



TS2602 Advanced Keyboard

# User Manual





## Table of Contents

<b>1</b>	<b>Welcome!</b>	<b><a href="#">3</a></b>
<b>2</b>	<b>Overview</b>	<b><a href="#">4</a></b>
	- How it works	<a href="#">4</a>
	- What's in the box	<a href="#">5</a>
	- System Requirements	<a href="#">5</a>
<b>3</b>	<b>Using the Advanced Keyboard</b>	<b><a href="#">6</a></b>
	- Advanced Keyboard User Interfaces	<a href="#">6</a>
	- Applying Sticker Label to the Advanced Keyboard (Mac user only)	<a href="#">13</a>
<b>4</b>	<b>Technical Specifications</b>	<b><a href="#">15</a></b>
<b>5</b>	<b>Troubleshooting</b>	<b><a href="#">16</a></b>
<b>6</b>	<b>Cleaning the Keyboard</b>	<b><a href="#">18</a></b>
<b>7</b>	<b>Regulatory Information</b>	<b><a href="#">19</a></b>
<b>8</b>	<b>Warranty</b>	<b><a href="#">22</a></b>



## Welcome!

Thank you for choosing the TrickleStar® Advanced Keyboard. The Advanced Keyboard is an energy saving computer keyboard with integrated radar sensor which uses a highly-accurate radar-sensing technology and a selectable countdown timer to detect when a user has stepped away (or is absent) from their computer. It puts your workstation or personal computer to sleep automatically according to your countdown timer setting and absence of movement detection. If you have any inquiries about TrickleStar products or need technical support, visit our website for tutorials, videos and Frequently Asked Questions (FAQ). You can also contact us by email or phone.

Website: [www.tricklestar.com](http://www.tricklestar.com)  
Email: [customer.service@tricklestar.com](mailto:customer.service@tricklestar.com)  
Toll Free: 1-888-700-1098



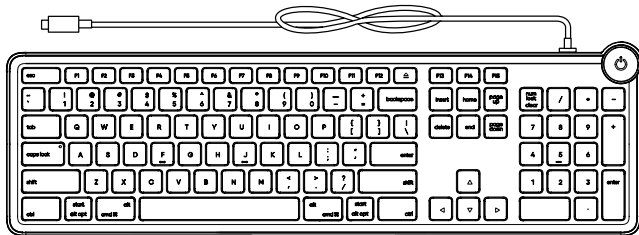
## Overview

### How it works

Simply plug and play! The TrickleStar Advanced Keyboard does not require any software installation or configuration. It also does not interfere with existing power management software installed on your computer. It is designed to work independently or with other power management tools to ensure energy savings are optimized.



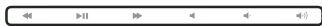
## What's in the box?



Advanced Keyboard



USB Type-C to USB Type-A Adapter



Sticker Label for Additional Mac Functions

## System Requirements

- Computer with 1 USB port
- Microsoft Windows® XP and above
- Mac® OS10.2 and higher



## Using the Advanced Keyboard

### Advanced Keyboard User Interfaces

Explore the advanced features your new keyboard offers.

#### 1. Operating Systems



The Advanced Keyboard works with PC (Windows®/Linux®) and Mac® (macOS®) operating systems.

#### 2. Radar Sensor

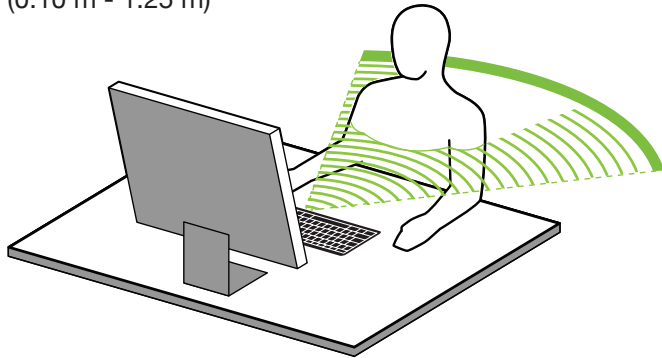


At the front of the Advanced Keyboard is a built-in, highly sensitive, motion detection radar sensor to detect user presence in the horizontal plane (80 degrees) and vertical plane (40 degrees) within a



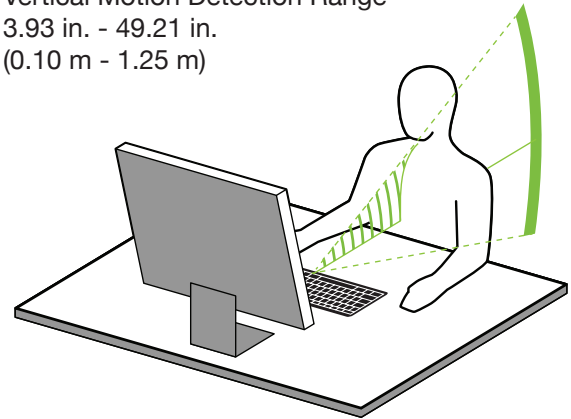
distance of 1.25 meters. It automatically puts a computer into standby/sleep state when the user moves away from the computer for a defined duration. The duration is defined by the Countdown Timer.

Horizontal Motion Detection Range  
3.93 in. - 49.21 in.  
(0.10 m - 1.25 m)



Motion Detection Angle  
Horizontal:  $80^{\circ}$  (+/-  $40^{\circ}$ )

Vertical Motion Detection Range  
3.93 in. - 49.21 in.  
(0.10 m - 1.25 m)



Motion Detection Angle  
Vertical:  $40^{\circ}$  (+/-  $20^{\circ}$ )

#### Note:

- Do not place any objects in front of the keyboard. Doing so may block the radar sensor from properly detecting the absence of movements.
- Users are not recommended to use a wrist rest with the keyboard as it may interfere with radar's detection; alternatively, if users absolutely have to use one, choose foam-type wrist rests, but this may sacrifice some detection range.
- The TrickleStar Advanced Keyboard uses an ultra-low-power pulsed coherent radar detector to determine if a user is present in front of the keyboard. It poses no health risks to users, complying with the output limits for unlicensed transmitting devices in all major international markets.
- The TrickleStar Advanced Keyboard's radar sensor is also not compromised by any natural source of interference such as noise, dust or light.

### 3. Cover Plate

The selectable switches compartment is covered with a removable cover plate. Remove the cover plate to access settings of Countdown Timer Switch and Operating System Switch. Slide the cover plate back on the compartment after the settings are configured.



Cover Plate

### 4. Countdown Timer Switch

A selectable countdown timer switch is located at the back of the Advanced Keyboard with three selectable positions available:-

- 1 - 30 seconds,
- 2 - 3 minutes, or
- 3 - 6 minutes

This is the countdown timer duration for radar sensor to detect movements.

If no additional movements are detected within this duration, the Advanced Keyboard will signal the computer to enter standby/sleep state.



Countdown Timer Switch

#### Note:

It is recommended to set the sleep time in the computer's power settings to be longer than the Countdown Timer Switch setting on the Advanced Keyboard for uninterrupted operation.



## 5. Operating System Switch

A selectable operating system switch is located at the back of the Advanced Keyboard. It toggles compatibility with PC (Windows®/Linux®) and Mac® (macOS®) operating systems. Please ensure the selection here matches with the operating system of the connected computer.



Operating System Switch

## 6. Power Button

The Power Button is located at the upper right corner of the Advanced Keyboard. Press this button to manually put the computer into standby/sleep state.

To wake up the computer when it is in standby/sleep state, you may press the Power Button again. Alternatively, pressing any keys on the keyboard or clicking the mouse will also wake up the computer.



Power Button

## 7. Sleep LED Indicator

The Sleep LED Indicator is mounted under the Power Button. The LED will flash green during the last 5 seconds of the countdown timer to notify you that the computer will enter into standby/sleep state.

In standby/sleep state, the Sleep LED Indicator will remain off.

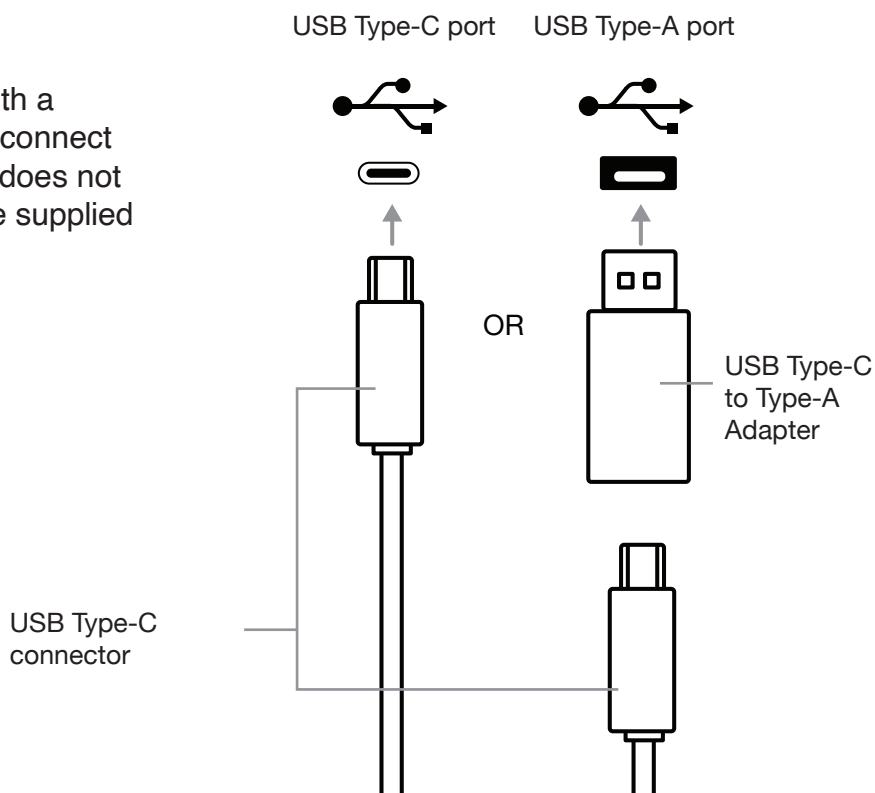
When the computer is active, the Sleep LED Indicator will light up in green.



Sleep LED Indicator

## 8. USB Type-C to USB Type-A Adapter

The Advanced Keyboard also comes with a USB Type-C to USB Type-A Adapter to connect to a USB Type-A port. If your computer does not have a USB Type-C port, please use the supplied adapter.



## 9. Adjustable Feet

Two selections of keyboard tilt angles are available to allow users to choose a configuration based on your preferred typing position. The keyboard is supported by sturdy, adjustable feet to hold it firmly in place while typing.



Adjustable Feet

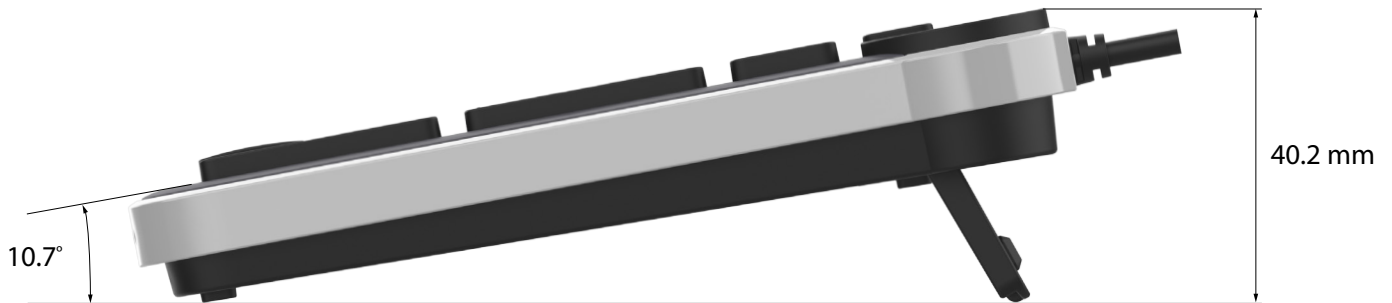
Keyboard default angle:



At the default position with the adjustable feet folded in, the keyboard has a natural typing angle of 1.5°, with a maximum keyboard height of 21.2 mm.



Keyboard tilt angle on adjustable feet:



When the adjustable feet are folded out, the keyboard's typing angle increased to 10.7°, with a maximum keyboard height of 40.2 mm.

Users are encouraged to try both typing angles in order to find a configuration that best suit your typing experience and comfort.

**Note :**

For more information on setting up your TrickleStar Advanced Keyboard for first time use, you may refer to the [Quick Start Guide](#).

There is also a sticker guide at the back of the Advanced Keyboard unit to assist you in configuring the selector switches.

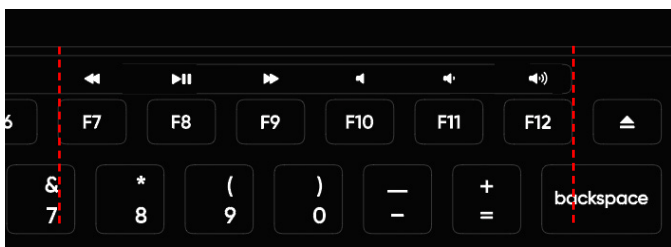
## Applying Sticker Label to the Advanced Keyboard (Mac user only)

When the Advanced Keyboard is connected to Mac computers, the F7 to F12 keys double as multimedia keys.

Included in the box is a sticker label showing the functions of the respective keys. Do take note of the sticker label's correct orientation.

Follow steps below to apply it on the Advanced Keyboard:







1. Peel the sticker label off the release liner following the die-cut edges of the sticker label.
2. Align sticker label above the function keys. The sticker label's length will fit snugly between the left edge of F7 key and the right edge of F12 key.



3. Apply sticker label from left to right, making sure the label is as straight as possible.



The additional functions are described below:

Function Key	Symbol	Description
F7		Rewind multimedia contents
F8		Play/pause multimedia contents
F9		Fast-forward multimedia contents
F10		Mute speaker
F11		Decrease speaker volume
F12		Increase speaker volume



## Technical Specifications

### Advanced Keyboard

Specifications	
Connection Type	USB Wired with Type-C Connector
Cable Length	5.9 ft. (1.8 m)
Rated Voltage	5 V DC
Motion Detection Range	3.93 in. - 49.21 in. (0.10 m - 1.25 m)
Motion Detection Angle	Horizontal: 80° (+ / - 40°) Vertical: 40° (+ / - 20°)
Dimension (W x H x D)	16.9 in. x 4.9 in. x 0.83 in. (430 mm x 124 mm x 21 mm)
Weight	1.3 lb. (590 g)
Warranty	1 year
Certs	FC CE IC

## Troubleshooting

Problem	Solution
<p>If you encounter any of the symptoms below while using the Advanced Keyboard, please perform the steps outlined in Possible Solutions section.</p> <p><b>Symptoms:</b></p> <ul style="list-style-type: none"> <li>• Strange or repeating characters when typing on the keyboard</li> <li>• Characters appear without typing</li> <li>• Keys get stuck</li> <li>• Keyboard responds intermittently or not responding</li> </ul>	<p><b>Possible Causes:</b></p> <ul style="list-style-type: none"> <li>• Potential hardware issue</li> <li>• Operating system / software settings</li> <li>• USB port issue</li> </ul> <p><b>Possible Solutions:</b></p> <ol style="list-style-type: none"> <li>1. Unplug the keyboard's USB connector from your computer.</li> <li>2. Clean the keys with cotton swab or compressed air.</li> <li>3. Plug the keyboard's USB connector directly to the computer and not to a USB hub or extender.</li> <li>4. Try connecting the Advanced Keyboard to a different USB port.</li> <li>5. Try connecting the Advanced Keyboard to a different computer.</li> </ol>
<p>My computer does not enter standby/sleep state after I stepped away from my computer.</p>	<p>The radar sensor shall signal your computer to enter the standby /sleep state only after the countdown timer expired with no movement detected. In case someone walks by or movement is detected before the expiry of the countdown timer, it shall reset and begin a new countdown.</p>
<p>My computer does not enter standby/sleep state after I pressed the power button.</p>	<p>Please ensure that the "Operating System" selector switch is configured correctly. Then, unplug the keyboard's USB connector from your computer and plug in again.</p>
<p>My Windows computer does not wake up from sleep when I pressed the power button / any keys on keyboard.</p>	<p>Windows computers allow users to choose whether the sleep button on the Start menu makes the computer enter sleep mode or hibernate mode. When it is selected as hibernate mode, the keyboard will be unable to wake up the computer.</p> <p>Please ensure the sleep button is configured to enter sleep mode for both battery and plugged in settings in "Power Options" &gt; "Choose what the power button does".</p> <p>Note: the power button on the keyboard acts as a sleep button in the Windows operating system settings.</p>



Problem	Solution
My computer does not wake up from sleep state after pressing any keys on the keyboard.	<p>Depending on the computer manufacturer, there may be a setting in the computer BIOS called the “Wake-on-USB” setting which must be enabled to allow the computer to wake up by USB input.</p> <p>Some manufacturers may even state that the “Wake-on-USB” feature is only functional when AC power adapter is connected, and not functional on battery power.</p>
When my computer is in sleep state, occasionally the keyboard LED indicator will light up for several seconds before turning off, although the computer display is still turned off.	<p>This is normal behavior, where the computer periodically wakes up to check for emails, schedule updates and other network activities during sleep state (known as “Power Nap” in Macs and “Modern Standby” in Windows 10 computers). However, the display remained turned off.</p> <p>During these periods, the keyboard detected the computer waking up to update information, so the LED indicator lights up. Once the computer goes back to sleep state, the LED indicator will also turn off by itself.</p>
When I put the computer to sleep manually via the computer’s physical power button or the System’s menu, the keyboard LED indicator will only turn off several minutes after the display turns off.	<p>This is also normal behavior, where the computer typically instantaneously turn off the display, but will not enter sleep state immediately. Computers typically enter sleep state up to several minutes after the display is turned off.</p> <p>The keyboard LED indicator will only turn off when the computer successfully enters sleep state.</p>
When the computer goes to sleep state and I immediately wake it up (within 10 sec. of the computer entering sleep state) by pressing computer’s physical power button, the keyboard delayed turning on the LED indicator by several minutes.	<p>This is also normal behavior, where the computer immediately turn on the display, but the computer is not fully awoken yet until several minutes after the display is turned on.</p> <p>The keyboard LED indicator will only turn on when the computer is in fully awoken state.</p>



## Cleaning the Keyboard

- Unplug the keyboard from the computer and wait 5 to 10 seconds before starting to clean.
- Dampen a cotton swab or lint-free cloth with small amount of water and avoid any liquid dripping or seeping into the keyboard. Wipe carefully and gently between the keys to remove excess dust.
- Besides that, you may also use compressed air or cold-air from a hair dryer to remove dust between the keys.
- Do not use bleach, acetone, nail polish remover, strong solvents, or abrasives.



## Regulatory Information

Tested to comply with FCC (U.S. Federal Communications Commission) Standards. For home or office use.

Not intended for use in machinery, medical, or industrial applications.

Any changes or modifications not expressly approved by TrickleStar Inc. could void the user's authority to operate this device.

This device is rated as a commercial product for operation at +32°F (0°C) to +113°F (+45°C).

This Class B digital apparatus complies with Part 15 of the U.S. Federal Communications Commission (FCC) rules. Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This device complies with the FCC radiation exposure limits set forth for an uncontrolled environment. Co-location of this module with other transmitters that operate simultaneously are required to be evaluated using the FCC multi-transmitter procedures.

The RF exposure has been calculated with a 20 cm separation distance, i.e. Mobile devices.

Contains FCC ID: 2AQ6KA1001

### **Radio Frequency Technical Specifications**

60 GHz Devices

Non-specific short range device

RF output power: Meets all SRD requirements

Frequency: within the range of 57 GHz to 71 GHz



### **Disposal of Waste Batteries and Electrical and Electronic Equipment**

This symbol on the product or its batteries or its packaging means that this product and any batteries it contains must not be disposed of with your household waste. Instead, it is your responsibility to hand this over to an applicable collection point for the recycling of batteries, as well as electrical and electronic equipment. This separate collection and recycling will help to conserve natural resources and prevent potential negative consequences for human health and the environment due to the possible presence of hazardous substances in batteries as well as electrical and electronic equipment, which could be caused by inappropriate disposal. For more information about where to drop off your batteries as well as electrical and electronic waste, please contact your local city/municipality office, your household waste disposal service, or the shop where you purchased this product.



### **Statement of Compliance with EU Directives**

Hereby, TrickleStar Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of Directives 2014/53/EU.

The point of contact for regulatory matters is TrickleStar Inc., 251 Little Falls Drive, Wilmington, DE 19808, United States.



### **Regulatory Information Canada**

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*



### **Radiation Exposure Statement**

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator & your body.

### **Déclaration d'exposition aux radiations**

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20cm entre le radiateur et votre corps.

IC: 24388-A111



## Warranty

### ONE-YEAR LIMITED PRODUCT WARRANTY

TrickleStar Inc. ("TrickleStar"), of 251 Little Falls Drive, Wilmington, DE 19808 warrants to the purchaser this TrickleStar TS2602 Advanced Keyboard ("Product") will be free from defects in materials and workmanship for a period of one (1) year ("Warranty Period") from the date of purchase, under normal use and service, and provided the Product is installed and used according to manufacturer's instructions.

If the Product fails to conform to this Limited Warranty during the Warranty Period, TrickleStar at its sole discretion, will either:

- (a) repair or replace any defective Product or component. The repair or replacement may be made with a new or refurbished Product or components; or
- (b) accept the return of the Product and refund the money paid by the original purchaser for the Product.

If the Product or a component incorporated within is no longer available, TrickleStar at its sole discretion, may replace the Product with a similar product of similar function. This is your sole and exclusive remedy for breach of this Limited Warranty.

Any Product that has either been repaired or replaced under this Limited Warranty will be covered by the terms of this Limited Warranty for the longer of: (a) ninety (90) days from the date of delivery of the repaired Product or replacement Product; or (b) the remaining Warranty Period.

This Limited Warranty is transferable from the original purchaser to subsequent owners, but the Warranty Period will not be extended in duration or expanded in coverage for any such transfer. A proof-of-purchase is required from the owner for TrickleStar to provide a replacement and/or repaired Product.



## **HOW TO CLAIM UNDER THIS LIMITED WARRANTY**

Before making a claim under this Limited Warranty, the owner of the Product must

- (a) notify TrickleStar of the intention to claim by visiting [TrickleStar.com/support](https://TrickleStar.com/support) during the Warranty Period and providing a description of the alleged failure; and
- (b) comply with TrickleStar's return shipping instructions.

TrickleStar will have no warranty obligations to a returned Product if it determines, in its reasonable discretion after examining of the returned Product, that the Product is an Ineligible Product (defined below). TrickleStar will bear all costs of return shipping to owner and will reimburse any shipping costs incurred by the owner, except to any Ineligible Product, for which the owner will bear all shipping costs.

## **WHAT THIS LIMITED WARRANTY DOES NOT COVER**

This Limited Warranty does not cover the following (collectively "Ineligible Products"):

- (i) Products that have been subject to: (a) modifications, alterations, tampering, or improper maintenance or repairs; (b) handling, storage, installation, testing, or use, not in accordance with the Installation Manual or other instructions provided by TrickleStar; (c) abuse or misuse of the Product; (d) breakdowns, fluctuations, or interruptions in electric power or telecommunications network; or (e) Acts of God, including but not limited to lightning, flood, tornado, earthquake, or hurricane;
- (ii) Any non-TrickleStar branded products, even if packaged or sold with TrickleStar Product.
- (iii) This Limited Warranty does not cover consumable parts, including batteries, unless damage is due to defects in materials or workmanship of the Product, or software (even if packaged or sold with the Product).
- (iv) Installation or dismantling costs.

## **DISCLAIMER OF WARRANTIES**

EXCEPT AS STATED ABOVE IN THIS LIMITED WARRANTY, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, TRICKLESTAR DISCLAIMS ALL EXPRESS, IMPLIED, AND STATUTORY WARRANTIES AND CONDITIONS WITH RESPECT TO THE PRODUCT, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, TRICKLESTAR ALSO LIMITS THE DURATION OF ANY APPLICABLE IMPLIED WARRANTIES OR CONDITIONS TO THE DURATION OF THIS LIMITED WARRANTY.



### **LIMITATION OF DAMAGES**

In addition to the above warranty disclaimers, in no event will TrickleStar be liable for any consequential, incidental, exemplary, or special damages, including any damages for lost data or lost profits, arising from or relating to this limited warranty or the Product. TrickleStar's total cumulative liability arising from or related to this limited warranty or the Product will not exceed the amount paid for the Product by the original purchaser.

### **LIMITATION OF LIABILITY**

The TrickleStar website, TrickleStar Portal, and/or TrickleStar App (iOS and Android) online services ("Services") provide information ("Product Information") on TrickleStar Products or other peripherals connected to your products ("Product Peripherals"). The type of Product Peripherals that may be connected to your product may change from time to time. Without limiting the generality of the disclaimers above, all Product Information is provided for your convenience, "as is", and "as available". TrickleStar does not represent, warrant, or guarantee that Product Information will be available, accurate, or reliable; or that Product Information or use of the Services or Product will provide safety in your premises. You will use all Product Information, Services, and the Product at your own discretion and risk. You will be solely responsible for (and TrickleStar disclaims) any and all losses, liabilities, or damages, including those to your wiring, fixtures, electricity, home, office, product, product peripherals, computer, mobile device, and all other items and pets in your home, resulting from your use of TrickleStar's Product Information, Services, or Product. Product Information provided by the Services is not intended to be a substitute for direct means of obtaining the information. For example, a notification provided through the Services is not intended to substitute the audible and visible indications in the premises and on the Product.

### **JURISDICTION**

This Limited Warranty shall be governed by the laws of the state of Delaware.

### **YOUR RIGHTS AND THIS LIMITED WARRANTY**

This Limited Warranty gives you specific legal rights. You may also have other legal rights that vary by state or jurisdiction. Likewise, some of the limitations in this Limited Warranty may not apply in certain states or jurisdictions. The terms of this Limited Warranty will apply to the extent permitted by applicable law.

### **CHANGES TO THIS POLICY**

TrickleStar may revise this Policy from time to time. The latest version of the policy will govern our use of your information and will always be published on the TrickleStar website ([www.TrickleStar.com](http://www.TrickleStar.com)). By continuing to access or by using the TrickleStar website, TrickleStar Portal and/or TrickleStar App (iOS or Android) after those changes become effective, you agree to be bound by the revised Policy.





#### **HOW TO CONTACT US IF YOU WISH TO DISCUSS THIS POLICY**

If you wish to discuss any aspect of this policy, contact us by email at: [customer.service@tricklestar.com](mailto:customer.service@tricklestar.com).



For technical support, go to:  
Website: [www.tricklestar.com](http://www.tricklestar.com)  
Email: [customer.service@tricklestar.com](mailto:customer.service@tricklestar.com)  
Toll Free: 1-888-700-1098

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