

# CENTRAL POWER RESEARCH INSTITUTE

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



No. UARC/SASL/C002/2014

**Issued to:**

M/s. LARSEN & TOUBRO LIMITED  
ELECTRICAL & AUTOMATION INDEPENDENT CO,  
ELECTRICAL SYSTEMS & EQUIPMENT BU  
RELAYS & INTEGRATION SOLUTIONS  
GATE 7, POWAI CAMPUS, MUMBAI, 400072, INDIA

**For the server product:**

FCOMP Feeder Control Metering & Protection Unit  
Hardware Version: 1.1  
Software Version: 6.0  
Serial No.: ZX96022

**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 0.3", "MICS version 0.3", "TICS version 0.2" and the extra information for testing: "PIXIT version 0.4".

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 (18/24)	9b: GOOSE Subscribe (10/11)
2: Data Sets (4/6)	12a: Direct Control (3/12)
2+: Data Set Definition (23/23)	12c: Enhanced Direct Control (4/13)
5: UnBuffered Reporting (17/19)	13: Time Synchronization (3/5)
6: Buffered Reporting (19/21)	14: File Transfer (6/7)
9a: GOOSE Publish (9/13)	

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/T002/2014; Dated: 21-April-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. LARSEN & TOUBRO LIMITED ELECTRICAL & AUTOMATION INDEPENDENT CO, ELECTRICAL SYSTEMS & EQUIPMENT BU RELAYS & INTEGRATION SOLUTIONS GATE 7, POWAI CAMPUS, MUMBAI, 400072, 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-April-2014

(V. Arunachalam)  
Additional Director




(Pradish M)  
Test Engineer


Report Reference No: UARC/SASL/T002/2014; Dated: 21-April-2014

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, SrvN1f
2: Data Set	Dset1, Dset10a, DsetN1ae	DsetN1b
2+: Data Set Definition	Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9, DsetN1cd, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14, DsetN15	--
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, Gop10b, GopN1
9b: GOOSE Subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct Control	CtlN3, CtlN8, DOns1	--
12c: Enhanced Direct Control	CtlN3, CtlN8, DOes2, DOes5	--
13: Time Synchronization	Tm1, Tm2, TmN1	--
14: File Transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, FtN1c

  
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