

No. 10071516-INC 17-2904

**Issued to:**

Ingeteam Power Technology, S.A.  
Power Grid Automation - PGA  
Parque Tecnológico de Bizkaia, Edificio 110  
48170 Zamudio, Bizkaia  
Spain

**For the 92LE publisher:**

INGEPAC EF PB Merging Unit  
SV version: 0.5.1.7  
Hardware version:  
PB0AEGXXXXXEFA-L-A-A-A-A-AEFE  
S/N: A10173000001  
Supporting:  
4 phase voltage and current  
Neutral is calculated or measured

The 92LE publisher has not been shown to be non-conforming to:

## IEC 61850 First Edition Parts 6, 7-2, and 9-2

Communication networks and systems in substations

The conformance test has been performed according to IEC 61850-10 and the UCA International Users Group "Test Procedures version 1.1 for Sampled Values Publishers according to the "Implementation Guideline for Digital Interface to Instrument Transformers using IEC 61850-9-2 (9-2LE version 2.1)" with TPCL<sup>2</sup> version 1.0 with 9-2LE publisher's protocol implementation conformance statement: "Protocol Implementation Conformance Statement for the IEC 61850 interface in INGEpac EF PB, Rev: A" and extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 9-2LE PUBLISHER interface in INGEpac EF PB, Rev: A".

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):

11a Sampled Value publish (14/17)	50 Hz with 80 samples per cycle
11a Sampled Value publish (14/17)	60 Hz with 80 samples per cycle

This certificate includes a summary of the test results as carried out at DNV GL in the Netherlands with UniCA 61850 Analyzer 61850 version 5.26.04. This document has been issued for information purposes only, and the original paper copy of the DNV GL report No. 10071516-INC 17-2903 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by Ingeteam. 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 23, 2017



**G. Webber**  
Business Leader  
Intelligent Networks and Communication

**Issued by:**



**DNV-GL**  
DNV KEMA is now DNV GL



**R. Schimmel**  
Verification Manager

<sup>1</sup> Level A - Independent test lab with certified ISO 9001 Quality System

<sup>2</sup> TPCL - Test procedures change list

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Applicable Test Procedures from the UCA International Users Group Test procedures version 1.1 for Sampled Values Publishers according to the "Implementation Guideline for Digital Interface to Instrument Transformers using IEC 61850-9-2 (9-2LE version 2.1)" with TPCL version 1.0.

<b>Conformance Block</b>	<b>Mandatory</b>	<b>Conditional</b>
Configuration	Cnf1, Cnf2, Cnf3, Cnf4, Cnf5, Cnf6, Cnf7, Cnf8	
11a Sampled Value Publishing 50 Hz, 80 samples/cycle	Svp1, Svp2, Svp3, Svp6, Svp10, Svp11, Svp14, Svp15	Svp4, Svp7, Svp8, Svp12, Svp13, Svp16
11a Sampled Value Publishing 60Hz, 80 samples/cycle	Svp1, Svp2, Svp3, Svp6, Svp10, Svp11, Svp14, Svp15	Svp4, Svp7, Svp8, Svp12, Svp13, Svp16