IEC 61850 Certificate Level A[1]

Ref. No: 2016TS02861

Issued to:

ENTEC Electric & Electronic Co., LTD
225-38 Choirubaekro, Bongdam-eup, Hwasung-city
Gyeonggido, 445-894
Republic of Korea

For the server product:
ETR600-T
Control & Protection Device
CPU version 1.0.0.0
DSP version 1.0.0.0
MPU version 1.1.1.0

Issued by:
Korea Electrotechnology Research Institute

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[2] version 1.2 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in ETR600-T, v1.0", "Model Implementation Conformance Statement for the IEC 61850 interface in ETR600-T, v1.0", "TISSUES Implementation Conformance Statement for the IEC 61850 interface in ETR600-T, v1.0" and product's extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in ETR600-T, v1.0".

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 (20/26)		9a	GOOSE Publish (9/13)
2	Data Sets (4/7)		9b	GOOSE Subscribe (12/14)
2+	Data Set Definition (24/24)		12a	Direct Control (5/18)
4	Setting Group Selection (3/4)		12d	Enhanced SBO Control (15/28)
5	Unbuffered Reports (20/21)		13	Time Synchronization (4/7)
6	Buffered Reports (27/30)		14	File Transfer (5/8)

This Certificate includes a summary of the test results as carried out at KERI in Republic of Korea with UniCA 61850 Client simulator version 4.29.03 with test suite Ed2 3.27.09(TPCL 1.2) and UniCA 61850 analyzer version 5.31.00. This document has been issued for information purposes only, and the original paper copy of the KERI report: 2016TS02861 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KERI by ENTEC Electric & Electronic Co., LTD. 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, October 6, 2016

Y. J. Lee
Executive Director
Power Apparatus Testing and Evaluation Division

J. I. Jeong
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 Edition 2 Server Test Procedures version 1.0 with TPCL version 1.2

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sSrv6, sSrv8, sSrvN1e, sSrvN1f, sSrvN2, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
2+: Data Sets Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs11, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs12, sDsN11, sDsN12
4: Setting Group Selection	sSg1, sSg3, sSgN1	
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr15, sBr20, sBr21, sBr22, sBr25. sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11	sGop1, sGop7, sGopN1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl16
12d: Enhanced SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl6, sCtl7, sCtl16, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTmN2
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	