

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 350 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 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

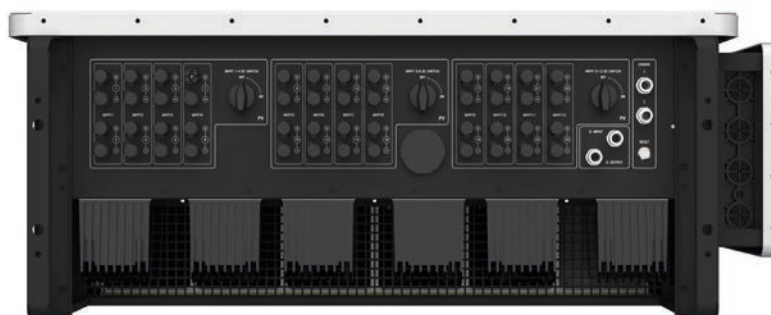
- 12 MPPTs.
- PID recovery as standard.
- Reactive power injection at night as standard.
- Low-voltage ride-through capability.
- Reactive power capability.
- Compatible with external Cloud Connect software.
- 99.05% maximum efficiency.
- Single Pair Ethernet and Wi-Fi communications supplied as standard.
- 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.

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

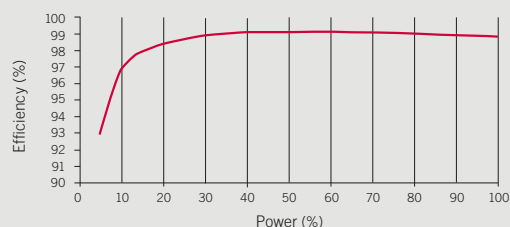
- Greater power density.
- Greater cost-effectiveness thanks to the cabling cost reduction.
- High availability compared to central inverters.
- High efficiency rates.
- Easy maintenance.



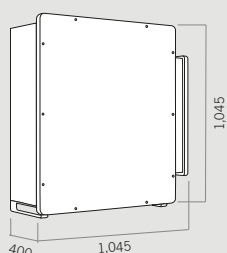
	330TL M12						
	400 V	480 V	600 V	615 V	630 V	645 V	650 V
Input (DC)							
Operating voltage range	700 - 1,500 V						
MPP voltage range	850 - 1,300 V						
Maximum voltage	1,500 V						
Maximum current per MPPT	45 A x 12						
Number of inputs per MPPT	2						
Number of MPPTs	12						
Output (AC)							
Rated power	165 kVA	198 kVA	247 kVA	254 kVA	260 kVA	266 kVA	268 kVA
Maximum current	238 A						
Ambient temperature for rated power	40 °C						
Rated voltage	3 / PE, 400 V	3 / PE, 480 V	3 / PE, 600 V	3 / PE, 615 V	3 / PE, 630 V	3 / PE, 645 V	3 / PE, 650 V
Frequency	50 / 60 Hz						
Type of grid	IT / TT						
Power factor	1						
Power factor adjustable ⁽¹⁾	Yes, 0 - 1 (leading / lagging)						
THD (Total Harmonic Distortion) ⁽²⁾	<3%						
Efficiency							
Maximum efficiency	99.05%						
Euroefficiency	98.60%						
General information							
Cooling system	Forced ventilation						
Air flow	900 m³/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						
Connection	AC connection: max. cross section: 400 mm² (one cable) DC connection: 6 mm² MC4-Evo2 (10 mm² 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: ⁽¹⁾ Extended adjustment range for nominal working points ⁽²⁾ For rated AC power and voltage in accordance with IEC 61000-3-4.

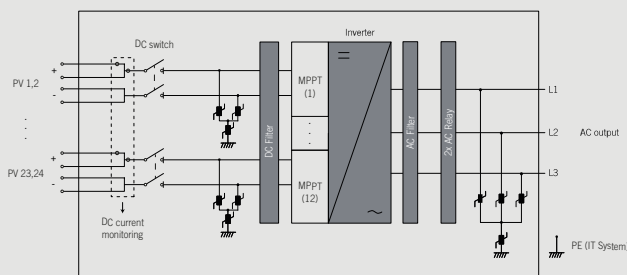
Efficiency INGECON® SUN 330TL M12



Size and weight (mm)



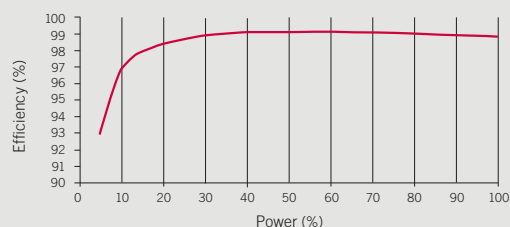
330TL M12
150 kg.



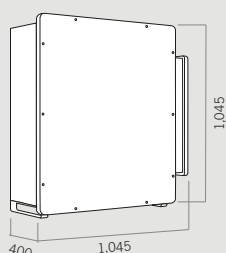
	330TL M12						
	660 V	675 V	690 V	710 V	730 V	750 V	800 V
Input (DC)							
Operating voltage range	700 - 1,500 V						
MPP voltage range	850 - 1,300 V						
Maximum voltage	1,500 V						
Maximum current per MPPT	45 A x 12						
Number of inputs per MPPT	2						
Number of MPPTs	12						
Output (AC)							
Rated power	272 kVA	278 kVA	284 kVA	293 kVA	301 kVA	309 kVA	330 kVA
Maximum current	238 A						
Ambient temperature for rated power	40 °C						
Rated voltage	3 / PE, 660 V	3 / PE, 675 V	3 / PE, 690 V	3 / PE, 710 V	3 / PE, 730 V	3 / PE, 750 V	3 / PE, 800 V
Frequency	50 / 60 Hz						
Type of grid	IT / TT						
Power factor	1						
Power factor adjustable ⁽¹⁾	Yes, 0 - 1 (leading / lagging)						
THD (Total Harmonic Distortion) ⁽²⁾	<3%						
Efficiency							
Maximum efficiency	99.05%						
Euroefficiency	98.60%						
General information							
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Relative humidity (non-condensing)	0 - 100%						
Protection class	IP66 / NEMA 4						
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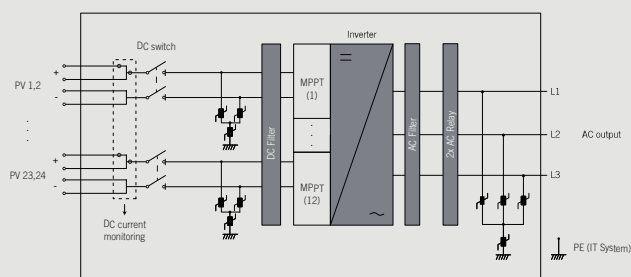
Efficiency INGECON® SUN 330TL M12



Size and weight (mm)



330TL M12
150 kg.



Ingeteam

Ingeteam Power Technology, S.A.
Avda. Ciudad de la Innovación, 13
31621 Sarriguren (Navarra) - Spain
Tel.: +34 948 288 000
Fax: +34 948 288 001
e-mail: solar.energy@ingeteam.com

Ingeteam S.r.l.
Via Emilia Ponente, 232
48014 Castel Bolognese (RA) - Italy
Tel.: +39 0546 651 490
Fax: +39 054 665 5391
e-mail: italia.energy@ingeteam.com

Ingeteam SAS
La Naurouze B - 140 rue Carmin
31670 Labège - France
Tel.: +33 (0)5 61 25 00 00
Fax: +33 (0)5 61 25 00 11
e-mail: france@ingeteam.com

Ingeteam INC.
3550 W. Canal St.
Milwaukee, WI 53208 - USA
Tel.: +1 (414) 934 4100 / +1 (855) 821 7190
Fax: +1 (414) 342 0736
e-mail: solar.us@ingeteam.com

Ingeteam, a.s.
Technologická 371/1
70800 Ostrava - Pustkovec
Czech Republic
Tel.: +420 59 747 6800
Fax: +420 59 732 6899
e-mail: czech@ingeteam.com

Ingeteam Shanghai, Co. Ltd.
Shanghai Trade Square, 1105
188 Si Ping Road
200086 Shanghai - P.R. China
Tel.: +86 21 65 07 76 36
Fax: +86 21 65 07 76 38
e-mail: shanghai@ingeteam.com

Ingeteam, S.A. de C.V.
Leibnitz Ext 13 Int 1102, Colonia Anzures
11590 - Miguel Hidalgo
Ciudad de México - Mexico
Tel.: +52 81 8311 4858
Fax: +52 81 8311 4859
e-mail: northamerica@ingeteam.com

Ingeteam Ltda.
Rua Estácio de Sá, 560
Jd. Santa Genebra
13080-010 Campinas/SP - Brazil
Tel.: +55 19 3037 3773
e-mail: brazil@ingeteam.com

Ingeteam Pty Ltd.
Unit 2 Alphen Square South
16th Road, Randjiespark
Midrand 1682 - South Africa
Tel.: +2711 314 3190
Fax: +2711 314 2420
e-mail: southafrica@ingeteam.com

Ingeteam SpA
Los militares 5890, Torre A, oficina 401
7560742 - Las Condes
Santiago de Chile - Chile
Tel.: +56 2 29574531
e-mail: chile@ingeteam.com

Ingeteam Power Technology India Pvt. Ltd.
2nd Floor, 431
Udyog Vihar, Phase III
122016 Gurgaon (Haryana) - India
Tel.: +91 124 420 6491-5
Fax: +91 124 420 6493
e-mail: india@ingeteam.com

Ingeteam Sp. z o.o.
Ul. Koszykowa 60/62 m 39
00-673 Warszawa - Poland
Tel.: +48 22 821 9930
Fax: +48 22 821 9931
e-mail: polska@ingeteam.com

Ingeteam Australia Pty Ltd.
iAccelerate Centre, Building 239
Innovation Campus, Squires Way
North Wollongong, NSW 2500 - Australia
Tel.: +61 429 111 190
e-mail: australia@ingeteam.com

Ingeteam Panama S.A.
Av. Manuel Espinosa Batista,
Ed. Torre Internacional
Business Center, Apto./Local 407
Urb.C45 Bella Vista
Bella Vista - Panama
Tel.: +50 761 329 467

Ingeteam Service S.R.L.
Bucuresti, Sector 2,
Bulevardul Dimitrie Pompeiu Nr 5-7
Cladirea Hermes Business
Campus 1, Birou 236, Etaj 2
Romania
Tel.: +40 728 993 202

Ingeteam Philippines Inc.
Office 2, Unit 330, Milelong Bldg.
Amorsolo St. corner Rufino St.
1230 Makati
Gran Manila - Philippines
Tel.: +63 0917 677 6039

Ingeteam Power Technology, S.A.
Level 1, Al Bateen Tower C6 Bahrainuh
ADIB Building, Street 34
PO BOX 30010 - Abu Dhabi
United Arab Emirates
Tel.: +971 50 125 8244

Ingeteam Vietnam Ltd.
Spaces - 28A Tran Hung Dao Street
Phan Chu Trinh Ward
Hoan Kiem District
Ha Noi City - Vietnam
Tel.: +84 24 71014057
e-mail: vietnam@ingeteam.com

Ingeteam Uruguay, S.A.
Avenida 18 de Julio, 1474, Piso 12
11200, Montevideo, Uruguay
Tel.: +598 934 92064