



**BUREAU
VERITAS**

Certificate of compliance

Applicant: Alpha ESS Co., Ltd.
JiuHua Road 888, Nantong High-Tech Industrial Development
Zone, Nantong City, 226300, Jiangsu Province
P.R. China

Products: Hybrid photovoltaic inverter

Model: SMILE5-INV

The grid connected inverters mentioned in this document comply with Spanish regulations on the connection of photovoltaic installations to the low voltage grid.

More specifically, they comply with the safety requirements concerning people and the installation through the use of techniques which are equivalent to the galvanic isolation of a transformer, in accordance with the Royal Legislative Decree 1699/2011 and the Royal Legislative Decree 661/2007.

The inverters incorporate a Residual Current Monitoring Unit (RCMU) which is sensitive to all fault currents and which operates on a response threshold of 30 mA. The alternating current relays safely disconnect the grid in the event of a fault. The inverter is fitted with an isolation monitoring device and an earth detector on the direct current (DC) side, upstream of the connection to the grid.

These functions have been tested and certified in accordance with DIN V VDE V 0126-1-1:2006:02. A sophisticated circuit breaker prohibits the injection of direct current into the grid at all times.

La corriente continua inyectada en la red de distribución por el inversor es inferior al 0,5% del valor eficaz de la corriente nominal de salida, medida tal como indica la "Nota de interpretación de equivalencia de la separación galvánica".

The inverters' reconnection time is at least three minutes according to IEC 61727:2001 once the grid parameters are within the permitted margins. It is impossible for the user to modify the safeguards' setting points with software. The equipment is protected in the event of isolated operation.

Applied rules and standards:

RD 1699/2011, RD661/2007, DIN V VDE V 0126-1-1:2006-02 and "nota de interpretación técnica de la equivalencia de la separación galvánica de la conexión de instalaciones generadoras en baja tensión".

At the time of issue of this certificate the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

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Certification body

Holger Schaffer



Certification body of Bureau Veritas Consumer Products Services Germany GmbH
Accredited according to DIN EN ISO/IEC 17065