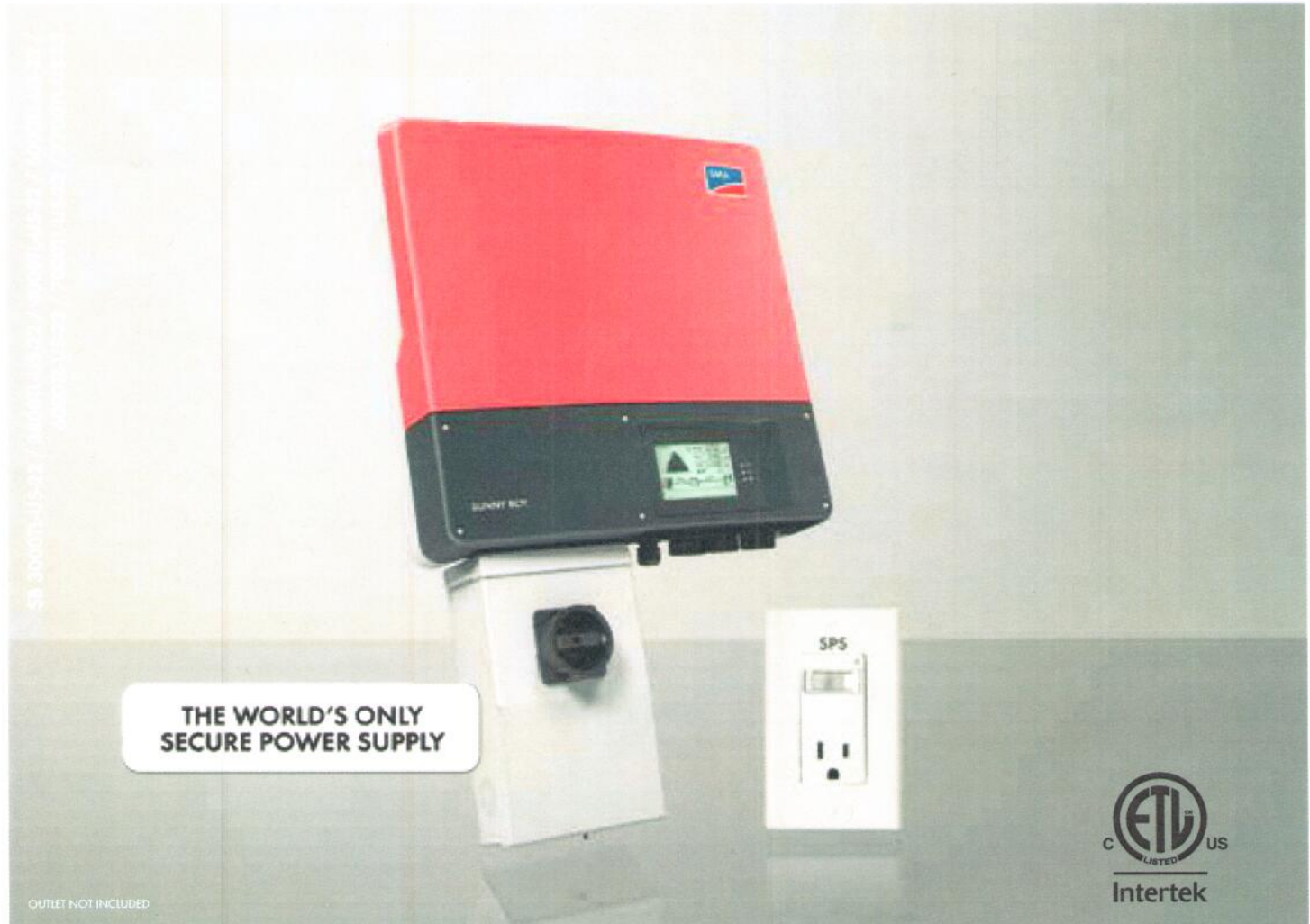


SUNNY BOY 3000TL-US / 3800TL-US / 4000TL-US /  
5000TL-US / 6000TL-US / 7000TL-US / 7700TL-US



SB 3000TL-US-20 / 3800TL-US-20 / 4000TL-US-20 / 5000TL-US-20 / 6000TL-US-20 / 7000TL-US-20 / 7700TL-US-20

**THE WORLD'S ONLY  
SECURE POWER SUPPLY**



OUTLET NOT INCLUDED

**Certified**

- UL 1741 and 1699B compliant
- Integrated AFCI meets the requirements of NEC 2011 690.11

**Innovative**

- Secure Power Supply provides daytime power during grid outages

**Powerful**

- 97.6% maximum efficiency
- Wide input voltage range
- Shade management with OptiTrac Global Peak MPP tracking

**Flexible**

- Two MPP trackers provide numerous design options
- Extended operating temperature range

## SUNNY BOY 3000TL-US / 3800TL-US / 4000TL-US / 5000TL-US / 6000TL-US / 7000TL-US / 7700TL-US

Setting new heights in residential inverter performance

The Sunny Boy 3000TL-US/3800TL-US/4000TL-US/5000TL-US/6000TL-US/7000TL-US/7700TL-US represents the next step in performance for UL certified inverters. Its transformerless design means high efficiency and reduced weight. Maximum power production is derived from wide input voltage and operating temperature ranges. Multiple MPP trackers and OptiTrac™ Global Peak mitigate the effect of shade and allow for installation at challenging sites. The unique Secure Power Supply feature provides daytime power in the event of a grid outage. High performance, flexible design and innovative features make the Sunny Boy TL-US series the first choice among solar professionals.



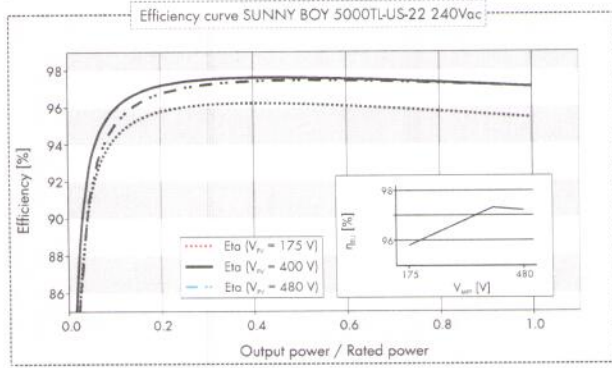
Technical data	Sunny Boy 3000TL-US		Sunny Boy 3800TL-US		Sunny Boy 4000TL-US	
	208 V AC	240 V AC	208 V AC	240 V AC	208 V AC	240 V AC
<b>Input (DC)</b>						
Max. usable DC power (@ cos φ = 1)	3200 W		4200 W		4200 W	
Max. DC voltage	600 V		600 V		600 V	
Rated MPPT voltage range	175 - 480 V		175 - 480 V		175 - 480 V	
MPPT operating voltage range	125 - 500 V		125 - 500 V		125 - 500 V	
Min. DC voltage / start voltage	125 V / 150 V		125 V / 150 V		125 V / 150 V	
Max. operating input current / per MPP tracker	18 A / 15 A		24 A / 15 A		24 A / 15 A	
Number of MPP trackers / strings per MPP tracker			2 / 2			
<b>Output (AC)</b>						
AC nominal power	3000 W		3330 W		4000 W	
Max. AC apparent power	3000 VA		3330 VA		4000 VA	
Nominal AC voltage / adjustable	208 V / ●	240 V / ●	208 V / ●	240 V / ●	208 V / ●	240 V / ●
AC voltage range	183 - 229 V		183 - 229 V		183 - 229 V	
AC grid frequency; range	60 Hz / 59.3 - 60.5 Hz		60 Hz / 59.3 - 60.5 Hz		60 Hz / 59.3 - 60.5 Hz	
Max. output current	15 A		16 A		20 A	
Power factor (cos φ)	1		1		1	
Output phases / line connections	1 / 2		1 / 2		1 / 2	
Harmonics	< 4%		< 4%		< 4%	
<b>Efficiency</b>						
Max. efficiency	97.2%	97.6%	97.2%	97.5%	97.2%	97.5%
CEC efficiency	96.5%	96.5%	96.5%	97.0%	96.5%	97.0%
<b>Protection devices</b>						
DC disconnection device			●			
DC reverse-polarity protection			●			
Ground fault monitoring / Grid monitoring			● / ●			
AC short circuit protection			●			
All-pole sensitive residual current monitoring unit			●			
Arc fault circuit interrupter (AFCI) compliant to UL 1699B			●			
Protection class / overvoltage category			1 / IV			
<b>General data</b>						
Dimensions (W / H / D) in mm (in)			490 / 519 / 185 (19.3 / 20.5 / 7.3)			
DC Disconnect dimensions (W / H / D) in mm (in)			187 / 297 / 190 (7.4 / 11.7 / 7.5)			
Packing dimensions (W / H / D) in mm (in)			617 / 597 / 266 (24.3 / 23.5 / 10.5)			
DC Disconnect packing dimensions (W / H / D) in mm (in)			370 / 240 / 280 (14.6 / 9.4 / 11.0)			
Weight / DC Disconnect weight			24 kg (53 lb) / 3.5 kg (8 lb)			
Packing weight / DC Disconnect packing weight			27 kg (60 lb) / 3.5 kg (8 lb)			
Operating temperature range			-40 °C ... +60 °C (-40 °F ... +140 °F)			
Noise emission (typical)	≤ 25 dB(A)		< 25 dB(A)		< 25 dB(A)	
Internal consumption at night	< 1 W		< 1 W		< 1 W	
Topology	Transformerless		Transformerless		Transformerless	
Cooling	Convection		Convection		Convection	
Electronics protection rating	NEMA 3R		NEMA 3R		NEMA 3R	
<b>Features</b>						
Secure Power Supply	●		●		●	
Display: graphic	●		●		●	
Interfaces: RS485 / Speedwire/Webconnect	○/○		○/○		○/○	
Warranty: 10 / 15 / 20 years	●/○/○		●/○/○		●/○/○	
Certificates and permits (more available on request)			UL 1741, UL 1998, UL 1699B, IEEE1547, FCC Part 15 (Class A & B), CAN/CSA C22.2 107.1-1			

NOTE: US inverters ship with gray lids  
Type designation

SB 3000TL-US-22

SB 3800TL-US-22

SB 4000TL-US-22



### Accessories



Speedwire/Webconnect Interface  
SWDM-US-10



RS485 interface  
DM-485C8-US-10



Fan kit for SB 3000/3800/  
4000/5000TL-US-22  
FANKIT02-10

● Standard feature ○ Optional feature – Not available  
Data at nominal conditions

Sunny Boy 5000TL-US		Sunny Boy 6000TL-US		Sunny Boy 7000TL-US		Sunny Boy 7700TL-US	
208 V AC	240 V AC	208 V AC	240 V AC	208 V AC	240 V AC	208 V AC	240 V AC
5300 W		6300 W		7300 W		8000 W	
600 V		600 V		600 V		600 V	
175 - 480 V		210 - 480 V		245 - 480 V		270 - 480 V	
125 - 500 V		125 - 500 V		125 - 500 V		125 - 500 V	
125 V / 150 V		125 V / 150 V		125 V / 150 V		125 V / 150 V	
30 A / 15 A		30 A / 15 A		30 A / 18 A		30 A / 18 A	
4550 W	5000 W	5200 W	6000 W	6000 W	7000 W	6650 W	7680 W
4550 VA	5000 VA	5200 VA	6000 VA	6000 VA	7000 VA	6650 VA	7680 VA
208 V / ●	240 V / ●	208 V / ●	240 V / ●	208 V / ●	240 V / ●	208 V / ●	240 V / ●
183 - 229 V	211 - 264 V	183 - 229 V	211 - 264 V	183 - 229 V	211 - 264 V	183 - 229 V	211 - 264 V
60 Hz / 59.3 - 60.5 Hz		60 Hz / 59.3 - 60.5 Hz		60 Hz / 59.3 - 60.5 Hz		60 Hz / 59.3 - 60.5 Hz	
22 A		25 A		29.2 A		32 A	
1		1		1		1	
1 / 2		1 / 2		1 / 2		1 / 2	
< 4%		< 4%		< 4%		< 4%	
97.2%	97.6%	97.0%	97.4%	96.8%	96.8%	96.8%	97.3%
96.5%	97.0%	96.5%	97.0%	96.5%	96.5%	96.5%	96.5%

2 / 2

●  
●  
● / ●  
●  
●  
●  
1 / IV

490 / 519 / 185 (19.3 / 20.5 / 7.3)  
187 / 297 / 190 (7.4 / 11.7 / 7.5)  
617 / 597 / 266 (24.3 / 23.5 / 10.5)  
370 / 240 / 280 (14.6 / 9.4 / 11.0)  
24 kg (53 lb) / 3.5 kg (8 lb)  
27 kg (60 lb) / 3.5 kg (8 lb)  
-40 °C ... +60 °C (-40 °F ... +140 °F)

< 29 dB(A)  
< 1 W  
Transformerless  
Convection  
NEMA 3R

●  
●  
○/○  
●/○/○

SB 5000TL-US-22

< 29 dB(A)  
< 1 W  
Transformerless  
Fan  
NEMA 3R

●  
●  
○/○  
●/○/○

SB 6000TL-US-22

< 29 dB(A)  
< 1 W  
Transformerless  
Fan  
NEMA 3R

●  
●  
○/○  
●/○/○

SB 7000TL-US-22

< 29 dB(A)  
< 1 W  
Transformerless  
Fan  
NEMA 3R

●  
●  
○/○  
●/○/○

SB 7700TL-US-22

UL 1741, UL 1998, UL 1699B, IEEE1547, FCC Part 15 (Class A & B), CAN/CSA C22.2 107.1-1



More efficient



Shade management



Easier



Secure Power Supply



Broad temperature range



Flexible communications

# A NEW GENERATION OF INNOVATION

THE SUNNY BOY TL-US RESIDENTIAL SERIES HAS YET AGAIN REDEFINED THE CATEGORY.

## Transformerless design

The Sunny Boy 3000TL-US / 3800TL-US / 4000TL-US / 5000TL-US / 6000TL-US / 7000TL-US / 7700TL-US are transformerless inverters, which means owners and installers benefit from high efficiency and lower weight. A wide input voltage range also means the inverters will produce high amounts of power under a number of conditions.

Additionally, transformerless inverters have been shown to be among the safest string inverters on the market. An industry first, the TL-US series has been tested to UL 1741 and UL 1699B and is in compliance with the arc fault requirements of NEC 2011.

## Increased energy production

OptiTrac™ Global Peak, SMA's shade-tolerant MPP tracking algorithm, quickly adjusts to changes in solar irradiation, which mitigates the effects of shade and results in higher total power output. And, with two MPP trackers, the TL-US series can ably handle complex roofs with multiple orientations or string lengths.

An extended operating temperature range of -40 °F to +140 °F ensures power is produced

in all types of climates and for longer periods of time than with most traditional string inverters.

## Secure Power Supply

One of many unique features of the TL-US residential series is its innovative Secure Power Supply. With most grid-tied inverters, when the grid goes down, so does the solar-powered home. SMA's solution provides daytime energy to a dedicated power outlet during prolonged grid outages, providing homeowners with access to power as long as the sun shines.

## Simple installation

As a transformerless inverter, the TL-US residential series is lighter in weight than its transformer-based counterparts, making it easier to lift and transport. A new wall mounting plate features anti-theft security and makes hanging the inverter quick and easy. A simplified DC wiring concept allows the DC disconnect to be used as a wire raceway, saving labor and materials.

The 3800TL-US and 7700TL-US models allow installers to maximize system size and energy production for customers with 100 A and 200 A service panels.

## Leading monitoring and control solutions

The new TL-US residential line features more than high performance and a large graphic display. The monitoring and control options provide users with an outstanding degree of flexibility. Multiple communication options allow for a highly controllable inverter and one that can be monitored on Sunny Portal from anywhere on the planet via an Internet connection. Whether communicating through RS485, or SMA's new plug-and-play WebConnect, installers can find an optimal solution to their monitoring needs.

## Wide Power Class Range

Whether you're looking for a model to maximize a 100 A service panel or trying to meet the needs of a larger residential PV system, the Sunny Boy TL-US with Secure Power Supply has you covered. Its wide range of power classes—from 3 to 7.7 kW—offers customers the right size for virtually any residential application. The TL-US series is not only the smartest inverter on the planet, it's also the most flexible.

Toll Free +1 888 4 SMA USA  
[www.SMA-America.com](http://www.SMA-America.com)

SMA America, LLC



Innovation for a Better Life



LG NeON™ 2 Black LG300N1K-G4

60 cell

LG's new module, NeON™ 2 Black, adopts Cello technology. Cello technology replaces 3 busbars with 12 thin wires to enhance power output and reliability. NeON™ 2 Black demonstrates LG's efforts to increase customer's values beyond efficiency. It features enhanced warranty, durability, performance under real environment, and aesthetic design suitable for roofs.



**Enhanced Performance Warranty**

LG NeON™ 2 has an enhanced performance warranty. The annual degradation has fallen from -0.7%/yr to -0.6%/yr. Even after 25 years, the cell guarantees 2.4%p more output than the previous NeON™ modules.



**High Power Output**

Compared with previous models, the LG NeON™ 2 has been designed to significantly enhance its output efficiency, thereby making it efficient even in limited space.



**Aesthetic Roof**

LG NeON™ 2 has been designed with aesthetics in mind; thinner wires that appear all black at a distance. The product may increase the value of a property with its modern design.



**Outstanding Durability**

With its newly reinforced frame design, LG has extended the warranty of the NeON™ 2 for an additional 2 years. Additionally, LG NeON™ 2 can endure a front load up to 6000 Pa, and a rear load up to 5400 Pa.



**Better Performance on a Sunny Day**

LG NeON™ 2 now performs better on sunny days thanks to its improved temperature coefficient.



**Double-Sided Cell Structure**

The rear of the cell used in LG NeON™ 2 will contribute to generation, just like the front; the light beam reflected from the rear of the module is reabsorbed to generate a great amount of additional power.

**About LG Electronics**

LG Electronics is a global player who has been committed to expanding its capacity, based on solar energy business as its future growth engine. We embarked on a solar energy source research program in 1985, supported by LG Group's rich experience in semi-conductor, LCD, chemistry, and materials industry. We successfully released the first Mono X® series to the market in 2010, which were exported to 32 countries in the following 2 years, thereafter. In 2013, NeON™ (previously known as Mono X® NeON) won "Intersolar Award", which proved LG is the leader of innovation in the industry.

## Mechanical Properties

Cells	6 x 10
Cell Vendor	LG
Cell Type	Monocrystalline / N-type
Cell Dimensions	156.75 x 156.75 mm / 6 x 6 inch
# of Busbar	12 (Multi Wire Busbar)
Dimensions (L x W x H)	1640 x 1000 x 40 mm 64.57 x 39.37 x 1.57 inch
Front Load	6000 Pa / 125 psf
Rear Load	5400 Pa / 113 psf
Weight	17.0 ± 0.5 kg / 37.48 ± 1.1 lbs
Connector Type	MC4, MC4 Compatible, IP67
Junction Box	IP67 with 3 Bypass Diodes
Length of Cables	2 x 1000 mm / 2 x 39.37 inch
Glass	High Transmission Tempered Glass
Frame	Anodized Aluminum

## Certifications and Warranty

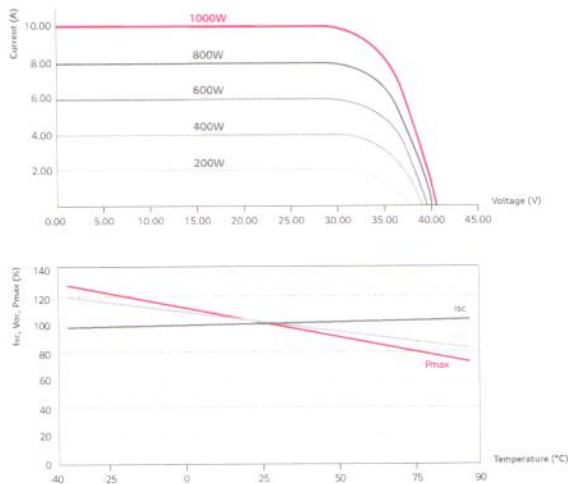
Certifications (In Progress)	IEC 61215, IEC 61730-1/-2, UL 1703, ISO 9001, IEC 62716 (Ammonia Test), IEC 61701 (Salt Mist Corrosion Test)
Module Fire Performance	Type 2 (UL 1703)
Product Warranty	12 years
Output warranty of Pmax (measurement Tolerance ± 3%)	Linear warranty*

\* 1) 1st year: 98%, 2) After 2nd year: 0.6%p annual degradation, 3) 83.6% for 25 years

## Temperature Coefficients

NOCT	46 ± 3 °C
Pmpp	-0.38 %/°C
Voc	-0.28 %/°C
Isc	0.02 %/°C

## Characteristic Curves



## Electrical Properties (STC \*)

	300 W
MPP Voltage (Vmpp)	32.5
MPP Current (Impp)	9.26
Open Circuit Voltage (Voc)	39.7
Short Circuit Current (Isc)	9.70
Module Efficiency (%)	18.3
Operating Temperature (°C)	-40 ~ +90
Maximum System Voltage (V)	1000
Maximum Series Fuse Rating (A)	20
Power Tolerance (%)	0 ~ +3

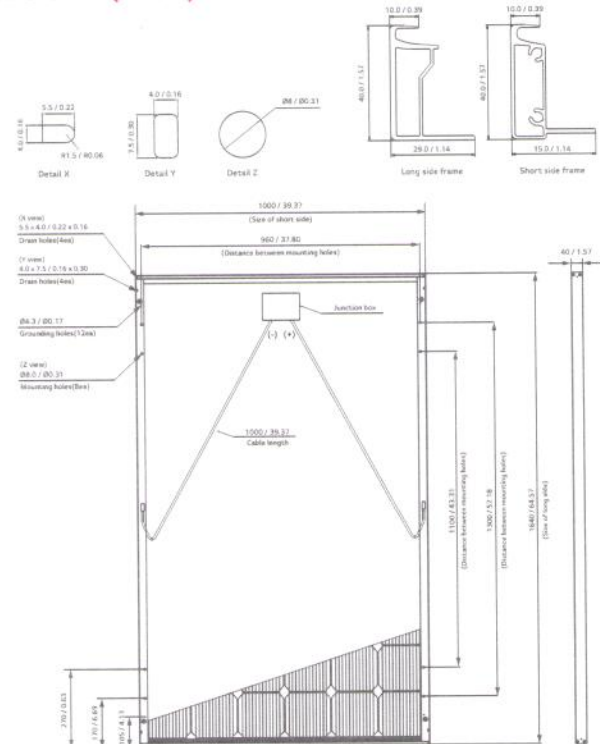
\* STC (Standard Test Condition) Irradiance 1000 W/m<sup>2</sup>, Module Temperature 25 °C, AM 1.5  
 \* The nameplate power output is measured and determined by LG Electronics at its sole and absolute discretion.  
 \* The typical change in module efficiency at 200 W/m<sup>2</sup> in relation to 1000 W/m<sup>2</sup> is -2.0%.

## Electrical Properties (NOCT\*)

	300 W
Maximum Power (Pmpp)	218
MPP Voltage (Vmpp)	29.5
MPP Current (Impp)	7.38
Open Circuit Voltage (Voc)	36.5
Short Circuit Current (Isc)	7.83

\* NOCT (Nominal Operating Cell Temperature) Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, wind speed 1 m/s

## Dimensions (mm/in)



\* The distance between the center of the mounting/grounding holes.



North America Solar Business Team  
 LG Electronics U.S.A. Inc  
 1000 Sylvan Ave, Englewood Cliffs, NJ 07632

Contact: lg.solar@lge.com  
 www.lgsolarusa.com

Product specifications are subject to change without notice.  
 DS-N2-60-K-G-F-EN-50427

Copyright © 2015 LG Electronics. All rights reserved.  
 01/04/2015

Innovation for a Better Life

