

TRANSFORMERLESS CENTRAL INVERTERS WITH A SINGLE POWER BLOCK

The ideal solution to upgrade operating solar PV plants

Maximum power density

These PV central inverters feature more power per cubic foot. Thanks to the use of high-quality components, this inverter series performs at the highest possible level.

Latest generation electronics

The B Series inverters integrate an innovative control unit that runs faster and performs a more efficient and sophisticated inverter control, as it uses a last-generation digital signal processor. Furthermore, the hardware of the control unit allows some more accurate measurements and very reliable protections.

These inverters feature a low voltage ride-through capability and also a lower power consumption thanks to a more efficient power supply electronic board.

Improved AC connection

The output connection has been designed in order to facilitate a direct close-coupled connection with the MV transformer.

Maximum protection

These PV inverters are supplied with the combiner box already integrated. Thus, they can guarantee the maximum protection thanks to their DC load break switches and the motorized DC switch to decouple the PV generator from the inverter.

Moreover, they are also supplied with a motorized AC circuit breaker. Optionally, they can be supplied with DC fuses, smart grounding kit and input current monitoring.

Maximum efficiency values

Through the use of innovative electronic conversion topologies, efficiency values of up to 98.9% can be achieved.

Enhanced functionality

This new INGECON® SUN Power range features a revamped, improved enclosure which, together with its innovative air cooling system, makes it possible to increase the ambient operating temperature.



Long-lasting design

These inverters have been designed to guarantee a long life expectancy. Standard 5 year warranty, extendable for up to 25 years.

Grid support

The INGECON® SUN Power B Series has been designed to comply with the grid connection requirements UL1741, IEEE1547 and RULE21, contributing to the quality and stability of the electric system. These inverters therefore feature a low voltage ride-through capability, and can deliver reactive power and control the active power delivered to the grid.

Ease of maintenance

All the elements can be removed or replaced directly from the inverter's front side, thanks to its new design.

Easy to operate

The INGECON® SUN Power inverters feature an LCD screen for the simple and convenient monitoring of the inverter status and a range of internal variables. The display also includes a number of LEDs to show the inverter operating status with warning lights to indicate any incidents. All this helps to simplify and facilitate maintenance tasks.

Monitoring and communication

Ethernet communications supplied as standard. The following applications are included at no extra cost: INGECON® SUN Manager, INGECON® SUN Monitor and its Smartphone version Web Monitor, available on the App Store. These applications are used for monitoring and recording the inverter's internal operating variables through the Internet (alarms, real time production, etc.), in addition to the historical production data.

Two communication ports available (one for monitoring and one for plant controlling), allowing fast and simultaneous plant control.

PROTECTIONS

- Integrated combiner box with DC isolators.
- DC Reverse polarity.
- Short-circuits and overloads at the output.
- Anti-islanding with automatic disconnection.
- Insulation failure DC.
- Up to 15 pairs of fuse holders.
- Lightning induced DC and AC surge arrestors, type II.
- Motorized DC switch to automatically disconnect the inverter from the PV array.
- Low voltage ride-through capability.
- Motorized AC circuit breaker.
- Hardware protection via firmware.
- Additional protection for the power stack, as it is air cooled by a closed loop.

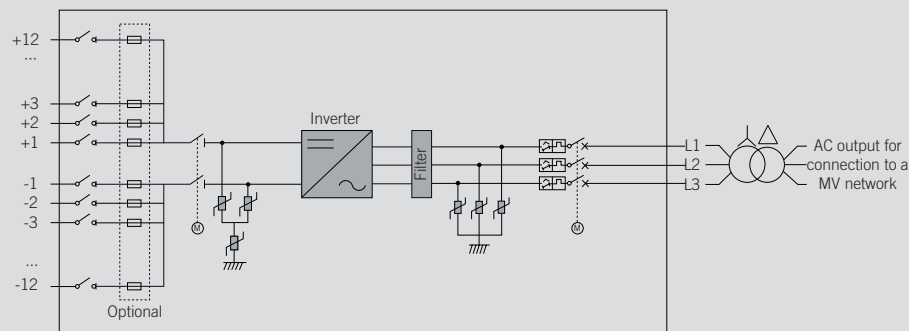
OPTIONAL ACCESSORIES

- Insulation failure AC.
- Grounding kit.
- Heating kit, for expanding the temperature range down to -40 °F.
- DC fuses.
- Lightning induced DC surge arresters, type I+II.
- Monitoring of the group currents at the DC input.
- Extendable up to 15 fuse holders per inverter.
- PID prevention kit (PID: Potential Induced Degradation).
- Night time reactive power injection.
- Sand trap kit.

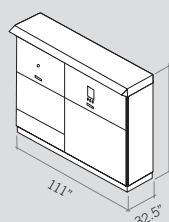
ADVANTAGES OF THE B SERIES VERSION

- Higher power density.
- Latest generation electronics.
- More efficient electronic protection.
- Night time supply to communicate with the inverter at night.
- Enhanced performance.
- Easier maintenance thanks to its new design and enclosure.
- Lightweight spares.
- It allows to ground the PV array.
- Components easily replaceable.

Power B Series



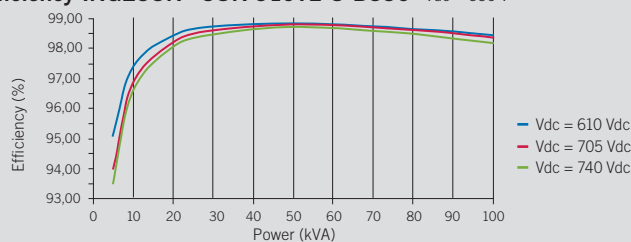
Size and weight (inches and lbs)



3,572 pounds

	700TL U B270-RVP	780TL U B300-RVP	855TL U B330-RVP	885TL U B340-RVP	910TL U B350-RVP
Input (DC)					
Recommended PV array power range ⁽¹⁾	694 - 911 kWp	771 - 1,013 kWp	848 - 1,114 kWp	875 - 1,148 kWp	900 - 1,182 kWp
Voltage Range MPP ⁽²⁾	408 - 820 V	449 - 820 V	490 - 820 V	504 - 820 V	518 - 820 V
Maximum voltage ⁽³⁾	1,050 V				
Maximum current	1,870 A				
Nº inputs with fuse-holders	6 up to 12 (up to 15 if the combiner box is not integrated)				
Fuse dimensions	63 A / 1,000 V to 630 A / 1,000 V fuses (optional)				
Type of connection	Connection to copper bars				
Power blocks	1				
MPPT	1				
Input protections					
Overvoltage protections	Type II surge arresters (type I+II optional)				
DC switch	Motorized DC load break disconnect				
Other protections	Up to 15 pairs of DC fuses (optional) / Reverse polarity / Insulation failure monitoring / Anti-islanding protection / Emergency pushbutton				
Output (AC)					
Power @86 °F / @122 °F ⁽⁴⁾	701 kVA / 631 kVA	779 kVA / 701 kVA	857 kVA / 771 kVA	883 kVA / 795 kVA	909 kVA / 818 kVA
Current @86 °F / @122 °F ⁽⁴⁾	1,500 A / 1,350 A				
Rated voltage	270 V IT System	300 V IT System	330 V IT System	340 V IT System	350 V IT System
Frequency	50 / 60 Hz				
Power Factor ⁽⁵⁾	1				
Power Factor adjustable	Yes, 0-1 (leading / lagging)				
THD (Total Harmonic Distortion) ⁽⁶⁾	<3%				
Output protections					
Overvoltage protections	Type II surge arresters				
AC breaker	Motorized AC circuit breaker				
Anti-islanding protection	Yes, with automatic disconnection				
Other protections	AC short-circuits and overloads				
Features					
Maximum efficiency	98.9%				
CEC	98.5%				
Max. consumption aux. services	4,700 W (25 A)				
Stand-by or night consumption ⁽⁷⁾	60 W				
Average power consumption per day	2,000 W				
General Information					
Operational temperature range	-4 °F to +135 °F (operational temperature range expandable from -40 °F to +135 °F)				
Relative humidity (non-condensing)	0-100%				
Protection class	NEMA 3R (NEMA 3 with the sand trap kit)				
Maximum altitude	14,770 ft (for installations beyond 3,300 ft, please contact Ingeteam's solar sales department)				
Cooling system	Air forced with temperature control (230 V phase+ neutral power supply)				
Air flow range	0 - 78 ft³/s (0 - 7,800 m³/h)				
Average air flow	42 ft³/s (4,200 m3/h per power block)				
Acoustic emission (100% / 50% load)	<66 dB(A) at 33 ft / <54.5 dB(A) at 33 ft				
Marking	CE, SGS				
EMC and security standards	UL1741, FCC Part 15, IEEE C37.90.1, IEEE C37.90.2, CSA22.2 No107				
Grid connection standards	IEC 62116, UL1741, IEEE1547, IEEE1547.1, NEC CODE, Electric Rule 21: 2015, CSA22.2 No107				

Notes: ⁽¹⁾ Depending on the type of installation and geographical location. Data for STC conditions ⁽²⁾ V_{mpp,min} is for rated conditions (V_{ac}=1 p.u. and Power Factor=1) ⁽³⁾ Consider the voltage increase of the 'V_{oc}' at low temperatures ⁽⁴⁾ With the sand trap kit, these values will be for 89.6 °F and 116.6 °F, respectively ⁽⁵⁾ For P_{out}>25% of the rated power ⁽⁶⁾ For P_{out}>25% of the rated power and voltage in accordance with IEC 61000-3-4 ⁽⁷⁾ Consumption from PV field when there is PV power available.

Efficiency INGETEAM® SUN 910TL U B350 V_{dc} = 650 V


	935TL U B360-RVP	960TL U B370-RVP	1040TL U B400-RVP	1090TL U B420-RVP	1195TL U B460-RVP
Input (DC)					
Recommended PV array power range ⁽¹⁾	925 - 1,216 kWp	952 - 1,250 kWp	1,029 - 1,351 kWp	1,080 - 1,419 kWp	1,184 - 1,554 kWp
Voltage Range MPP ⁽²⁾	532 - 820 V	546 - 820 V	588 - 820 V	616 - 820 V	672 - 820 V
Maximum voltage ⁽³⁾	1,050 V				
Maximum current	1,870 A				
N° inputs with fuse-holders	6 up to 12 (up to 15 if the combiner box is not integrated)				
Fuse dimensions	63 A / 1,000 V to 630 A / 1,000 V fuses (optional)				
Type of connection	Connection to copper bars				
Power blocks	1				
MPPT	1				
Input protections					
Overvoltage protections	Type II surge arresters (type I+II optional)				
DC switch	Motorized DC load break disconnect				
Other protections	Up to 15 pairs of DC fuses (optional) / Reverse polarity / Insulation failure monitoring / Anti-islanding protection / Emergency pushbutton				
Output (AC)					
Power @86 °F / @122 °F ⁽⁴⁾	935 kVA / 841 kVA	961 kVA / 865 kVA	1,039 kVA / 935 kVA	1,091 kVA / 982 kVA	1,195 kVA / 1,076 kVA
Current @86 °F / @122 °F ⁽⁴⁾	1,500 A / 1,350 A				
Rated voltage	360 V IT System	370 V IT System	400 V IT System	420 V IT System	460 V IT System
Frequency	50 / 60 Hz				
Power Factor ⁽⁵⁾	1				
Power Factor adjustable	Yes, 0-1 (leading / lagging)				
THD (Total Harmonic Distortion) ⁽⁶⁾	<3%				
Output protections					
Overvoltage protections	Type II surge arresters				
AC breaker	Motorized AC circuit breaker				
Anti-islanding protection	Yes, with automatic disconnection				
Other protections	AC short-circuits and overloads				
Features					
Maximum efficiency	98.9%				
CEC	98.5%				
Max. consumption aux. services	4,700 W (25 A)				
Stand-by or night consumption ⁽⁷⁾	60 W				
Average power consumption per day	2,000 W				
General Information					
Operational temperature range	-4 °F to +135 °F (operational temperature range expandable from -40 °F to +135 °F)				
Relative humidity (non-condensing)	0-100%				
Protection class	NEMA 3R (NEMA 3 with the sand trap kit)				
Maximum altitude	14,770 ft (for installations beyond 3,300 ft, please contact Ingeteam's solar sales department)				
Cooling system	Air forced with temperature control (230 V phase+ neutral power supply)				
Air flow range	0 - 78 ft³/s (0 - 7,800 m³/h)				
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Efficiency INGECON® SUN 1090TL U B420 V_{dc} = 650 V
