

## MULTI-MPPT STRING INVERTER WITH THE MAXIMUM POWER DENSITY

### INGECON® SUN 330TL M12

#### Greater cost-effectiveness

Thanks to its greater output power, the new INGECON® SUN 330TL M12 allows to drastically reduce the number of inverters required for designing a PV power plant. Thus, it minimises the labour cost and reduces the global cabling cost.

Moreover, it does not require DC combiner boxes, ensuring the minimum possible CAPEX (Capital Expenditures). Furthermore, its string inverter philosophy permits an easy and immediate replacement that does not require qualified technicians.

#### Higher flexibility and power density

The highest flexibility thanks to its maximum DC voltage (1,500 V) and to its wide voltage range MPP (850-1,300 V). Awesome power density, with up to 330 kW.

#### Long-lasting and rugged design

Aluminium casing, especially conceived for indoor and outdoor applications (IP66). The INGECON® SUN 330TL M12 inverters have been designed to guarantee a long life expectancy and to withstand extreme temperatures.

#### Wi-Fi communication as standard

The inverter features Wi-Fi communication as standard. This Wi-Fi interface is used to commission the inverter through the INGECON® SUN Monitor App, available for iOS and Android. A wizard guides the user through the entire start-up process. Moreover, the Wi-Fi interface allows connecting the inverter to any Wi-Fi network available in the plant for monitoring purposes.

#### SPE (Single Pair Ethernet)

The inverter features SPE communication as standard. The SPE offers high-speed IP communication without the 100-meter distance limitation of standard Ethernet. Using SPE, the communication with the inverters can be established up to 1,000 meters. Moreover, these inverters enables daisy chain connection. Thus, several inverters can be connected to the same SPE line. The versatility and possibilities offered by the SPE are an important improvement at the plant's communication network.

#### Remote monitoring

The inverter can be monitored with the [www.ingeconsunmonitor.com](http://www.ingeconsunmonitor.com) website or with the INGECON® SUN Monitor App.



## INGECON® SUN 330TL M12

### Fully equipped

In order to achieve the maximum performance with the maximum cost-effectiveness, the INGECON® SUN 330TL M12 inverter is supplied totally equipped with all the electrical protections.

### Integrated components

Photovoltaic connectors	✓
DC switch (3 units)	✓
DC surge arresters, type II	✓
AC surge arresters, type II	✓
Strings current metering kit	✓
Wi-Fi communication	✓
SPE (Single Pair Ethernet) communication	✓

#### MAIN FEATURES

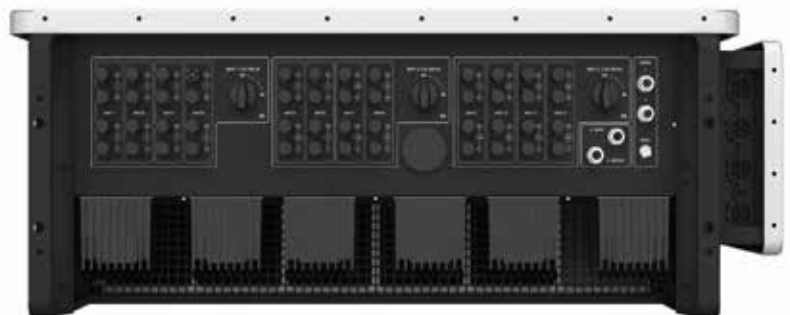
- 12 MPPTs.
- PID recovery as standard.
- Reactive power injection at night as standard.
- Low-voltage ride-through capability.
- Reactive power capability.
- Compatible with external Cloud Connect software.
- 99.05% maximum efficiency.
- Single Pair Ethernet and Wi-Fi communications supplied as standard.
- Integrated Webserver.
- Software INGECON® SUN Monitor for PV plant monitoring.
- Suitable for indoor and outdoor installations (IP66).
- High temperature performance.
- One digital input and one digital output.
- Anti-corrosion with C5 protection class.

#### PROTECTIONS

- Shortcircuits and overloads at the output.
- Anti-islanding with automatic disconnection.
- Insulation faults.
- AC overvoltages with type II surge arresters.
- DC overvoltages with type II surge arresters.

#### BENEFITS

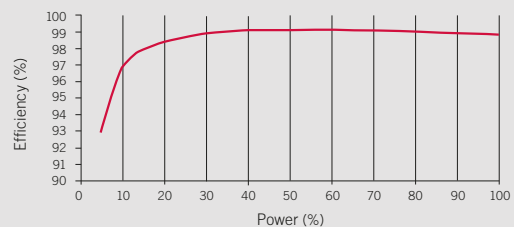
- Greater power density.
- Greater cost-effectiveness thanks to the cabling cost reduction.
- High availability compared to central inverters.
- High efficiency rates.
- Easy maintenance.



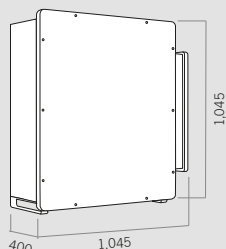
<b>330TL M12</b>	
<b>800 V</b>	
<b>Input (DC)</b>	
Operating voltage range	700 - 1,500 V
MPP voltage range	850 - 1,300 V
Maximum voltage	1,500 V
Maximum current per input	22.5 A
Number of inputs per MPPT	2
Number of MPPTs	12
<b>Output (AC)</b>	
Rated power	330 kVA
Maximum current	238 A
Ambient temperature for rated power	40 °C
Rated voltage	3 / PE, 800 V
Frequency	50 / 60 Hz
Type of grid	IT
Power factor adjustable <sup>(1)</sup>	Yes, 0 - 1 (leading / lagging)
THD (Total Harmonic Distortion) <sup>(2)</sup>	<3%
<b>Efficiency</b>	
Maximum efficiency	99.05%
Euroefficiency	98.60%
<b>General information</b>	
Cooling system	Forced ventilation
Air flow	900 m <sup>3</sup> /h
Stand-by consumption	25 kW
Operation temperature	-30 °C to 60 °C
Relative humidity (non-condensing)	0 - 100%
Protection class	IP66 / NEMA 4
Residual current monitoring unit	Yes
Maximum operating altitude	4,000 m.a.s.l. (for installations beyond 1,000 m.a.s.l., please contact Ingeteam's solar sales department)
Connection	AC connection: max. cross section: 400 mm <sup>2</sup> (one cable) DC connection: 6 mm <sup>2</sup> MC4-Evo <sup>2</sup> (10 mm <sup>2</sup> optional)
Marking	CE
EMC and safety standards	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, EN 62109-1, EN 62109-2, IEC62103, EN 50178, FCC Part 15, IEC60068-2-1:2007, IEC60068-2-2:20007, IEC60068-2-14:2009, IEC60068-2-30:2005, IEC62116, IEC61683 y EN50530
Grid connection standards	DIN V VDE V 0126-1-1, EN 50439, EN 50549, CEI 0-21, CEI 0-16 VDE-AR-N 4105:2011-08, P.O.12.3, BDEW, IEC 62116, IEC 61727, UNE 206007-1, ABNT NBR 16149, ABNT NBR 16150, Brazilian Grid Code, South African Grid Code, Chilean Grid Code, DEWA 2.0, Jordanian Grid Code, G99, VDE-AR-4110, NTS de REE, Directive EU 2016/631

**Notes:** <sup>(1)</sup> Extended adjustment range for nominal working points <sup>(2)</sup> For rated AC power and voltage in accordance with IEC 61000-3-4.

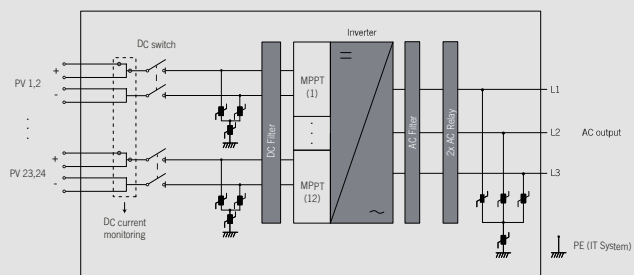
**Efficiency INGECON® SUN 330TL M12**



**Size and weight (mm)**



**330TL M12**  
150 kg.



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