



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



**No. ZE 15 12 94406 001**

Issued to:  
KEPCO Research Institute  
105 Munji-Ro, Yuseong-Gu  
34056 Daejeon  
REPUBLIC OF KOREA

For the client product:  
xGRIDs ProxyGateway  
Version: 1.0  
HW: Embedded System Advantech  
S/N HME0010571

Issued by:  
TÜV SÜD Product Service GmbH  
Communication Protocols  
Barthstrasse 16  
D-80339 Munich  
Germany

Certification Mark:



This certification mark can only be used for the product defined above.

**The client 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 Client Test Procedures version 1.0 with TPCL<sup>2</sup> version 1.0\_rev2 with the product's protocol, model and technical issue implementation conformance statements: "xGRID-PGv1.PICS.1208", "xGRID-PGv1.MICS.1201", "xGRID-PGv1.TICS.1208" and product's extra information for testing: "xGRID-PGv1.PIXIT.1201".

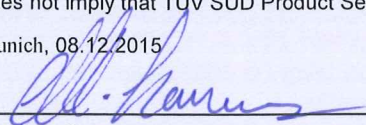
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

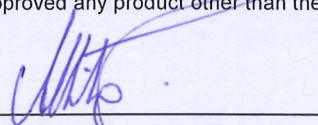
1 Basic Exchange (22/24)	12a Direct Control (7/9)
2 Data Sets(6/10)	12b SBO Control (9/11)
2+ Data Set Definition (8/8)	12c Enhanced Direct Control (7/9)
4 Setting Group Selection (3/3)	12d Enhanced SBO Control (9/11)
5 Unbuffered Reporting (23/23)	13 Time Synchronization (4/4)
6 Buffered Reporting (28/28)	14 File Transfer (3/8)
	15 Service Tracking (4/17)

This certificate includes a summary of the test results as carried out at Munich in Germany with Anvil 3.7.0.0 and Wireshark 1.12.4. This document has been issued for information purposes only, and the original paper copy of the TÜV SÜD Product Service GmbH test report: No. 7133074368-TR01, 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 Product Service GmbH by KEPCO Research Institute. 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, 08.12.2015

  
Maurizio Scavazon  
Technical Certifier

  
Albi Kospiri  
Test Engineer

Publication of this document is allowed. Publication in total or in part and/or reproduction in whatever way of the contents of the above mentioned report(s) is not allowed unless permission has been explicitly given either in the report(s) or by previous letter.

<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 12 94406 001

Applicable Test Procedures from the UCA International Users Group Edition 2 Client Test Procedures version 1.0 with TPCL version 1.0\_rev2:

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, cDs5, cDs6, cDsN1a, cDsN1b
2+: Data Set Definition		cDs10, cDs11, cDs12, cDs13, cDs14, cDsN10a, cDsN10b, cDsN11
4: Setting Group Selection	cSg2, cSgN1	cSg1
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRp11, cRp13a, cRp14, cRp15, cRpN2, cRpN5, cRpN6	cRp1, cRp2, cRp6, cRp7, cRp12, cRp13b, 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, cBr12, cBr13b, cBr16, cBr17, cBr18, cBr32, cBr33, cBrN1
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, cTmN2
14: File transfer	cFt1, cFt3, cFtN1	
15: Services Tracking		cTrk1, cTrk2, cTrk8, cTrk10

## 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  
Accreditations / notifications

(Status 25.02.2010) /  
(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 QSR Reg 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