



IEC 61850 Certificate



Product Service

Level A¹

No. D 061589 0154 Rev. 00

Issued to:

NR Electric CO., Ltd.
69 Suyuan Avenue, Jiangning, 211102
Nanjing, PEOPLE'S REPUBLIC OF CHINA

For the server product:

PCS-9613S Differential Relay
Software Version: Ed2 2.00
CPU Board Version:
NR6106-3 (S/N: K380184800101)

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 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 2.0_rev5 with the product's protocol, model and technical issue implementation conformance statements: "PICS for the IEC61850 Ed2 interface in PCS-S Product Family V1.0", "MICS for the IEC61850 Ed2 interface in PCS-S Product Family V1.0", "TICS for the IEC61850 Ed2 interface in PCS-S Product Family V1.0.pdf" and the product's extra information for testing: "PIXIT for the IEC61850 Ed2 interface in PCS-S Product Family 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 cases):

1 Basic Exchange (27/28)	9a GOOSE Publish (11/13)
2 Data Sets (4/7)	9b GOOSE Subscribe (18/18)
3 Substitution (3/3)	12a Direct Control (11/17)
4 Setting Group Selection (4/4)	12b SBO Control (18/26)
4+ Setting Group Definition (13/13)	12c Enhanced Direct Control (13/19)
5 Unbuffered Reporting (19/22)	12d Enhanced SBO Control (19/27)
6 Buffered Reporting (27/32)	13 Time Synchronization (5/7)
	14 File Transfer (7/8)
	15 Service Tracking (7/17)

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 version 3.12 with test suite version 3.12 and Wireshark version 3.0.0. This document has been issued for information purposes only, and the original paper copy of the TÜV SÜD report: TR705202002404-00, 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, Dec 7, 2020

Cong WANG

Cong WANG
Technical Certifier

Yifan WANG

Yifan WANG
Test Engineer

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

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0_rev5

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv8, sSrv9, sSrv10, sSrv11, sSrv12, sSrv14, 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, sSg6, sSg7, sSg8, sSg10, sSg12, sSgN2, sSgN3, sSgN4, sSgN5	sSg5, sSg9
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp8, sRp10, sRp11, sRp12, sRp15, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr8, sBr10, sBr11, sBr12, sBr15
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGop6, sGopN1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b
12a Direct control	sCtl5, sCtl10, sDOs1, sDOs2	sCtl2, sCtl7, sCtl13, sCtl15, sCtl16, sCtl17, sCtl18
12b SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOs1, sSBOs2, sSBOs6	sCtl2, sCtl4, sCtl6, sCtl7, sCtl15, sCtl16, sCtl17, sCtl18, sCtl27
12c Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl2, sCtl7, sCtl13, sCtl14, sCtl15, sCtl16, sCtl17, sCtl18, sCtl26
12d Enhanced SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2, sCtl4, sCtl6, sCtl7, sCtl15, sCtl16, sCtl17, sCtl18, sCtl26
13 Time sync	sTm1, sTm2, sTmN1	sTm3, sTm5
14 File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c
15 Service tracking		sTrk1, sTrk2, sTrk4, sTrk7, sTrk8, sTrk9, sTrk17

All configuration file and data model tests have been successfully performed for the product variants using the same communication hardware and software version: PCS-915SD, PCS-921S, PCS-924S, PCS-994S, PCS-996S, PCS-997S, PCS-9631S, PCS-9641S, and PCS-9671S.