



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

No. 50745.6546.802

Issued to:

ALSTOM Grid UK LTD  
St. Leonards Avenue  
Stafford, ST17 4LX United Kingdom



For the product:

MiCOM P40 AGILE P546  
Differential Protection Relay  
Software Version 80  
Hardware Version M

Issued by:

ALSTOM Grid UK LTD  
Automation Products Laboratories

The product has not been 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 1.0, with product's protocol, model and technical issue implementation conformance statements: "MiCOM P40 Agile Px4x, PICS Protocol Implementation Conformance Statement IEC 61850 Edition 2, Px4x-EN-PC-B", "MiCOM P40 Agile P546 MICS Model Implementation Conformance Statement IEC 61850 Edition 2, P546-EN-MC-2", "MiCOM P40 Agile P543, P544, P545 & P546 TICS Tissues Implementation Conformance Statement IEC 61850 Edition 2, P54x-EN-TC-N" and extra information for testing "MiCOM P40 Agile P543, P544, P545 & P546 PIXIT Protocol Implementation eXtra Information for Testing IEC 61850 Edition 2, P54x-EN-PX-N".

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 (21/26)	12a	Direct Control (9/20)
2	Data Sets (3/6)	12b	SBO Control (14/28)
4	Setting Group Selection (3/5)	12c	Enhanced Direct Control (9/20)
5	Unbuffered Reporting (17/20)	12d	Enhanced SBO Control (14/28)
6	Buffered Reporting (24/29)	13	Time Synchronization (4/7)
9a	GOOSE Publish (11/12)	14	File Transfer (7/8)
9b	GOOSE Subscribe (14/14)		

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 4.28.05 with test suite Ed2 3.27.0 and the UniCA 61850 Analyzer version 5.28.03. This document has been issued for information purposes only, and the original paper copy of the ALSTOM report: No. 50745.6546.301 will prevail.

The tests have been carried out on one single specimen of the product as referred and submitted to ALSTOM GRID by ALSTOM GRID UK. 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, 12-12-2014

Allen Millard  
Automation Products Laboratories Manager

Rakesh Kumar Bali  
IEC 61850 Technical Lead

<sup>1</sup> Level B - Test lab at least following ISO 9001

## Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 1.0

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sSrv6, sSrv8, sSrv12, sSrv13, sSrvN1e, sSrvN1f, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	
4: Setting Group Selection	sSg1, sSg3, sSgN1	
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp8, sRp9, sRp10, sRp11, sRp12, sRp14, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp5, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr8, sBr9, sBr10, sBr11, sBr12, sBr14, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr5
9a: GOOSE publish	sGop2, sGop3, sGop4, sGop7, sGop9, sGop10, sGop11	sGop1, sGop5, sGop6, sGopN1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b
12a: Direct control	sCtl5, sCtl10, sCtl14, sDOns1, sDOns2	sCtl7, sCtl13, sCtl16, sCtl26
12b: SBO control	sCtl5, sCtl6, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl7, sCtl16, sCtl26, sCtl27
12c: Enhanced Direct Control	sCtl5, sCtl10, sCtl14, sDOes1, sDOes2	sCtl7, sCtl13, sCtl16, sCtl26
12d: Enhanced SBO Control	sCtl5, sCtl6, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl7, sCtl16, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTm3
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c