![UCA International Users Group logo]

IEC 61850 Certificate Level A[1]

No. 10077873-INC 18-2320

Issued to:

Mitsubishi Electric Corp.
1-1-2 Wadasaki-Cho, Hyogo-ku
652-8555
Kobe, Japan

For the server product:

CFP1–A41D1
Feeder Protection Relay
Application software version:
M-Main=PGKK20
Communication Software version: 2.0.0.0
Serial Number: 4711SSA0121
HW version: 405PQB

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[2] 1.2.6 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for CFP1-A41D1, CMP1-A41D1, CAC1-A41D1 MFP-H2SB, MFP-H1SB, version 1.02", "Model Implementation Conformance Statement for CFP1-A41D1, version 1.02" and "TISSUES Implementation Conformance Statement for CFP1-A41D1 for CMP1-A41D1 for CAC1-A41D1, version 1.01" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in CFP1-A41D1, CMP1-A41D1, CAC1-A41D1 MFP-H2SB, MFP-H1SB, version 1.02".
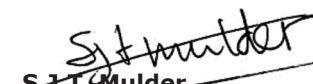
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1	Basic Exchange (19/26)	9a	GOOSE Publish (11/13)
2	Data Sets (4/7)	9b	GOOSE Subscribe (13/14)
4	Setting Group Selection (4/4)	12a	Direct Control (5/18)
5	Unbuffered Reporting (18/21)	12c	Enhanced Direct Control (6/20)
6	Buffered Reporting (25/30)	13	Time Synchronization (5/7)
		14	File Transfer (5/8)

This certificate includes a summary of the test results as carried out at Mitsubishi in Japan with UniGrid SA 1.4.361 with test suite 1.0.55 and UniCA 61850 Analyzer 5.34.01. This document has been issued for information purposes only, and the archived DNV GL verification report No. 10077873-INC 18-2319 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. 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 1, 2018

S.J.T. Mulder
Business Leader
Interoperability of Smart Power Systems

Issued by:

![DNV·GL logo]
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 UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL 1.2.6

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv8, sSrv9, sSrv10, sSrvN1f
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, 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
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11	sGop1, sGop6, sGop7, sGopN1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl16
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl14, sCtl16
13: Time sync	sTm1, sTm2, sTmN1	sTm3, sTmN2
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	

All configuration file and data model tests have been successfully performed for the product variants using the same communication hardware and software version:

- CAC1-A41D1 Transformer Protection Relay
- CMP1-A41D1 Motor Protection Relay
- MFP-H1SB Feeder Protection Relay
- MFP-H2SB Overcurrent Protection Relay