

No. 10071281-INC 18-2122

**Issued to:**

Schneider Electric Industries SAS  
35 rue Joseph Monier  
92500 Rueil Malmaison  
France

**For the server product:**

Easergy MiCOM P438  
Rail Catenary Protection Device  
Firmware version: P438-661-251  
Hardware version: 418  
S/N: 37016802

The server product has not been shown 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 TPCL<sup>2</sup> 1.2.4 with product's protocol, model and technical issue implementation conformance statements: "MiCOM P438 PICS, Version: P438-661-251, Release: 01/2018", "MiCOM P438 MICS, Version: P438-661-251, Release: 01/2018" and "MiCOM Px3x TICS\_Ed2, Version: TICS-Ed2-A.1, Release: 01/2018" and the extra information for testing: "MiCOM Px3x PIXIT with control ED2, Version: PIXIT-Ed2-A.1, Release: 01/2018".


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 (22/26)	9a GOOSE Publish (10/13)
2 Data Sets (4/7)	9b GOOSE Subscribe (12/14)
4 Setting Group Selection (4/4)	12a Direct Control (9/18)
5 Unbuffered Reporting (19/21)	12c Enhanced Direct Control (11/20)
6 Buffered Reporting (28/30)	12d Enhanced SBO Control (17/28)
	13 Time Synchronization (4/7)
	14 File Transfer (5/8)

This certificate includes a summary of the test results as carried out at Schneider Electric in China with UniGrid SA 1.4.361.30 with test suite 1.0.55 and UniCA 61850 Analyzer 5.34.01. This document has been issued for information purposes only, and the original paper copy of the DNV GL verification report No. 10071281-INC 18-2121 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, February 6, 2018



**E. Henriquez**  
Business Leader  
Interoperability of Smart Power Systems

**Issued by:**



**DNV-GL**  
DNV KEMA is now DNV GL



**R. Schimmel**  
Verification Manager

<sup>1</sup> Level A - Independent test lab with certified ISO 9001 Quality System

<sup>2</sup> TPCL - Test procedures change list

Copyright © DNV GL Netherlands B.V. Arnhem, the Netherlands. All rights reserved. It is prohibited to update or change this certificate in any manner whatsoever, including but not limited to dividing it into parts.

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL 1.2.4

<b>Conformance Block</b>	<b>Mandatory</b>	<b>Conditional</b>
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv8, sSrv9, sSrv12, sSrvN1e, sSrvN1f, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp8, sRp10, sRp11, sRp12, sRp13, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr15, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr8, sBr10, sBr11, sBr12, sBr13, sBr23, sBr24
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11	sGop1, sGop5, sGop7, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl7, sCtl13, sCtl15, sCtl16, sCtl17
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl7, sCtl13, sCtl14, sCtl15, sCtl16, sCtl17, sCtl26
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl6, sCtl7, sCtl15, sCtl16, sCtl17, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTm3
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	