



Product Service

# IEC 61850 Certificate

## Level A<sup>1</sup>

### No. D 17 07 61589 102

Issued to:

NR Electric CO., Ltd.  
69, Suyuan Avenue,  
Nanjing, 211102,  
China

For the client system:

PCS-9710  
REMOTE TERMINAL UNIT  
Software Version: 3.05

Issued by:

TÜV SÜD CERTIFICATION AND TESTING (CHINA) CO., LTD  
SHANGHAI BRANCH  
Communication Protocols  
No.16 Lane 1951 Duhui Road  
Shanghai, 201 108,  
People's Republic of China

The client system 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 Client Test Procedures version 1.0 with TPCL2 1.0\_rev4 with product's protocol, model and technical issue implementation conformance statements: "IEC 61850 ED2\_Client\_PICS for PCS-9710\_V1.0", "IEC 61850 ED2\_Client\_MICS for PCS-9710\_V1.0", "IEC 61850 ED2\_Client\_TICS for PCS-9710\_V1.0" and product's extra information for testing: "IEC 61850 ED2\_Client\_PIXIT for PCS-9710\_V1.0".

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

1 Basic Exchange (22/24)	9 GOOSE Control Block (2/2)
2 Data Sets (10/10)	12a Direct Control (7/9)
2+ Data Set Definition (6/8)	12b SBO Control (9/11)
3 Substitution (3/3)	12c Enhanced Direct Control (7/9)
4 Setting Group Selection (3/3)	12d Enhanced SBO Control (9/11)
4+ Setting Group Definition (4/5)	13 Time Synchronization (3/4)
5 Unbuffered Reporting (21/23)	14 File Transfer (8/8)
6 Buffered Reporting (25/28)	

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 Anvil version 3.9.1.0 and Wireshark version 2.0.4. This document has been issued for information purposes only, and the original paper copy of the TÜV SÜD report: No. 7482135390-TR705001700501, version 1-0 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to TÜV SÜD by NR Electric CO., Ltd.. The manufacturer's production process has not been assessed. This certificate does not imply that TÜV SÜD has certified or approved any product other than the specimen tested.

Shanghai, July 19, 2017

Shengwu ZENG  
Technical Certifier

Yifan WANG  
Test Engineer

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

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

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Applicable Test Procedures from the UCA International Users Group Edition 2 Client Test Procedures version 1.0 with TPCL 1.0\_rev4

Conformance Block	Mandatory	Conditional
1: Basic Exchange	cAss1, cAss2, cAss3, cAssN1, cAssN4, cAssN5, cAssN6	cAssN7 cSrv1, cSrv2, cSrv3, cSrv4, cSrv5, cSrv6, cSrv7, cSrv9, cSrv10, cSrvN1, cSrvN3, cSrvN4, cSrvN5, cSrvN6
2: Data Sets		cDs1, cDs2, cDs3, cDs4, cDs5, cDs6, cDsN1a, cDsN1b, cDsN1c, cDsN2
2+: Data Set Definition		cDs10, cDs11, cDs13, cDs14, cDsN10a, cDsN10b
3: Substitution	cSub1, cSub3	cSub2
4: Setting Group Selection	cSg2, cSgN1	cSg1
4+: Setting Group Definition	cSg11, cSg14	cSg10, cSg12
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRp11, cRp13a, cRp14, cRp15, cRpN2, cRpN5, cRpN6	cRp1, cRp2, cRp6, cRp7, cRp16, cRp17, cRp18, cRpN1
6: Buffered Reporting	cBr3, cBr4, cBr5, cBr8, cBr9, cBr10, cBr11, cBr13a, cBr14, cBr15, cBr30, cBr31, cBrN2, cBrN5, cBrN6, cBrN20	cBr1, cBr2, cBr6, cBr7, cBr16, cBr17, cBr18, cBr32, cBrN1
9: GOOSE control block	cGcb1	cGcb2
12a Direct control	cCtl4, cCtl5 cDOns1, cDOns2	cCtl1, cCtl2, cCtl3
12b SBO control	cCtl4, cCtl5 cSBOns1, cSBOns2, cSBOns3	cCtl1, cCtl2, cCtl3, cSBOns4
12c Enhanced Direct Control	cCtl4, cCtl5 cDOes1, cDOes2	cCtl1, cCtl2, cCtl3
12d Enhanced SBO control	cCtl4, cCtl5 cSBOes1, cSBOes2, cSBOes3	cCtl1, cCtl2, cCtl3 cSBOes4
13 Time sync	cTm1, cTmN1	cTm2
14 File transfer	cFt1, cFt3, cFtN1	cFt2, cFt4, cFt5, cFtN2, cFtN3

## 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 14.10.2013) /  
Accreditations / notifications (as of 2013-10-14)

## Deutschland / Germany

Produktsicherheitsgesetz (ProdSG) /  
Product Safety Act (ProdSG)

## 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 2009/142/EG
- 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 2009/142/EC
- 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, household 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
- Zertifizierstellen durch DAkkS akkreditiert DE-ZE-11321-01, DE-ZM-11321-09 und DE-ZM-11321-01. Certification Bodies accredited by DAkkS DE-ZE-11321-01, DE-ZM-11321-09 and DE-ZM-11321-01.