

IEC 61850 Certificate

to cert. No. ~~42178~~ 42178

Issued to:
Rocon PLC Research Center
21 Vek 56A str.
1700 Sofia, Bulgaria

For the product:
RFI 421 D1, ser.No289
REA 421 D1, ser.No291
Firmware Version: 6.040

Issued by:
INSPECTION BODY Type A
INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY
BULGARIAN ACADEMY OF SCIENCE
Sofia 1113, 125 "Zarigradsko shosse", bl.2

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 "Protocol Implementation Conformance Statement for the IEC 61850 i, "MICS for RFI 421 D1 of relays Model Implementation Conformance Statement Ref. MICS for RFI 421 D1, REA 421 D1 and "TISSUES Implementation Conformance Statement for the IEC 61850 interface in RFI 421 D1, REA 421 D1 and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in RFI 421 D1, REA 421 D1.

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 (21/24) | 9a GOOSE Publish(8/13) |
| 2 Data Sets(3/6) | 9b GOOSE Subscribe(10/11) |
| 4 Setting Group Selection (3/3) | 12a Direct Control(5/12) |
| 5 Unbuffered Reporting(15/19) | 13 Time Synchronization(3/5) |
| 6 Buffered Reporting(17/21) | |

Inspection Body type A/Institute of Information and Communication Technology – Bulgarian Academy of Science/ grants this Certificate on account of tests performed at the laboratory in Sofia, Bulgaria.
These tests are performed with Rocon IEC 61850 version 1.10.15 test suite. The test is based on UCA International Users Group Device Test Procedures version 2.3.
The tests have been carried out on RFI 421 D1 and REA 421 D1

Sofia, August 18, 2016

Head of Lab
/dipl. Eng. V. Bonev



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

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	Srv6, Srv7, Srv8, SrvN1e, SrvN1f, SrvN2, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
4: Setting Group Selection	Sg1, SgN1a	Sg3
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12 RpN1, RpN2, RpN3, RpN4	Rp6, Rp8, Rp9, RpN5
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14 BrN1, BrN2, BrN3, BrN4, BrN5	Br6, Br10, Br11
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7, Gop10a	Gop1, Gop10b, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct control	CtIN3, CtIN8 DOns1, DOns3	CtIN11
13: Time sync	Tm1, Tm2, TmN1	

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