



IEC 61850 Certificate Level B¹

No. 2009PUCA0004

Issued to:
ZHUHAI TITANS TECHNOLOGY Co.ltd
No.60,Western Shihua Road,Zhuhai,
China

For the product:
TCOM-A IEC61850 Protocol Converter
Software Version 1.0

Issued by: **KETOP** 开普

The product has not shown to be non-conforming to:
IEC 61850-7-1, 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 TISSUE implementation conformance statements: "TCOM-A IEC61850 Protocol Converter PICS", "TCOM-A IEC61850 Protocol Converter MICS", and extra information "TCOM-A IEC61850 Protocol Converter PIXIT" for testing.

The following IEC 61850 conformance blocks are tested with a positive result (number of relevant and executed test cases / total number of test cases as defined in the UCA International Users Group Device Test Procedures):

1 Basic Exchange (23/24)	6 Buffered Reporting (17/20)
2 Data Sets (3/6)	12a Direct control (4/12)
2+ Data Set Definition (23/23)	14 File transfer (6/7)
5 Unbuffered Reports (15/19)	

KETOP Lab grants this Certificate on account of tests performed at the KETOP Lab's offices in Xuchang, China, with UniCASim 61850 version 3.16.00 test system with test suite 3.16.03 simulating an IEC 61850 client and the UniCA 61850 analyzer Version 4.17.01. The tests are based on the UCA International Users Group Device Test Procedure Version 2.2. This certificate has been issued for information purposes only and the original copy of the KETOP Lab report: No. JW090756, will prevail.

The tests have been carried out on one single specimen of the above-mentioned products, submitted by ZHUHAI TITANS. The certificate does not include an assessment of the manufacturer's production process. Conformity of his production process or any other product than the specimen tested by KETOP Lab is not the responsibility of KETOP Lab.

Xuchang, December 18, 2009

He Chun
General Engineer KETOP Lab

Ren Chunmei
Test Engineer

¹ Level B – Tester with ISO 9000 or ISO 17025 Quality System

This certificate is issued in accordance with the laboratory accreditation requirements of the UCA International Users Group. This certificate shall only be reproduced in full and with the express permission of KETOP lab.



Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.2

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	Srv9, Srv10, Srv8, SrvN1f Srv6, Srv7, SrvN1e, SrvN2, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
2+: Data Set Definition (SCL-DynDataSet)	Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9 DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14, DsetN15	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10 RpN1, RpN2, RpN3, RpN4	Rp5, Rp6, RpN5 Rp8, Rp9
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br6, BrN6, Br10 Br11
12a Direct control	CtlN3, CtlN8 DOns1, DOns3	
14 File transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, FtN1c