

## THE BEST OPTION FOR MANAGING SMALL MICRO-WIND SYSTEMS

### 2.5TL / 3TL / 3.3TL / 3.68TL / 4.6TL / 5TL / 6TL

#### Maximum energy extraction at all times

Designed to control and convert the energy captured and deliver it to a single phase grid. Adaptable to suit a wide range of wind turbines from 2.5 to 6 kW.

#### Complete micro-wind system safety

Featuring the communication and monitoring interfaces required for local and remote system surveillance.

#### Wind turbine adaptable

Possibility of adjusting the maximum power point tracking (optimal speed of rotation) by means of a Power-Voltage curve of up to 15 points.

#### Maximum efficiency

MPP control of the system, and energy conversion for delivery to the grid. It can be installed either by itself or together with the INGECON® μWIND Interface.

#### Easy to install

Fast on connectors for the DC and AC sides, and RS-485 communications. No additional items required. Manual grid disconnection feature.

#### Ease of maintenance

Internal datalogger for up to 3 months data storage, which can be controlled from either a remote PC or on-site from the inverter front keypad. LED status and alarm indicators and LCD screen. Useful life of more than 20 years.

#### Software included

Included at no extra cost are the INGECON® SUN Manager, INGECON® SUN Monitor and its iSun Monitor smartphone version for monitoring and recording the inverter data over the internet.

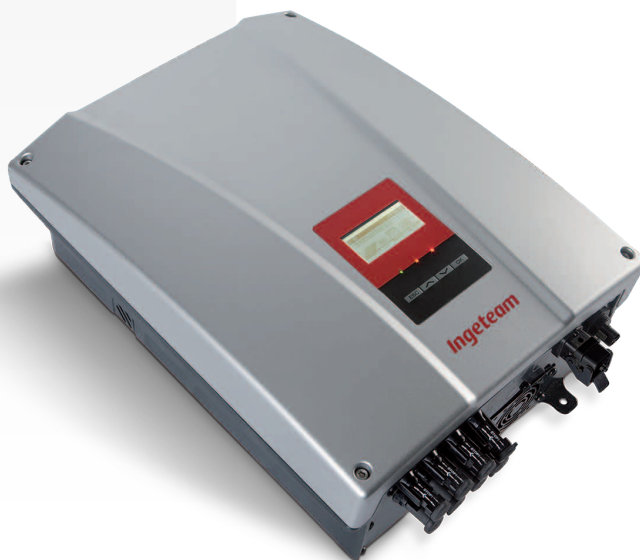
#### Standard 5 year warranty, extendable for up to 25 years

#### PROTECTIONS

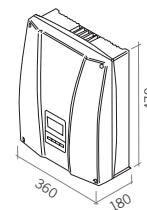
- Reverse polarity.
- Input and output overvoltage.
- Output short circuits and overloads.
- Insulation failures.
- Anti-islanding with automatic shutdown.

#### OPTIONAL ACCESSORIES

- DC switch.
- Inter-inverter communication via Ethernet or Bluetooth.
- Modem for GSM / GPRS remote communication.
- Potential free contact for insulation fault indication (by default) or inverter connected to the grid (optional).



#### Size and weight (mm)



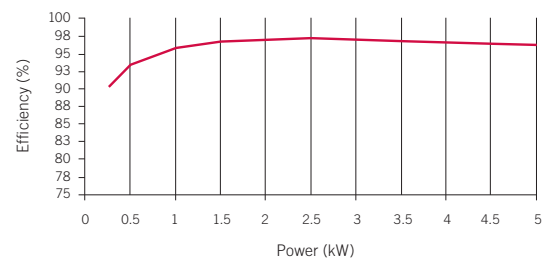
**2.5TL / 3TL**  
18.3 kg.

**3.3TL / 3.68TL**  
19.7 kg.

**4.6TL / 5TL / 6TL**  
23.3 kg.

#### EFFICIENCY

INGECON® μWIND 5TL  
V<sub>dc</sub> = 330 V



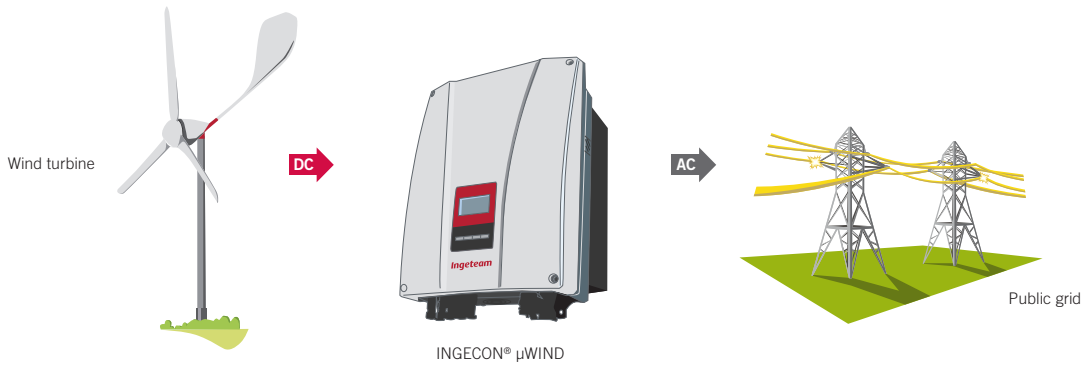
	2.5TL	3TL	3.3TL	3.68TL	4.6TL	5TL	6TL
<b>Input (DC)</b>							
Voltage range MPP	45 - 450 V	45 - 450 V	45 - 450 V	45 - 450 V	45 - 450 V	45 - 450 V	45 - 450 V
Maximum voltage <sup>(1)</sup>	40 - 550 V	40 - 550 V	40 - 550 V	40 - 550 V	40 - 550 V	40 - 550 V	40 - 550 V
Maximum current	16 A	16 A	22 A	22 A	33 A	33 A	33 A
MPPT	1	1	1	1	1	1	1
<b>Output (AC)</b>							
Rated power <sup>(2)</sup>	2.5 kW	3 kW	3.3 kW	3.68 kW	4.6 kW	5 kW	6 kW
Maximum current	13 A	13.5 A	17 A	17 A	24.2 A	25.5 A	26.2 A
Rated voltage	230 V	230 V	230 V	230 V	230 V	230 V	230 V
Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Phi Cosine	1	1	1	1	1	1	1
Phi Cosine adjustable	Yes. Smax=2.7 kVA	Yes. Smax=3 kVA	Yes. Smax=3.7 kVA	Yes. Smax=3.68 kVA	Yes. Smax=5 kVA	Yes. Smax=5.5 kVA	Yes. Smax=6 kVA
THD	3%	3%	3%	3%	3%	3%	3%
<b>Efficiency</b>							
Maximum efficiency	96.6%	96.6%	96.8%	96.8%	97%	97%	97%
Euroefficiency	95%	95.1%	95.2%	95.2%	96%	96.1%	96.1%
<b>General Information</b>							
Stand-by consumption	<10 W	<10 W	<10 W	<10 W	<10 W	<10 W	<10 W
Ambient temperature	-20 °C to +70 °C	-20 °C to +70 °C	-20 °C to +70 °C	-20 °C to +70 °C	-20 °C to +70 °C	-20 °C to +70 °C	-20 °C to +70 °C
Relative humidity (non-condensing)	0 - 95%	0 - 95%	0 - 95%	0 - 95%	0 - 95%	0 - 95%	0 - 95%
Protection class	IP65	IP65	IP65	IP65	IP65	IP65	IP65

**Compliance with standards:** EN50178, EN61000-6-2, EN61000-6-3, EN62109-1-2, VDE-AR-N 4105, G83/1-1, CEI 0-21, CEI 0-16, RD1699/2011, VDE0126-1-1, EN50438, CE Mark

**Notes:** <sup>(1)</sup> Never exceed 550 V. With no auxiliary supply, the minimum start-up voltage is 80 V <sup>(2)</sup> AC Power for 45 °C ambient temperature. For each °C of increase, the output power will be reduced at the rate of 1.8%.

**Wiring diagram**

without INGECON® μWIND Interface



**Wiring diagram**

with INGECON® μWIND Interface

