



110TL M9

THREE-PHASE PV INVERTER WITH NINE MPPTs

THE BEST SOLUTION FOR INDUSTRIAL SELF-CONSUMPTION SYSTEMS

A three-phase inverter family for industrial PV systems.

Maximum efficiency with nine independent MPPT inputs

It has 9 independent maximum power point trackers (MPPT), plus a DC/AC power conversion stage. This ensures that the energy of the PV module is optimized at all times, even in difficult situations of scattered clouds and partial shading. Moreover, the inverter offers great flexibility for configuring solar array, thanks to the nine independent inputs and a wide range of input voltages, as well as connecting different DC input powers to each MPP tracker (asymmetric configuration).

Plug & Play technology

The inverter connection is fast, simple and extremely easy to install. The country specific configuration and language can be easily selected from the inverter App or with a PC by connecting via a web browser to the server integrated in the inverter itself.

Rugged design

Specially designed for indoor and outdoor applications (IP66). INGECON SUN 110TL M9 inverters have been designed to guarantee a long life expectancy and to withstand extreme temperatures.

Ease of maintenance

Internal datalogger for data storage.

Control either from a remote PC or on-site setting. Status and alarm LED indicators.

Software included

Included at no extra cost are the INGECON® SUN Monitor and its smartphone version iSun Monitor for monitoring and recording the inverter data over the internet. In addition, users can download the latest version of the firmware from the Ingeteam website www.ingeteam.com, and update it using a simple remote connection. Ethernet and Wi-Fi communications are supplied as standard.

Standard 5 year warranty, extendable for up to 10 years.

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The best solution for industrial self-consumption systems

All the models feature DC and AC surge arresters type II and an integrated DC switch.

Main features

- EMS inside.
- Multi-MPPT system.
- 98.2% maximum efficiency.
- Digital inputs.
- Ethernet, Wi-Fi and RS-485 communications supplied as standard.
- Remote configuration and upgrade.
- Software INGECON® SUN Monitor for PV plant monitoring.
- LED Status.
- Easy maintenance.
- Plug & Play technology.
- Suitable for indoor and outdoor installations (IP66).
- High temperature performance.
- Compact design.
- Language and country network code configuration via the application.
- Compatible with High Power Modules (500W-600W+).
- Nominal voltage configuration via after-sales service.
- The IS 3Play 110TL M9 inverter automatically detects the parallel connection of its MPPT inputs. However, to maintain the warranty, the safety standards of the installation must be followed. See document ACL2010IMC10, Ingecon Sun 1Play 3Play, parallel string connection.

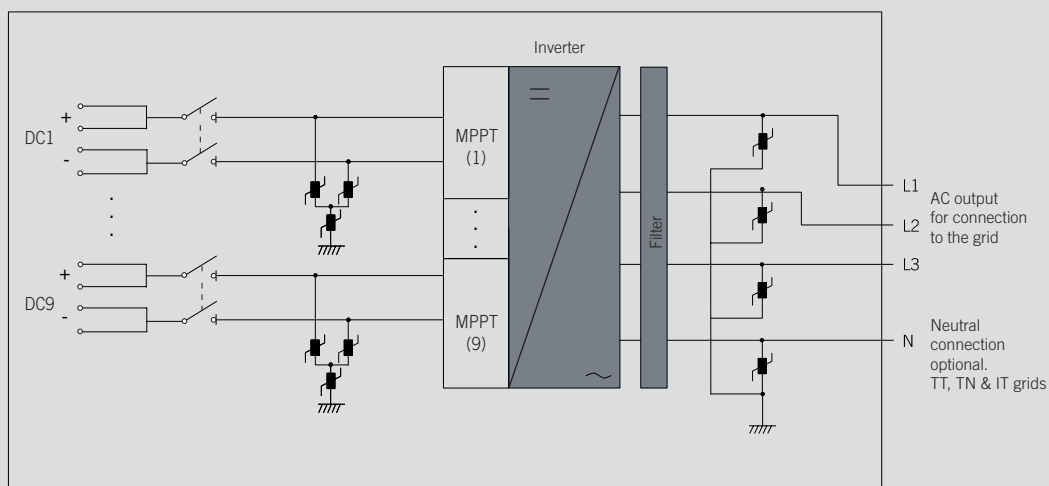
Protections

- Reverse polarity.
- Shortcircuits and overloads at the output.
- Anti-islanding with automatic disconnection.
- Insulation faults.
- Input and output overvoltages with type II surge arresters.
- Electrical Arc Fault Circuit Interrupter (AFCI) with automatic disconnection device.

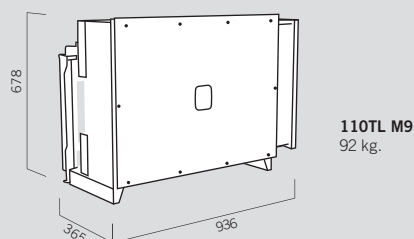
Benefits

- Greater performance thanks to the multi MPPT system.
- Easy maintenance.
- Higher inverter life expectancy.
- Waterproof and dustproof with IP66 protection class.
- Anti-corrosion with C5 protection class.

INGECON SUN 110TL M9



Size (mm) and weight



INPUT (DC)

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Recommended PV array power range	113.3 - 165 kWp
Voltage range MPPT	200 - 1,000 V
Maximum voltage ⁽¹⁾	1,000 V
Rated input voltage	600 V
Start input voltage / Min. operating voltage	250 V / 200 V
Number of MPPTs	9
Max. Short circuit current por MPPT	50 A + 50 A + 50 A + 45 A + 45 A + 45 A + 45 A + 45 A + 45 A
Maximum current per MPPT	40 A + 40 A + 40 A + 32 A + 32 A + 32 A + 32 A + 32 A + 32 A
Inputs with PV connectors	18 (2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2)
Maximum current per input ⁽²⁾	30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A / 30 A

OUTPUT (AC)

Rated power	110 kW
Max. apparent power ⁽³⁾	123 kVA
Max. active power (PF = 1) ⁽³⁾	121 kW
Max. output current	187A
Rated voltage	400 V
Voltage range ⁽⁴⁾	322 V - 520 V (Adjustable)
Frequency	50 / 60 Hz
Type of grid	TT / TN / IT
Power Factor adjustable	Yes, 0 - 1 (leading / lagging)

EFFICIENCY

Maximum efficiency	98.4%
Maximum euroefficiency	97.7%

GENERAL INFORMATION

Refrigeration system	Forced ventilation
Consumption at night	< 10 W
Ambient temperature	-25°C to 60°C
Relative humidity (non-condensing)	0 - 100 %
Protection class	IP66
Marking	CE
Acoustic emissions	< 65 dB
Max. Operating altitude	4,000 m
EMC and security standards	EN 61000-6-2, EN 61000-6-4, EN 62109-1, EN 62109-2

Grid connection standards IEC 61727:2004, IEC 62116:2014, EN 50549-1:2019, EN 50549-2:2019, UNE 217002:2020, UNE 217001:2020, NTS SEPE 2.1 type B, CEI 0-21 v1 November 2022 (including Allegato B), CEI 0-16 v1 November 2022 (including Allegato N), VDE-AR-N 4105:2018, DIN VDE V 0124-100/06.20, DRRG/DEWA 2023

Notes

⁽¹⁾ The maximum voltage that the equipment can withstand without damage is 1100V. The range of DC input voltages for grid connection is the MPPT range.

⁽²⁾ If only one input is to be used for each MPPT. If both inputs of an MPPT are used, the sum of the currents must not exceed the MPPT's maximum current.

⁽³⁾ In Spain, according to Spanish regulations, the maximum active power will be the same as the nominal power.

⁽⁴⁾ The output voltage and frequency range may vary depending on different grid codes. Specifications are subject to change without prior notice.

Integrated elements

DC switch	✓
Anti-islanding protection	✓
AC overcurrent protection	✓
AC short-circuit protection	✓
DC reverse connection	✓
DC & AC surge arresters, type II	✓
Insulation detection	✓
Leakage current protection	✓
Monitoring of the current of each string.	✓
Night load consumption monitoring	✓

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