



IEC 61850 Certificate Level A¹

No. 74101359-MOC/INC 12-00274

Issued to:
Ingeteam Power Technology, S.A.
Parque Tecnológico de Vizcaya Edif. 110
48170 Zamudio (Vizcaya)
Spain

For the product:
INGEPAC EF
Protection and Control device
HW revision D
SW revision 1.0.3.0



The product has not shown to be non-conforming to:
IEC 61850-6, 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 TPCL² version 1.5, the product's protocol, model and technical issue implementation conformance statements: IEC 61850 PICS INGEpac EF Rev. A, IEC 61850 MICS INGEpac EF Rev. B, IEC 61850 TICS INGEpac EF Rev. A and product's extra information for testing: IEC 61850 PIXIT INGEpac EF Rev. C.

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 (20/24)	9a GOOSE Publish (8/13)
2 Data Sets (3/6)	9b GOOSE Subscribe (10/11)
4 Setting Group Selection (3/3)	12a Direct Control (6/12)
4+ Setting Group Definition (7/7)	12b SBO Control (8/14)
5 Unbuffered Reporting (15/19)	12c Enhanced Direct Control (6/13)
6 Buffered Reporting (18/21)	12d Enhanced SBO Control (11/19)
	13 Time Synchronization (3/5)
	14 File Transfer (7/7)

This certificate includes a summary of the test results as carried out at KEMA in The Netherlands with UniCA 61850 client simulator version 3.23.00 with test suite 3.24.01 and UniCA 61850 analyzer 4.24.03. This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 74101359-MOC/INC 12-00273 will prevail.

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

Arnhem, March 26, 2012

M. Adriaansen
Regional Director Management & Operations Consulting

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Certification Manager

- 1 Level A - Independent Test lab with certified ISO 9000 or ISO 17025 Quality System
- 2 TPCL - test procedures change list

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Applicable Test Procedures from the UCA International Users Group Device Test Procedures version 2.3 with TPCL version 1.5.

Conformance Block	Mandatory	Conditional
1: Basic Exchange	Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5 Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4	Srv6, Srv7, Srv8, SrvN1e, SrvN2, SrvN3
2: Data Sets	Dset1, Dset10a, DsetN1ae	
4: Setting Group Selection	Sg1, SgN1a	Sg3
4+: Setting Group Definition	Sg2, Sg4, SgN1b, SgN2, SgN3, SgN4, SgN5	
5: Unbuffered Reporting	Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12 RpN1, RpN2, RpN3, RpN4	Rp5, Rp8, Rp9, RpN6
6: Buffered Reporting	Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14 BrN1, BrN2, BrN3, BrN4, BrN5	Br5, Br10, Br11, BrN6
9a: GOOSE publish	Gop2, Gop3, Gop4, Gop7, Gop10a	Gop1, Gop6, GopN1
9b: GOOSE subscribe	Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6	Gos1b
12a: Direct control	CtlN3, CtlN8 DOns1, DOns3	Ctl2, Ctl7
12b: SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, SBOs2	Ctl2, Ctl7
12c: Enhanced Direct Control	CtlN3, CtlN8 DOes2, DOes5	Ctl2, Ctl7
12d: Enhanced SBO control	Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3	Ctl2, Ctl7
13: Time sync	Tm1, Tm2, TmN1	
14: File transfer	Ft1, Ft2ab, Ft4, FtN1ab	Ft2c, Ft3, FtN1c