

No. 10060753-INC 17-2825

Issued to:

WAGO Kontakttechnik GmbH & Co. KG
Hansastraße 27
32423 Minden
Germany

For the server product:

WAGO 750-8202/025-001
Remote Terminal Unit
IEC 61850 Software version: 3.3.8
Hardware version: 04

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 TPCL² 1.2.4 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the WAGO IEC 61850 Solution, version 3.0.1", "Model Implementation Conformance Statement for the WAGO IEC 61850 Solution, version 3.0.1", and "ISSUES Implementation Conformance Statement for the WAGO IEC 61850 Solution, version 3.0.1", and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the WAGO IEC 61850 Solution, version 3.0.1".

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 (25/26)	9a GOOSE Publish (11/13)
2 Data Sets (4/7)	9b GOOSE Subscribe (12/14)
2+ Data Set Definition (22/24)	12a Direct Control (8/18)
3 Substitution (3/3)	12b SBO Control (14/27)
5 Unbuffered Reporting (19/21)	12c Enhanced Direct Control (10/20)
6 Buffered Reporting (28/30)	12d Enhanced SBO Control (15/28)
	13 Time Synchronization (3/7)

This certificate includes a summary of the test results as carried out at DNV GL in The Netherlands with UniGrid SA 1.3 with test suite 1.0.47.85 and UniCA 61850 Analyzer 5.31.04. This document has been issued for information purposes only, and the original paper copy of the DNV GL verification report No. 10060753-INC 17-2824 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by WAGO Kontakttechnik. 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, November 11, 2017



G. Webber
Business Leader
Intelligent Networks and Communication

Issued by:



DNV KEMA is now DNV GL



R. Schimmel
Verification Manager

¹ Level A - Independent test lab with certified ISO 9001 Quality System

² TPCL - Test procedures change list

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Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL 1.2.4

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, sSrv11, sSrv12, sSrvN1e, sSrvN1f, sSrvN2, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
2+: Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs11, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs12
3: Substitution	sSub1, sSub2, sSub3	
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp8, sRp10, sRp11, sRp12, sRp13, 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, sBr13, sBr23, sBr24
9a: GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11	sGop1, sGop6, sGop7, sGopN1, sGopN2
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl2, sCtl13, sCtl15, sCtl19
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl2, sCtl4, sCtl15, sCtl19, sCtl27
12c: Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl2, sCtl13, sCtl14, sCtl15, sCtl19, sCtl26
12d: Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2, sCtl4, sCtl15, sCtl19, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	