

USER GUIDE



Trimble TSC7 Controller

Model 121300

Version 1.00
Revision A
November 2017

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Release Notice

This is the November 2017 release (Revision A) of the Trimble TSC7 Controller documentation.

Federal Communication Commission

Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This device meets the government's requirements for exposure to radio waves.

This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard for wireless device employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. *Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands.

Industry Canada statement

1. This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- a) this device may not cause interference, and
- b) this device must accept any interference, including interference that may cause undesired operation of the device.

1. 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:

- a) l'appareil ne doit pas produire de brouillage, et

b) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

2. This Class B digital apparatus complies with Canadian ICES-003.

2. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

3. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter, except tested built-in radios.

3. Cet appareil et son antenne ne doivent pas être situés ou fonctionner en conjonction avec une autre antenne ou un autre émetteur, exception faites des radios intégrées qui ont été testées.

4. The County Code Selection feature is disabled for products marketed in the US/ Canada.

4. La fonction de sélection de l'indicatif du pays est désactivée pour les produits commercialisés aux États-Unis et au Canada.

Radiation Exposure Statement:

The product comply with the Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

For devices that SAR tested with distance

This device has been tested for compliance with IC SAR values at a typical operating near the body. To ensure that RF exposure levels below the levels tested, use accessories with this equipment to maintain a minimum separation distance of 0 cm between the body of the user and the device. These accessories should not contain metallic components. It is possible that the accessories used close to the body that do not meet these requirements are not consistent with the SAR limits and it is advisable to avoid using them.

Déclaration d'exposition aux radiations:

Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les États-Unis et le Canada établies pour un environnement non contrôlé.

Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel. La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.

For devices that SAR tested with distance

Ce dispositif a été testé pour la conformité avec les valeurs SAR à un fonctionnement typique près du corps . Pour

assurer que les niveaux d'exposition aux radiofréquences en deçà des niveaux testés , utiliser des accessoires avec cet équipement pour maintenir une distance de séparation minimale de 0 cm entre le corps de l'utilisateur et l'appareil. Ces accessoires ne doivent pas contenir des composants métalliques . Il est possible que les accessoires utilisés près du corps qui ne répondent pas à ces exigences ne sont pas compatibles avec les limites SAR et il est conseillé d'éviter de les utiliser.

Caution :

1) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

2) the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall comply with the e.i.r.p. limit; and

3) the maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.

4) Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Avertissement:

1) les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

2) le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5250-5350 MHz et 5470-5725 MHz doit se conformer à la limite de p.i.r.e.;

3) le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5725-5825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

4) De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

電信管制射頻器材警語

[警語內容]

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

在 5.25-5.35 兆赫頻帶內操作之無線資訊傳輸設備，限於室內使用。

「減少電磁波影響，請妥適使用」。

使用過度恐傷害視力。

使用 30 分鐘請休息 10 分鐘。

未滿 2 歲幼兒不看螢幕，2 歲以上每天看螢幕不要超過 1 小時。

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Safety information


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- ▶ Power supply safety
- ▶ Touch screen glass
- ▶ Service safety
- ▶ Safe environments of use
- ▶ Distraction
- ▶ Telecommunications & Internet Association (TIA)
- ▶ SAR
- ▶ Caring for your device


Read this guide for important safety and health information and the terms of the Limited Warranty that apply to the Trimble® TSC7 Controller that you have purchased. Keep all printed guides for future reference. Failure to follow instructions and properly set up, use, and care for this product can increase the risk of serious injury or death, or damage the device or devices.

Battery safety


Lithium-Ion batteries are classified by the U. S. Federal Government as non-hazardous waste and are safe for disposal in the normal municipal waste stream. These batteries contain recyclable materials and are accepted for recycling. Dispose of used batteries in accordance with local regulations.

 **WARNING** – Non-approved batteries will not function in the device. Use only the battery for the system for which it was specified. Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.

 **WARNING** – There are no user-serviceable parts in the battery pack. Do not disassemble or open, crush, bend or deform, puncture, or shred the battery. Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard. Do not expose to temperatures above +158 °F (+70 °C).


-  **WARNING** – Improper battery use may result in a fire, explosion, or other hazard.
- Do not short circuit a battery or allow metallic or conductive objects to contact the battery terminals.
 - Avoid dropping the device or battery. If dropped, especially on a hard surface, and the user suspects damage to the battery, take it to a service center for inspection.
 - In the event of a battery leak, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with large amounts of water and seek medical advice.
 - Battery usage by children should be supervised.
-

Power supply safety


 **WARNING** – Use only AC and vehicle adapters intended for the device. Other external power sources may damage your product and void the warranty.

- Ensure the input voltage on the adapter matches the voltage in your location. Ensure the adapter has prongs compatible with your outlets.
 - The AC power supply is designed for indoor use only. Avoid using the AC power supply in wet areas.
 - Unplug the power supply from power when not in use.
 - Do not short the output connector.
-


Touch screen glass

 **CAUTION** – The touch screen on this device is made of glass. This glass could break if the device is dropped on a hard surface or receives a significant impact. If the glass chips or cracks, do not touch or attempt to remove the broken glass. Cracked or chipped glass due to misuse or abuse is not covered under the product's limited warranty.


Service safety

 **WARNING** – Do not attempt to take apart, open, service, or modify the product, accessories, or power supply. Doing so could present the risk of electric shock or other hazard. Any evidence of any attempt to open and/or modify this device, including any peeling, puncturing, or removal of any of the labels, will void the Limited Warranty.

Safe environments of use

 **WARNING** – Areas with potentially explosive atmospheres are often, but not always, posted and can include fueling areas, such as below decks on boats, fuel or chemical transfer or storage facilities, or areas where the air contains chemicals or particles, such as grain dust, or metal powders. When you are in such an area, turn off your mobile device, and do not remove or install battery chargers, AC adapters, or any other accessory. In such areas, sparks can occur and cause an explosion or fire.

Distraction

 **WARNING** – Using the device in some circumstances can distract you and may cause a dangerous situation. Observe rules that prohibit or restrict the use of mobile devices (for example, avoid operating the device while driving a vehicle).

Telecommunications & Internet Association (TIA)

Hearing Aids: Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider, or call the customer service line to discuss alternatives.

Pacemakers and Other Medical Devices: The Health Industry Manufacturers Association recommends a minimum separation of six inches be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research. Persons with pacemakers should use the ear opposite the pacemaker to minimize the potential for interference. If you have any reason to suspect that interference is taking place, turn the phone OFF immediately.

If you use any other personal medical device, consult the manufacturer of your device to determine if they are adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

Turn the phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Caring for your device

Cleaning

Turn off the device, and disconnect it from external power. Use a soft, dampened cloth with either water or a diluted mild detergent. If a mild detergent is used, ensure all soap residue is removed. Do not use chemical cleaners.

Touchscreen care

The TSC7 Controller is extremely rugged, and is designed to withstand extreme conditions and harsh treatment, however taking proper care of the touchscreen will prolong the life and ensure optimal display performance of the touchscreen of this product. Excessive or prolonged exposure to abrasives, oil, dust, chemicals, and ultraviolet light can affect the performance of your touchscreen over time.

To help protect the screen:

- Clean it frequently. Use a soft, lint-free cloth to wipe the screen. You can dampen the cloth with water or an eyeglass cleaner. If the display is very dirty, it can be washed off under a gently running tap.



WARNING – Make sure that all ports and doors are fully closed, and that the device is not connected to an external power supply. Do not use chemical or abrasive cleaners.

- Keep it covered when not in use. Store the TSC7 Controller in a carry case or pouch while you are in transit or not using it.
- Keep it out of the sun when not in use. Do not store the TSC7 Controller in direct sunlight for a long time unnecessarily. Ultraviolet light and excessive heat from sun-loading heat can damage the display.
- Use proper touchscreen tools. Use either fingers or the TSC7 Controller's stylus pen, or other devices specifically designed for use with capacitive touchscreens to operate the touchscreen of this device. The use of ballpoint pens, metal tools or other sharp

objects to operate the touchscreen may scratch and/or damage the surface of the touchscreen.

- Avoid drops, tumbles, and abrasives. The TSC7 Controller is designed to resist damage for drops up to 122 cm (4 feet). However, you should protect the display from impact, pressure, and abrasive substances that can scratch it or crack it. The device should not be dropped unnecessarily. Use the screen protectors to keep the touchscreen clean and protected, following the instructions provided on the screen protector packaging.

Battery care

Use and storage temperature: Lithium-ion batteries are sensitive to high temperatures, so keep the device's batteries out of direct sun for long periods, and do not leave batteries in a hot car, especially on a dashboard in full sun or other environments where temperatures can exceed +70 °C. Battery life can be shortened if stored or operated outside of these temperature ranges. Recommended storage temperature is at room temperature (~20°C). When you are using the device or charging the battery pack, it is normal for the device and battery pack to get warm.

If the interior temperature of the device exceeds normal operating temperatures (for example, in a hot car or in direct sunlight for extended periods of time), you may experience the following as it attempts to regulate its temperature automatically:

- The device stops charging.
- If the device cannot regulate its internal temperature, it may go into a Sleep state until it cools (see [Sleep and Hibernate states, page 1](#)).

Move the device to a cooler location out of direct sunlight and wait a few minutes before trying to use the device again.

Charging: Recharge the battery any time; the battery pack does not need to be empty or low before you recharge it. However, it is best to let the battery run to below 10 percent at least once a month before you recharge it. Battery pack recharging is supported at temperatures between 0 °C and +40 °C. Use only the manufacturer designated charging accessories to recharge the batteries.

Other environmental conditions: Battery packs are sealed from water and dust, and are tested for protection from drops from heights up to 1.22m. However to prolong the life of the battery pack, dry it off with a cloth if it becomes wet, do not intentionally submerge the battery, and take care to avoid unnecessary drops, mechanical shocks, and vibrations.

The TSC7 Controller is designed to work in ambient temperatures between -20° and 60° C and to be stored in temperatures between -30° and 70° C. Avoid exposing the device to dramatic changes in temperature or humidity.

Product specifications

Operating System	Microsoft Windows 10 Pro
Processor	Intel® Apollo Lake CPU
Graphics	Intel HD Graphics
RAM	8 GB
User storage	64 GB
Display	7" 1280x800 pixels Up to 650 nits
Battery & Power	11,350 mA / 3.7 V (42 Whr) Charge time: < 4 hours
I/O module connectors	2x USB Host 1x USB Host 1x microUSB client DC power input Office docking connector
Audio	Speaker Microphone 3.5mm mini-jack headset connector
Bluetooth	M.2 module, Bluetooth 4.1 10 meter effective range Supports all default Windows 10 Bluetooth profiles
Wi-Fi	Wi-Fi 802.11 ac/n support


	2.4GHz/5GHz ISM radio band
Mobile broadband	Sierra Wireless LTE + 3G module 2x variants: <ul style="list-style-type: none"> • US • ROW
GNSS	Ublox NEO-M8T chipset GPS, GLONASS, QZSS, SBAS Supports raw-data output for postprocessing
Camera	Front: 2MP Rear: 8MP, LED Flash
Sensors	3-axis accelerometer Magnetic sensor Gyroscope Vibration motor Ambient light sensor
Environmental	IEC: Independently tested and certified for: <ul style="list-style-type: none"> • Water and Dust Ingress Protection: IP65 & IP68 (IEC standard 60529) MIL-STD-810G. Independently tested and certified for: <ul style="list-style-type: none"> • Operating temperature: -30 °C to +60 °C • Storage temperature: -40 °C to +70 °C • Humid environment storage and operation: 0%-95% non-condensing conditions • High altitude storage (40,000 ft) and operation (to 30,000 ft) • Drop protection: 4 ft / 1.22 m • Resistance to mechanical shock: ... • Resistance heavy machine vibration: ...
Regional Compliance	

Introduction

- ▶ Registration
- ▶ Configuration options
- ▶ In the box
- ▶ Replacement and optional accessories
- ▶ Parts of the TSC7 Controller

This user guide describes how to configure and use the Trimble TSC7 Controller powered by the Microsoft® Windows® 10 Pro operating system. The information in this guide supplements the information in the Quick Start Guide, which you receive in the box with the device.

Even if you have used other Trimble® handheld or tablet field computers before, it is recommended that you spend some time reading this guide to learn about the special features of the product.

 **WARNING** – Before you use this product, make sure that you have read and understood all safety requirements. Failure to follow these safety instructions could result in fire, electric shock, or other injury, or damage to the tablet computer and/or other property. For more information refer to [Safety information, page 8](#) of this guide.

Registration

To receive information regarding updates and new products, contact your local dealer or visit the Trimble customer registration website at www.trimble.com/register. When you have registered, you can select the newsletter, upgrade, or new product information.

To register your device, you will need the serial number. The serial number is a unique number of your TSC7 Controller and is located on a label inside the battery cavity.

IMAGE

Configuration options

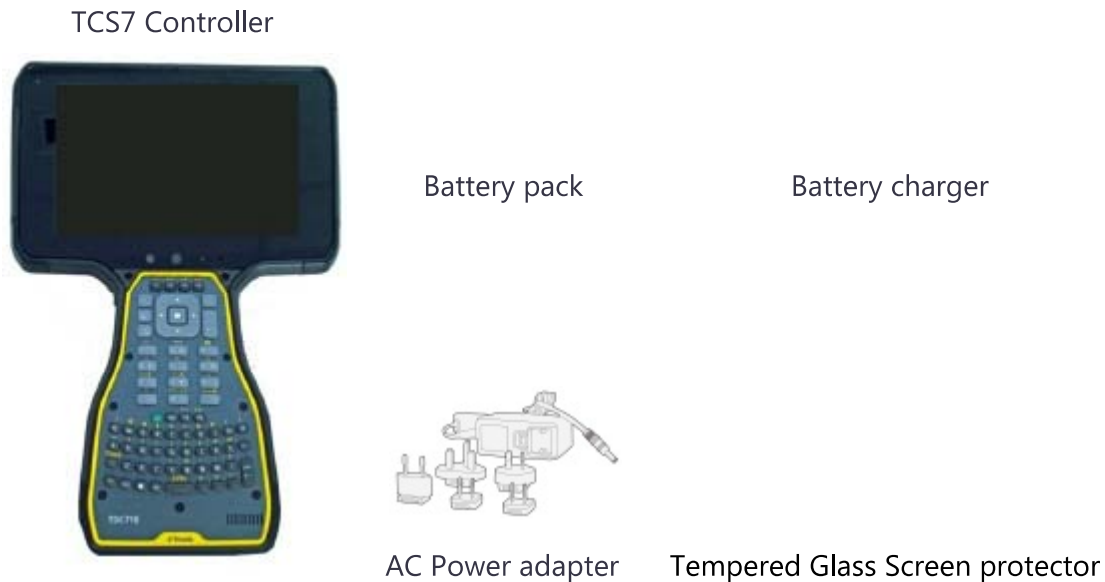
The TSC7 Controller is powered by the Windows 10 Pro operating system, and is available in the following main configurations:

- ABCD or QWERTY keypad
- North America or worldwide WWAN

For a full list of product features and their specifications, refer to the [Product specifications, page 13](#).

In the box

A standard pack-out has the following items:



Replacement and spare or optional accessories

A wide range of replacement and optional accessories are available to purchase for the TSC7 Controller, including:

- AC Power Adapter (International)
- DC Vehicle Charger (12-24V)
- Heavy Duty DC Vehicle Charger (9-32V)
- Office Docking Station
- USB to USB Data Sync Cable for Windows
- Tempered Glass Screen Protector (1-pack)
- Spare Battery Pack (Standard or Extended)
- Battery Pack Charger
- Quick Release Mounting Plate
- Quick Release Pole Mount
- Quick Release Vehicle Soft Mount
- Quick Release Vehicle Hard Mount
- Double Suction-cup Hard Mount Base Adapter

- Hand Strap
- Fabric Carry Case
- Capacitive Stylus and Tether
- Docking I/O Module
- Serial I/O Module

Parts of the TSC7 Controller



1 Status LED

2 Microphone

3 Camera flash

4 Camera

5 Light sensor

6 Speaker

7 Handstrap mount points

8 Stylus

9 Stylus tether mount points

10 Door to SIM and SD cards

11 Camera with flash

12 Upper pole mount lock

13 Lower pole mount lock

14 Battery latch

15 Battery bays

16 Drainage for stylus cavity

17 I/O block

Basic setup and operation

- ▶ [Installing and removing the battery packs](#)
- ▶ [Installing an SD card](#)
- ▶ [Installing a SIM card](#)
- ▶ [Tethering the stylus](#)
- ▶ [Installing a screen protector](#)
- ▶ [Charging and power modes](#)
- ▶ [Using the touchscreen](#)
- ▶ [Display settings: adjusting the backlight](#)

This section tells you how to get started using your TSC7 Controller and explains some basic operating system features.

When you start your TSC7 Controller for the first time, the Microsoft Windows operating system will take you through some basic set-up steps; follow the instructions on the screen.

For more details on setting up and using the Windows 10 operating system see [Get Started with Windows 10](#) on the Microsoft Windows support website.

Installing and removing the battery packs

The battery packs in the TSC7 Controller can be charged inside the device, or using the Battery charger accessory.

The battery packs in the TSC7 Controller are also hot swappable; you can remove one battery pack while the TSC7 Controller is still running on the second battery pack, and replace it with a freshly charged battery pack without shutting down or needing to restart the device.

Installing the battery pack

1. Turn the battery latch to give way for one battery.

NOTE – The battery latch can be turned a full 360° to prevent unintended false locks.

2. Insert one battery.
3. Turn the battery latch 180°.
4. Insert a second battery.
5. Turn the battery latch 90° to lock both batteries in place.

Removing / hot-swapping the battery pack

If you remove both batteries at the same time the device will instantly turn off due to power loss. Make sure you keep one battery in the device. If you have the device turned off you can remove both batteries at the same time.

1. Turn the battery latch 90°.
2. Remove one battery.
3. Replace this battery.
4. Turn the battery latch by 180°.
5. Remove the second battery.
6. Replace the second battery.
7. Turn the battery latch 90° to lock both batteries in place.


The device consumes electricity even when it is off. Depending on how your system is configured, if the battery pack is fully charged the battery will fully discharge in approximately the following period of time:


Power state	Discharge period
When power is off	Approximately X days.
In Sleep state	Approximately X days.
In Hibernation state	Approximately X days.

Installing an SD card

The device includes 64 GB of onboard storage. To expand the storage, use a microSD card. SD cards up to 256 GB are supported.


To install an SD card:


1. If the device is on, turn it off; tap  / Power / Shut down.
2. Remove the battery pack (see [Installing and removing the battery packs, page 20](#)).
3. Remove the SD/SIM bay splash cover.
4. Slide the microSD card door to the OPEN position.
5. Flip the microSD card door open.
6. Slide a microSD card into the SD card door in the orientation shown
7. Flip the door down to close it.
8. Slide the microSD card door into the LOCK position.
9. Replace the SD/SIM card splash cover, and reinsert the battery pack [Installing and removing the battery packs, page 20](#).

 **CAUTION** – The SD card door can be damaged if handled carelessly. Take care not to twist or warp the door when opening or closing the hinge, or unlocking or locking the latch.

Installing a SIM card

If your device is equipped with a 4G LTE modem, you will need a SIM card and a data plan from your local cellular service provider to use this feature. If you are unsure, check with your mobile operator.

 **CAUTION** – The SIM card door can be damaged if handled carelessly. Take care not to twist or warp the door when opening or closing the hinge, or unlocking or locking the latch.

1. If the device is on, turn it off; tap  / Power / Shut down.
2. Remove the battery pack (see [Installing and removing the battery packs, page 20](#)).
3. Remove the SD/SIM bay splash cover.
4. Slide the SIM card door to the OPEN position.
5. Flip the SIM card door open.
6. Place your SIM card into the bay in the orientation shown.
7. Flip the door down to close it.
8. Slide the SIM card door into the LOCK position.
9. Replace the SD/SIM card splash cover, and reinsert the battery pack (see [Installing and removing the battery packs, page 20](#)).

Tethering the stylus

Attach the stylus to the device to prevent accidentally dropping the stylus. The stylus is supplied with one end of the tether cord pre-looped to the stylus. You can attach the stylus to the left or the right side of the device. To tether the stylus to the device:

1. Take the loose end of the tether cord and push it through the tether point.
2. Feed the stylus through the loop and pull tight. If the hand strap accessory is fitted, slide the stylus through the stylus loop on the hand strap.
3. Place the stylus in the stylus dock to store it when not in use.

Installing a screen protector

The TSC7 Controller is fitted with a chemically strengthened Gorilla Glass touchscreen which is highly resistant to abrasion and impact damage. However to ensure maximum protection, it is recommended that you use a Trimble-approved toughened glass TSC7 Controller screen protector.

To install a screen protector:

1. Place the device on a clean, flat surface.
2. Clean the touchscreen with a damp cloth, alcohol wipe or similar.
3. Polish and dry the screen to remove any dust with the lint-free cleaning cloth supplied with the screen protector.
4. Remove the protective film from the screen protector.
5. Align the screen protector with the glass portion of the display. Use the edge of the keypad as a guide. The screen protector should line up evenly with the edge of the keypad and the edges of the device.
6. Carefully lay the screen protector down on the screen. If you make a mistake and the glass looks off-center, you can gently lift the screen protector up and realign it. Then, once the protector is on the screen, give it a soft press in the center and allow the adhesive surface to grip to the screen naturally.
TIP – You can place the screen protector in place and fix it on the upper side with adhesive strips to the housing. This will keep the screen protector aligned when sticking in on.
7. If there are any bubbles remaining, use the cloth provided to gently smooth them toward the edges of the screen protector.

For more information on where to purchase the correct screen protector for your device, contact your local Trimble reseller.

Charging and power modes




It takes up to 4.5 hours to charge the TSC7 Controller battery from an empty state. It may take longer if you are using your device for power-intensive activities, for example using GNSS or processing a lot of data while you are charging it.

Charging the battery

1. Connect the appropriate international plug adapter for your region to the AC adapter.
2. Connect the power cord to the charging port on the device.
3. Plug the power supply into an electrical outlet.

LED charging status

The charging status is shown with an LED on the front of the display.

-  Red: charging error
-  Orange: TSC7 Controller is charging.
-  Green: TSC7 Controller is fully charged.



Turning the device on

To turn on the device, press and hold the Power key until the [Trimble] logo appears.

NOTE – Do not press the power key repeatedly; do not hold the power key for four seconds or longer.

Sleep and Hibernate states

If you do not use your device for a few minutes, the screen turns off and the device goes into a power-saving Sleep state. The Sleep state enables your device to resume quickly when you want to start working again.

If you do not use your device for several hours, it will go in to Hibernate state. The Hibernate state saves your work and turns off the device. When you start up the device again, you are back where you left off.

Wake and unlock

To wake your device from Sleep or Hibernate state, press any key. After waking your device, to unlock it:

1. Swipe up from the bottom edge of the screen or press a key.
2. At the sign-in screen, enter your password or PIN.

Restart the device

To restart your device, tap Start  Power / Restart.

Turning off the device

To turn off the device, tap Start  Power / Shut down.

For information on customizing power management features, see [Power options, page 26](#).

Checking the battery level

You can check the battery level:

- on the Lock screen. When you wake the device, the battery status appears in the lower-right corner of the Lock screen.



- on the Desktop taskbar. The battery status appears on the right side of the taskbar. Tap the battery icon for information about the charging and battery status, including the charge percent remaining.



- on the battery pack. Press and hold the button on the battery pack to check the

battery charge level.



Battery pack charge level indicator

Battery Charge Level

Empty

Not enough charge to start device (<5%)

<25% charged

25% to 50% charged

50% to 75% charged

75% to 100% charged

Power options

The Windows 10 Pro operating system comes with pre-defined power options (Balanced, Power Saver, and High Performance). To access Power Options:

1. On the Desktop, tap the Battery icon in the Notifications bar at the bottom right of the screen, then tap Power & sleep settings.
2. Make sure Power & sleep is selected in the list on the left, then under Related settings, tap Additional power settings.

By default, the tablet computer is in Balanced mode.

Making your battery last longer

Following are some practical suggestions that you can do to maximize the operating time of the battery:

- Enable Power Management, and choose a power plan that saves power. A power plan is a collection of hardware and system settings that control how the device manages power.
- Decrease the display brightness to the lowest comfortable level.
- Shorten the length of time before the operating system turns off the display.
- If you use a USB flash drive, unplug it when you are not using it. Many USB devices use power just by being connected.




- Turn off the wireless radios when you are not using them. See [Connecting to and using wireless networks, page 31](#).
- Turn off the tablet computer when you are not using it.





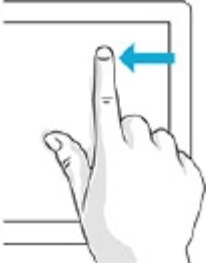
For more information on making your battery charge last longer, refer to the help topic on *Battery Saving tips on the Windows 10* support site on www.microsoft.com.

Using the touchscreen

Your TSC7 Controller can be easily operated with the touchscreen (using your fingers or a stylus), a mouse, and the keypad. You can easily switch between any of these input methods.

The table below describes the main touchscreen input gestures and functions supported on this device.

<p>Tap</p> 	<p>Tap once on something.</p>	<p>Opens/executes the action of what you tap on. To enter text, tap where you want to type; the onscreen keyboard displays.</p>
<p>Press and hold</p> 	<p>Press and hold your finger or the stylus down for a few seconds.</p>	<p>Shows a menu with options related to what you're doing (like right-clicking with a mouse). On the pop-up menu that appears, tap the action you want to perform.</p>
<p>Double-tap</p> 	<p>Double-tap on something.</p>	<p>Tap quickly twice on a webpage, map, or other screen to zoom.</p>
<p>Slide / swipe</p>	<p>Slide / swipe</p>	<p>Scrolls through what's on the screen. Quickly move</p>

	<p>your finger or the stylus across the screen.</p>	<p>your finger across the surface of the screen, without pausing when you first touch it, to scroll a page or a list up or down. Scrolls vertically or horizontally.</p>
<p>Drag</p> 	<p>Drag your finger or the stylus across the screen.</p>	<p>Hold your finger or the stylus on an item for a moment and then, without lifting your finger/the stylus, move across the screen until you reach the target position.</p> <ul style="list-style-type: none"> • Drag in a list to select multiple items. • Drag items on the screen to reposition them.
<p>Pinch or stretch</p> 	<p>Pinch your thumb and forefinger together or move them apart.</p>	<p>Zooms in or out of a website, map, or picture.</p>
<p>Rotate</p> 	<p>Put two or more fingers on an item and then turn your hand</p>	
<p>Swipe from edge</p> 	<p>Swipe in from an edge of the screen.</p>	<ul style="list-style-type: none"> • Left edge swipe. Displays the Task View, the universal task-switching interface. • Right edge swipe. Displays the Action Center. • Top edge swipe. Displays the hidden title bar of the currently-running app. <p>You can also “long-swipe” to close the app.</p>

-
- Bottom edge swipe. Displays the taskbar when the currently-running app is displayed full screen.
-

Using the onscreen keypad

You can type on the device using the touchscreen keypad. To access the onscreen keypad, tap in a text field, or tap the keypad icon in the taskbar. To hide the keypad, tap anywhere out of the text field, or tap the keypad icon again.

Using the stylus

Take notes, draw, navigate, and mark up documents in your apps using the stylus that comes with your device.

To make a selection, tap the screen once on the item you want to select.

To display a right-click menu, tap and hold an item on the screen, then tap the required menu item.



Using a USB or Bluetooth mouse and keyboard

You can attach a physical keyboard, mouse and other peripherals to your device via USB or Bluetooth wireless technology. For more information see [Connecting to accessories and other devices](#), page 34.


Display settings: adjusting the backlight

The TSC7 Controller is equipped with a high brightness outdoor readable display. You can easily increase the brightness of the display to increase the readability of the device in bright sunlight conditions, or turn down the brightness to help conserve battery power when working indoors or in dull conditions. You can also have the device automatically adjust the backlight power depending on the ambient light conditions.


To quickly adjust the backlight setting:

1. Swipe in from the right edge of the screen or tap Action center  on the taskbar to open the Action center.
2. Tap the brightness icon  to adjust the display brightness setting. The backlight cycles between 0%, 25%, 50%, and 100% power. Tap until you reach the backlight level that best suits your conditions.

To manually adjust the backlight setting:


1. Tap  / Settings / System / Display.
2. Use the brightness level slider to fine tune the display brightness level.

To set the backlight to adjust automatically:

1. Tap  / Settings / System / Display.
2. Turn the automatic adjustment on or off using the toggle switch.

Display settings: rotation lock

The TSC7 Controller is equipped with orientation sensors that can detect if your device is in portrait or landscape orientation. The operating system can automatically adjust the display to match your device orientation, or you can lock the orientation.

To adjust the automatic display orientation feature, swipe in from the right edge of the screen or tap Action center  on the taskbar to open the Action center, then select

rotation lock  to turn rotation lock on or off.

Connecting to and using wireless networks

- ▶ [Working with Wi-Fi networks](#)
- ▶ [Working with mobile broadband](#)
- ▶ [Airplane mode](#)


If your TSC7 Controller model supports wireless connectivity, you can connect to wireless networks using the built-in Wi-Fi radio (also sometimes called Wireless LAN, WLAN, or 802.11). Some TSC7 Controller models also come with built-in mobile broadband data (also called Wireless WAN, WWAN, or cellular data) capability. This section describes how to get online with your TSC7 Controller using these wireless networking capabilities.


Working with Wi-Fi networks

Using Wi-Fi you can connect to a wireless network and browse the Internet, download apps, send email messages, access online services, or access other computers and devices on your network.


Before you can send and receive data over Wi-Fi, you need to turn on Wi-Fi on your TSC7 Controller and connect to a wireless network.

Connecting to Wi-Fi

1. Tap the Wireless network icon  in the bottom-right corner of the screen.
A list of available wireless networks appears.
2. Select the Wi-Fi network you want to connect to.
3. Tap Connect. If prompted, enter your network security key (network password), and tap Next.

4. If prompted, choose whether you want to share with other computers and devices on the network. Select No if you are connecting to a network in a public place like a café.
5. To check your connection, tap  and select All Apps / Internet Explorer. Some wireless networks may require you to enter a password in a browser window.


Disconnecting from a Wi-Fi network

1. Tap the Wireless network icon  in the bottom-right corner of the screen.
2. Select the network that has a Connected status.
3. Tap Disconnect.

Forgetting a Wi-Fi network

If you do not want your device to automatically connect to a saved Wi-Fi network, you can forget that network.

To forget a wireless network so it no longer appears in your list of networks:


1. Tap  / Settings.
2. Select Network and Internet / Wi-Fi / Manage Wi-Fi settings.
3. In the list of networks that appears under Choose a network to forget, select the network you want to remove, and tap Forget.

Working with mobile broadband

If you have a TSC7 Controller model with mobile broadband, you can also connect to a mobile broadband network.

Before you can send and receive data over mobile broadband, you need to turn on Cellular data on your TSC7 Controller and configure the connection.

Connecting to mobile broadband

1. Tap  / Settings / Network and Internet / Cellular.
2. Under Cellular, select the name of your operator—for example, AT&T.
3. If you want to connect to this network every time it's in range, select Connect automatically.
4. Windows will switch automatically between Wi-Fi and mobile broadband as needed. You might incur extra charges if you allow roaming.
5. Tap Connect.

For more information, refer to the help topic on *Cellular settings in Windows 10* on the Windows 10 support site www.support.microsoft.com.

Locating the device's IMEI number

The IMEI number is a unique 15-digit number that identifies the cellular module installed on your device. Your mobile broadband operator may need to know the IMEI number of your device in order to register the device with the network and activate your mobile broadband data plan.

If your TSC7 Controller is mobile broadband enabled, the IMEI number will be printed on the serial number label under the battery.

Alternatively, to check the IMEI number in the operating system:

1. Tap Settings / Network and Internet / Cellular.
2. Select the Cellular module icon, then select Advanced options.



The cellular module properties (including the IMEI) are displayed in the Properties section.

3. To copy the IMEI number to the clipboard, select Copy, then paste the text into your desired application (for example, Notepad, or the Email client) using the Paste command or the Ctrl+V keypad shortcut.

If you cannot find the IMEI number for your device, contact your reseller.

Airplane mode

If you are travelling on an airplane, or don't need to use wireless functions on the TSC7 Controller for a while, use Airplane mode to turn on or off all wireless radios with transmitting features built into the TSC7 Controller, including Bluetooth, Wi-Fi, Cellular LTE, or GNSS, as well as any wireless radios connected to the TSC7 Controller.

To turn Airplane mode on or off, tap the Action center icon  on the taskbar, then select Airplane mode . If the icon is dimmed, Airplane mode is off.

Connecting to accessories and other devices

- ▶ [Connecting to USB accessories](#)
- ▶ [Connecting to Bluetooth accessories](#)
- ▶ [Connecting to RS-232 peripherals](#)
- ▶ [Transferring data between your TSC7 Controller and another computer](#)

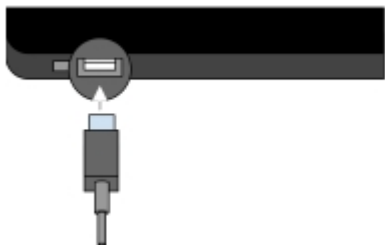
You can connect monitors, accessories, and other devices directly to your TSC7 Controller using USB or Bluetooth and RS-232. Some custom accessories can connect to the device through the proprietary docking connector.

Connecting to USB accessories

The TSC7 Controller has two USB ports for connecting USB devices, such as a flash drive, scanner, printer, keyboard, and mouse. The TSC7 Controller has built-in support for mass storage devices and human interface devices.

Other types of USB devices may require drivers.

To connect a USB device, plug the device cable into one of the two USB A-type ports on the bottom of the TSC7 Controller.



Connecting to Bluetooth accessories


The TSC7 Controller has embedded Bluetooth wireless technology—a short-range wireless communication technology that allows wireless data transfer and communication between devices over a distance of up to 10 meters (30 feet).

At the top of your screen, a Bluetooth icon shows when Bluetooth is turned on.

TIP – To save battery, turn off Bluetooth when you are not using it. Bluetooth is off when the device is in Airplane mode.

Before you can transfer data or communicate between your TSC7 Controller and another Bluetooth enabled device, you must pair the TSC7 Controller and the device.

To pair and connect a Bluetooth device with your TSC7 Controller:

1. Turn on the Bluetooth device and make it discoverable. To learn how to do this, check the documentation for your Bluetooth device or go to the manufacturer's website.
2. Tap  / Settings / Devices / Bluetooth.
3. Under Manage Bluetooth devices, make sure the slider is set to On, and wait while the TSC7 Controller searches for Bluetooth devices.
4. In the list of Bluetooth devices, select the device you want to pair with your TSC7 Controller, then tap Pair.
5. Follow the on-screen instructions to finish pairing your device.
6. If the other device requires a passcode (sometimes called a pairing code), you'll be prompted for it. If you don't know the passcode, check the information that came with your device or the manufacturer's website.

Connecting to RS-232 peripherals

If your TSC7 Controller is fitted with the RS-232 version of the I/O module, you can directly attach RS-232 peripheral devices with a null modem cable.

To connect an RS-232 device, plug the device cable into the port. Refer to the documentation for the RS-232 device for instructions on setting up and using the device.

Transferring data between your TSC7 Controller and another computer

Your TSC7 Controller is powered by the Windows 10 Pro operating system, and can not connect directly to an office computer powered by a Windows operating system as a 'client' in the same way as a device with a mobile operating system can. You may still want to

transfer data from your TSC7 Controller to another PC; there are a number of ways you can do this, including:

- USB memory stick; see [Connecting to USB accessories, page 34](#).
- Wireless LAN;; see [Working with Wi-Fi networks, page 31](#).
- Ethernet; see [Using the office cradle, page 1](#).
- Cloud storage services, such as [Microsoft OneDrive](#), [Google Drive](#), or [Dropbox](#)
- Third party solutions, such as an off the shelf USB to USB data transfer cable .

Transferring data using a microUSB cable

You can transfer data to either a computer powered by the Windows operating system or to a Mac computer using a microUSB data cable.

Transferring data to a Windows computer

1. Unlock your device's screen.
2. Use a microUSB data transfer cable to connect your TSC7 Controller to your computer.
3. Swipe down from the top of your device's screen to see your notifications.
4. Tap the USB for... notification. Then tap Transfer files (MTP).
5. A File Transfer window opens on your computer. Use it to drag and drop files, just like with other external devices and storage.
6. When you have transferred all the required items, eject your device from the Windows computer.
7. Unplug the USB cable.

Transferring data to a Mac computer

To transfer files, you must ...

Using the camera

- ▶ Taking photos and videos
- ▶ Changing camera settings
- ▶ Enable the Camera app to access your location to geo-tag photos
- ▶ Viewing photos and videos


The TSC7 Controller is fitted with two cameras; a 2MP camera on the front of the device, and an 8MP camera with LED flash on the rear. Both cameras are accessible by the camera application.

NOTE – The device may be shipped with a protective film covering the rear camera and flash windows. Remove the film with a fingernail or the plastic stylus tip before first use to ensure proper focus and exposure of your photos and videos.

Taking photos and videos

By default, the built-in Camera app is ready to take photos, but you can switch easily between photo and video mode. Before you use the camera, make sure you have removed the protective film on the camera and flash window:



To take a photo or record a video:

1. Tap / Camera.
2. Tap the on-screen Camera or Video button to activate the camera you want to use, then tap the button again to take a picture or start recording video.

The camera shutter is activated by tapping the camera shutter icon on the touch panel, or if you prefer by pressing OK on the keypad.

[insert screen of camera application]

Changing camera settings

1. Tap  / All Apps / Camera to launch the Camera app.
2. To access the camera settings, tap  in the top right corner of the screen, then tap Settings.
3. To hide the Camera settings, tap elsewhere on the screen.

Enable the Camera app to access your location to geo-tag photos

1. In the Camera app settings, under Related settings, tap Choose whether camera can use location info.
2. Tap Yes to confirm you want to switch apps.
3. In the PRIVACY screen, make sure Location is selected, then slide the Location switch to On.
4. Close the Settings app to return to the Camera app.

Viewing photos and videos

By default, your photos and videos are saved to the Camera roll on the TSC7 Controller. There are several ways to look through your photos and videos:

- Camera app: Select Photos in the upper-left corner to open the Photos app and view the most recent picture or video taken. Swipe right to see others in your collection.
- Photos app: Select View collection in the upper-left corner to see other photos and videos in your collection.
- File Explorer or OneDrive app: Go to your Pictures library and open your Camera roll.

Using the pre-installed apps

- ▶ Trimble GNSS Status
- ▶ Bundled Microsoft apps
- ▶ Getting more apps

The TSC7 Controller comes with a range of useful pre-installed software. This chapter describes the most important pre-installed apps you should know about, and summarizes what they can be used for.

Bundled Microsoft apps

Here are some of the useful productivity applications that come bundled with your TSC7 Controller powered by the Windows 10 Pro operating system.



OneNote

You can use the OneNote app on your device to take notes and store them in the cloud. For more info, see www.onenote.com.

Mail

Mail automatically organizes your inbox. You can add multiple accounts and access them through this single point.

Calendar

Use Calendar to manage your schedule.

People

The People app brings all your contacts together in a single space. See each contact's email address, phone number, website, and other information at a glance.

Microsoft Edge

Microsoft Edge gives you fast and fluid access to the Internet. Open pages in

Reading View, save them to your reading list, or take notes right on the page using inking. Check out [Get to know Microsoft Edge on Windows.com](#) for details.

Camera

The Camera app lets you take regular photos, photo bursts, or video using either the front or back camera on the device.

Photos

Edit and organize your photos using the Photos app. Crop, enhance, and add effects to your images.

News

News brings you the latest breaking stories as well as more in-depth coverage. You can customize the coverage to add more local information or highlight the topics you choose.

Weather

The Weather app offers hourly, daily, and 10-day forecasts as well as historical information and annual weather trends.

Getting more apps

You can install more apps and programs from the Windows Store, websites, or a CD or DVD. To learn more see [How to install programs on Windows 10](#) on <https://support.microsoft.com>.

To find applications for your TSC7 Controller, go to Microsoft Store on www.microsoftstore.com.

Using the Windows 10 operating system

- ▶ Using accounts
- ▶ Using the Start menu
- ▶ Using the Action center
- ▶ Using Task view and virtual desktops
- ▶ Settings

This section introduces some basic information on using the Windows 10 Pro operating system on your TSC7 Controller. For comprehensive information, go to [Get Started with Windows 10](http://windows.microsoft.com) on <http://windows.microsoft.com>.

Using accounts

When you set up your TSC7 Controller, an account is set up for you. You can create additional accounts later for each user of the device, so that each person using the device can have their own settings.

Sign in

1. Press the power button to turn on or wake the TSC7 Controller.
2. Swipe up on the screen or tap a key on the keypad.
3. If you see your account name and account picture, enter your password and then tap the right arrow or tap Enter on the keypad.

If you see a different account name, select your own account from the list at the left. Then enter your password and then tap the right arrow or tap Enter on the keypad

Sign out

Tap , and right-click your account name. Then tap Sign out.

Using the Start menu

Tap  in the taskbar or press the Start key on the keypad to open the Start menu.


At the lower left of the Start menu, you'll find quick links to File Explorer, Settings, Power (shut down, sleep, and restart), and All apps.

The apps you've used most often appear at the upper left.

Your name and profile picture appear at the top of the left side. Select them to change your account settings, lock the screen, or sign out.

Tiles on Start act as quick links to apps. You can rearrange, resize, add, and remove tiles whenever you want. For more information, see [Love it? Pin it on http://windows.microsoft.com](http://windows.microsoft.com).

Using the Action center

Swipe in from the right edge of the screen or tap Action center  on the taskbar to open the Action center. Here you can adjust common settings like Wi-Fi connections or screen brightness, create a wireless connection to another screen, and more. If there are notifications waiting for you, they appear at the top of the Action center. For more info, see [Take action instantly on http://windows.microsoft.com](http://windows.microsoft.com).



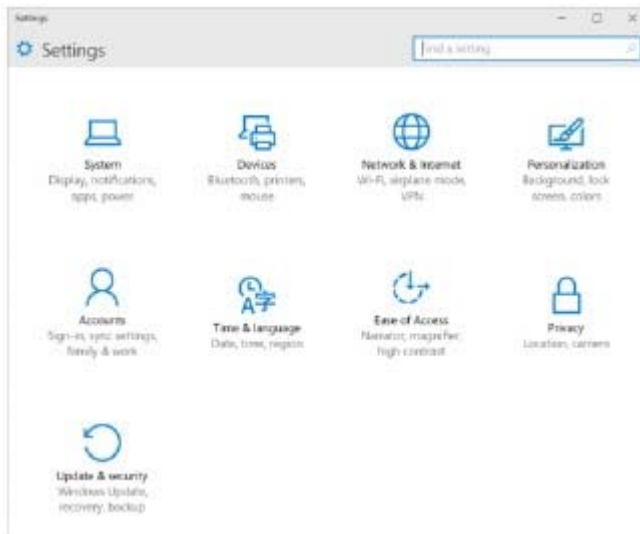
Using Task view and virtual desktops

Swipe in from the left edge of the screen or tap Task view on the taskbar to see all your open apps. Select an app to focus on, or close an app by clicking the X in the upper-right corner of the app.



Settings

Tap  / Settings for access to all your settings.



Troubleshooting, downloading updates, and repair

- ▶ [Troubleshooting](#)
- ▶ [Operating system and software updates](#)
- ▶ [Repairing your device](#)

Troubleshooting

This section contains answers to some common troubleshooting questions. If you encounter problems when using your TSC7 Controller, try the following troubleshooting tips to detect and solve the problem. If problems persist, contact your local distributor for support.

[Further assistance and support with the Windows 10 Pro operating system](#)

For comprehensive online support, how-to guides, troubleshooting articles and related downloads for the Windows 10 Pro operating system, go to the online Microsoft support pages for the Windows 10 operating system.

Performance issues

[Device is running slowly](#)

- Operating system updates may be installing.
Windows 10 Pro may have automatically downloaded software or operating system updates, and is installing these in the background. While these updates are being

installed, system performance may be reduced, or wireless connectivity speed may appear to be slower than normal.

- You may have too many background applications are running.

Some programs start automatically and run in the background. You can disable these programs at startup to improve Windows startup time and overall system performance.

- You may have malware or a virus.

A virus or other malicious software could cause your device to run slowly. Check whether your device has a virus by using Windows Defender, which is included with Windows 10, or refer to the documentation for your third party antivirus software.

- Check your wireless network speed.

If the apps you are using are connecting to the Internet, a poor network connection may be causing them to run slowly. For detailed information on checking your network, see [Wi-Fi speed is slow, page 45](#).

- Check for low disk space.

You may be able to improve performance if you free up some disk space on your device. Disk Cleanup can delete temporary and system files, empty the Recycle bin, and remove apps and data that you no longer need.

- Your device may have overheated.

If you are using your device in a hot environment and/or are using a processor or memory-intensive, your device may have become too hot. Move your device to a cooler spot, wait five minutes, and see if it runs faster.

Wireless connectivity issues


Wi-Fi speed is slow

- Your network is running slow for all devices.

You should first check to see whether your network is slow on another device. Can you connect to your wireless network and browse the web at normal speeds from another PC, tablet, or smartphone? Try running a Network Speed Test to ensure your Internet connection is functioning normally.

- Your Wi-Fi signal is weak.

Look at the wireless network Wireless network icon icon in the taskbar.

This icon  shows your current signal strength. If the icon is partially dimmed, move your device closer to your wireless router to see if the signal improves. If your router is

broadcasting on both a 2.4GHz and 5GHz frequency, try connecting to a different frequency. In general, a network operating on the 5GHz frequency will be faster and less susceptible to interference, but will have a shorter range than a 2.4GHz network.

Power and battery issues

Battery will not charge

- The battery is overheated, or too cold.

The battery pack will charge between 0 °C and 40 °C. If you have been using or storing the battery and/or device in a particularly hot or cold environment, the battery pack may be outside the safe charging temperature range. Sensors in the battery pack will prevent the battery from charging until its temperature returns to a normal level.

- The battery is not installed correctly.

If the battery pack is not installed correctly in the device or the battery pack charger, it may not have a proper connection and will not charge.

- The battery terminals are dirty or corroded.

If the terminals of the battery pack are dirty or corroded, it may not have a proper connection and will not charge.

Device will not start up

- The battery does not have enough charge to power the device:

Press and hold the charge indicator button on the battery pack. At least one charge LED must be lit up to indicate that the battery pack has enough power for the device to start on battery power. If no LEDs light up on the battery pack, attach the device to an external power source, or swap the battery for a charged battery, then try again.

- The battery is not correctly installed.

The device may not be receiving power from the battery if it is not installed properly. Remove the battery, then replace it, pressing down on both corners until it clicks into place, then slide the battery lock to the lock position (down).

Device suddenly turned off during use

- Make sure you are not accidentally pressing the power key.

The Power key is located in the top left side of the device. Make sure that while gripping the device that you are not accidentally pressing the Power key and suspending the unit.

- The device may have run out of power and gone into critical suspend mode.

If your battery charge level gets too low, the device will automatically go into a hibernate mode to prevent loss of data. Check the battery level by pressing and holding the battery level button. If the battery charge is too low, connect the device to external power, or swap the battery for a charged battery.

If you regularly run out of battery power while in the field, consider carrying a spare battery with you. The device supports hot-swapping of the battery, which means that the device will keep running for a few minutes while you remove the battery pack and replace it with another.

Device shuts down when hot-swapping the battery

- Hot-swap battery is not sufficiently charged

The hot-swap back-up battery allows you to change the main device battery pack for a charged one without shutting the device down. To function correctly, the hot-swap battery must have at least X minutes of charging time before it can work properly. If you attempt multiple hot-swaps without allowing the back-up battery to recharge, your device may shut down when the battery pack is removed.

Restarting or resetting the operating system

If your device becomes unresponsive, and the troubleshooting guide does not resolve the problem, you need to restart or reset your device.

For detailed instructions on the recovery options in Windows 10, refer to the Microsoft support pages on Windows 10 recovery options at www.support.microsoft.com.

Restarting your (unresponsive) device

If your device is no longer responding to touchscreen or keypad input, you may need to force it to restart by removing power from the system.


NOTE – Restarting the system by holding down the Power key removes power to the CPU. Any unsaved files and settings will be lost.

To force your device to restart, press and hold the Power key until the device shuts down (~15 seconds), then restart your device by pressing the Power key.

Resetting your device

If restarting your device does not resolve the issue that you are seeing, resetting it might help. Resetting lets you choose to keep your files or remove them, and then reinstalls the operating system.


To reset your device:

1. Tap  / Settings / Update & security / Recovery.
2. Select Get started then follow the onscreen instructions to reset your device.
3. At the reset menu, select one of the following:
 - Keep my files.
 - Reinstalls Windows 10 and keeps your personal files.
 - Removes apps and drivers you installed.
 - Removes changes you made to settings.
 - Removes any apps your dealer or distributor installed.
 - Remove everything.
 - Reinstalls Windows 10 and removes all your personal files.
 - Removes apps and drivers you installed.
 - Removes changes you made to settings.
 - If you're planning to donate, recycle, or sell your device, use this option and choose to fully clean the drive. This might take an hour or two, but it makes it harder for other people to recover files you have removed.

Resetting your device when the operating system is unresponsive

If you want to restore your device but cannot operate the touchscreen or the operating system is not responding to normal input, you may need to reset the device from the Boot Menu.

To reset from the Boot Menu:

1. Connect an external USB keypad to the device.
2. Press the Windows logo key  to get to the sign-in screen, then hold the Shift key down and select Power / Restart in the lower-right corner of the screen.
3. when the device restarts, tap Troubleshoot / Reset this PC.

If you cannot get to the sign-in screen, use a recovery drive or installation media to reset your device.

Resetting your device

You can remove all data from your TSC7 Controller by resetting it to factory settings.

IMPORTANT: By performing a factory data reset, all data will be wiped from the device.

While any data stored in your Google Account will be restored, all apps and their associated data will be uninstalled.

IMPORTANT: Your device is protected to prevent other people from using it if it's been reset to factory settings. To ensure that it's really you doing the reset, you'll need to enter a Google username and password associated with the device after factory reset. If you don't have this information, you won't be able to finish the setup process and use the device at all after factory reset.

Erasing your data may take some time, so make sure that you plug your device into a power source before you start.

1. Open your device's Settings app .
2. Go to Settings / Backup & reset. You may need to enter your pattern, PIN, or password.
3. Tap Factory data reset.
4. Tap Reset tablet.
5. If you have a screen lock, you'll need to enter your pattern, PIN, or password.
6. Tap Erase everything to confirm.
7. When your device has finished erasing, select the option to reboot your device.

Operating system and software updates

Periodically, operating system and software application updates will be available for your device.

Windows 10 updates

The Windows 10 operating system periodically checks for updates so you don't have to. When an update is available, it is automatically downloaded and installed — keeping your device up-to-date with the latest features.

Installing the latest updates can help fix common issues, but you must be online to download the updates. If you are having trouble connecting and downloading updates because your wireless network is too slow, you can try using a wired network via the Office Cradle accessory.

Once online, to check for and install the latest updates manually, go to Settings / Update & security / Windows Update, and select Check for updates. If Windows Update says your device is up to date, you have all the updates that are currently available.

For more information about Windows updates, refer to the official *Windows Update FAQ* on www.microsoft.com.

Software downloads and updates

The latest versions of software including drivers, firmware updates, and software utilities, are available on the [technical support pages](#) on www.trimble.com.

Repairing your device

Before you send your TSC7 Controller for repair, check the troubleshooting guide in this document. If you can't solve the problem with troubleshooting, contact your local Trimble dealer for further support.

Repair of this product should only be performed by an authorised service provider. Any attempt to disassemble this product by a non-authorised service provider will void the warranty.

For more information, contact your local Trimble dealer.

