ENAC
CERTIFICACIÓN
Nº 87/C-PR244

SGS

Type Certificate

This type certificate with number: **2617/0987-CT**

has been issued to:

License Holder: **E.A.Z. Wind**
Cort van der Lindenstraat, 19
2288 EV, Rijswijk (The Netherlands)

with factories locations in: Cort van der Lindenstraat, 19
2288 EV, Rijswijk (The Netherlands)

Industrieweg 23A
9601 LJ Hoogezand (The Netherlands)

for the following product:

Type of Generating Unit: **Horizontal Axis Wind Turbine**

Trademark: EAZ WIND

Models: **EAZ-12_10kW / EAZ-12_12.5kW**

Technical Information:
(Detailed on pages 2, 3 and 4)

Wind Class	IV
Nominal Power	10 kW / 12.5 kW
Hub height (m)	15
Rotor diameter (m)	12

According to the Certification Scheme: **IEC 61400-22:2010 Wind Turbines – Part 22: Conformity Testing and Certification**

With product specifications according to: IEC 61400-2:2013 Wind turbines – Part 2: Small wind turbines

Conformity Statements: See page 2

The above-mentioned generating unit is certified according the SGS internal procedure PE.T-ECPE-08 based on the requirements of the UNE-EN ISO / IEC 17065.
Date of initial issuing of the certificate: 25th September 2020
This certificate is valid until: 25th of September 2023

Madrid, 25th of September 2020

Daniel Arranz Muñiz
Certification Manager

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Conformity Statements

Design basis evaluation conformity statement	2617/0987-DBE-DC	(2020/09/04)
Design evaluation conformity statement	2617/0987-DE-DC	(2020/09/04)
Type test conformity statement	2617/0987-TT-DC	(2020/03/18)
Manufacturing conformity statement	2617/0987-ME-DC	(2020/09/25)
Final evaluation report	2617/0987-GE	(2020/09/24)

WIND TURBINE INFORMATION

Machine parameters:

Power regulation:	Passive pitch
Rotor orientation:	Upwind
Number of rotor blades:	3
Rated power:	12.5 kW / 10 kW (*)
Rated rotor speed:	80 rpm
Rotor diameter:	12 m
Hub height(s):	15 m
Hub height operating wind speed range (V_{in}-V_{out}):	2.5-18.0 m/s
Design life time:	20 years

(*) Variant set-up of the wind turbine with rated output power 10kW (model EAZ-12_10kW) through electronically limiting the output rated current.

Wind conditions:

Wind class	IV
Characteristic turbulence intensity I_{ref} (15m/s)	18 %
Annual average wind speed at hub height V_{ave}:	6.0 m/s
Mean flow inclination:	8.0°

Electrical network conditions:

Rated supply voltage and range:	380-400 V-ac
Grid voltage range	313~470 V-ac
Normal supply frequency and range:	50/60 Hz

Other environmental conditions:

Air density:	1.228 kg/m^3
Solar radiation:	N/A
Temperature range:	-10°C to +40°C

Lightning protection system:	82303-20180705 Ligthning Protection
Earthquake model and parameters:	N/A
Other design conditions:	N/A

Machine components

Blades

Manufacturer:	EAZ Wind
Drawing/ Data sheet/ Part No:	82211-10092018 Blade Design V1.2 83201 Blade EAZ – Twelve 20191211
Type:	Reinforced laminated wooden blade
Total Length (root to tip):	5332 mm
Max chord:	470 mm

Tower

Manufacturer:	DJK
Drawing/ Data sheet/ Part No:	83405 Welding assembly mast sections 15m v20200421
Type:	Tubular tower with steel S355
Total Length:	15200 mm
Sections:	4

Tail

Manufacturer:	EAZ Wind
Drawing/ Data sheet/ Part No:	HooStaartBlad v20190906 HooAssStaartFrame v20190820
Description:	Wooden vane with S235JR steel frame
General dimensions:	2673 x 2147 mm

Electrical components

Generator	
Manufacturer:	EAZ Wind
Drawing/ Data sheet/ Part No:	83301 Generator v20191204
Type:	3 phase permanent magnet
Rated Power:	15 kW
Rated Speed:	77.2 RPM
Rated Voltage:	480 V_{ac}, 3 Phase
Rated Current:	18 A
Number of magnets:	24 pole pairs
Converter	
Manufacturer:	Ginlong
Model:	GCI-15K-W
Type:	Inverter
Rated Voltage (grid side):	380/400 V_{ac}
Rated grid frequency:	50 / 60 Hz
Max output power:	15 kW
Manuals:	
Operation and control manuals:	82501-20190801 EAZ User Manual / Gebruikershandleiding EAZ-Twaalf (v3.7) 82404-20180330 Manual control EAZ-12 v1.0
Maintenance manual:	Service Handleiding E.A.Z. Wind - EAZ-12
Transportation manual:	76001 Trasportation specifications v1.1
Installation manual:	Handleiding Installatie E.A.Z. Wind - EAZ-12