

No. 74107481-OPE/INC 15-1889

Issued to:

Schneider Automation S.A.S.
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ZI de Carros
BP 147 06516 Carros Cedex
France

For the server product:

Modicon Quantum 140
NOP850 00 Ethernet Module for IEC61850 and
Modbus TCP Communication with 140 CPU651 60
Pentium controller and 140 DDM390 00 I/O module
Ethernet module FW version: 1.0
Ethernet module S/N: 21151713555
Controller OS version: 3.20-00-06

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 1.0 with product's protocol, model and technical issue implementation conformance statements: "140 NOP850 00 Modicon Quantum IED (Server) PICS, version: v1.0", "140 NOP850 00 Modicon Quantum IED (Server) MICS, Version: v1.0" and "140 NOP850 00 Modicon Quantum IED (Server) TICS, version: v1.0" and the extra information for testing: "140 NOP850 00 Modicon Quantum IED (Server) PIXIT, version: v1.0".

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 (20/26)	9a GOOSE Publish (10/13)
2 Data Sets (4/7)	9b GOOSE Subscribe (12/14)
5 Unbuffered Reporting (17/20)	12a Direct Control (7/19)
6 Buffered Reporting (24/29)	12b SBO Control (11/28)
	13 Time Synchronization (3/7)

This certificate includes a summary of the test results as carried out at Schneider Automation S.A.S. in P.R.C. with UniCA 61850 Client simulator 4.29.03 with test suite Ed2 3.29.02 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. 74107481-OPE/INC 15-1888 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 Automation S.A.S.. 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, June 27, 2015



M. Adriaensen
Head of Department
Operational Excellence

Issued by:



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 1.0

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sSrv6, sSrv8, sSrv12, sSrvN1e, sSrvN1f, sSrvN3
2: Data Sets	sDs1, sDs10a, sDs15, sDsN1ae	
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp9, sRp14, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp5, sRp8, sRp10, sRp11, sRp12, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr9, sBr14, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr5, sBr8, sBr10, sBr11, sBr12
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop7, sGop9, sGop10, sGop11	sGop1, sGop6, sGopN1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a: Direct control	sCtl5, sCtl10, sCtl14, sDOns1, sDOns2	sCtl13, sCtl15
12b: SBO control	sCtl5, sCtl6, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOs1, sSBOs2, sSBOs6	sCtl15
13: Time sync	sTm1, sTm2, sTmN1	