

Transformerless



110TL B220 / 140TL B220 / 175TL B275 / 190TL B300 / 200TL B320 / 220TL B345 / 230TL B360 / 250TL B400

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

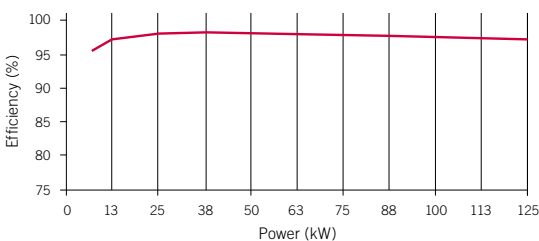
- Reverse polarity.
- Output short-circuits and overloads.
- Insulation failures.
- Anti-islanding with automatic disconnection.
- DC switch.
- DC fuses.
- AC circuit breaker.
- DC and AC surge arresters, type 2.

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.
- Synchronization available with other inverters, to connect to the same MV transformer.

EFFICIENCY

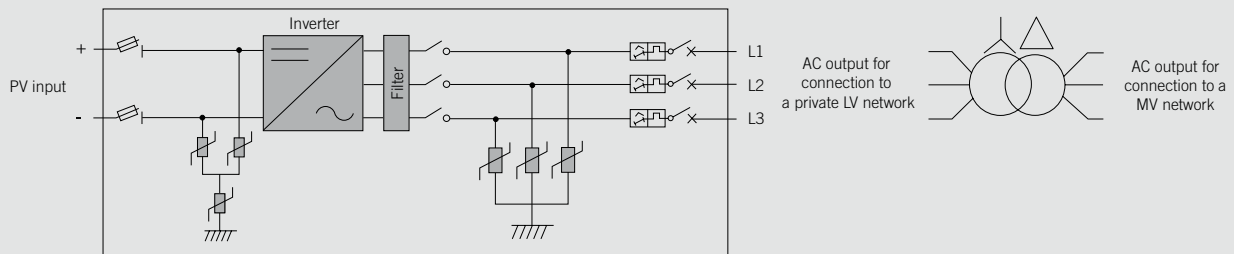
INGECON® SUN 125TL
V_{dc} = 450 V



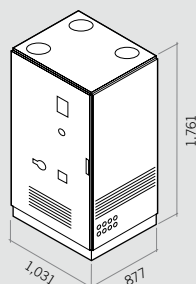
	110TL B220	140TL B220	175TL B275	190TL B300	200TL B320	220TL B345	230TL B360	250TL B400
Input (DC)								
Recommended PV array power range ⁽¹⁾	103 - 130 kWp	141 - 163 kWp	169 - 195 kWp	193 - 224 kWp	205 - 238 kWp	224 - 260 kWp	233 - 273 kWp	254 - 295 kWp
Voltage range MPP	405 - 820 V	405 - 820 V	420 - 820 V	437 - 820 V	468 - 820 V	502 - 820 V	524 - 820 V	578 - 820 V
Maximum voltage ⁽²⁾	1,000 V	1,000 V	1,000 V	1,000 V	1,000 V	1,000 V	1,000 V	1,000 V
Maximum current	400 A	400 A	400 A	400 A	400 A	400 A	400 A	450 A
Inputs	4	4	4	4	4	4	4	4
MPPT	1	1	1	1	1	1	1	1
Output (AC)								
Rated power ⁽³⁾	110 kW	137.5 kW	173 kW	189.2 kW	201.3 kW	220 kW	229 kW	250 kW
Maximum current	368 A	368 A	368 A	368 A	368 A	368 A	368 A	368 A
Rated voltage	220 V IT System	220 V IT System	275 V IT System	300 V IT System	320 V IT System	345 V IT System	360 V IT System	400 V IT System
Frequency	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
Phi Cosine ⁽⁴⁾	1	1	1	1	1	1	1	1
Phi Cosine adjustable	Yes. Smax=110 kVA	Yes. Smax=137 kVA	Yes. Smax=173 kVA	Yes. Smax=189.2 kVA	Yes. Smax=201.3 kVA	Yes. Smax=220 kVA	Yes. Smax=229 kVA	Yes. Smax=250 kVA
THD ⁽⁵⁾	<3%	<3%	<3%	<3%	<3%	<3%	<3%	<3%
Efficiency								
Maximum efficiency	98.4%	98.1%	98.5%	98.6%	98.7%	98.8%	98.8%	98.9%
Euroefficiency	97.5%	97.7%	98.2%	98.3%	98.4%	98.5%	98.6%	98.6%
General Information								
Air cooling	2,600 m ³ /h	2,600 m ³ /h	2,600 m ³ /h	2,600 m ³ /h	2,600 m ³ /h	2,600 m ³ /h	2,600 m ³ /h	2,600 m ³ /h
Stand-by consumption ⁽⁶⁾	30 W	30 W	30 W	30 W	30 W	30 W	30 W	30 W
Consumption at night	<5 W	<5 W	<5 W	<5 W	<5 W	<5 W	<5 W	<5 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	-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%	0 - 95%	0 - 95%
Protection class	IP20	IP20	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: ⁽¹⁾ Depending on the type of installation and geographical location ⁽²⁾ Never exceed 1,000 V. Consider the voltage increase of the 'Voc' at low temperatures ⁽³⁾ AC Power for 40 °C ambient temperature. For each °C of increase, the output power will be reduced at the rate of 1.8% ⁽⁴⁾ For P_{out}>25% of the rated power ⁽⁵⁾ For P_{out}>25% of the rated power and voltage in accordance with IEC 61000-3-4 ⁽⁶⁾ Consumption from PV field.

Power TL



Size and weight (mm)



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600 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
Protections																
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	-	-	-	-	-	-	-	-	✓	✓	✓	✓	○	○	○	✓ ³
Accessories																
Multicontact 4	✓	✓	✓	✓	✓	○	○	-	-	-	-	-	-	-	-	-
Potential-free contact	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Self-consumption kit	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-
Self-consumption kit with EMS Manager	○	○	○	○	○	○	○	○	○	○	-	-	-	-	-	-
Heating kit (-30°C/-22°F)	○	○	○	○	○	-	-	-	○	○	○	○	○	○	○	○
Grounding kit	-	○	-	○	-	-	-	-	○	○	-	-	○	-	○	-
Sync kit	-	-	-	-	-	-	-	-	-	○ ¹	-	○	✓ ¹	✓ ¹	✓ ¹	✓
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	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-
Communications																
RS-485	○	○	○	○	✓	✓	✓	✓	○	○	○	○	✓	✓	✓	✓
Ethernet	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
GPRS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
USB	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
Wi-Fi	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-
Bluetooth	○	○	○	○	○	○	○	○	-	-	-	-	-	-	-	-
Plant power control ⁽²⁾	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Software																
INGECON® SUN Manager for plant management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
INGECON® SUN Monitor for plant monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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



Ingeteam

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