IEC 61850 Certificate Level A[1]

UCA International Users Group

No. 10028849-INC 17-1786

Issued to:

Siemens Protection Devices Limited
North Farm Road, Hebburn
Tyne & Wear, NE31 1LX
United Kingdom

For the server product:

Reyrolle 7SR12 Argus
Directional Overcurrent Protection Relay
Firmware version 2436H80004R4d
EN100 Communication Module V04.30
S/N: 104483509/003

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

IEC 61850 Edition 2 Parts 6, 7-1, 7-2, 7-3, 7-4 and 8-1

Communication networks and systems for power utility automation

The conformance test has been performed according to IEC 61850-10 Edition 2, the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL[2] 1.2 with product's protocol, model and technical issue implementation conformance statements and extra information for testing: "7SR12 Argus Directional Overcurrent Protection Relay IEC 61850 Model Implementation Conformance Statement (MICS), 2017/05" and "7SR1 and 7SR2 Protection Devices IEC 61850 PIXIT, PICS, TICS, 2017/05".

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 (20/26)	9a	GOOSE Publish (10/13)
2	Data Sets (4/7)	9b	GOOSE Subscribe (12/14)
2+	Data Set Definition (24/24)	12a	Direct Control (5/18)
4	Setting Group Selection (4/4)	12c	Enhanced Direct Control (6/20)
5	Unbuffered Reporting (20/21)	12d	Enhanced SBO Control (13/28)
6	Buffered Reporting (29/30)	13	Time Synchronization (4/7)
		14	File Transfer (5/8)

This certificate includes a summary of the test results as carried out at Siemens in the United Kingdom with UniGrid SA Simulator 1.0.0 with test suite Ed2 1.0 and UniCA 61850 Analyzer 5.31.01. This document has been issued for information purposes only, and the original paper copy of the DNV GL verification report No. 10028849-INC 17-1785 will prevail.

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

Arnhem, May 19, 2017

P. Cioci
Business Director
Intelligent Networks and Communication

Issued by:

DNV·GL
DNV KEMA is now DNV GL

R. Schimmel
Verification 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 Edition 2 Server Test Procedures version 1.0 with TPCL 1.2

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sSrv6, sSrv8, sSrv12, sSrvN1e, sSrvN1f, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
2+: Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs11, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs12, sDsN11, sDsN12
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr15, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr23, sBr24
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11	sGop1, sGop6, sGop7, sGopN1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl16
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl14, sCtl16
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl16, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTm3
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	

All configuration file and data model tests have been successfully performed for the product variants using the same communication hardware and software version:

- 7SR11   Non Directional Overcurrent Protection Relay
- 7SR157   Check Synchronising Relay
- 7SR158   Voltage and Frequency Protection Relay
- 7SR17   Motor Protection Relay
- 7SR18   Line Differential Protection Relay
- 7SR191   Capacitor Bank Protection Relay
- 7SR210   Non Directional Overcurrent Protection Relay
- 7SR220   Directional Overcurrent Protection Relay
- 7SR224   Directional Overcurrent Protection Relay
- 7SR23   High Impedance Protection Relay
- 7SR24   Transformer Protection Relay