



# IEC 61850 Certificate Level A<sup>1</sup>

No. 74104912-OPE/INC 14-0605

Issued to:  
GE Power Conversion  
Boughton Road  
Rugby, Warwickshire CV21 1BU  
United Kingdom

For the server product:  
T5502 RTU  
Software: Version 4.15, Revision 165  
Hardware: GE T5502 Processor



**The server product has not 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 Device Test Procedures version 2.3 with TPCL<sup>2</sup> version 1.7, the product's protocol, model and technical issue implementation conformance statements: "UK POWER NETWORKS T5500 IEC61850 Protocol Implementation Conformance Statement (PICS) rev 5", "UK POWER NETWORKS Flexible Plug and Play Model Implementation Conformance Statement T5500 IEC61850 Server rev 3" and "UK POWER NETWORKS Flexible Plug and Play Tissue Implementation Conformance Statement T5500 IEC61850 Server rev 2" and the extra information for testing: "UK POWER NETWORKS Flexible Plug and Play IEC61850 Protocol Extra Information for Testing (PIXIT) rev 6".

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)	12a	Direct Control (5/12)
2	Data Sets (3/6)	12b	SBO Control (7/14)
2+	Data Set Definition (23/23)	12c	Enhanced Direct Control (5/13)
5	Unbuffered Reporting (14/19)	12d	Enhanced SBO Control (10/19)
6	Buffered Reporting (16/21)	13	Time Synchronization (3/5)

This certificate includes a summary of the test results as carried out at GE Power Conversion in The United Kingdom with UniCA 61850 Client Simulator 4.27.04 with test suite 3.24.02 and UniCA 61850 Analyzer 5.26.04. This document has been issued for information purposes only, and the original paper copy of the KEMA report No. 74104912-MOC/INC 13-3353 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KEMA by GE Power Conversion. The manufacturer's production process has not been assessed. This attestation does not imply that KEMA has approved any product other than the specimen tested.

Arnhem, February 18, 2014

M. Adriaensen  
Director Intelligent Networks & Communication

R. Schimmel  
Certification Manager

<sup>1</sup> Level A - Independent test lab with certified ISO 9001 Quality System  
<sup>2</sup> TPCL - Test procedures change list



Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL version 1.7

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	Srv8, SrvN1f
2: Data Sets	Dset1, Dset10a, DsetN1ae	
2+: Data Set Definition	Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9 DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14, DsetN15	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12 RpN1, RpN2, RpN3, RpN4	Rp5, Rp8, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10
12a: Direct control	CtlN3, CtlN8, DOns1	Ctl2, DOns3
12b: SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, SBOs2	Ctl2
12c: Enhanced Direct Control	CtlN3, CtlN8, DOes2, DOes5	Ctl2
12d: Enhanced SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3	Ctl2
13: Time sync	Tm1, Tm2, TmN1	