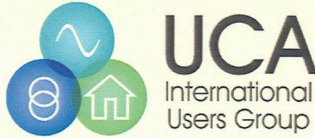


# CENTRAL POWER RESEARCH INSTITUTE

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



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



No.: CPRIBLRMUADSASL19TC0007

**Issued to:**

M/s. GE T&D INDIA LIMITED  
19/1, G.S.T. ROAD, PALLAVARAM,  
CHENNAI - 600043  
INDIA

**For the server product:**

NUMERICAL FEEDER PROTECTION RELAY  
Type: MiCOM AGILE P145  
Model No.: P14591AA6M0610M  
Serial No.: 34896286/09/19  
Hardware Version: P145-M HARDWARE  
Software Version: 61

**Issued by: CENTRAL POWER RESEARCH INSTITUTE, India**

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<sup>2</sup> version 1.2.6 with product's protocol, model and technical issue implementation conformance statements: "PICS version PX4X-EN-PC2-C", "MICS version P145-MC2-EN-2.2", "TICS version P14X-TC2-EN-2.2" and product's extra information for testing: "PIXIT version P14X-PX2-EN-2.2".

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

|                                 |                                    |
|---------------------------------|------------------------------------|
| 1 Basic Exchange (24/26)        | 12a Direct Control (7/18)          |
| 2 Data Sets (4/7)               | 12b SBO Control (13/27)            |
| 4 Setting Group Selection (4/4) | 12c Enhanced Direct Control (9/20) |
| 5 Unbuffered Reporting (18/21)  | 12d Enhanced SBO Control (14/28)   |
| 6 Buffered Reporting (25/30)    | 13 Time Synchronization (4/7)      |
| 9a GOOSE Publish (12/13)        | 14 File Transfer (7/8)             |
| 9b GOOSE Subscribe (14/14)      |                                    |

This Certificate includes a summary of the test results as carried out at Central Power Research Institute (CPRI), Bangalore in India with Client Simulator UniCasim version 4.31.02.5461 and UniGrid SA Simulator version 1.6.0.0 with test suit version IEC61850Ed2Server1.2.6-v1.0.143 and UniCA 61850 analyzer version 5.34.02.0. This document has been issued for information purposes only, and the original paper copy of the CPRI report No.: CPRIBLRMUADSASL19T0007; dated 20 December, 2019 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to CPRI by GE T&D India Limited, 19/1, G.S.T. Road, 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, 20 December, 2019

  
(Harinath Babu P V)  
Joint Director



  
(Pradish M)  
Test Engineer

Test Report Reference No.: CPRIBLRMUADSASL19T0007; dated 20 December, 2019

1 Level A – Independent Test lab with certified ISO/IEC 17025 Quality System.

2 Test Procedure Change List .



No.: CPRI BLRMUADSASL19TC0007

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL version 1.2.6

| Conformance Block            | Mandatory   | Conditional   |
|------------------------------|---|---|
| 1: Basic Exchange            | sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4                                  | sAssN6, sSrv6, sSrv8, sSrv9, sSrv10, sSrv12, sSrv13, sSrvN1e, sSrvN1f, sSrvN3 |
| 2: Data Sets                 | sDs1, sDs10a, sDsN1ae   | sDs15   |
| 4: Setting Group Selection   | sSg1, sSg3, sSgN1   | sSg11   |
| 5: Unbuffered Reporting      | sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8   | 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 | sBr8, sBr10, sBr11, sBr12   |
| 9a: GOOSE publish            | sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11   | sGop1, sGop5, sGop6, sGop7, sGopN1, sGopN2                                    |
| 9b: GOOSE subscribe          | sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6   | sGos4, sGop6b   |
| 12a: Direct control          | sCtl5, sCtl10, sDOns1, sDOns2   | sCtl13, sCtl15, sCtl16  |
| 12b: SBO control             | sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6  | sCtl6, sCtl15, sCtl16, sCtl27   |
| 12c: Enhanced Direct Control | sCtl5, sCtl10, sDOes1, sDOes2   | sCtl13, sCtl14, sCtl15, sCtl16, sCtl26  |
| 12d: Enhanced SBO control    | sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8   | sCtl6, sCtl15, sCtl16, sCtl26   |
| 13: Time sync                | sTm1, sTm2, sTmN1   | sTm3  |
| 14: File transfer            | sFt1, sFt2ab, sFt4, sFt5, sFtN1ab   | sFt2c, sFtN1c   |

  
(Harinath Babu P V)  
Joint Director

  
(Pradish M)  
Test Engineer