

No. 10269608-INC 20-3182

Issued to:

Siemens AG
Wernerwerkdammm 5
13629 Berlin
Germany

For the server product:

SIPROTEC 5 6MU85 Merging Unit/Bay Unit
Software version: V08.40
Hardware: 6MU85-DAAA-AA0-0AAAA0-A90211-
13111A-EBD000-000AC0-CB1BA2
S/N: BM2004000483

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_rev6 with product's protocol, model and technical issue implementation conformance statements and the extra information for testing: "SIPROTEC 5 PIXIT, PICS, TICS IEC61850 manual, V8.30 and higher, document version C53000-G5040-C013-8, Edition 08.2020" and "SIPROTEC Model Implementation Conformance Statement (MICS) According to IEC 61850, Device: x6MU85xx5, Mapping version V08.40.06".

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 (25/28)	9a GOOSE Publish (10/13)
2 Data Sets (4/7)	9b GOOSE Subscribe (18/18)
2+ Data Set Definition (24/24)	12a Direct Control (8/17)
3 Substitution (3/3)	12b SBO Control (15/26)
4 Setting Group Selection (4/4)	12c Enhanced Direct Control (10/19)
4+ Setting Group Definition (13/13)	12d Enhanced SBO Control (16/27)
5 Unbuffered Reporting (21/22)	13 Time Synchronization (5/7)
6 Buffered Reporting (31/32)	14 File Transfer (5/8)
	15 Service Tracking (2/17)

This certificate includes a summary of the test results as carried out at DNV GL in The Netherlands with UniGrid SA Simulator 1.7.1 with test suite 20200926.1 and UniCA 61850 Analyzer 6.40.01. This document has been issued for information purposes only, and the archived DNV GL verification report No. 10269608-INC 20-3181 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by Siemens. The manufacturer's production process has not been assessed. This certificate does not imply that DNV GL has approved any product other than the specimen tested.

Arnhem, December 9, 2020



N.A. Heijker
Business Leader
Interoperability of Smart Power Systems

Issued by:



DNV-GL

DNV KEMA is now DNV GL



R. Schimmel
Verification Manager

¹ Level A - Independent test lab with certified ISO 9001 Quality System
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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0_rev6

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv6, sSrv8, sSrv11, sSrv12, sSrv13, sSrv14, sSrvN1e, sSrvN1f, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
2+: Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs11, sDs12, sDsN11, sDsN12
3: Substitution	sSub1, sSub2, sSub3	
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
4+: Setting Group Definition	sSg2, sSg4, sSg6, sSg7, sSg8, sSg10, sSg12, sSgN2, sSgN3, sSgN4, sSgN5	sSg5, sSg9
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp15, 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	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr15, sBr23, sBr24
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGop6, sGopN1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos4, sGos6b
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl7, sCtl13, sCtl16, sCtl17
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl4, sCtl6, sCtl7, sCtl16, sCtl17, sCtl27
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl7, sCtl13, sCtl14, sCtl16, sCtl17, sCtl26
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl6, sCtl7, sCtl16, sCtl17, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTm3, sTm4
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	
15: Service tracking		sTrk7, sTrk17