IEC 61850 Conformance and Interoperability Certificate Statement

SEL-2440 DPAC Discrete Programmable Automation Controller

In accordance with the IEC 61850 Communications Standard, this product has been certified by an independent test authority via unit level and product family or product platform tests. The associated certificate, No. 30820049, provided by the accredited third party, KEMA, is attached. This product also passed unit level and product platform tests performed internally using the same test tool and processes as used by the independent test authority. Additionally, this product has been confirmed to be interoperable with many third-party vendor peer IEDs and client applications.

A conformance test is the type test for communication and the system-related functions of the incorporated IEDs. As a global communications standard, the IEC 61850 series includes standardized conformance tests to ensure that all suppliers comply with applicable requirements. These requirements include MMS, GOOSE, SCL, and Time Services. SEL performed internal product-level conformance testing on the SEL-2440 with a "pass verdict" using the KEMA Test Suite and internal standardized tests. These tests include Time Synchronization and File Transfer.

Compatible global standards for time services and data access have also been tested for compliance and interoperability. GPS-based time synchronization provides microsecond accuracy. These have been demonstrated compatible with standard software available on virtually all laptops, workstations, and servers throughout industry and the world.

Additionally, this device implementation has been demonstrated interoperable with other IEC 61850 vendor devices and software applications. Although not part of the conformance testing, confirmation of interoperability with third-party products has been verified also. Third-party vendors that SEL has demonstrated client/server and publisher/subscriber interoperability with include:

SISCO	ABB	Areva	Cybectec
GE	Omicron	RFL	Siemens
Team Arteche	Toshiba	ZIV	

David Whitehead

Vice President, SEL Research and Development

November 1, 2008

Date

IEC 61850

IEC 61850 Certificate Level A[1]

No. 30820049-Consulting 08-1222

Issued to:
Schweitzer Engineering Laboratories
2440 N.E. Hopkins CT
Pullman, WA 99163
USA

For the product:
SEL-751A
Feeder Protection Relay
Firmware R103

Issued by: KEMA

The product has not shown to be non-conforming to:

IEC 61850-6, 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 with product's protocol, model and technical issue implementation conformance statements: "751A_IM-CD_20070806", "IEC 61850 Tissues conformance SEL-751A v1.1" and product's extra information for testing: "IEC 61850 PIXIT report SEL-751A v1.2".

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 as defined in the UCA International Users Group Device Test procedures v1.1):

1 Basic Exchange (16/23)	9a GOOSE Publish (5/11)
2 Data Sets (2/5)	9b GOOSE Subscribe (9/9)
5 Unbuffered Reporting (10/13)	12a Direct Control (4/11)

This Certificate includes a summary of the test results as carried out at Schweitzer Engineering Laboratories in United States of America with UniCAsim 61850 version 3.17.00 with test suite 3.17.01 and UniCA 61850 analyzer 4.17.01. The test is based on the UCA International Users Group Device Test Procedures version 1.1. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 30820049-Consulting 08-1221 will prevail.

The test has been carried out on one single specimen of the products as referred above and submitted to KEMA by Schweitzer Engineering Laboratories. The manufacturer's production process has not been assessed. This Certificate does not imply that KEMA has certified or approved any product other than the specimen tested.

Arnhem, May 29, 2008

W. Strabbing
Manager Intelligent Networks and Communication

S.J.T. Mulder
SeniorTest Engineer

1 Level A - Independent Test lab with certified ISO 9000 or ISO 17025 Quality System

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Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 1.1

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	Srv6, Srv8
2: Data Sets	Dset1, DsetN1ae	
5: Unbuffered Reporting	Rp1, Rp3, Rp4, Rp7 RpN1, RpN2, RpN3, RpN4	Rp5, RpN5
9a: GOOSE publish	Gop2, Gop4, Gop7	Gop1, GopN1
9b: GOOSE subscribe	Gos1, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	
12a: Direct control	CltN3, CtlN8, DOns1, DOns3	