



## 10TL M2 / 15TL M2 / 20TL M2

### THREE-PHASE PV INVERTER WITH TWO MPPTs

### THE BEST SOLUTION FOR COMMERCIAL SELF-CONSUMPTION SYSTEMS

A three-phase inverter family for residential and commercial three-phase self-consumption PV systems.

#### Maximum efficiency with two independent MPPT inputs

A single DC-to-AC power conversion stage with an advanced maximum power point tracking system (MPPT), making it possible to harness the maximum energy from the PV array at all times, including difficult situations such as scattered clouds and partial shading. Great flexibility for configuring the solar array, thanks to the two independent MPP trackers with a wide input voltage range. Moreover, it enables to connect different DC input powers to each MPP tracker (asymmetric configuration).

#### Plug & Play technology

Extremely easy to install. The inverter connection is fast and simple. The country specific configuration and language can be easily selected from the inverter App.

#### Rugged design

Die cast aluminum casing, especially designed for indoor and outdoor applications (IP66). The INGECON® SUN 3Play TL M 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](http://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 commercial self-consumption systems

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

#### Main features

- EMS inside.
- Double-MPPT system.
- 98% maximum efficiency.
- Digital inputs.
- Ethernet and Wi-Fi 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, rated voltage and country code, configurable by App.
- Compatible with High Power Modules.

#### 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.

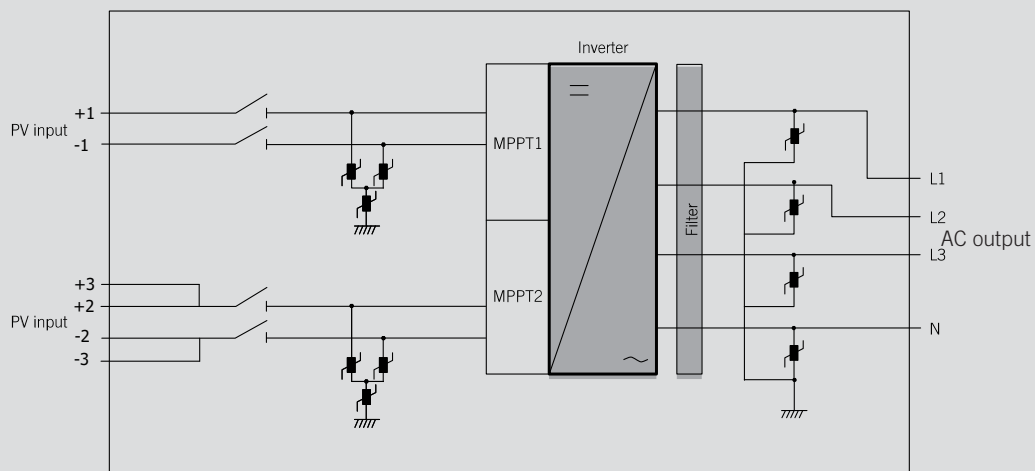
#### Optional accessories

- Self-consumption kit.

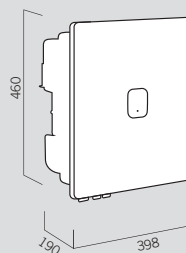
#### Benefits

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

#### INGECON SUN 15TL M2



#### Size and weight (mm)



10TL M2 / 15TL M2 / 20TL M2  
17.2 kg / 19.1 kg / 20.5 kg

## 10TL M2

## 15TL M2

## 20TL M2

## INPUT (DC)

Recommended PV array power range	10.3 - 15 kWp	15.5 - 22.5 kWp	20.6 - 30 kWp
Voltage range MPPT	160 - 1,000 V		
Start input voltage	180 V		
Maximum voltage <sup>(1)</sup>	1,100 V		
Rated input voltage	620 V		
Max. Short circuit current	2*20A	20A + 2*20A	2*40A
Maximum current	2*15A	15A + 2*15A	2*30A
Inputs with PV connectors	2 (1/1)	3 (1/2)	4 (2/2)
Number of MPPTs	2		

## OUTPUT (AC)

Rated power	10 kW	15 kW	20 kW
Max. apparent power <sup>(2)</sup>	11.2 kVA	16.7 kVA	22 kVA
Max. active power (PF = 1) <sup>(2)</sup>	11.2 kW	16.7 kW	22 kW
Max. output current	3*17A	3*25.3A	3*33.7A
Rated voltage	400 V		
Voltage range <sup>(3)</sup>	260 - 510 V (Adjustable)		
Frequency	50 Hz / 60 Hz		
Type of grid	TT / TN		
Power Factor	> 0.99 Rated power (Adjustable 0.8 LD - 0.8 LG)		
THD	< 3% @ Rated power		

## EFFICIENCY

Maximum efficiency	97.8%	97.8%	98%
Euroefficiency	97.2%	97.4%	97.5%

## GENERAL INFORMATION

Refrigeration system	Natural ventilation	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	< 30 dB	< 45 dB
Max. Operating altitude	4,000 m	
EMC and security 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	
Grid connection standards	IEC 61727:2004, IEC 62116:2014, EN 50549-1:2019, UNE 217002:2020, UNE 217001:2020, NTS SEPE 2.1 type A, CEI 0-21 v1 November 2022 (including Allegato B), VDE-AR-N 4105:2018	

## Notes

<sup>(1)</sup> Maximum voltage the inverter withstand without any damage. Input DC voltage range for grid connection is MPPT range voltage.

<sup>(2)</sup> In Spain, according to the Spanish standards, the maximum active power will be the same as the rated power.

<sup>(3)</sup> The range of output voltage and frequency may vary depending upon different grid codes. Specifications are subject to change without advance 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	✓