



**BUREAU
VERITAS**

Certificate of compliance

Manufacturer / applicant: **AFORE NEW ENERGY TECHNOLOGY (SHANGHAI) Co., Ltd.**
1st & 2nd Floor, B Building, Business Building, No. 2 Building,
No. 1588, Lianhang Road, Minhang District, Shanghai
China

Product type: **Photovoltaic inverter**

Model: **HNS1000TL-1, HNS1500TL-1, HNS2000TL-1, HNS2500TL-1,
HNS3000TL-1, HNS3600TL-1,
HNS3000TL, HNS3600TL, HNS4000TL, HNS5000TL, HNS6000TL,
HNS7000TL, HNS8000TL**

The certificate refers to the stated model(s) which passed the tests according to the applicable standard(s):

UNE 217001:2015 IN

Requirements and tests for systems intended to avoid the energy transmission to the distribution network

RD 1699:2011

Regulation for connection to the network of installations for the production of electrical energy with small power.

RD 661:2007

Regulates for the activity of production of electrical energy in special regime

RD 413:2014


Regulation for the activity of production of electrical energy from renewable energy sources, cogeneration and waste

Report number: **AFR-19JY3084FCSHP-1
AFR-19JY3084FCSHP-2**

Certificate number: **U19-0643**

Date of issue: **2019-12-10**

Certification body


Holger Schaffer

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

Ratings

Photovoltaic inverter:	HNS1000TL-1	HNS1500TL-1	HNS2000TL-1	HNS2500TL-1	
Input DC voltage range [V]:	50-450		70-450		
Input DC current [A]:	10		12	14	
Output AC voltage [V]:	220/230V, 50/60Hz				
Output AC current [A]:	6	9	12	13	
Output power [VA]:	1000	1500	2000	2500	
Photovoltaic inverter:	HNS3000TL-1	HNS3600TL-1	HNS3000TL	HNS3600TL	
Input DC voltage range [V]:	70-450		70-550		
Input DC current [A]:	17		12*2	15*2	
Output AC voltage [V]:	220/230V, 50/60Hz				
Output AC current [A]:	15	18	15	16	
Output power [VA]:	3000	3600	3000	3600	
Photovoltaic inverter:	HNS4000TL	HNS5000TL	HNS6000TL	HNS7000TL	HNS8000TL
Input DC voltage range [V]:	70-550				
Input DC current [A]:	16*2	18*2			
Output AC voltage [V]:	220/230V, 50/60Hz				
Output AC current [A]:	20	23	28	31	33
Output power [VA]:	4000	5000	6000	7000	8000

Wattmeter / Power Analyser:	SAPM-10KW
Electrical ratings	
Operating Voltage Range Line to Neutral [Vac]	184-253V
AC Frequency [Hz]	45-65
Grids Supported Single Phase / Three Phase	Single Phase
Power Consumption (typ.) [VA]	≤ 0,2
Max current [A]	80
Connection for measurement	direct connected
Communications	
Supported communication interface:	RS485
Communication protocol:	Modbus
Response time:	≤50ms

Ratings

Note:

The SAPM-10KW is designed for a regulated working temperature of -25°C till +60°C.

Error limit caused by current change

Type	Current range	Power factor	Percentage error limit of each class of meter (%)	
			0.5S	Class 1
Via transformer	$0.01I_n \leq I < 0.05I_n$	1	±1.0	±1.5
	$0.05I_n \leq I \leq I_{max}$	1	±0.5	±1.0
	$0.02I_n \leq I < 0.1I_n$	0.5L 0.8C	±1.0	±1.5
	$0.1I_n \leq I \leq I_{max}$	0.5L 0.8C	±1.0	±1.0
Direct connected	$0.05I_b \leq I < 0.1I_b$	1	-	±1.5
	$0.1I_b \leq I \leq I_{max}$	1	-	±1.0
	$0.01I_b \leq I < 0.2I_b$	0.5L 0.8C	-	±1.5
	$0.2I_b \leq I \leq I_{max}$	0.5L 0.8C	-	±1.0
Notes	I_n : secondary rated current of current transformer I_b : calibrated current of the meter L: Conductive ; C : Capacitive			

The test system is designed for the use of one photovoltaic inverter together with the power analyser.