



# IEC 61850 Certificate Level B<sup>1</sup>

No. 2009PUCA0008

Issued to:  
Shanghai Tengen Future Electric Automation  
CO., LTD  
No. 388, East Kangqiao Road, Pudong,  
Shanghai, China

For the product:  
STS851L Digital Line Protection and Monitor Device  
Software Version: V1.2

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: "STS851L Digital Line Protection and Monitor Device PICS", "IEC 61850 MICS of STS851L Digital Line Protection and Monitor Device", and extra information "STS851L Digital Line Protection and Monitor Device 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 (22/24)	9a	GOOSE publish (6/12)
2	Data Sets (4/6)	9b	GOOSE subscribe (10/10)
3	Substitution (4/4)	12b	SBO control (7/15)
5	Unbuffered Reports (12/18)	13	Time sync (3/5)
6	Buffered Reporting (15/20)	14	File transfer (4/7)

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. JW090159 will prevail.

The tests have been carried out on one single specimen of the above-mentioned products, submitted by Shanghai Tengen Future Co.. 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

Zhang Ran  
Test Engineer

<sup>1</sup> 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

<b>Conformance Block</b>	<b>Mandatory</b>	<b>Conditional</b>
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvNabcd, SrvN4	Srv9, Srv10, Srv8, SrvN1f Srv6, Srv7, SrvN1e, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	Dset10b
3: Substitution	Sub1, Sub2, Sub3, SubN1	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10 RpN1, RpN2, RpN3, RpN4	Rp8, Rp9
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12 BrN1, BrN2, BrN3, BrN4, BrN5	Br10, Br11
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7	Gop1, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12b SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4 SBOs1, SBOs2	
13 Time sync	Tm1, Tm2, TmN1	
14 File transfer	Ft1, Ft2ab, Ft4, FtN1ab	