

IEC 61850 Certificate Level A¹

Issued to:

AiLux S.r.l.
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25030 Torbole Casaglia (Brescia)
Italy

For the server product:

AXRTU62351CCI_UP-DM_DC_MC_UVR-P_Q_F-PMU-
BMU-CU_MCE_DCM/ET-CCI
Remote Terminal Unit for Electrical Applications
Software version: 1.0.02.59
S/N: 11134358

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 2.0.6 with product's protocol, model and technical issue implementation conformance statements: : "PICS (Protocol Implementation Conformance Statement) for the IEC 61850 Ed. 2.0 interface of the Ailux AXRTU62351CCI_UP-DM_DC_MC-UVR-P_Q_F-PMUBMU_CU_MCE_DCM/ET-CCI, version 1.1", "MICS (Model implementation conformance statement) for the IEC 61850 Ed. 2.0 interface of the Ailux IED AXRTU62351CCI_UPDM_DC_MC-UVR-P_Q_F-PMU-BMU_CU_MCE_DCM/ET-CCI, version 1.1" and "TICS (Tissues conformance statement) for the IEC 61850 Ed. 2.0 interface of the Ailux Device AXRTU62351CCI_UP-DM_DC_MC-UVR-P_Q_F-PMUBMU_CU_MCE_DCM/ET-CCI, version 1.1" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 server interface in AXRTU62351CCI_UP-DM_DC_MCUVR-P_Q_F-PMU-BMU_CU_MCE_DCM/ET-CCI, version 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 (20/26)	9b GOOSE Subscribe (19/21)
2 Data Sets (4/7)	12a Direct Control (6/18)
2+ Data Set Definition (24/24)	12b SBO Control (11/27)
5 Unbuffered Reporting (21/23)	12c Enhanced Direct Control (6/20)
6 Buffered Reporting (29/33)	12d Enhanced SBO Control (12/28)
9a GOOSE Publish (8/13)	13 Time Synchronization (4/7)

This certificate includes a summary of the test results as carried out at DNV in The Netherlands with UniGrid SA Simulator 2.2 with test suite 20230509 and UniCA 61850 Analyzer 6.41.0. This document has been issued for information purposes only, and the archived DNV verification report No. 10437522-DSO 23-2842 rev 2 will prevail.

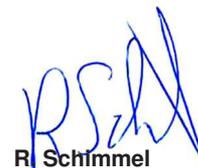
The test has been carried out on one single specimen of the product as referred above and submitted to DNV by AiLux S.r.l. The manufacturer's production process has not been assessed. This certificate does not imply that DNV has approved any product other than the specimen tested.

Arnhem, May 23, 2023



G. Akse
Business Development Manager
Interoperability of Power Systems

Issued by:

R. Schimmel
Verification Manager
Interoperability of Power Systems

¹ Level A - Independent test lab with certified ISO 9001 Quality System
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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.6

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
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGos23, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos13
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl13, sCtl15
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl6, sCtl15
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl13, sCtl15
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl6, sCtl15
13: Time sync	sTm1, sTm2, sTmN1	sTmN2