certificate includes a summary of the test results as carried out at Grid Automation Laboratories in UK Grid Solutions Limited in Stafford, United Kingdom with UniCA 61850 client simulator version 4.31.02 with test suite version 3.29.00 and the UniCA 61850 Analyzer version 5.31. This document has been issued for information purposes only, and the original paper copy of the Grid Automation Laboratories report: No. 50745.6645.301 will prevail.

The tests have been carried out on one single specimen of the product as referred above and submitted to Grid Automation Laboratories by GE Power. The manufacturer's production process has not been assessed. This certificate does not imply Grid Automation Laboratories at UK Grid Solutions Limited has approved any product other than the specimen tested.

Stafford, 15-03-2018

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¹ Level B – Tester with ISO 9001 Quality System



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Applicable Test Procedures from the UCA International Users Group Sever Device Test Procedures version 3.2

| Conformance Block | Mandatory | Conditional |
|------------------------------|--|---|
| 1: Basic Exchange | Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4 | AssN3 Srv6, Srv7, Srv8, Srv12, SrvN1e, SrvN1f, SrvN3 |
| 2: Data Sets | Dset1, Dset10a, DsetN1ae | |
| 4: Setting Group | Sg1, SgN1a, Sg3 | |
| 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, Gop5, Gop6, Gop7, Gop10b, GopN1, GopN2 |
| 9b: GOOSE Subscribe | Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6 | Gos1b, Gos4 |
| 12a: Direct Control | CtIN3, DOns1 | CtIN10, DOns3 |
| 12b: SBO Control | CtIN1, CtIN2, CtIN3, CtIN4, SBOs2 | CtI3, CtIN10 |
| 12c: Enhanced Direct Control | CtIN3, DOes2, DOes5 | CtIN6, CtIN8, CtIN10 |
| 12d: Enhanced SBO Control | CtIN1, CtIN2, CtIN3, CtIN4, CtIN9 SBOes1, SBOes2, SBOes3 | CtI3, CtIN6, CtIN10 |
| 13: Time sync | Tm1, Tm2 | Tm3, TmN1 |
| 14: File Transfer | Ft1, Ft2ab, Ft4, FtN1ab | Ft2c, FtN1c |

All configuration file and data model tests have been successfully performed for the product variants using the same software version: MiCOM P40 Agile P643, MiCOM P40 Agile P642

