CONTACT INFORMATION

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SMA

Design flexibility

- 1000 V DC or 600 V DC
- Two independent DC inputs
- 15° to 90° mounting angle range
- Detachable DC Connection Unit

System efficiency

- **98.0% CEC, **98.6% Peak
- 1000 V DC increases system efficiency
- OptiTrac Global Peak MPPT

Enhanced safety

- Integrated DC AFCI
- Floating system with all-pole sensitive ground fault protection
- Reverse polarity indicator in combination with Connection Unit

Future-proof

- Complete grid management feature set
- Integrated Speedwire, WebConnect, ModBus interface
- Bi-directional Ethernet communications
- Utility-interactive controls for active and reactive power

SUNNY TRIPOWER 12000TL-US / 15000TL-US / 20000TL-US / 24000TL-US / 30000TL-US

The ultimate solution for decentralized PV plants, now up to 30 kilowatts

The world's best-selling three-phase PV inverter, the SMA Sunny Tripower TL-US, is raising the bar for decentralized commercial PV systems. This three-phase, transformerless inverter is UL listed for up to 1000 V DC maximum system voltage and has a peak efficiency above 98 percent, while OptiTrac Global Peak minimizes the effects of shade for maximum energy production. The Sunny Tripower delivers a future-proof solution with full grid management functionality, cutting edge communications and advanced monitoring. The Sunny Tripower is also equipped with all-pole ground fault protection and integrated AFCI for a safe, reliable solution. It offers unmatched flexibility with a wide input voltage range and two independent MPP trackers. Suitable for both 600 V DC and 1,000 V DC applications, the Sunny Tripower allows for flexible design and a lower levelized cost of energy.

MADE IN THE USA OF U.S. AND IMPORTED PARTS SMA

Technical data	Sunny Tripower 12000TL-US	Sunny Tripower 15000TL-US	Sunny Tripower 20000TL-US	Sunny Tripower 24000TL-US	Sunny Tripower 30000TL-US
Input (DC)					
Max. usable DC power (@ cos φ = 1)	12250 W	15300 W	20400 W	24500 W	30800 W
Max. DC voltage	*1000 V	*1000 V	*1000 V	*1000 V	1000 V
Rated MPPT voltage range	300 V...800 V	300 V...800 V	380 V...800 V	450 V...800 V	500 V...800 V
MPPT operating voltage range	150 V...1000 V	150 V...1000 V	150 V...1000 V	150 V...1000 V	150 V...1000 V
Min. DC voltage / start voltage	150 V / 188 V	150 V / 188 V	150 V / 188 V	150 V / 188 V	150 V / 188 V
Number of MPP tracker inputs	2	2	2	2	2
Max. input current / per MPP tracker input	66 A / 33 A	66 A / 33 A	66 A / 33 A	66 A / 33 A	66 A / 33 A
Output (AC)					
AC nominal power	12000 W	15000 W	20000 W	24000 W	30000 W
Max. AC apparent power	12000 VA	15000 VA	20000 VA	24000 VA	30000 VA
Output phases / line connections	3 / 3-N-PE				3 / 3-N-PE, 3-PE
Nominal AC voltage	480 / 277 V WYE				480 / 277 V WYE, 480 V Delta
AC voltage range	244 V...305 V				
Rated AC grid frequency	60 Hz				
AC grid frequency / range	50 Hz, 60 Hz / -6 Hz...+5 Hz				
Max. output current	14.4 A	18 A	24 A	29 A	36.2 A
Power factor at rated power / adjustable displacement	1 / 0.0 leading...0.0 lagging				
Harmonics	< 3%				
Efficiency					
Max. efficiency / CEC efficiency	98.2% / 97.5%	98.2% / 97.5%	98.5% / 97.5%	98.5% / 98.0%	**98.6% / **98.0%
Protection devices					
DC reverse polarity protection	●	●	●	●	●
Ground fault monitoring / grid monitoring	●	●	●	●	●
All-pole sensitive residual current monitoring unit	●	●	●	●	●
DC AFCI compliant to UL 1699B	●	●	●	●	●
AC short circuit protection	●	●	●	●	●
Protection class / overvoltage category	I / IV	I / IV	I / IV	I / IV	I / IV
General data					
Dimensions (W / H / D) in mm (in)	665 / 650 / 265 (26.2 / 25.6 / 10.4)				
Packing dimensions (W / H / D) in mm (in)	780 / 790 / 380 (30.7 / 31.1 / 15.0)				
Weight	55 kg (121 lbs)				
Packing weight	61 kg (134.5 lbs)				
Operating temperature range	-25°C...+60°C				
Noise emission (typical) / internal consumption at night	51 dB(A) / 1 W				
Topology	Transformerless				
Cooling concept / electronics protection rating	OptiCool / NEMA 3R				
Features					
Display / LED indicators (Status / Fault / Communication)	– / ●				
Interface: RS485 / Speedwire, WebConnect	○/●				
Data interface: SMA Modbus / SunSpec ModBus	●/●				
Mounting angle range	15°...90°				
Warranty: 10 / 15 / 20 years	●/○/○				
Certifications and approvals	UL 1741, UL 1998, UL 1699B, IEEE 1547, FCC Part 15 (Class A & B), CAN/CSA C22.2 107.1-1				

NOTE: US inverters ship with gray lids. Data at nominal conditions. *Suitable for 600 V DC max. systems **Preliminary data

● Standard features ○ Optional features – Not available

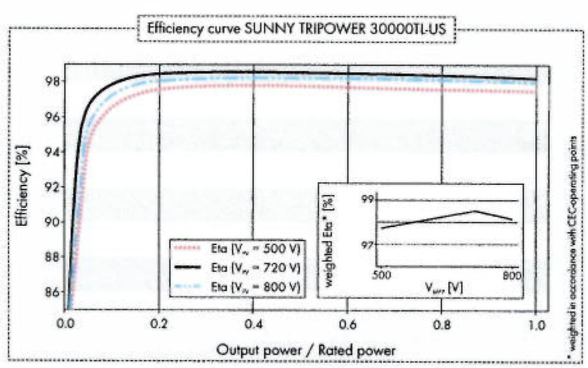
Type designation	STP 12000TL-US-10	STP 15000TL-US-10	STP 20000TL-US-10	STP 24000TL-US-10	STP 30000TL-US-10

Accessories

RS485 interface
DM-485CB-US-10

Connection Unit
CU 1000-US-10

SMA Cluster Controller
CLCON-10



SMA America LLC Factory Warranty

Note: this description of SMA Solar Technology America's limited factory warranty is effective on January 1, 2013 and supersedes all prior warranty descriptions.

10 Year Warranty

A ten year warranty applies to the following products:
SB700-US, SB2000HF-US, SB2500HF-US, SB3000HF-US, SB3000-US, SB3800-US, SB4000-US, SB3000TL-US, SB4000TL-US, SB5000TL-US, SB5000-US, SB6000-US, SB7000-US, SB8000-US, SB6000TL-US, SB7000TL-US, SB8000TL-US, SB9000TL-US, SB10000TL-US, SB11000TL-US, STP 12000TL-US-10, STP 15000TL-US-10, STP 20000TL-US-10, STP 24000TL-US-10, WB3000-US, WB3800-US, WB4000-US, WB5000-US, WB6000-US, WB7000-US, WB8000-US

5 Year Warranty

A five year warranty applies to the following products:
SB1100U, SWR1800U, SWR2100U, SWR2500U, SB3300U, SB3800U, SB6000U, SI4248U, SI4548-US, SI6048-US, SI5048U, ST6US, SMA *Bluetooth*® Repeater, Sunny Beam with *Bluetooth*®, Sunny WebBox, Sunny WebBox with *Bluetooth*®, Sunny SensorBox, SC/SB Combiner Boxes purchased after April 1, 2005.

The SMA factory warranty provides technical support, shipping costs, and repair or replacement part costs during the warranty period. The warranty period begins 3 months after shipment from SMA America or the date of commissioning, whichever can be proven to start later, subject to the conditions listed below.

Warranty Conditions

SMA America will advance ship a new unit to the customer if the device is determined to be defective within the first 90 days after a new installation.

If a device is determined to be defective more than 3 months after installation, and during the SMA factory warranty period, one of the following services, as selected by SMA, will be performed at no charge:

1. Exchange for a refurbished device (of equivalent value according to model and age)
2. Repair the defective device at SMA's depot facility

In the case of an exchange, the remainder of the eligible warranty will be transferred to the replacement device.

If the warranty applies, and if SMA has a branch or service partner in the country where the device is operated, the transport costs are covered by SMA.

The SMA factory warranty includes a $150 Service Call Rebate for eligible installers/dealer companies. See the SMA Service Call Rebate Form located at www.sma-america.com. (Please select the Service tab and Downloads)

In order to fulfill its obligations under this limited warranty, SMA America may require a copy of the purchase receipt, the warranty certificate, installation documentation, or evidence of the warranty extension if SMA is unable to confirm warranty entitlement. End-use customers are encouraged to retain such documentation. The model/serial number must be included on the documentation provided in order to determine warranty entitlement.

Exclusion of Liability

The SMA limited factory warranty does not cover damages that occur due to:

- transport damage
- incorrect installation or commissioning
- failure to observe the user manual, maintenance requirements and intervals
- modifications, changes or attempted repairs
- incorrect use or inappropriate operation
- insufficient ventilation of the device
- failure to observe the applicable safety regulations,
- force majeure (e.g. lightning, overvoltage, storm, fire)
- cosmetic defects which do not directly influence energy production, or degrade form, fit, function

Additional claims due to direct or indirect damage especially compensation claims for damages due to loss of profits, or revenue, or incurred costs arising from disassembly and mounting, are expressly excluded in the absence of a written contract agreement with SMA America.

How to get Warranty Support

SMA America products are designed and built for reliability. However, in the unlikely event of a failure, please contact the SMA Technical Service Line at 1-877-697-6283 where an SMA Technical Support Representative will assist you. Proper fault diagnosis may require a qualified Solar PV service technician to be at the SMA device location and equipped with a quality digital AC/DC voltmeter. The onsite service technician may be asked to take voltage measurements and provide error codes from the inverter. Additional information will be required such as model number, serial number, job site name, original date of installation, PV array configuration, and a description of any modifications that have been performed on the inverter. If the onsite repair technician is unwilling or unable to assist SMA in the fault diagnosis process, the customer may be charged $160.00 plus shipping costs if no trouble is found when the device is tested by the SMA Service Repair Department.

Replacement Procedure and Conditions

SMA America will provide standard ground shipping. If expedited shipping is requested, the shipping costs will be billed to the customer.

SMA America does not provide new replacement equipment to distributors or installers who exchange new equipment from their stock to customers in the field at their own discretion.

If there are any unresolved or pending financial issues between the customer and SMA America at the time of trouble call reporting, the issue will have to be resolved before material exchange can occur.

Customer-modified equipment does not qualify for the advanced replacement exchange warranty process and must be returned to the SMA depot for repair.

Unless the modification created the failure, customer-modified equipment is covered under the above described SMA warranty conditions on a repair/return basis only.

When replacing an inverter, customer is asked to safely remove any piggyback modules (i.e. RS-232 cards, RS-485 cards, etc.) from the inverter to be returned, and retain them for reinstallation by customer on the replacement equipment.

Customer or their installer is expected and requested to repack the defective equipment in the same shipping box used to ship the replacement, and manually apply the SMA provided return shipping label(s) to the box of the equipment to be returned.

If the end user chooses to have the inverter repaired and returned, SMA America will send an empty shipping box and shipping call tag if the original packaging is not available. The returned unit will be repaired and returned to the end user.

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SMA AMERICA, LLC
REPAIR CENTER
3801 North Havana Street
Denver, CO 80239

SMA

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259773			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

SMA

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259833			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259856			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	**02.03.04.R**		**10/2017**
191259665			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	**02.03.04.R**		**10/2017**
191259512			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259779			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259659			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP15000TL-US-10	02.03.04.R		09/2017
191260059			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP30000TL-US-10	02.05.01.R		01/2019
1900917041			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
Serial Number	191259835		

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259941			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259925			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

JS-ZEPTR-en-11 | 98-123800.01

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version BFR	Firmware Version SRR	Testing Date MM/YYYY
STP15000TL-US-10	**02.03.04.R**		**09/2017**
Serial Number: **191259767**			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
Test time	160 ms	2,000 ms	1,000 ms	160 ms

Frequency Tests

	> 60.5 Hz	< 59.3 Hz
Test level	60.62 Hz	59.18 Hz
Test time	160 ms	160 ms

For default values and the manufacturer's accuracies, please refer to the operator's manual.

Test Results

Test	Passed/Failed
Dielectric Voltage-Withstand Test	Passed
Response to abnormal voltage	Passed
Response to abnormal frequency	Passed
No-Load	Passed

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Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259488			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
Test level	138.5 V	243.8 V	304.7 V	332.4 V
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No-Load	Passed

Production Test Report

According to UL1741 Second Edition, January 28, 2010, IEEE 1547 (2003) and IEEE 1547.1 (2005) and ANSI C12.1-2008 Sec. C-4.1.1

Inverter Information:

Inverter Model	Firmware Version		Testing Date
	BFR	SRR	MM/YYYY
STP24000TL-US-10	02.03.04.R		10/2017
191259544			
Serial Number			

Inverter is tested to comply with the following test settings:

Dielectric Voltage-Withstand Test

Circuit	Test Level	Test Time
AC	4,105 Vdc	1 s
DC	4,105 Vdc	1 s
Low Voltage Circuits	200 V	1 s

Voltage Tests

	50%	88%	110%	120%
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