



<b>Product Certificate Number</b>	<b>21567-8-CER</b>
<b>Applicant</b>	INGETEA POWER TECHNOLOGY, S.A. Ciudad de la Innovación 13 31621, Sarriguren, Navarra, Spain
<b>Series</b>	INGECON SUN 3PLAY INGECON SUN STORAGE 3PLAY
<b>Models</b>	See pages 2 to 6
<b>Type of generating unit</b>	Three-phase solar inverter Three-phase battery inverter
<b>Technical Data</b>	See pages 2 to 6
<b>Software version</b>	INGECON SUN 3PLAY: ABS1004_K INGECON SUN STORAGE 3PLAY: ABS1008_I
<b>Network connection code</b>	<b>CEI 0-21: 2022-03 + V1:2022-11</b> Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti BT delle imprese distributrici di energia elettrica, <b>Allegato B</b> and <b>Allegato Bbis</b>
<p>Having assessed the report number: 21567-2-TR and 21758-2-TR performed by CERE (Accredited Laboratory N° 1376/LE2560) based on the requirements of the EN ISO/IEC 17025: 2017.</p> <p>The above-mentioned generating unit complies with the requirements of the: <b>CEI 0-21: 2022-03 + V1:2022-11</b> Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti BT delle imprese distributrici di energia elettrica, <b>Allegato B</b> and <b>Allegato Bbis</b>.</p> <p>This certification is according to CERE internal process PET-CERE-30 Rev 10, that defines the certification scheme, based on the requirements of the EN ISO/IEC 17065:2012. For this certification process the conformity assessment activities were based on:</p> <ul style="list-style-type: none"><li>• Testing of production samples selected by CERE.</li><li>• Audit of quality system according to ISO 9001 with certificate number: ES123508-1 issued by a certification body accredited according EN ISO/IEC 17021.</li><li>• Inspection of the manufacturing process.</li></ul>	
<p>Madrid, August 2, 2023. This certificate is valid until August 2, 2028.</p> <p style="text-align: right;">Miguel Martínez Lavin Certification Director</p>	

**Technical data**

**INGECON SUN 3PLAY**

INGECON SUN 100TL STD / INGECON SUN 100TL PRO						
<b>Input (DC)</b>						
Recommended PV array power range	56 – 80,2 kWp	91,1 – 130,5 kWp	96,2 – 137,8 kWp	101,2 - 145 kWp	106,3 – 152,3 kWp	111,3 – 159,5kWp
Voltage range MPP	513 - 850 V	513 - 850 V	541,5 - 850 V	570 - 850 V	598,5 - 850 V	627 - 850 V
Maximum voltage	1100 V					
Maximum current	185 A					
<b>Output (AC)</b>						
Rated power at rated Vac	55,3 kW	90 kW	95 kW	100 kW	105 kW	110 kW
Maximum current	145 A					
Rated voltage	220 V	360 V	380 V	400 V	420 V	440 V
Rated frequency	50 Hz / 60 Hz					
Adjustable power factor	0 – 1 (leading / lagging)					

For AC voltage ranges not listed in the table above, between 360V and 440V, refer to the following formula:

<b>Input (DC)</b>	
Min MPP Voltage	$V_{ac} \times 1,425$
Max MPP Voltage	850 V
Maximum current	185 A
<b>Output (AC)</b>	
Rated power	$P_{ac} = \sqrt{3} \times V_{ac} \times I_{ac}$
Maximum current	145 A @50°C
Rated voltage	360 - 440 V
Rated frequency	50 Hz / 60 Hz

INGECON SUN 160TL STD / INGECON SUN 160TL PRO						
<b>Input (DC)</b>						
Recommended PV array power range	95 – 136 kWp	113 – 162,5 kWp	141 - 203 kWp	148 - 213 kWp	153,5 - 220 kWp	162 – 233,5 kWp
Voltage range MPP	576 - 1250 V	692 - 1250 V	864 - 1250 V	908 - 1250 V	936 - 1250 V	994 - 1250 V
Maximum voltaje	1500 V					
Maximum current	168 A					
<b>Output (AC)</b>						
Rated power at 25 °C / 40 °C / 50 °C	92,8 kW / 85,9 kW / 83,8 kW	111,4 kW / 103,1 kW / 100,6 kW	139,3 kW / 128,9 kW / 125,8 kW	146,2 kW / 135,3 kW / 132 kW	150,9 kW / 139,6 kW / 136,2 kW	160,1 kW / 148,2 kW / 144,6 kW
Maximum current at 25 °C / 40 °C / 50 °C	134 A / 124 A / 121 A					
Rated voltage	400 V	480 V	600 V	630 V	650 V	690 V
Rated frequency	50 Hz / 60 Hz					
Adjustable power factor	0 – 1 (leading / lagging)					

For AC voltage ranges not listed in the table above, between 400V and 690V, refer to the following formula:

<b>Input (DC)</b>	
Min MPP Voltage	$V_{ac} \times 1,44$
Max MPP Voltage	1250 V
Maximum current	168 A
<b>Output (AC)</b>	
Rated power	$P_{ac} = \sqrt{3} \times V_{ac} \times I_{ac}$
Maximum current	134 A @ 25°C 124 A @ 40°C 121 A @ 50°C
Rated voltage	400 - 690 V
Rated frequency	50 Hz / 60 Hz

**INGECON SUN STORAGE 3PLAY**

INGECON SUN STORAGE 100TL HV						
<b>Input (DC)</b>						
Voltage range (Min. / Max)	673 - 1250 V	729 - 1250 V	800 - 1250 V	895 - 1250 V	935 - 1250 V	951 - 1250 V
Maximum voltage	1500 V					
Maximum power (charge / discharge)	80 kW / 97,5 kW	86,6 kW / 98,8 kW	95 kW / 98,8 kW	98,8 kW / 98,8 kW	98,8 kW / 98,8 kW	98,8 kW / 98,8 kW
Maximum current (charge / discharge)	119 A / 144,7 A	119 A / 135,5 A	119 A / 123,5 A	110,4 A / 110,4 A	105,7 A / 105,7 A	103,9 A / 103,9 A
<b>Output (AC)</b>						
Rated power charge (25°C / 40°C / 50°C)	81 / 75 / 73,6 kW	87,6 / 81,3 / 79,7 kW	96,2 / 89,2 / 87,5 kW	100 / 99,8 / 97,9 kW	100 / 100 / 100 kW	100 / 100 / 100 kW
Rated power discharge (25°C / 40°C / 50°C)	98,6 / 91,3 / 89 kW	100 / 98,8 / 96,4 kW	100 / 100 / 100 kW	100 / 100 / 100 kW	100 / 100 / 100 kW	100 / 100 / 100 kW
Maximum current charge (25°C / 40°C / 50°C)	110 / 102 / 100 A			102,2 / 102 / 100 A	97,9 / 97,9 / 97,9 A	96,2 / 96,2 / 96,2 A
Maximum current discharge (25°C / 40°C / 50°C)	134 / 124 / 121 A	125,5 / 124 / 121 A	114,3 / 114,3 / 114,3 A	102,2 / 102,2 / 102,2 A	97,9 / 97,9 / 97,9 A	96,2 / 96,2 / 96,2 A
Rated voltage	425 V	460 V	505 V	565 V	590 V	600 V
Rated frequency	50 Hz / 60 Hz					
Adjustable power factor	0 – 1 (leading / lagging)					

INGECON SUN STORAGE 140TL HV						
<b>Input (DC)</b>						
Voltage range (Min. / Max)	673 - 1250 V	729 - 1250 V	800 - 1250 V	895 - 1250 V	935 - 1250 V	951 - 1250 V
Maximum voltage	1500 V					
Maximum power (charge/ discharge)	80 kW / 97,5 kW	86,6 kW / 98,8 kW	95,1 kW / 115,8 kW	106,4 kW / 129,6 kW	111,1 kW / 135,3 kW	112,9 kW / 137,6 kW
Maximum current (charge/discharge)	119 A / 144,7 A					
<b>Output (AC)</b>						
Rated power charge (25°C / 40°C / 50°C)	81 / 75,1 / 73,6 kW	87,6 / 81,3 / 79,7 kW	96,2 / 89,2 / 87,5 kW	107,6 / 99,8 / 97,9 kW	112,4 / 104,2 / 102,2 kW	114,3 / 106 / 103,9 kW
Rated power discharge (25°C / 40°C / 50°C)	98,6 / 91,3 / 89,1 kW	106,8 / 98,8 / 96,4 kW	117,2 / 108,5 / 105,8 kW	131,1 / 121,3 / 118,4 kW	136,9 / 126,7 / 123,7 kW	139,3 / 128,9 / 125,7 kW
Maximum current charge (25°C / 40°C / 50°C)	110 / 102 / 100 A					
Maximum current discharge (25°C / 40°C / 50°C)	134 / 124 / 121 A					
Rated voltage	425 V	460 V	505 V	565 V	590 V	600 V
Rated frequency	50 Hz / 60 Hz					
Adjustable power factor	0 – 1 (leading / lagging)					

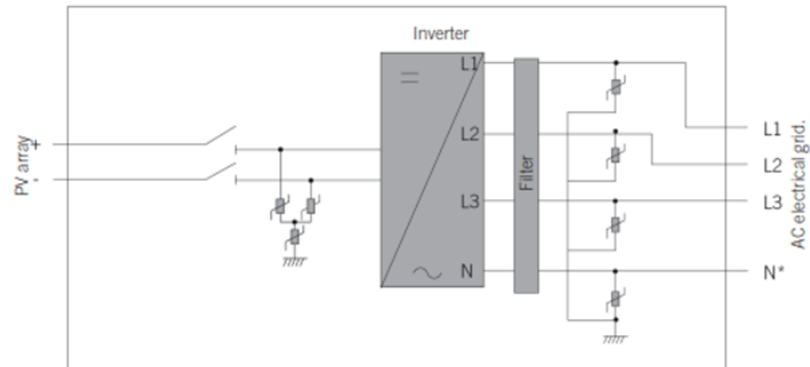
For AC voltage ranges not listed in the tables above, between 425V and 600V, refer to the following formula:

Input (DC)	
Vmin Batt	$V_{ac} \times 1,44 \times 1,1$
Vmax Batt	1250 V
Maximum current (charge / discharge)	119 A / 144,7 A
Output (AC)	
Rated power	$P_{ac} = \sqrt{3} \times V_{ac} \times I_{ac}$
Maximum current (charge / discharge)	110 A / 134 A @ 25°C 102 A / 124 A @ 40°C 100 A / 121 A @ 50°C
Rated voltage	425 - 600 V
Rated frequency	50 Hz / 60 Hz

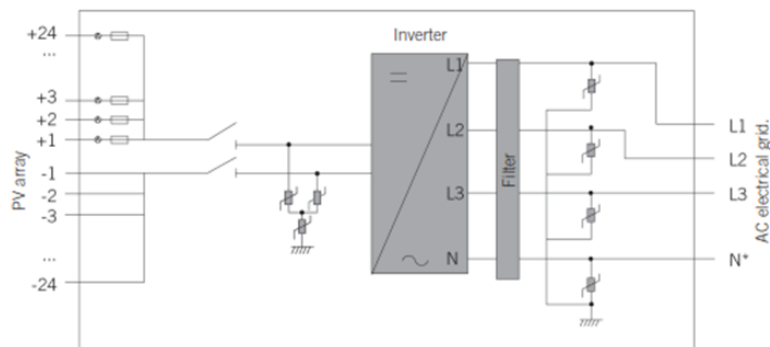
Models	INGECON SUN STORAGE 100TL
Input (DC)	
Voltage range	570 - 850 V
Maximum Voltage	1100 V
Maximum power (charge/discharge)	60 kW / 100 kW
Maximum current charge/discharge	111 A / 185 A
Output (AC)	
Maximum active power (charge/discharge)	60 kW / 100 kW
Maximum current (charge/discharge)	87 A / 145 A
Rated voltage	400 V
Frequency	50 Hz / 60 Hz
Adjustable power factor	Yes, $S_{max} = 100 \text{ kVA}$ . $Q_{max} = 60 \text{ kVAR}$

- Electrical diagram of INGECON SUN 3Play

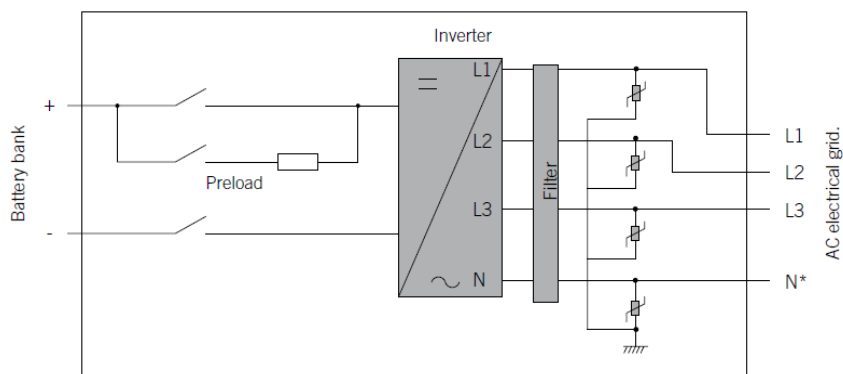
STD Version



PRO Version



- Electrical diagram of INGECON SUN STORAGE 3Play





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

INGETEAM POWER TECHNOLOGY S.A.  
(Paneles)  
Polígono Industrial El Juncarillo  
31293 Sesma (Navarra). Spain

Sample Report Number:

21567-TM

The inspection of manufacturing process was performed in:  
On June 07<sup>th</sup>, 2023.

INGETEAM POWER TECHNOLOGY S.A.  
(Paneles)  
Polígono Industrial El Juncarillo.  
31293, Sesma, Navarra. Spain

Inspection Report Number:

230104-23-1-IF

### RECORD OF CHANGES

Revision	Reason of the modification	Modification	Date
0	Initial version	--	02/08/2023



**CERTIFICATE INGECON SUN INVERTERS**

<b>The following generators comply with the requirements of CEI 0-21 ed.2022-03 + V1:2022-11</b>				
<b>Section A</b>	Manufacturer	INGETEAM POWER TECHNOLOGY S.A. (Paneles) Polígono Industrial El Juncarillo 31293 Sesma, Navarra, Spain		
	Type	Photovoltaic inverter		
	Trademark	Ingeteam		
	User side connection	<input type="checkbox"/> Single-phase <input checked="" type="checkbox"/> Three-phase Frequency: 50 Hz      Voltage: 220 - 690 V (see model)		
	Primary energy used	<input checked="" type="checkbox"/> Solar (V Rdp All. B) <input type="checkbox"/> Accumulation (V Rdp All. Bbis) <input type="checkbox"/> Wind (V Rdp All. B/Bter) <input type="checkbox"/> Hydroelectric (V Rdp All. B/Bter) <input type="checkbox"/> CHP (V Rdp All. B/Bter) <input type="checkbox"/> Other:		
	Generators models	INGECON SUN 100TL STD/PRO	INGECON SUN 160TL STD/PRO	INGECON SUN XXXTL STD/PRO
	Nominal power	100 kVA 90 kW, $\cos(\varphi) = 0,90$	160 kVA 144 kW, $\cos(\varphi) = 0,90$	Configurable between: 115,3 kVA 103,8 kW, $\cos(\varphi) = 0,90$ and 200,8 kVA 180,7 kW, $\cos(\varphi) = 0,90$
	The generator:	<input checked="" type="checkbox"/> is suitable for installation in systems with an output of more than 11,08 kW <input checked="" type="checkbox"/> is capable of limiting the $I_{dc}$ to 0.5 % of the rated current <input checked="" type="checkbox"/> utilises a DC-sensitive protection function <input type="checkbox"/> utilises a transformer operating at mains frequency		
<b>Section C</b>	<b>Characteristics of the static converter</b>			
	Static converter model	INGECON SUN 100TL STD/PRO	INGECON SUN 160TL STD/PRO	INGECON SUN XXXTL STD/PRO
	Manufacturer of the static converter	INGETEAM POWER TECHNOLOGY S.A. (Paneles) Polígono Industrial El Juncarillo 31293 Sesma (Navarra). Spain		
	Firmware version	ABS1004_K		
Nominal power of the converter ( $P_{NINV}$ )	90 kW, $\cos(\varphi) = 0,90$	144 kW, $\cos(\varphi) = 0,90$	Configurable between: 103,8 kW, $\cos(\varphi) = 0,90$ and 180,7 kW, $\cos(\varphi) = 0,90$	



References of the laboratories that performed the tests and the related test reports (RdP)		
Section I	Chosen method	<input checked="" type="checkbox"/> Test performed by an accredited laboratory <input type="checkbox"/> Tests performed under the supervision of a certification body
	Test reports	RoP according to Annex B: 21758-2-TR RoP according to Annex Bbis: 21567-2-TR
	Issued by	Accredited laboratory: Certification Entity for Renewable Energies S.L. (CERE Testing Laboratory)
	Accreditation number Ref. accreditation body	1376/LE2560 ENAC
Date, signature, and references of the certification body		
Section M	Madrid, 02.08.2023	
	Miguel Martínez, Certification Director Certification Entity for Renewable Energies, S.L. c/ Monturiol 15. 28906. Getafe. Madrid. Spain	



**CERTIFICATE INGECON SUN STORAGE INVERTERS**

The following generators comply with the requirements of CEI 0-21 ed.2022-03 + V1:2022-11				
Section A	Manufacturer	INGECON SUN STORAGE 100TL HV		
	Type	Photovoltaic inverter		
	Trademark	Ingeteam		
	User side connection	<input type="checkbox"/> Single-phase <input checked="" type="checkbox"/> Three-phase Frequency: 50 Hz    Voltage: 400 – 690 V (see model)		
	Primary energy used	<input type="checkbox"/> Solar (V Rdp All. B) <input checked="" type="checkbox"/> Accumulation (V Rdp All. Bbis) <input type="checkbox"/> Wind (V Rdp All. B/Bter) <input type="checkbox"/> Hydroelectric (V Rdp All. B/Bter) <input type="checkbox"/> CHP (V Rdp All. B/Bter) <input type="checkbox"/> Other:		
	Generators models	INGECON SUN STORAGE 100TL HV	INGECON SUN STORAGE 140TL HV	INGECON SUN STORAGE XXXTL HV
	Nominal power	100 kVA 90 kW, cos(φ) =0,90	140 kVA 126 kW, cos(φ) =0,90	Configurable between: 99,6 kVA 88,8 kW, cos(φ) =0,90 and 139,3 kVA 125,3 kW, cos(φ) =0,90
	The generator:	<input checked="" type="checkbox"/> is suitable for installation in systems with an output of more than 11,08 kW <input checked="" type="checkbox"/> is capable of limiting the Idc to 0.5 % of the rated current <input checked="" type="checkbox"/> utilises a DC-sensitive protection function <input type="checkbox"/> utilises a transformer operating at mains frequency		
Section C	<b>Characteristics of the static converter (battery inverter)</b>			
	Static converter model	INGECON SUN STORAGE 100TL HV	INGECON SUN STORAGE 140TL HV	INGECON SUN STORAGE XXXTL HV
	Manufacturer of the static converter	INGECON SUN STORAGE 100TL HV		
	Firmware version	ABS1008 _I		
Nominal power of the converter (P <sub>NINV</sub> )	90 kW, cos(φ) =0,90	144 kW, cos(φ) =0,90	Configurable between: 103,8 kW, cos(φ) =0,90 and 180,7 kW, cos(φ) =0,90	
Section E	<b>Characteristics of the Accumulation System (SdA) (without battery)</b>			
	P <sub>sn</sub> (discharge power nominal)	90 kW, cos(φ) =0,90	120,6 kW, cos(φ) =0,90	Configurable between: 88,8 kW, cos(φ) =0,90 and 125,3 kW, cos(φ) =0,90
P <sub>cn</sub> (charge power nominal)	54 kW, cos(φ) =0,90	99 kW, cos(φ) =0,90	Configurable between: 72,9 kW, cos(φ) =0,90 and 102,9 kW, cos(φ) =0,90	



	P <sub>smax</sub> (discharge power max.)	100 kW	134 kW	Configurable between: 99,8 kW and 139,3 kW
	P <sub>cmax</sub> (charge power max.)	60 kW	110 kW	Configurable between: 80,9 kW and 114,32 kW
	Typology	<input checked="" type="checkbox"/> Bidirectional <input type="checkbox"/> Unidirectional		
Section I	<b>References of the laboratories that performed the tests and the related test reports (RdP)</b>			
	Chosen method	<input checked="" type="checkbox"/> Test performed by an accredited laboratory		<input type="checkbox"/> Tests performed under the supervision of a certification body
	Test reports	RoP according to Annex Bbis: 21567-2-TR		
	Issued by	Accredited laboratory: Certification Entity for Renewable Energies S.L. (CERE Testing Laboratory)		
	Accreditation number	1376/LE2560		
	Ref. accreditation body	ENAC		
Section M	<b>Date, signature, and references of the certification body</b>			
	Madrid, 02.08.2023  Miguel Martínez, Certification Director  Certification Entity for Renewable Energies, S.L. c/ Monturiol 15. 28906. Getafe. Madrid. Spain			