

No. 132672 OPE/INC 16-2285

Issued to:

Schneider Electric
35 Rue Joseph Monier
92500 Rueil Malmaison
France

For the server product:

MiCOM P543 Current Differential Protection Relay
Software version: D2
Hardware version: M

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 3.03, the product's protocol, model and technical issue implementation conformance statements: "P543_P545/EN PC/Lb4, Software Version D2", "P543_P545/EN MC/Mc5, Software Version D2" and "P543_P545/EN TC/Mc5, Software Version D2" and the extra information for testing: "P543P545/EN PX/Mc5, PIXIT_Ed1, Version D2".

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 (20/24)	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 (5/13)
5 Unbuffered Reporting (16/18)	12d Enhanced SBO Control (10/19)
6 Buffered Reporting (23/27)	13 Time Synchronization (4/5)
9a GOOSE Publish (11/12)	14 File Transfer (6/7)
9b GOOSE Subscribe (10/11)	

This certificate includes a summary of the test results as carried out at DNV GL in The Netherlands with UniCA 61850 Client Simulator 4.29.03 with test suite 3.31.00 and UniCA 61850 Analyzer 5.29.02. This document has been issued for information purposes only, and the original paper copy of the DNV GL report No. 132672 OPE/INC 16-2283 will prevail.

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

Arnhem, September 2, 2016



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R. Schimmel
Verification Manager

¹ Level A - Independent test lab with certified ISO 9001 Quality System



Applicable Test Procedures from the UCA International Users Group Server Device Test Procedures version 3.03

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3, Srv6, Srv7, Srv8, SrvN1e, SrvN1f, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
4: Setting Group Selection	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
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct Control	CtIN3, DOs1	CtIN11 DOs3
12b: SBO Control	CtIN1, CtIN2, CtIN3, CtIN4, SBOs2	CtI3, CtIN11
12c: Enhanced Direct Control	CtIN3, DOes2, DOes5	CtIN8, CtIN11
12d: Enhanced SBO Control	CtIN1, CtIN2, CtIN3, CtIN4, CtIN9, SBOes1, SBOes2, SBOes3	CtI3, CtIN11
13: Time Sync	Tm1, Tm2	Tm3, TmN1
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, FtN1c