



<b>Product Certificate Number</b>	<b>20455-7-CER</b>
<b>Applicant</b>	Ingeteam Power Technology S.A. - Energy Avenida Ciudad De La Innovación, 13. 31621. Sarriguren. Navarra. SPAIN
<b>Series/</b>	INGECON SUN Power B Series 1500 Vdc INGECON SUN Power B Series INGECON SUN STORAGE Power B Series INGECON SUN STORAGE Power B Series 1500 Vdc
<b>Model/</b>	See page 2
<b>Type of generating unit</b>	Photovoltaic Inverter
<b>Technical Data</b>	<b>See pages 3, 4, 5 and 6</b>
<b>Network connection rule</b>	<b>COES SINAC:2013.</b> Procedimiento Técnico del Comité de Operación Económica del SEIN. Aprobado mediante Resolución OSINERGMIN N° 035-2013-OS/CD

Having assessed the test report number: B28-15-AJ-12 performed by Tecnalía Research and Innovation and 11251-1-TR-E2 performed by the Certification Entity itself (CERE) based on the requirements of the EN ISO/IEC 17025:2005.

The above-mentioned generating unit complies with the requirements of the: **COES SINAC:2013.** Procedimiento Técnico del Comité de Operación Económica del SEIN. Aprobado mediante Resolución OSINERGMIN N° 035-2013-OS/CD.

This certification is according the CERE internal process PET-CERE-09 Rev 17 based on the requirements of the EN ISO/IEC 17065:2012. For this certification process the conformity assessment activities were based on:

- Testing of production samples selected by CERE.
- Audit of quality system according ISO 9001 with certificate number: 0. 04. 12231 issued by a certification body accredited according EN ISO/IEC 17021.
- Inspection of the manufacturing process.

This certificate cancels and supersedes the certificate 11251-15-CER-E5 issued on May 30, 2019

Madrid, November 03, 2019. This certificate is valid until November 03, 2022.

Miguel Martínez Lavín  
Certification Manager

Models

<p><u>INGECON SUN Power B Series</u>          INGECON SUN 720TL B260          INGECON SUN 748TL B270          INGECON SUN 830TL B300          INGECON SUN 860TL B310          INGECON SUN 890TL B320          INGECON SUN 915TL B330          INGECON SUN 940TL B340          INGECON SUN 970TL B350          INGECON SUN 1000TL B360          INGECON SUN 1025TL B370          INGECON SUN 1050TL B380          INGECON SUN 1070TL B385          INGECON SUN 1080TL B390          INGECON SUN 1110TL B400          INGECON SUN 1140TL B410          INGECON SUN 1165TL B420          INGECON SUN 1190TL B430          INGECON SUN 1220TL B440          INGECON SUN 1250TL B450          INGECON SUN 1250TL B450          INGECON SUN 1275TL B460          INGECON SUN 1303TL B470          INGECON SUN XXXXTL BYYY (*)</p>	<p><u>INGECON SUN STORAGE Power B Series</u>          INGECON SUN STORAGE 720TL B260          INGECON SUN STORAGE 748TL B270          INGECON SUN STORAGE 830TL B300          INGECON SUN STORAGE 860TL B310          INGECON SUN STORAGE 890TL B320          INGECON SUN STORAGE 915TL B330          INGECON SUN STORAGE 940TL B340          INGECON SUN STORAGE 970TL B350          INGECON SUN STORAGE 1000TL B360          INGECON SUN STORAGE 1025TL B370          INGECON SUN STORAGE 1050TL B380          INGECON SUN STORAGE 1070TL B385          INGECON SUN STORAGE 1080TL B390          INGECON SUN STORAGE 1110TL B400          INGECON SUN STORAGE 1140TL B410          INGECON SUN STORAGE 1165TL B420          INGECON SUN STORAGE 1190TL B430          INGECON SUN STORAGE 1220TL B440          INGECON SUN STORAGE 1250TL B450          INGECON SUN STORAGE 1275TL B460          INGECON SUN STORAGE 1303TL B470          INGECON SUN STORAGE XXXXTL BYYY (**)</p>
<p><u>INGECON SUN Power B Series 1500 Vdc</u>          INGECON SUN 1170TL B450          INGECON SUN 1195TL B460          INGECON SUN 1220TL B470          INGECON SUN 1247TL B480          INGECON SUN 1273TL B490          INGECON SUN 1300TL B500          INGECON SUN 1325TL B510          INGECON SUN 1350TL B520          INGECON SUN 1376TL B530          INGECON SUN 1400TL B540          INGECON SUN 1430TL B550          INGECON SUN 1455TL B560          INGECON SUN 1480TL B570          INGECON SUN 1500TL B578          INGECON SUN 1532TL B590          INGECON SUN 1560TL B600          INGECON SUN 1580TL B630          INGECON SUN 1600TL B615          INGECON SUN 1640TL B630          INGECON SUN 1665TL B640          INGECON SUN 1690TL B650          INGECON SUN 1715TL B660          INGECON SUN 1740TL B670          INGECON SUN 1767TL B680          INGECON SUN 1800TL B690          INGECON SUN 1820TL B700          INGECON SUN XXXXTL BYYY (***)</p>	<p><u>INGECON SUN STORAGE Power B Series 1500 Vdc</u>          INGECON SUN STORAGE 1170TL B450          INGECON SUN STORAGE 1195TL B460          INGECON SUN STORAGE 1220TL B470          INGECON SUN STORAGE 1247TL B480          INGECON SUN STORAGE 1273TL B490          INGECON SUN STORAGE 1300TL B500          INGECON SUN STORAGE 1325TL B510          INGECON SUN STORAGE 1350TL B520          INGECON SUN STORAGE 1376TL B530          INGECON SUN STORAGE 1400TL B540          INGECON SUN STORAGE 1430TL B550          INGECON SUN STORAGE 1455TL B560          INGECON SUN STORAGE 1480TL B570          INGECON SUN STORAGE 1500TL B578          INGECON SUN STORAGE 1532TL B590          INGECON SUN STORAGE 1560TL B600          INGECON SUN STORAGE 1600TL B615          INGECON SUN STORAGE 1640TL B630          INGECON SUN STORAGE 1665TL B640          INGECON SUN STORAGE 1690TL B650          INGECON SUN STORAGE 1715TL B660          INGECON SUN STORAGE 1740TL B670          INGECON SUN STORAGE 1767TL B680          INGECON SUN STORAGE 1800TL B690          INGECON SUN STORAGE 1820TL B700          INGECON SUN STORAGE XXXXTL BYYY (***)</p>
<p>(*) This reference indicates the equipment between 220 V and 470 V of AC voltage (YYY) and between 610 kW and 1303 kW of AC power at 35°C (XXXX).          (**) This reference indicates the equipment between 220 V and 470 V of AC voltage (YYY) and between 610 kW and 1303 kW of AC power at 35°C (XXXX).          (***) This reference indicates the equipment between 333 V and 700 V of AC voltage (YYY) and between 865 kW and 1820 kW of AC power at 30°C (XXXX).</p>	

INGECON SUN Power B Series 1500 Vdc

PV inverters with AC voltage ranging from 333 V to 700 V	
<b>Input (DC)</b>	
Recommended PV array power range	Pdc.min=1,1*Pac (50°C) Pac.max= 1,3*Pac (30 °C)
Voltage MPP min	$V_{mpp.min} = \frac{1,732 \sqrt{\frac{2}{3}V^2 + (0,04 * I_{max})^2}}{0,985}$
Voltage MPP max	1300 V
Maximum Voltage	1500 V
Maximum Current	1850 A
<b>Output (AC)</b>	
Power @30°C/@50°C	Pac = ( $\sqrt{3}$ ) * Vac * Iac
Current @30°C/@50°C	1500 A/1350 A
Rated Voltage	Vac = 333 V ... 700 V
Frequency	50/60 Hz
Software version	ABK1000_B

INGECON SUN STORAGE Power B series 1500 Vdc

PV inverters with AC voltage ranging from 333 V to 700 V	
<b>Input (DC)</b>	
Min battery Voltage	$V_{mpp.min} = \frac{1,732 \sqrt{\frac{2}{3}(1,1V)^2 + (0,04 * I_{max})^2}}{0,985}$
Max. Battery voltage	1300 V
Maximum Current	1850 A
<b>Output (AC)</b>	
Power @30°C/@50°C	Pac = ( $\sqrt{3}$ ) * Vac * Iac
Current @30°C/@50°C	1500 A/1350 A
Rated Voltage	Vac = 333 V ... 700 V
Frequency	50/60 Hz
Software version	ABK1000_B

INGECON SUN Power B Series 1000 Vdc

PV inverters with AC voltage ranging from 220 V to 470 V	
<b>Input (DC)</b>	
Recommended PV array power range	$P_{dc.min} = 1,1 * P_{ac}$ (50°C) $P_{dc.max} = 1,3 * P_{ac}$ (35°C)
Voltage MPP min.	$V_{mpp.min} = \frac{1,732 \sqrt{\frac{2}{3} V^2 + (0,0311 * I_{max})^2}}{0,985}$
Voltage MPP max.	820 V
Maximum Voltage	1050 V
Maximum Current	2000 A
<b>Output (AC)</b>	
Power 35°C/50°C	$P_{ac} = (\sqrt{3}) * V_{ac} * I_{ac}$
Current 35°C/50°C	1600 A/ 1472 A
Rated Voltage	$V_{ac} = 220 \text{ V} \dots 470 \text{ V}$
Frequency	50 Hz/60 Hz
Software version	ABK1000_A

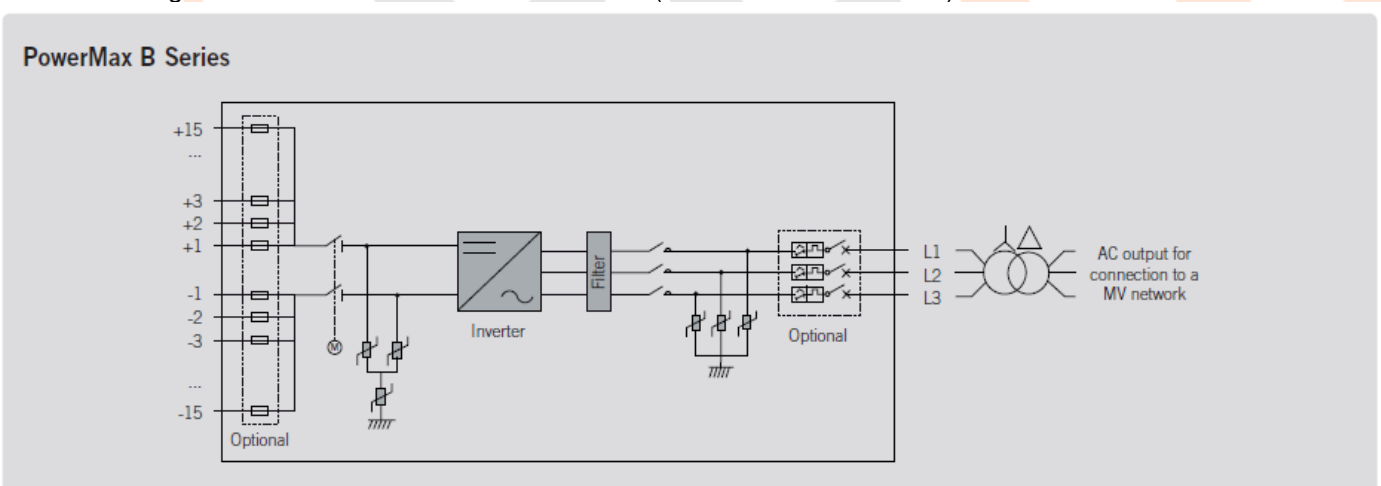
INGECON SUN STORAGE Power B Series 1000 Vdc

PV inverters with AC voltage ranging from 220 V to 470 V	
<b>Input (DC)</b>	
Min. Battery Voltage	$V_{mpp.min} = \frac{1,732 \sqrt{\frac{2}{3} (1,1V)^2 + (0,0311 * I_{max})^2}}{0,985}$
Max. Battery Voltage	820 V
Maximum Current	2000 A
<b>Output (AC)</b>	
Power 35°C/50°C	$P_{ac} = (\sqrt{3}) * V_{ac} * I_{ac}$
Current 35°C/50°C	1600 A/ 1472 A
Rated Voltage	$V_{ac} = 220 \text{ V} \dots 470 \text{ V}$
Frequency	50 Hz/60 Hz
Software version	ABK1000_A

INGECON SUN Power B Series 1000 Vdc: 1250 TL B450

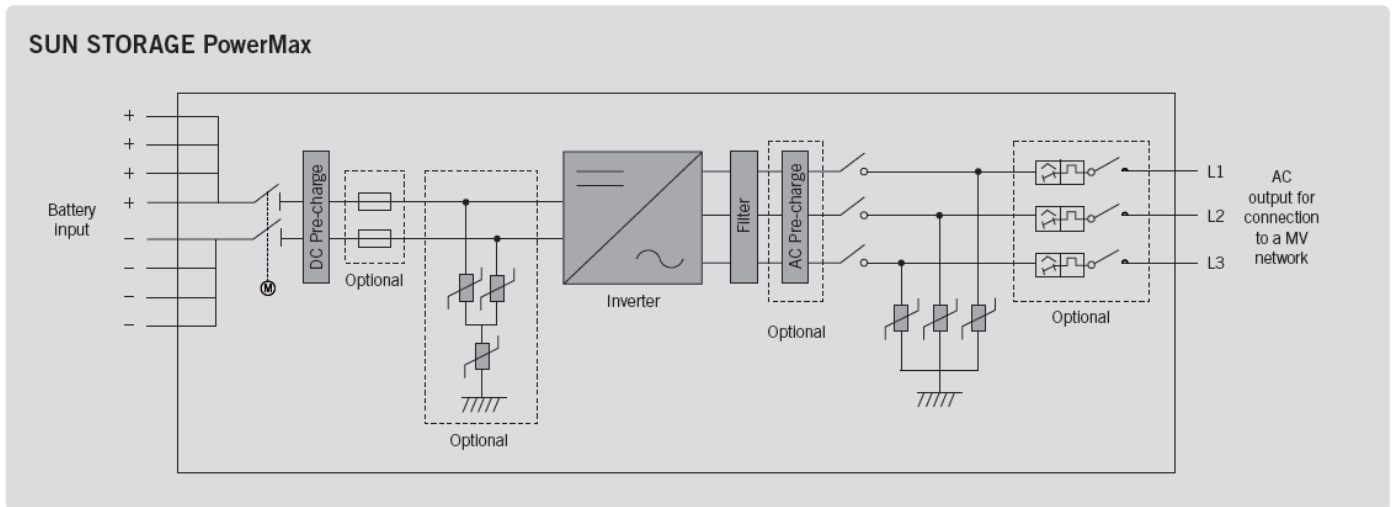
<b>1250 TL B450</b>	
<b>Input (DC)</b>	
Recommended PV array power range	1262-1621 kWp
Voltage MPP min.	653-820 V
Voltage MPP max.	820 V
Maximum Voltage	1050 A
Maximum Current	2000 A
<b>Output (AC)</b>	
Power 35°C/46°C/52°C	1247 kVA / 1208 kVA / 1169 kVA
Current 35°C/46°C/52°C	1600 A / 1550 A / 1500 A
Rated Voltage	450 V IT System
Frequency	50/60 Hz
Software version	ABK1000_B

Electrical Diagram of INGECON SUN Power B Series (1000 Vdc and 1500 Vdc):



Electrical Diagram of INGECON SUN STORAGE Power B Series (1000 Vdc and 1500 Vdc):

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Manufacturer:

Ingeteam Power Technology S.A. - Paneles  
Pol. Ind. El Juncarillo, Nave 1  
31293 Sesma (Navarra) - SPAIN

The sample selected to test was representative of the production.  
The sample was selected in manufacture facilities.

May 31, 2016

Sample Report Number:

11251-1-TM

The inspection of manufacturing process was performed in  
manufacture facilities:

June 19, 2019

Inspection Report Number:

10978-19-1-IF