



IEC 61850 Certificate Level B¹



No. Schneider_VAL_MiCOM_P645_B1_Ed1

Issued to:
Schneider Electric
35 rue Joseph Monier
92500 Rueil Malmaison
France

For the product:
MiCOM P645
Software version: B1
Hardware version: M

Issued by:
Schneider Electric
IEC61850 Laboratory - China

The server product has not shown to be non-conforming to:

IEC First Edition 61850-6, 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 TPCL² version 1.7.6, the product's protocol, model and technical issue implementation conformance statements: "MiCOM P64x Transformer Protection Relay Protocol Implementation Conformance Statement (P64x/EN PC/G51)", "MiCOM P64x Transformer Protection Relay Model Implementation Conformance Statement (P645/EN MC/G51)", "MiCOM P64x Transformer Protection Relay Technical Issues Conformance Statement (P64x/EN TC/G51)" and the extra information for testing: "MiCOM P64x Transformer Protection Relay Protocol Implementation eXtra Information for Testing (P64x/EN PX/G51)".

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 (23/24)	12a	Direct Control (4/12)
2	Data Sets (3/6)	12b	SBO Control (6/14)
4	Setting Group Selection (3/3)	12c	Enhanced Direct Control (4/13)
5	Unbuffered Reports (15/19)	12d	Enhanced SBO Control (9/19)
6	Buffered Reports (17/21)	13	Time Synchronization (4/5)
9a	GOOSE Publish (13/13)	14	File Transfer (6/7)
9b	GOOSE Subscribe (11/11)		

This Certificate includes a summary of the test results as carried out at Schneider Electric IEC61850 lab in China with UniCASim 61850 client simulator 4.28.04 with test suite v3.28.00 and UniCA Analyzer 5.28.03. This document has been issued for information purposes only, and the original paper copy of the Schneider Electric IEC61850 lab report: No. Schneider_VAL_MiCOM_P645_B1_Ed1_RPT_01 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to Schneider Electric IEC61850 lab by Schneider Electric. The manufacturer's production process has not been assessed. This certificate does not imply that Schneider Electric IEC61850 lab has approved any product other than the specimen tested.

Shanghai, 2014-12-01

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IED Validation Manager

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IEC61850 Test Engineer

¹ Level B – Tester with ISO 9001 Quality System

² TPCL – Test Procedure Change List

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Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL version 1.7.6

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3, AssN6 Srv6, Srv7, Srv8, Srv9, Srv10, SrvN1e, SrvN1f, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
4: Setting Group Selection	Sg1, SgN1a, Sg3	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12, RpN1, RpN2, RpN3, RpN4	Rp5, Rp8, Rp9, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14, BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10, Br11
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7, Gop9, Gop10a	Gop1, Gop5, Gop6, Gop8, Gop10b, GopN1, GopN2
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b, Gos4
12a: Direct control	CtlN3, CtlN8, DOns1	DOns3
12b: SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, SBOs2	
12c: Enhanced Direct control	CtlN3, CtlN8, Does2, Does5	
12d: Enhanced SBO control	CtlN1, CtlN2, CtlN3, CtlN4, CtlN9, SBOes1, SBOes2, SBOes3	Ctl3
13: Time sync	Tm1, Tm2	TmN1, Tm3
14: File transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, FtN1c