



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



Product Service

**No. ZE 15 08 61589 047**

Issued to:  
NR Electric Co., Ltd.  
69 Suyuan Avenue, Jiangning  
211106, Nanjing, People's Republic of China

For the server product:  
PCS-931  
Line Differential Protection Relay  
FW version: V1.00

Issued by:  
TÜV SÜD Product Service GmbH  
Communication Protocols  
Ridlerstrasse 65  
D-80339 Munich  
Germany

Certification Mark:



**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 1.0 with TPCL<sup>2</sup> version 1.0.1 with the product's protocol, model and technical issue implementation conformance statements: "PICS for the IEC 61850 interface in PCS-931", "MICS for the IEC 61850 interface in PCS-931", "TICS for the IEC 61850 interface in PCS-931" and product's extra information for testing: "PIXIT for the IEC 61850 interface in PCS-931".

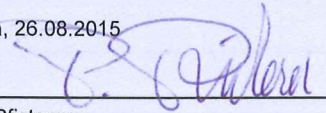
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

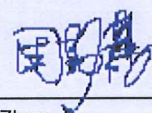
1	Basic Exchange (25/26)	9a	GOOSE Publish (12/13)
2	Data Sets(4/7)	9b	GOOSE Subscribe (14/14)
3	Substitution (3/3)	12a	Direct Control (12/18)
4	Setting Group Selection (4/4)	12b	SBO Control (19/27)
4+	Setting Group Definition (13/13)	12c	Enhanced Direct Control (14/20)
5	Unbuffered Reporting (17/20)	12d	Enhanced SBO Control (20/28)
6	Buffered Reporting (24/29)	13	Time Synchronization (4/7)
		14	File Transfer (5/8)

This certificate includes a summary of the test results as carried out at TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch in P.R. China with SimFlex CS Ed.2 1.3.1 with test suite 1.3.t1 and Wireshark 1.10.8. This document has been issued for information purposes only, and the original paper copy of the TÜV SÜD Certification and Testing (China) Co., Ltd Shanghai Branch test report: No. 7482050807-TR705001500201, version 2.0 will prevail.

The test has been carried out on one single specimen of the product as referred above. The manufacturer's production process has not been assessed. This certificate does not imply that TÜV SÜD Product Service GmbH has certified or approved any product other than the specimen tested.

Munich, 26.08.2015

  
Peter Pfisterer  
Technical Certifier

  
Qinbo Zhou  
Test Engineer

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<sup>1</sup> Level A - Independent Test lab with certified ISO 17025 Quality System

<sup>2</sup> Test Procedure Change List



Product Service

## No. ZE 15 08 61589 047

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL version 1.0.1\_rev1:

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv8, sSrv9, sSrv10, sSrv11, sSrv12, sSrvN1e, sSrvN1f, sSrvN2, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
3: Substitution	sSub1, sSub2, sSub3	
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
4+: Setting Group Definition	sSg2, sSg4, sSg7, sSg8, sSg10, sSg12, sSgN2, sSgN3, sSgN4, sSgN5	sSg5, sSg6, sSg9
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp9, sRp14, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp5, sRp8, sRp10, sRp11, sRp12, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr9, sBr14, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr5, sBr8, sBr10, sBr11, sBr12
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11	sGop1, sGop5, sGop6, sGop7, sGopN1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl2, sCtl7, sCtl13, sCtl15, sCtl16, sCtl17, sCtl18, sCtl19
12b: SBO control	sCtl5, sCtl6, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl2, sCtl4, sCtl7, sCtl15, sCtl16, sCtl17, sCtl18, sCtl19, sCtl27
12c: Enhanced Direct Control	sCtl5, sCtl10, sCtl14, sDOes1, sDOes2	sCtl2, sCtl7, sCtl13, sCtl15, sCtl16, sCtl17, sCtl18, sCtl19, sCtl26
12d: Enhanced SBO control	sCtl5, sCtl6, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2, sCtl4, sCtl7, sCtl15, sCtl16, sCtl17, sCtl18, sCtl19, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTm3
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	

## Zertifizierungsvertrag

Grundlage für die Zertifikatserteilung ist die Prüf- und Zertifizierungsordnung von TÜV SÜD Product Service.

Mit Erhalt des Zertifikates erkennt der Zertifikatsinhaber die jeweils gültige Fassung der Prüf- und Zertifizierungsordnung an ([www.tuev-sued.de/ps\\_regulations](http://www.tuev-sued.de/ps_regulations)) und wird somit Partner im Zertifiziersystem von TÜV SÜD Product Service.

### Prinzipielle Voraussetzung für die Gültigkeit des Zertifikates:

- Gültigkeit der zitierten normativen Prüfgrundlage(n) ist gegeben
- und zusätzlich bei Zertifikaten mit Berechtigung zur Verwendung eines Prüfzeichens bzw. bei Zertifikaten für QM-Systeme:
- Voraussetzungen für vorschriftsmäßige Fertigung werden eingehalten.
- Die Fertigungs- bzw. Betriebsstätten werden regelmäßig überwacht.

## Certification contract

Certification is based on the TÜV SÜD Product Service Testing and Certification Regulations.

On receipt of the certificate the certificate holder agrees to the current version of the Testing and Certification Regulations ([www.tuev-sued.de/ps\\_regulations](http://www.tuev-sued.de/ps_regulations)) and thus becomes partner in the TÜV SÜD Product Service Certification System.

### Requirements for the validity of the certificate in principle:

- Validity of the quoted test standard(s)
- In addition for certificates with the right to use a certification mark and for QM certificates:
- Conditions for an adequate manufacturing are maintained
- Regular surveillance of the facility is performed

Akkreditierungen / Benennungen (Status 25.02.2010) /  
Accreditations / notifications (as of 2010-02-25)

## Deutschland / Germany

Geräte- und Produktsicherheitsgesetz (GPSG) /  
Equipment and Product Safety Act (GPSG)

## Europa / Europe

- Niederspannungsrichtlinie 2006/95/EG
- Spielzeugrichtlinie 2009/48/EG
- Richtlinie für aktive medizinische Implantate 90/385/EWG
- Richtlinie für Medizinprodukte 93/42/EWG
- Richtlinie für In-vitro-Diagnostika 98/79/EG
- Richtlinie für Gasverbrauchseinrichtungen 90/396/EWG
- Richtlinie für persönliche Schutzausrüstungen 89/686/EWG
- EMV-Richtlinie 2004/108/EG
- Richtlinie für Sportboote 94/25/EG + 2003/44/EG
- Richtlinie für Maschinen 2006/42/EG
- Richtlinie für Ex-Schutz Geräte 94/9/EG
  
- Low Voltage Directive 2006/95/EC
- Toys Directive 2009/48/EC
- Directive for Active Implantable Medical Devices 90/385/EEC
- Directive for Medical Devices 93/42/EEC
- Directive on In Vitro Diagnostic Medical Devices 98/79/EC
- Directive for Gas Appliances 90/396/EEC
- Directive for Personal Protective Equipment 89/686/EEC
- EMC Directive 2004/108/EC
- Directive for Recreational Craft 94/25/EC + 2003/44/EC
- Directive for Machinery 2006/42/EC
- Directive for Ex Safe Equipment 94/9/EC
  
- ENEC Agreement for luminaires and IT equipment

## USA

- Nationally Recognized Testing Laboratory (NRTL) to 29 CFR 1910.7 by OSHA
- Accredited for FDA 510(k) Third Party Review
- Conformity Assessment Body to the MRA for Medical Devices; FDA QSReg Inspections, FDA 510(k) Third Party Review

## Asien-Pazifik Region / Asia Pacific

- Recognized Certification Body to Electrical Products (Safety Regulation); Hong Kong
- Konformitätsbewertungsstelle / Conformity Assessment Body to the MRA for Medical Devices; Australien / Australia
- Konformitätsbewertungsstelle / Conformity Assessment Body to the MRA for Medical Devices; Neuseeland / New Zealand

## Weltweit / Worldwide

- NCB im CB-Scheme des IECCE / NCB in the CB Scheme of IECCE
- ExCB im IECEx-Scheme des IECCE / ExCB in the IECEx Scheme of IECCE
- TÜV SÜD Product Service Mark für Produkte / TÜV SÜD Product Service Mark for products DAP-ZE-1213.00
- Zertifizierung von QMS / Certification of QMS TGA-ZM-08-93-00
- Zertifizierung von QMS gemäß / Certification of QMS according to (DIN) EN ISO 13485 / ISO 13485