

No. 10051683-INC 17-2213

Issued to:

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

For the server product:

Easergy MiCOM P643
Transformer protection relay
Software version: B2
Hardware version: M
S/N: 36242855

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 TPCL² 1.2.4 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement (PICS), P64x/EN PC/C73, Edition 2, issue date 09/2016", "Model Implementation Conformance Statement (MICS), P643/EN MC/C73, Edition 2, issue date 09/2016" and "Tissues Conformance Statement (TICS), P64x/EN TC/C73, Edition 2, issue date 09/2016" and the extra information for testing: "Protocol Implementation extra Information for Testing (PIXIT), P64x/EN PX/C73, Edition 2, issue date 09/2016".

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 (21/26)	12a Direct Control (6/18)
2 Data Sets (4/7)	12b SBO Control (13/27)
4 Setting Group Selection (4/4)	12c Enhanced Direct Control (6/20)
5 Unbuffered Reporting (19/21)	12d Enhanced SBO Control (13/28)
6 Buffered Reporting (28/30)	13 Time Synchronization (6/7)
9a GOOSE Publish (12/13)	14 File Transfer (7/8)
9b GOOSE Subscribe (13/14)	

This certificate includes a summary of the test results as carried out at DNV GL in the Netherlands with UniCA Client Simulator 4.31.02 with test suite Ed2 4.32.06 and UniCA 61850 Analyzer 5.31.00. This document has been issued for information purposes only, and the original paper copy of the DNV GL verification report No. 10051683-INC 17-2212 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, May 24, 2017



P. Cioci
Business Director
Operational Excellence of Power
Systems

Issued by:



DNV-GL
DNV KEMA is now DNV GL



R. Schimmel
Verification Manager

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

² TPCL - Test procedures change list

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

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv8, 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, sGop6, sGop7, sGopN1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos6b
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl13, sCtl15
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl4, sCtl6, sCtl15, sCtl27
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl13, sCtl15
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl6, sCtl15
13: Time sync	sTm1, sTm2, sTmN1	sTm3, sTm4, sTm5
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c