

CENTRAL POWER RESEARCH INSTITUTE

Prof. Sir CV Raman Road, PO Box 8066, Sadashivanagar PO,
BANGALORE – 560 080. I N D I A



IEC 61850 Certificate ^{Level A}

No. UARC/SASL/C005/2013

Issued to:

M/s. ALSTOM T&D INDIA LTD.
19/1, PALLAVARAM,
CHENNAI - 600043,
INDIA.

For the server product:

MiCOM P40 Agile
P645 Transformer Protection Relay
Hardware Version: K
Software Version: 04-H
Serial No.: 32147539

Issued by: CENTRAL POWER RESEARCH INSTITUTE, India

**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, the UCA International Users Group Device Test Procedures version 2.3 with Test Procedures Change List (TPCL) version 1.7, the product's protocol, model and technical issue implementation conformance statements: "PICS version PX4X/ENPC/A", "MICS version P645-MC-EN-C52", "TICS version P64X/ENTC/B52" and the extra information for testing: "PIXIT version P64X/EN/PX/C52".


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 (20/24)	12a Direct Control (4/12)
2 Data Sets (3/6)	12b SBO Control (6/14)
4 Setting Group Selection(3/3)	12c Enhanced Direct Control(4/13)
5 UnBuffered Reporting (16/19)	12d Enhanced SBO Control(9/19)
6 Buffered Reporting (18/21)	13 Time Synchronization (3/5)
9a GOOSE Publish (11/13)	14 File Transfer(6/7)
9b GOOSE Subscribe(10/11)	


This Certificate includes a summary of the test results as carried out at CPRI, Bangalore, India with UniCAsim 61850 version 4.27.04 test system running test suit "61850 Conformance Test v3.27.00" and UniCA 61850 analyzer version 5.27.04. This document has been issued for information purposes only and the original paper copy of the CPRI Report No.: UARC/SASL/T005/2013; Dated: 21-Jan-2014 will prevail.

The tests has been carried out on one single specimen of the products as referred above and submitted to CPRI by M/s. ALSTOM T&D INDIA LTD. 19/1, PALLAVARAM, CHENNAI- 600043 INDIA. The manufacturer's production process has not been assessed. This Certificate does not imply that CPRI has certified or approved any product other than the specimen tested.

Bangalore, 21-Jan-2014


(V. Arunachalam)
Additional Director




(Pradish M)
Test Engineer

Report Reference No: UARC/SASL/T005/2013; Dated: 21-Jan-2014


Level A – Independent Test Lab with certified ISO 9000 or ISO 17025 Quality System
Please Note: Hardcopy of the certificate with CPRI Hologram is only valid.

Page 1 of 2


Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL version 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, SrvN3
2: Data Set	Dset1, Dset10a, DsetN1ae	--
4: Setting Group Selection	Sg1, SgN1a, Sg3	--
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12, RpN1, RpN2, RpN3, RpN4	Rp5, Rp8, Rp9, RpN5, RpN6
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14, BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10, Br11, BrN6
9a: GOOSE Publish	Gop2, Gop3, Gop4, Gop7, Gop9, Gop10a	Gop1, Gop5, Gop6, Gop10b, GopN1
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct Control	CtlN3, CtlN8, DOns1	DOns3
12b: SBO Control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, SBOs2	--
12c: Enhanced Direct Control	CtlN3, CtlN8, DOes2, DOes5	--
12d: Enhanced SBO Control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9, SBOes1, SBOes2, SBOes3	--
13: Time Synchronization	Tm1, Tm2, TmN1	--
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, FtN1c

All configuration file and data model tests have been successfully performed for the product variants using the same hardware version "K" and software version "04-H".


 (V. Arunachalam)
 Additional Director




 (Pradish M)
 Test Engineer

Report Reference No: UARC/SASL/T005/2013; Dated: 21-Jan-2014