IEC 61850 Certificate Level A[1]

No. 10003718-OPE/INC 16-1764

Issued to:

Bertel S.p.A.
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Italy

For the client system:

BRTU-2000
RTU with protocol gateway functionalities
Software version: 1.0.0
S/N: 000000000000260

The client system 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 Client Conformance Test Procedures version 1.0 with TPCL[2] 1.0 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in BRTU-2000, revision 1.2", "Model Implementation Conformance Statement for the IEC 61850 Client Interface in BRTU-2000, revision 1.1" and "TISSUES Implementation Conformance Statement for the IEC 61850 Edition 2 Client Interface in BRTU-2000, revision 1.1" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Client Interface in BRTU-2000, reversion 1.2".

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):

1	Basic Exchange (13/24)		12a	Direct Control (4/9)
2	Data Sets (4/10)		12b	SBO Control (5/11)
5	Unbuffered Reporting (17/23)		12c	Enhanced Direct Control (4/9)
6	Buffered Reporting (21/28)		12d	Enhanced SBO Control (5/11)
			13	Time Synchronization (3/4)
			14	File Transfer (4/8)

This certificate includes a summary of the test results as carried out at Bertel S.p.A. in Italy with UniCA 61850 IED simulator 5.31.00 and UniCA 61850 Analyzer 5.31.00. This document has been issued for information purposes only, and the original paper copy of the DNV GL verification report No. 10003718-OPE/INC 16-1763 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by Bertel S.p.A.. 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, March 11, 2015

M. Adriaensen
Head of Department
Operational Excellence

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 Client Conformance Test Procedures version 1.0 with TPCL 1.0

Conformance Block	Mandatory	Conditional
1: Basic Exchange	cAss1, cAss2, cAss3, cAssN1, cAssN4, cAssN5, cAssN6	cAssN7, cSrv5, cSrv7, cSrvN3, cSrvN5, cSrvN6
2: Data Sets		cDs2, cDs5, cDs6, cDsN1b
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRp11, cRp13a, cRp14, cRp15, cRpN2, cRpN5, cRpN6	cRp2, cRp6, cRp7, cRp16
6: Buffered Reporting	cBr3, cBr4, cBr5, cBr8, cBr9, cBr10, cBr11, cBr13a, cBr14, cBr15, cBr30, cBr31, cBrN2, cBrN5, cBrN6, cBrN20	cBr2, cBr6, cBr7, cBr16, cBr33
12a: Direct Control	cCtl4, cCtl5, cDOns1, cDOns2	
12b: SBO Control	cCtl4, cCtl5, cSBOns1, cSBOns2, cSBOns3	
12c: Enhanced Direct Control	cCtl4, cCtl5, cDOes1, cDOes2	
12d: Enhanced SBO Control	cCtl4, cCtl5, cSBOes1, cSBOes2, cSBOes3	
13: Time Synchronization	cTm1, cTmN1	cTm2
14: File Transfer	cFt1, cFt3, cFtN1	cFt5