

No. 74107647-OPE/INC 15-3050

Issued to:

MITSUBISHI ELECTRIC EUROPE B.V.
Mitsubishi-Electric-Platz 1
40882 Ratingen
Germany

For the client system:

Q24DHCCPU-V "C-RTU" Controller with STRATON
Editor
Remote Terminal Unit
Software version: IEC61850 Master V22828
STRATON Editor version: 8.7.141126
S/N: 150312150670002-B

The client system 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 and UCAIug Conformance Test Procedures for Client System with IEC 61850-8-1 interface, revision 1.1 with TPCL² version 1.2 with client system's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in Mitsubishi Electric Q24DHCCPU-V, dated October 23, 2015", "Model Implementation Conformance Statement for the IEC 61850 interface in Mitsubishi Electric Q24DHCCPU-V, Version 1, dated 11/02/2015" and "TISSUES Implementation Conformance Statement for the IEC 61850 interface in Mitsubishi Electric Q24DHCCPU-V, version 2, dated 23/10/2015" and product's extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in Mitsubishi Electric Q24DHCCPU-V, version 2, Dated 23/10/2015".

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 (20/22)	12c Enhanced Direct Control (6/7)
5 Unbuffered Reporting (15/18)	12d Enhanced SBO Control (8/9)
6 Buffered Reporting (18/22)	13 Time Synchronization (1/4)
12a Direct Control (6/7)	14 File Transfer (6/8)
12b SBO Control (8/9)	

This certificate includes a summary of the test results as carried out at DNV GL in the Netherlands with UniCA IED Simulator version v3.26.1 and v5.29.05 and UniCA 61850 Analyzer version 5.29.02. This document has been issued for information purposes only, and the original paper copy of the DNV GL verification report No. 74107647-OPE/INC 15-3049 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by MITSUBISHI 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, November 1, 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



Applicable Test Procedures from the UCAIug Conformance Test Procedures for Client System with IEC 61850-8-1 interface, revision 1.1 with TPCL version 1.2

Conformance Block	Mandatory	Conditional
1: Basic Exchange	cAss1, cAss2, cAss3, cAss4, cAssN1, cAssN4, cAssN5, cAssN6	cAssN7 cSrv1, cSrv2, cSrv3, cSrv4, cSrv5, cSrv6, cSrvN1, cSrvN3, cSrvN4, cSrvN5, cSrvN6
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRpN2, cRpN3, cRpN7, cRpN8	cRp1, cRp6, cRp7, cRpN1, cRpN4
6: Buffered Reporting	cBr3, cBr4, cBr5, cBr8, cBr9, cBr10, cBr11, cBr12, cBrN2, cBrN3, cBrN7, cBrN8, cBrN9	cBr1, cBr6, cBr7, cBrN1, cBrN4
12a: Direct Control	cCtl4, cCtlN1 cDOns1, cDOns2	cCtl2, cCtl3
12b: SBO Control	cCtl4, cCtlN1 cSBOns1, cSBOns2, cSBOns3	cCtl2, cCtl3, cSBOns4
12c: Enhanced Direct Control	cCtl4, cCtlN1 cDOes1, cDOes2	cCtl2, cCtl3
12d: Enhanced SBO Control	cCtl4, cCtlN1, cSBOes1, cSBOes2, cSBOes3	cCtl2, cCtl3 cSBOes4
13: Time sync	cTm1	
14: File transfer	cFt1, cFt2, cFt3, cFtN1, cFtN2	cFt5