IEC 61850 Certificate Level A[1]

No. 74102139-MOC/INC 14-0133

Issued to:
Schweitzer Engineering Laboratories, Inc.
2350 NE Hopkins Court
Pullman, WA 99163-5603
USA

For the server product:
SEL-651R Recloser Control
Version R404

Issued by: KEMA

The server product 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, the UCA International Users Group Device Test Procedures version 2.3 with TPCL[2] version 1.7, the product's protocol, model and technical issue implementation conformance statements: "IEC 61850 PICS SEL-651R, Protocol Implementation Conformance Statement, version 20131211", "IEC 61850 MICS SEL-651R, Protocol Implementation Conformance Statement, version 20131211" and "IEC61850 TICS SEL-651R, TISSUES Implementation Conformance Statement, version 20131211" and the extra information for testing: "IEC 61850 PIXIT SEL-651R, Protocol Implementation eXtra Information for Testing (PIXIT), version 20131211".

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 (16/24)	12a	Direct Control (7/12)
2	Data Sets (3/6)	12c	Enhanced Direct Control (7/13)
5	Unbuffered Reporting (14/19)	12d	Enhanced SBO Control (12/19)
6	Buffered Reporting (17/21)	13	Time Synchronization (4/5)
9a	GOOSE Publish (8/13)	14	File Transfer (4/7)
9b	GOOSE Subscribe (11/11)		

This certificate includes a summary of the test results as carried out at KEMA in Arnhem with UniCA 61850 Client simulator 4.27.04 with test suite 3.27.00 and UniCA 61850 Analyzer 5.27.04. This document has been issued for information purposes only, and the original paper copy of the KEMA report No. 74102139-MOC/INC 14-0132 will prevail.

The test has been carried out on one single specimen of the product 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, December 22, 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 procedures change list

Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL version 1.7

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	Srv8, SrvN1f
2: Data Sets	Dset1, Dset10a, DsetN1ae	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12 RpN1, RpN2, RpN3, RpN4	Rp5, Rp8, Rp9
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10, Br11
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop7, Gop9, Gop10a	Gop1, Gop10b
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b, Gos4
12a: Direct Control	CtlN3, CtlN8 DOns1	Ctl2, CtlN10, CtlN11, DOns3
12c: Enhanced Direct Control	CtlN3, CtlN8 DOes2, DOes5	Ctl2, CtlN10, CtlN11
12d: Enhanced SBO Control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3	Ctl2, CtlN10, CtlN11
13: Time Sync	Tm1, Tm2, TmN1	TmN2
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	