IEC 61850 Certificate Level B[1]

No. 2009PUCA0009

Issued to:
Nanjing Intelligent Apparatus Co., Ltd.
52#, East Tianyuan Road, Jiangning Science Park, Nanjing, Jiangsu Province, P.R.China

For the product:
PA650-BC GIS Interval Controller
Software Version 1.00

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: "PA650-BC GIS Interval Controller PICS", "PA650-BC GIS Interval Controller MICS" and extra information "PA650-BC GIS Interval Controller 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（8/12）
2	Data Sets（4/6）	9b	GOOSE subscribe（10/10）
2+	Data Set Definition（23/23）	12a	Direct control（7/11）
3	Substitution（4/4）	12b	SBO control（10/15）
5	Unbuffered Reports (15/18)	12c	Enhanced Direct Control（8/13）
6	Buffered Reporting（17/20）	12d	Enhanced SBO control（13/19）
		13	Time sync（3/5）

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. JW090421 will prevail.

The tests have been carried out on one single specimen of the above-mentioned products, submitted by Nanjing Intelligent 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

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

China KETOP Lab（Xuchang KETOP Electrical Apparatus Testing & Research Institute）
National Center For Quality Supervision & Testing of Relay Protection and Automation Equipment
1706#, Xuji Avenue, XuChang, Henan, P.R.China, P.C. 461000
T +86 374 3212755 F +86 374 3212775 www.ketop.cn

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, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	Dset10b
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	
3: Substitution	Sub1, Sub2, Sub3, SubN1	
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, Br10 Br11
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7	Gop1, Gop5, Gop6, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a Direct control	CtlN3, CtlN8 DOns1, DOns3	CtlN2, CtlN7, CtlN11
12b SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4 SBOns1, SBOns2	Ctl2, Ctl7, CtlN11
12c Enhanced Direct Control	CtlN3, CtlN8 DOes2, DOes5	CtlN2, CtlN7, CtlN6, CtlN11
12d Enhanced SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3	CtlN2, CtlN7, CtlN6, CtlN11
13 Time sync	Tm1，Tm2，TmN1	

China KETOP Lab（Xuchang KETOP Electrical Apparatus Testing & Research Institute）
National Center For Quality Supervision & Testing of Relay Protection and Automation Equipment
1706#, Xuji Avenue, XuChang, Henan, P.R.China, P.C. 461000
T +86 374 3212755 F +86 374 3212775 www.ketop.cn