



# IEC 61850 Certificate Level A<sup>1</sup>

No. 74106346-OPE/INC 14-2954

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

For the server product:  
SEL-787-3 Transformer Protection Relay  
Software version: R100  
S/N: 3142040202



Issued by:

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 Server Device Test Procedures version 2.3 with TPCL<sup>2</sup> version 1.7, the product's protocol, model and technical issue implementation conformance statements: "IEC 61850 PICS SEL-787, version 20140905", "IEC 61850 MICS SEL-787, version 20140905" and "IEC61850 TICS SEL-787, version 20140905" and the extra information for testing: "IEC 61850 PIXIT SEL-787 , version 20140905".

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):

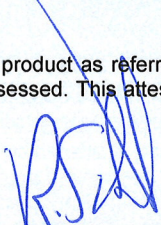
1	Basic Exchange (16/24)	9a	GOOSE Publish (7/13)
2	Data Sets (3/6)	9b	GOOSE Subscribe (10/11)
5	Unbuffered Reporting (14/19)	12a	Direct Control (7/12)
6	Buffered Reporting (17/21)	12c	Enhanced Direct Control (7/13)
		12d	Enhanced SBO Control (12/19)
		13	Time Synchronization (3/5)

This certificate includes a summary of the test results as carried out at DNV KEMA in the Netherlands with UniCA 61850 Client Simulator 4.28.04 with test suite 3.28.03 and UniCA 61850 Analyzer 5.28.03. This document has been issued for information purposes only, and the original paper copy of the DNV KEMA report No. 74106346-OPE/INC 14-2953 will prevail.

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

Arnhem, October 27, 2014

  
M. Adriaansen  
Head of Department Operational Excellence

  
R. Schimmel  
Certification Manager

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

<sup>2</sup> 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
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct Control	CtIN3, CtIN8 DOns1	CtI2, CtIN10, CtIN11, DOns3
12c: Enhanced Direct Control	CtIN3, CtIN8 DOes2, DOes5	CtI2, CtIN10, CtIN11
12d: Enhanced SBO Control	CtI3, CtIN1, CtIN2, CtIN3, CtIN4, CtIN9 SBOes1, SBOes2, SBOes3	CtI2, CtIN10, CtIN11
13: Time Sync	Tm1, Tm2, TmN1	