



4085

IEC 61850 Certificate Level B¹

No. 50745.6660.802

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Issued to:
Bitronics, LLC.
261 Brodhead Road
Bethlehem, PA 18017 USA



For the product:
Bitronics M660
SCADA Measurement IED
Software Version 2.11.0
Hardware Version M3

The sever product has not been 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 for power utility automation

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: "(PICS) Section 2, Bitronics 60 Series IED IEC61850 Protocol Manual, ML0043", "(MICS) Section 3, Bitronics 60 Series IED IEC61850 Protocol Manual, ML0043", "(TICS) Section 4, Bitronics 60 Series IED IEC61850 Protocol Manual, ML0043" and extra information for testing "(PIXIT) Section 5, Bitronics 60 Series IED IEC61850 Protocol Manual, ML0043".

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

| | | | |
|---|------------------------|----|------------------------------|
| 1 | Basic Exchange (18/24) | 5 | Unbuffered Reporting (19/19) |
| 2 | Data Sets (3/6) | 6 | Buffered Reporting (26/28) |
| | | 13 | Time Synchronization (3/5) |

This certificate includes a summary of the test results as carried out at ALSTOM's laboratories in Stafford, UK with UniCA 61850 client simulator version 4.29.03 with test suite version 3.29.00 and the UniCA 61850 Analyzer version 5.28. This document has been issued for information purposes only, and the original paper copy of the ALSTOM report: No. 50745.6660.302 will prevail.

The tests have been carried out on one single specimen of the product as referred above and submitted to ALSTOM GRID by Bitronics, LLC. The manufacturer's production process has not been assessed. This certificate does not imply Automation Products Laboratories at ALSTOM GRID UK has certified or approved any other product other than the specimen tested.

Stafford, 01-02-2016

Allen Millard
Automation Products Laboratories Manager

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Automation Products Laboratories
IED Communication Test Engineer

¹ Level B - Test lab at least following ISO 9001
² Test Procedure Change List

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

| Conformance Block | Mandatory | Conditional |
|-------------------------|--|--|
| 1: Basic Exchange | Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4 | AssN3 Srv6, Srv8, Srv9, 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 |
| 13: Time sync | Tm1, Tm2 | TmN1 |