

IEC 61850 Certificate Level A1

Ref. No: 19TC201389

Issued to:

DAFWOONG FLECTRIC Co., Ltd. Hwanggeumro 127beon-gll 10, Yangchon-eup, Gimpo-si, Gyeonggi-do, 10048, Republic of Korea For the server product:
SPIN-BC-M
Protection & Control Device
Firmware version 1.0

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Korea Electrotechnology Research Institute 111, Hanggaul-ro, Sangnok-gu, Ansan-si, Gyeonggi-do, 15588, Republic of Korea

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, UCA International Users Group Device Test Procedures version 3.2, the product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in SPiN-BC-M, v1.0", "Model Implementation Conformance Statement for the IEC 61850 interface in SPiN-BC-M, v1.0", "TISSUES Implementation Conformance Statement for the IEC 61850 interface in SPiN-BC-M, v1.0" and product's extra information for testing "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in SPiN-BC-M, v1.0".

The following IEC 61850 conformance blocks are tested with a positive result (number of relevant and executed test cases / total number of test cases):

1	Basic Exchange (21/25)	9a	GOOSE Publish (8/12)
2	Data Sets (3/6)	9b	GOOSE Subscribe (10/11)
2+	Data Set Definition (24/24)	12a	Direct Control (6/12)
4	Setting Group Selection (3/3)	12d	Enhanced SBO Control (12/19)
5	Unbuffered Reporting (18/18)	13	Time Synchronization (4/5)
6	Buffered Reporting (25/27)	14	File Transfer (4/7)

This Certificate includes a summary of the test results as carried out at KERI in Republic of Korea with UniCA 61850 Client simulator version 4.29.03 with test suite version 3.29.05.08(TP 3.2) and UniCA 61850 analyzer version 5.31.00. This document has been issued for information purposes only, and the original paper copy of the KERI report: 19TC201389 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KERI by Daewoong Electric, Co., Ltd. The manufacturer's production process has not been assessed. This Certificate does not imply that KERI has approved any product other than the specimen tested.

Republic of Korea, June 25, 2019

D.J.Lee

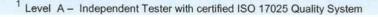
Executive Director

High Voltage Testing Division

or the

S. P. Ahn

Technical Manager







Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 3.2

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	AssN3, Srv6, Srv7, Srv8,
		SrvN1e, SrvN1f, SrvN2, SrvN3
2. Data Sets	Dset1, Dset10a, DsetN1ae	
2+: Data Sets Definition	Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9	DsetN15a, DsetN15b
	DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14	
4: Setting Group Selection	Sg1, SgN1a, Sg3	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp9, RpN1, RpN2, RpN3, RpN4, RpN8	Rp5, Rp6, Rp7, Rp8, Rp10, Rp11, Rp12, RpN5
6. Buffered Reporting	Br1, Br2, Br3, Br4, Br9, Br20, Br21, Br22, Br25, Br26, Br27, Br28	Br5, Br6, Br7, Br8, Br10, Br11, Br12
	BrN1, BrN2, BrN3, BrN4, BrN5, BrN8	12-12-15 (10-15) (10-16)
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop9, Gop10a	Gop1, Gop5, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2,	Gos1b
	GosN3, GosN4, GosN5, GosN6	
12a: Direct control	CtlN3	Ctl2, Ctl7, CtlN11
	DOns1	DOns3
12d: Enhanced SBO control	CtlN1, CtlN2, CtlN3, CtlN4, CtlN9	Ctl2, Ctl3, Ctl7, CtlN11
	SBOes1, SBOes2, SBOes3	
13: Time sync	Tm1, Tm2	TmN1, TmN2
14: File transfer	Ft1, Ft2ab, Ft4, FtN1ab	