

With transformer



## 50 / 60 / 70 / 80 / 90 / 100

Three phase inverter for medium and large power outputs on-roof applications and also for ground-based multi-megawatt applications

### Maximum efficiency at high temperatures

Advanced maximum power point tracker system (MPPT). Low voltage ride through capability, active power control and reactive power control. Suitable for medium voltage installations.

### Easy to install

No additional items are required. Manual disconnection from the grid. Complete electrical protection equipment supplied as standard.

### Easy to maintain

Internal datalogger for up to 3 months data storage. Control from either a remote PC or on-site from the inverter front key pad. Status and alarm LED indicators. 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

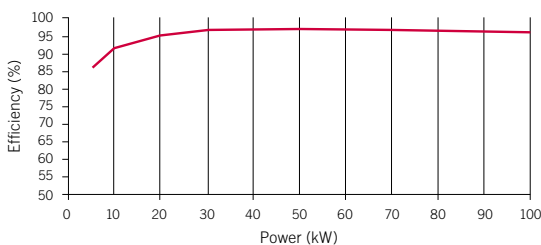
- Galvanic isolation between the DC and AC side.
- Reverse polarity.
- Output short-circuits and overloads.
- Insulation failures.
- Anti-islanding with automatic disconnection.
- DC switch.
- DC fuses.
- AC circuit breaker.
- DC and AC surge arresters type 2.

#### OPTIONAL ACCESSORIES

- Inter-inverter communication via RS-485, Ethernet or Bluetooth.
- GSM / GPRS remote communication.
- PV array string current monitoring. INGECON® SUN String Control.
- Grounding kit if required for the PV modules.

#### EFFICIENCY

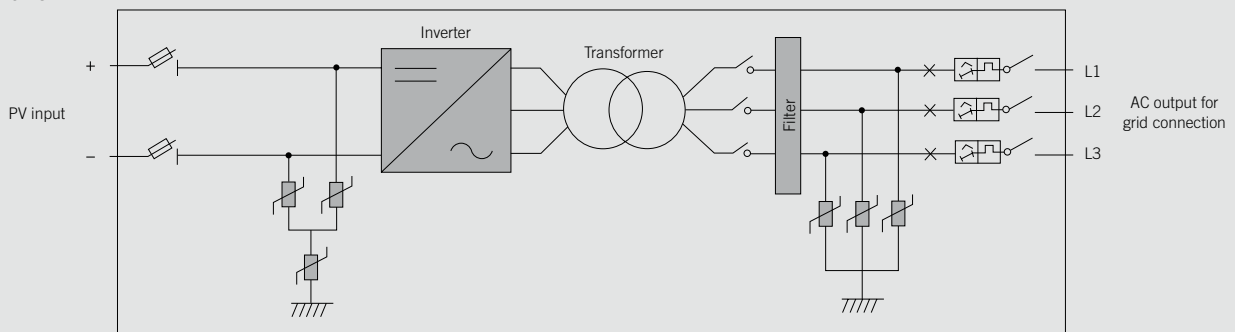
INGECON® SUN 100  
V<sub>dc</sub> = 450 V



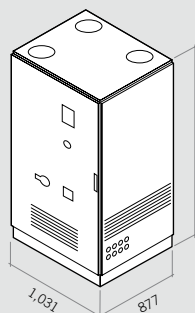
	50	60	70	80	90	100
<b>Input (DC)</b>						
Recommended PV array power range <sup>(1)</sup>	52 - 65 kWp	63 - 78 kWp	73 - 91 kWp	83 - 104 kWp	93 - 117 kWp	104 - 130 kWp
Voltage range MPP	405 - 750 V	405 - 750 V	405 - 750 V	405 - 750 V	405 - 750 V	405 - 750 V
Maximum voltage <sup>(2)</sup>	900 V	900 V	900 V	900 V	900 V	900 V
Maximum current	130 A	156 A	182 A	208 A	234 A	260 A
Inputs	4	4	4	4	4	4
MPPT	1	1	1	1	1	1
<b>Output (AC)</b>						
Rated power <sup>(3)</sup>	55 kW	66 kW	77 kW	88 kW	99 kW	110 kW
Maximum current	93 A	118 A	131 A	156 A	161 A	161 A
Rated voltage	400 V	400 V	400 V	400 V	400 V	400 V
Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Phi Cosine <sup>(4)</sup>	1	1	1	1	1	1
Phi Cosine adjustable	Yes. Smax=55 kVA	Yes. Smax=66 kVA	Yes. Smax=77 kVA	Yes. Smax=88 kVA	Yes. Smax=99 kVA	Yes. Smax=110 kVA
THD <sup>(5)</sup>	<3%	<3%	<3%	<3%	<3%	<3%
<b>Efficiency</b>						
Maximum efficiency	96.3%	96.4%	97.2%	97.5%	96.9%	96.8%
Euroefficiency	94.3%	94.7%	96.1%	96.2%	95.8%	95.7%
<b>General Information</b>						
Air cooling	2,600 m³/h	2,600 m³/h	2,600 m³/h	2,600 m³/h	2,600 m³/h	2,600 m³/h
Stand-by consumption <sup>(6)</sup>	30 W	30 W	30 W	30 W	30 W	30 W
Consumption at night	1 W	1 W	1 W	1 W	1 W	1 W
Ambient temperature	-20 °C to +65 °C	-20 °C to +65 °C	-20 °C to +65 °C	-20 °C to +65 °C	-20 °C to +65 °C	-20 °C to +65 °C
Relative humidity (non-condensing)	0 - 95%	0 - 95%	0 - 95%	0 - 95%	0 - 95%	0 - 95%
Protection class	IP20	IP20	IP20	IP20	IP20	IP20
Marking	CE					
EMC and security standards	EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12, EN 62109-1, EN 62109-2, IEC62103, EN 50178, FCC Part 15, AS3100					
Grid connection standards	IEC 62116, RD1699/2011, DIN V VDE V 0126-1-1, CEI 0-16 Ed. III, CEI 0-21, G59/2, VDE-AR-N 4105:2011-08, BDEW-Mittelspannungsrichtlinie:2011, P.O.12.3, South African Grid code, Chilean Grid Code, Romanian Grid Code, IEEE929, Thailand MEA & PEA requirements, IEC61727, UNE 206007-1, ABNT NBR 16149, ABNT NBR 16150, CGC China, DEWA (Dubai) Grid Code, Jordan Grid Code					

**Notes:** <sup>(1)</sup> Depending on the type of installation and geographical location <sup>(2)</sup> Must not be exceeded under any circumstances. Consider the voltage increase of the 'Voc' at low temperatures <sup>(3)</sup> AC Power for 40 °C ambient temperature. For each °C of increase, the output power will be reduced at the rate of 1.8% <sup>(4)</sup> For P<sub>out</sub>>25% of the rated power <sup>(5)</sup> For P<sub>out</sub>>25% of the rated power and voltage in accordance with IEC 61000-3-4 <sup>(6)</sup> Consumption from PV field.

**Power**



**Size and weight (mm)**



- 50 / 60**  
900 kg.
- 70 / 80**  
1,026 kg.
- 90 / 100**  
1,162 kg.

## INTEGRATED AND OPTIONAL ACCESSORIES

	SUN 1Play TL M	SUN 1Play HF	SUN 1Play TL U M	SUN 1Play HF U	SUN Lite TL	SUN 3Play TL	SUN 3Play TL M	SUN 3Play TL U M	SUN Power	SUN Power TL	SUN Power U Outdoor	SUN Power TL U Outdoor	SUN PowerMax TL B	SUN PowerMax TL M	SUN PowerMax TL X	SUN PowerMax TL U X
<b>Protections</b>																
Galvanic isolation DC-AC	-	✓	-	✓	-	-	-	-	✓	-	✓	-	-	-	-	-
Reverse Polarity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Input overvoltage (type 2 surge arresters)	-	-	-	-	-	○	○	○	✓	✓	✓	✓	✓	✓	✓	✓
Output overvoltage (type 2 surge arresters)	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓
Output shortcircuits and overloads	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Insulation failure DC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Insulation failure AC	-	-	-	-	-	-	-	-	-	-	-	-	○	○	○	-
Anti-islanding with automatic shutdown	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DC fuse-holders	-	-	-	-	-	○	○	○	✓	✓	✓	✓	○	✓	✓	✓
DC fuses	-	-	-	-	-	○	○	○	✓	✓	✓	✓	○	○	○	○
DC switch	○	○	○	○	○	○	○	○	✓	✓	✓	✓	✓	✓	✓	✓
AC circuit breaker	-	-	-	-	-	-	-	-	✓	✓	✓	✓	○	○	○	✓ <sup>3</sup>
<b>Accessories</b>																
Multicontact 4	✓	✓	✓	✓	✓	○	○	-	-	-	-	-	-	-	-	-
Potential-free contact	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Self-consumption kit	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-
Self-consumption kit with EMS Manager	○	○	○	○	○	○	○	○	○	○	-	-	-	-	-	-
Heating kit (-30°C/-22°F)	○	○	○	○	○	-	-	-	○	○	○	○	○	○	○	○
Grounding kit	-	○	-	○	-	-	-	-	○	○	-	-	○	-	○	-
Sync kit	-	-	-	-	-	-	-	-	-	○ <sup>1</sup>	-	○	✓ <sup>1</sup>	✓ <sup>1</sup>	✓ <sup>1</sup>	✓
Night-time power supply	○	○	○	○	○	○	○	○	○	○	○	○	✓	○	○	✓
AC wattmete	-	-	-	-	-	-	-	-	-	-	-	-	○	○	○	○
DC string current measurement	-	-	-	-	-	○	○	-	-	-	-	-	○	○	○	○
Blown fuse detector	-	-	-	-	-	-	-	-	-	-	-	-	-	○	○	✓
Firmware updatable via SD card	✓	✓	✓	✓	-	✓	✓	✓	-	-	-	-	-	-	-	-
Firmware updatable via communication	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Low voltage ride-through capability	✓	✓	✓	✓	✓	✓	✓	✓	○	○	○	○	✓	○	○	○
Digital inputs	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-
<b>Communications</b>																
RS-485	○	○	○	○	✓	✓	✓	✓	○	○	○	○	✓	✓	✓	✓
Ethernet	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
GPRS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
USB	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
Wi-Fi	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-
Bluetooth	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-
Plant power control <sup>(2)</sup>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Software</b>																
INGECON® SUN Manager for plant management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
INGECON® SUN Monitor for plant monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

**Notes:** <sup>(1)</sup> For inter-inverter synchronization, request a quote <sup>(2)</sup> Equipment prepared. An external control is required <sup>(3)</sup> AC switch, not circuit breaker <sup>(4)</sup> For other output options, please contact Ingeteam <sup>(5)</sup> It also integrates digital outputs and analogue inputs.



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