



IEC 61850 Certificate Level A¹

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No. 74101693-MOC/INC 13-1226

Issued to:
SEL, Inc.
2350 NE Hopkins Court
Pullman, WA 99163
USA

For the client system:
SEL-3530 Real-Time Automation
Controller
Version R122

Issued by: 

The client system has not 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 UCA IUG 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 (PICS) for the IEC 61850 for the SEL Real-time Automation Controllers, February 22, 2013", "Model Implementation Conformance Statement (MICS) for IEC 61850 for the SEL Real-time Automation Controllers, February 2013", "Technical Issues Implementation Conformance Statement (TICS) for IEC 61850 for the SEL Real-Time Automation Controllers, February 22, 2013" and product's extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for IEC 61850 for the SEL Real-Time Automation Controllers, February 22, 2013".

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 (13/22)	12a	Direct Control (6/7)
2	Data Sets (2/9)	12b	SBO Control (7/9)
5	Unbuffered Reporting (14/18)	12c	Enhanced Direct Control (6/7)
6	Buffered Reporting (17/22)	12d	Enhanced SBO Control (7/9)
		13	Time Synchronization (3/4)

This certificate includes a summary of the test results as carried out at SEL in the USA with UniCA Multi IED Simulator 3.26.1 and UniCA 61850 Analyzer 4.25.00. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 74101693-MOC/INC 13-1227 will prevail.

The test has been carried out on one single specimen of the client system as referred above and submitted to KEMA by SEL. The manufacturer's production process has not been assessed. This attestation does not imply that KEMA has approved any product other than the specimen tested.

Arnhem, February 26, 2013


M. Adriaensen
Director Intelligent Networks & Communication


R. Schimmel
Certification Manager

¹ Level A - Independent test lab with certified ISO 9001 quality system

² TPCL - Test Procedure Change List



Applicable Test Procedures from the UCA IUG 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 cSrv5, cSrvN3, cSrvN5, cSrvN6
2: Data Sets		cDs3, cDsN2
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRpN2, cRpN3, cRpN7, cRpN8	cRp2, cRp6, cRp7, cRpN4
6: Buffered Reporting	cBr3, cBr4, cBr5, cBr8, cBr9, cBr10, cBr11, cBr12, cBrN2, cBrN3, cBrN7, cBrN8, cBrN9	cBr2, cBr6, cBr7, cBrN4
12a: Direct control	cCtl4, cCtlN1 cDOns1, cDOns2	cCtl1, cCtl2
12b: SBO control	cCtl4, cCtlN1 cSBOns1, cSBOns2, cSBOns3	cCtl1, cCtl2
12c: Enhanced Direct Control	cCtl4, cCtlN1 cDOes1, cDOes2	cCtl1, cCtl2
12d: Enhanced SBO control	cCtl4, cCtlN1, cSBOes1, cSBOes2, cSBOes3	cCtl1, cCtl2
13: Time sync	cTm1	cTm2, cTmN2