

No. 10147831-INC 19-3215

**Issued to:**

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

**For the server product:**

MCD-HA Line Protection Relay  
IEC 61850 Software version: PGKJ61  
Relay Software version: PGKJ62  
Hardware version: 506PNA  
S/N: 219511-0002

The server product 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, the UCA International Users Group Server Device Test Procedures version 3.3, the product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in MCD-HA, JEPF-EL1414 V1.00", "Model Implementation Conformance Statement for the IEC 61850 interface in MCD-HA, JEPF-EL1350 V1.00" and "Tissues Implementation Conformance Statement for the IEC 61850 Ed1 interface in MCD-HA, JEPF-EL1415 V1.01" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in MCD-HA, JEPF-EL1416 V1.00".


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 (20/25)	9a GOOSE Publish (9/12)
2 Data Sets (3/6)	9b GOOSE Subscribe (10/11)
4 Setting Group Selection (3/3)	12a Direct Control (3/11)
4+ Setting Group Definition (7/7)	12d Enhanced SBO Control (11/19)
5 Unbuffered Reporting (16/18)	13 Time Synchronization (5/5)
6 Buffered Reporting (23/27)	14 File Transfer (4/7)

This certificate includes a summary of the test results as carried out at Mitsubishi Electric Corporation in Japan with UniGrid SA 1.6.7 with test suite 1.0.24 and UniCA 61850 Analyzer 5.34.01. This document has been issued for information purposes only, and the original DNV GL report No. 10147831-INC 19-3216 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 Corporation. 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, December 18, 2019



**N.A. Heijker**  
Business Leader  
Interoperability of Smart Power Systems

Issued by:



DNV KEMA is now DNV GL



**R. Schimmel**  
Verification Manager

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

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Applicable Test Procedures from the UCA International Users Group Server Device Test Procedures version 3.3

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3, AssN6, Srv6, Srv8, SrvN1e, SrvN1f, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
4: Setting Group Selection	Sg1, Sg3, SgN1a	
4+: Setting Group Definition	Sg2, Sg4, SgN1b, SgN2, SgN3, SgN4, SgN5	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp9, RpN1, RpN2, RpN3, RpN4, RpN8	Rp5, Rp8, Rp10, Rp11, Rp12, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br9, Br20, Br21, Br22, Br25, Br26, Br27, Br28, BrN1, BrN2, BrN3, BrN4, BrN5, BrN8	Br5, Br8, Br10, Br11, Br12
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop9, Gop10a	Gop1, Gop6, Gop7, GopN1
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct Control	CtIN3, DOns1	CtIN11
12d: Enhanced SBO Control	CtIN1, CtIN2, CtIN3, CtIN4, CtIN9, SBOes1, SBOes2, SBOes3	CtI3, CtIN6, CtIN11
13: Time Sync	Tm1, Tm2	Tm3, TmN1, TmN2
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	