



IEC 61850 Certificate Level A¹

Ref. No: 2014TS02168

Issued to:

YPP Corporation
YPP Building, 327-30, Gasan-Dong
Kumchun-Gu, Seoul, 153-802
Republic of Korea

For the server product:

TRF300
Protection and Control Relay
Software version 1.00
Hardware version 1.00

Issued by:

Korea Electrotechnology Research Institute

The server product has not shown to be non-conforming to:

IEC 61850 First Edition Parts 6, 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, UCA International Users Group Device Test Procedures version 2.3 with TPCL² 1.7, product's protocol, model and technical issue implementation conformance statements "Protocol Implementation Conformance Statement for the IEC 61850 interface in TR series version 1.00", "Model Implementation Conformance Statement for the IEC 61850 interface in TRF300 version 1.00", "TISSUES Implementation Conformance Statement for the IEC 61850 interface in TR series version 1.00" and product's extra information for testing "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in TR series version 1.00".

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

1	Basic Exchange (21/24)	9a	GOOSE Publish (10/13)
2	Data Sets (3/6)	9b	GOOSE Subscribe (11/11)
2+	Data Set Definition (23/23)	12a	Direct Control (7/12)
4	Setting Group Selection (3/3)	12b	SBO Control (9/14)
4+	Setting Group Definition (7/7)	12c	Enhanced Direct Control (7/13)
5	Unbuffered Reporting (17/19)	12d	Enhanced SBO Control (12/19)
6	Buffered Reporting (19/21)	13	Time Synchronization (3/5)
		14	File Transfer (4/7)

This Certificate includes a summary of the test results as carried out at KERI in Republic of Korea with UniCA 61850 Client simulator version 4.28.04 with test suite version 3.28.09 and UniCA 61850 analyzer version 5.28.03. This document has been issued for information purposes only, and the original paper copy of the KERI report: 2014TS02168 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KERI by YPP Corporation. The manufacturer's production process has not been assessed. This Certificate does not imply that KERI has approved any product other than the specimen tested.

Republic of Korea, August 18, 2014

N. O. Park
Executive Director
Power Apparatus Testing and Evaluation Division

Y. J. Lee
Technical Manager

¹ Level A – Independent Tester with certified ISO 17025 Quality System

² TPCL - Test procedures change list



Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL 1.7

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	Srv6, Srv7, Srv8, SrvN1e, SrvN1f, SrvN2, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
2+: Data Sets Definition	Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9 DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14, DsetN15	
4: Setting Group Selection	Sg1, Sg3, SgN1a	
4+: Setting Group Definition	Sg2, Sg4, SgN1b, SgN2, SgN3, SgN4, SgN5	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12 RpN1, RpN2, RpN3, RpN4	Rp5, Rp6, Rp8, Rp9, RpN5, RpN6
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br6, Br10, Br11, BrN6
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7, Gop9, Gop10a	Gop1, Gop6, Gop10b, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b, Gos4
12a: Direct control	CtiN3, CtiN8 DOs1	Cti7, CtiN10, CtiN11 DOs3
12b: SBO control	Cti3, CtiN1, CtiN2, CtiN3, CtiN4, SBOs2	Cti7, CtiN10, CtiN11
12c: Enhanced Direct control	CtiN3, CtiN8 DOes2, DOes5	Cti7, CtiN10, CtiN11
12d: Enhanced SBO control	Cti3, CtiN1, CtiN2, CtiN3, CtiN4, CtiN9 SBOes1, SBOes2, SBOes3	Cti7, CtiN10, CtiN11
13: Time sync	Tm1, Tm2, TmN1	
14: File transfer	Ft1, Ft2ab, Ft4, FtN1ab	

All configuration file and data model tests have been successfully performed for the product variants using the same communication hardware and software version: TRM300, TRT300.