

# LTW101 2.000 kW / 2.500 kW / 3.000 kW

3.000 kW: Type Certificate IEC61400-22



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## DESIGN DATA

|                    |                                |
|--------------------|--------------------------------|
| Hub height         | 80-93,5 / 80-93,5 / 93,5-143 m |
| Rated power        | 2.000 / 2.500 / 3.000 kW       |
| Tower              | Steel                          |
| Cut-in wind speed  | 3 m/s                          |
| Cut-out wind speed | 25 m/s                         |
| Yaw control system | Active, electrical             |
| Wind class         | IIA / IIA / IIA/IIIA+*         |

## ROTOR

|                               |                      |
|-------------------------------|----------------------|
| Number of blades              | 3                    |
| Rotor diameter                | 101 m                |
| Swept area                    | 8.012 m <sup>2</sup> |
| Rotational speed              | 15 / 14,4 / 14,4 rpm |
| Tip speed                     | 79 / 76 / 76 m/s     |
| Blade material                | GFRP-UP              |
| Power and rotor speed control | Active pitch control |

## GENERATOR

|                  |   |
|------------------|---|
| Type             | Permanent Magnet Direct Drive Synchronous Machine               |
| Stator Winding   | Modular coils with tooth concentrated winding, exchangeable     |
| Rotor Topology   | Modular Permanent Magnets with flux concentration, exchangeable |
| Speed Range      | Variable Low Speed Machine                                      |
| Protection class | IP55  |

## CONTROL & SAFETY SYSTEM

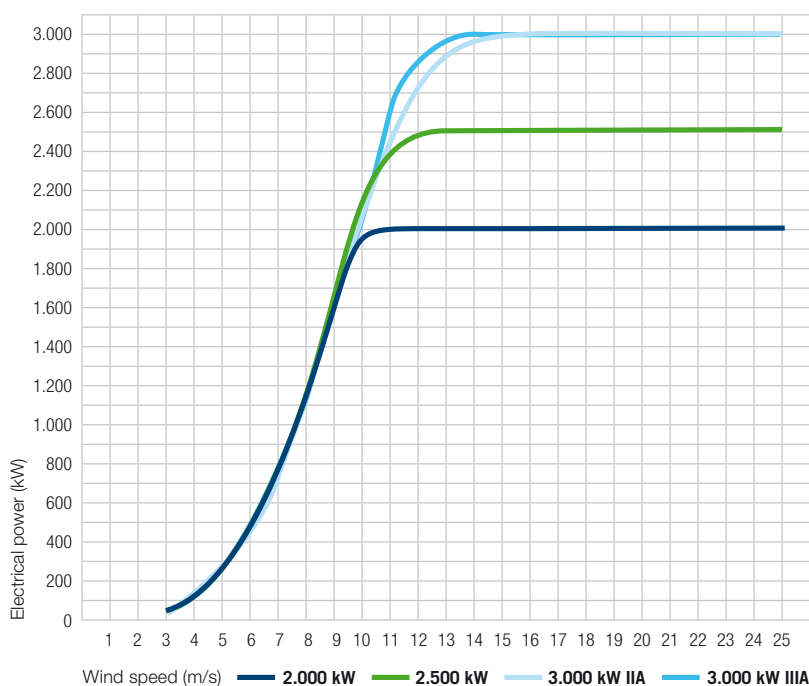
|                |  |
|----------------|--|
| Main brake     | Aerodynamic, independent pitch control |
| Service brake  | Electrical                             |
| Rotor lock     | Hydraulic                              |
| Remote control | Leitwind - SCADA                       |

## POWER ELECTRONIC

|   |   |
|---|---|
| Converter type                                    | 4Q full power - 3 phase IGBT  |
| Converter rated voltage and frequency (grid-side) | 690 V ±10%, 50-60 Hz ±5%  |
| Converter power factor (grid-side)                | 0,95 ind - 1 - 0,95 cap for reactive power compensation control, grid voltage control capability  |
| Cooling   | Water cooled  |
| Power quality and Grid codes                      | High quality output power in accordance with major grid code requirements. Integration into various grid systems worldwide. In compliance with:<br>- Grid codes CEI 0-16, TERNA, e-on (incl. LVRT)<br>- Power quality measurements according to IEC 61400-21<br>- Emission limits IEC 61800-3 |
| Arrangement                                       | Multiple converter  |

\*The definition of IIIA+ wind class means:  
 • Average wind speed according to wind class III  
 • Reference wind speed according to wind class II  
 • Turbulence according to wind class A

## Power curve



| Wind speed (m/s) | Electrical power (kW) |          |              |               |
|------------------|-----------------------|----------|--------------|---------------|
|                  | 2.000 kW              | 2.500 kW | 3.000 kW IIA | 3.000 kW IIIA |
| 3,0              | 41                    | 41       | 31           | 41            |
| 4,0              | 118                   | 118      | 113          | 118           |
| 5,0              | 258                   | 258      | 252          | 258           |
| 6,0              | 470                   | 470      | 461          | 470           |
| 7,0              | 769                   | 769      | 756          | 769           |
| 8,0              | 1.154                 | 1.154    | 1.153        | 1.154         |
| 9,0              | 1.619                 | 1.634    | 1.607        | 1.634         |
| 10,0             | 1.961                 | 2.125    | 2.069        | 2.205         |
| 11,0             | 2.000                 | 2.402    | 2.430        | 2.667         |
| 12,0             | 2.000                 | 2.500    | 2.754        | 2.891         |
| 13,0             | 2.000                 | 2.500    | 2.910        | 2.993         |
| 14,0             | 2.000                 | 2.500    | 2.970        | 3.000         |
| 15,0             | 2.000                 | 2.500    | 2.995        | 3.000         |
| 16,0             | 2.000                 | 2.500    | 3.000        | 3.000         |
| 17,0             | 2.000                 | 2.500    | 3.000        | 3.000         |
| 18,0 - 25,0      | 2.000                 | 2.500    | 3.000        | 3.000         |

Information, specifications and/or pictures subject to change without notice.

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### ITALY

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