

IEC 61850 Certificate Level A¹

Issued to:

Tesmec Automation Srl
Via Zanica, 17/O
24050 – Grassobbio (BG)
Italy

For the server product:

TC-BCU21
Bay Control Unit (BCU)
Software version: v1.0
S/N: 000001

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 2.0.5 with product's protocol, model and technical issue implementation conformance statements: Technical Document: Nota tecnica Progetto: TC-BCU21 TA-SASB05-0000A IEC 61850 - Protocol Implementation Conformance Statement (PICS) , revision 1.0.3", "Technical Document: Nota tecnica Progetto: TC-BCU21 TA-SASB05-0000A IEC 61850 – Model implementation conformance statement (MICS) , revision 1.0.3" and "Technical Document: Nota tecnica Progetto: TC-BCU21 TA-SASB05-0000A IEC 61850 – Tissues conformance statement (TICS) , revision 1.0.1" and product's extra information for testing: "Technical Document: Nota tecnica Progetto: TC-BCU21 TA-SASB05-0000A IEC 61850 - Protocol Implementation eXtra Information for Testing (PIXIT) , revision 1.0.3".

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 (9/13)
2 Data Sets (4/7)	9b GOOSE Subscribe (18/20)
2+ Data Set Definition (24/24)	12a Direct Control (8/18)
5 Unbuffered Reporting (21/23)	12b SBO Control (14/27)
6 Buffered Reporting (29/33)	12c Enhanced Direct Control (9/20)
	12d Enhanced SBO Control (15/28)
	13 Time Synchronization (3/7)
	14 File Transfer (8/8)

This certificate includes a summary of the test results as carried out at Tesmec Automation Srl in Italy with UniGrid SA Simulator 2.1.0 with test suite 20220707.1 and UniCA 61850 Analyzer 6.41.0. This document has been issued for information purposes only, and the archived DNV verification report No. 10368485-DSO 22-3358 rev 2 will prevail.

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

Arnhem, November 25, 2022



G. Akse

Business Development Manager
Interoperability of Smart Power Systems

Issued by:




R. Schimmel

Verification Manager

¹ Level A - Independent test lab with certified ISO 9001 Quality System

UCA International Users Group P.O. Box 315, Shell Knob, MO 65747 USA

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.5

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4	sAssN6, sSrv9, sSrv10, sSrv12
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
2+: Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs11, sDs12, sDsN11, sDsN12
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp15, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr15
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos13
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl7, sCtl15, sCtl16, sCtl17
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl6, sCtl7, sCtl15, sCtl16, sCtl17
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl7, sCtl14, sCtl15, sCtl16, sCtl17
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl6, sCtl7, sCtl15, sCtl16, sCtl17
13: Time sync	sTm1, sTm2, sTmN1	
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFt3, sFtN1c