

CENTRAL POWER RESEARCH INSTITUTE

Prof. Sir C V Raman Road, PO Box 8066, Sadashivanagar PO,
BANGALORE 560 080. INDIA



IEC 61850 Certificate Level A¹



No.: CPRIBLRMUADSASL22TC0001

Issued to:

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

For the server product:

NUMERICAL GENERATOR PROTECTION RELAY
Type: MiCOM Agile P345
Model No.: P34591TF6S0910M
Serial No.: 34756136/11/21
Hardware Version: M
Software Version: 91A

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 2.0.5 with product's protocol, model and technical issue implementation conformance statements: "PICS version Px4x_PC2_EN_H; October 2021", "MICS version P345-MC2-EN-1; October 2021", "TICS version P345-TC2-EN-1; December 2021" and product's extra information for testing: "PIXIT version P345-PX2-EN-1; dated: December 2021".

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 (8/19) |
| 2 Data Sets (4/7) | 12b SBO Control (14/28) |
| 4 Setting Group Selection (4/4) | 12c Enhanced Direct Control (10/21) |
| 5 Unbuffered Reporting (21/23) | 12d Enhanced SBO Control (15/29) |
| 6 Buffered Reporting (31/33) | 13 Time Synchronization (4/7) |
| 9a GOOSE Publish (12/13) | 14 File Transfer (7/8) |
| 9b GOOSE Subscribe (19/20) | |

This Certificate includes a summary of the test results as carried out at Central Power Research Institute (CPRI), Bangalore in India with Client Simulator UniGrid SA Simulator version 1.8.0 with test suit version Ed2_Server_TP_2.0_20211006.3 and UniCA 61850 analyzer version 6.41.00.0. This document has been issued for information purposes only, and the original paper copy of the CPRI report No.: CPRIBLRMUADSASL22TC0001; dated 07 February, 2022 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to CPRI by M/s. GE T&D INDIA LIMITED, 19/1, G.S.T. ROAD, PALLAVARAM, CHENNAI – 600043, TAMIL NADU, 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; 07 February, 2022

(V Shivakumar)
Joint Director



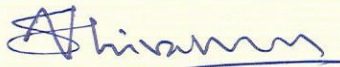
(Pradish M)
Test Engineer

¹ Level A – Independent Test lab with certified ISO/IEC 17025 Quality System.
UCA International Users Group, P.O. Box 315, Shell Knob, MO 65747, USA

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0.5

| Conformance Block | Mandatory | Conditional |
|-----------------------------|--|---|
| 1: Basic Exchange | sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcd, sSrvN4 | sAssN6, sSrv6, sSrv9, sSrv10, sSrv12, sSrv13, sSrvN1e, 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, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8 | sRp8, sRp10, sRp11, sRp12, sRp13, sRp15, sRp17, sRpN5 |
| 6: Buffered Reporting | sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8 | sBr8, sBr10, sBr11, sBr12, sBr13, sBr15, sBr17, sBr23, sBr24 |
| 9a: GOOSE publish | sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12 | sGop1, sGop5, sGop6, sGopN1, sGopN2 |
| 9b: GOOSE subscribe | sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6 | sGos4, sGos6b |
| 12a Direct control | sCtl5, sCtl10, sDOs1, sDOs2 | sCtl7, sCtl13, sCtl15, sCtl16 |
| 12b SBO control | sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOs1, sSBOs2, sSBOs6 | sCtl6, sCtl7, sCtl15, sCtl16, sCtl27 |
| 12c Enhanced Direct Control | sCtl5, sCtl10, sDOes1, sDOes2 | sCtl7, sCtl13, sCtl14, sCtl15, sCtl16, sCtl26 |
| 12d Enhanced SBO control | sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8 | sCtl6, sCtl7, sCtl15, sCtl16, sCtl26 |
| 13 Time sync | sTm1, sTm2, sTmN1 | sTm3 |
| 14 File transfer | sFt1, sFt2ab, sFt4, sFt5, sFtN1ab | sFt2c, sFtN1c |



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Test Engineer