

# TS100 Utility

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## Documentation

5/27/2024  
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## TS100/TS100A Features

TS100/TS100A can select following operating modes to meet your application.

Following table describes how the operation mode works:

TS100/TS100A Operating Mode

Operating Mode	Description	TS100	TS100A
Read	Use specified format to decode tag data. And output data to the specified hosts.	✓	✓
Tag Analysis	Parse tag information and output in keystrokes. For example, manufacture, model and memory capacity. The tag memory data will also be output.	✓	✓
Encode	Encode external barcode scanner data in the specified format and then write to tags.		✓
Verify	Verify external barcode scanner data with encoded tag data. If it passed*, it sends the barcode data in keystrokes. * Verify mode can identify clone tags, so only tags encoded with UDC or EAN/UPC+EAS can be protected.		✓
Customized Read	Only read the tag whose EPC prefix is equivalent to the prefix set in Deactivate Mode or Reactivate Mode.	✓	✓
Deactivate	Use Deactivated EPC prefix to replace EPC prefix of tags. And output the replaced EPC.	✓	✓
Reactivate	Use Reactivated EPC prefix to replace EPC prefix of tags. And output the replaced EPC.	✓	✓

# Introduction

**TS100Utility** is a tool to set up TS100/TS100A, that is, you can modify TS100/TS100A settings with this program by USB. For further information please refer to [Using TS100Utility](#).

## System Requirements

**TS100Utility** is a Windows-based program, following is the requirements:

- Windows XP/7/10/11 (x86/x64)
- .NET Framework 4.0

## Install the Program

The setup program is located at the **software\TS100Utility** folder of Disk5472. Execute **TS100UtilitySetup.msi** to install the program on your computer.

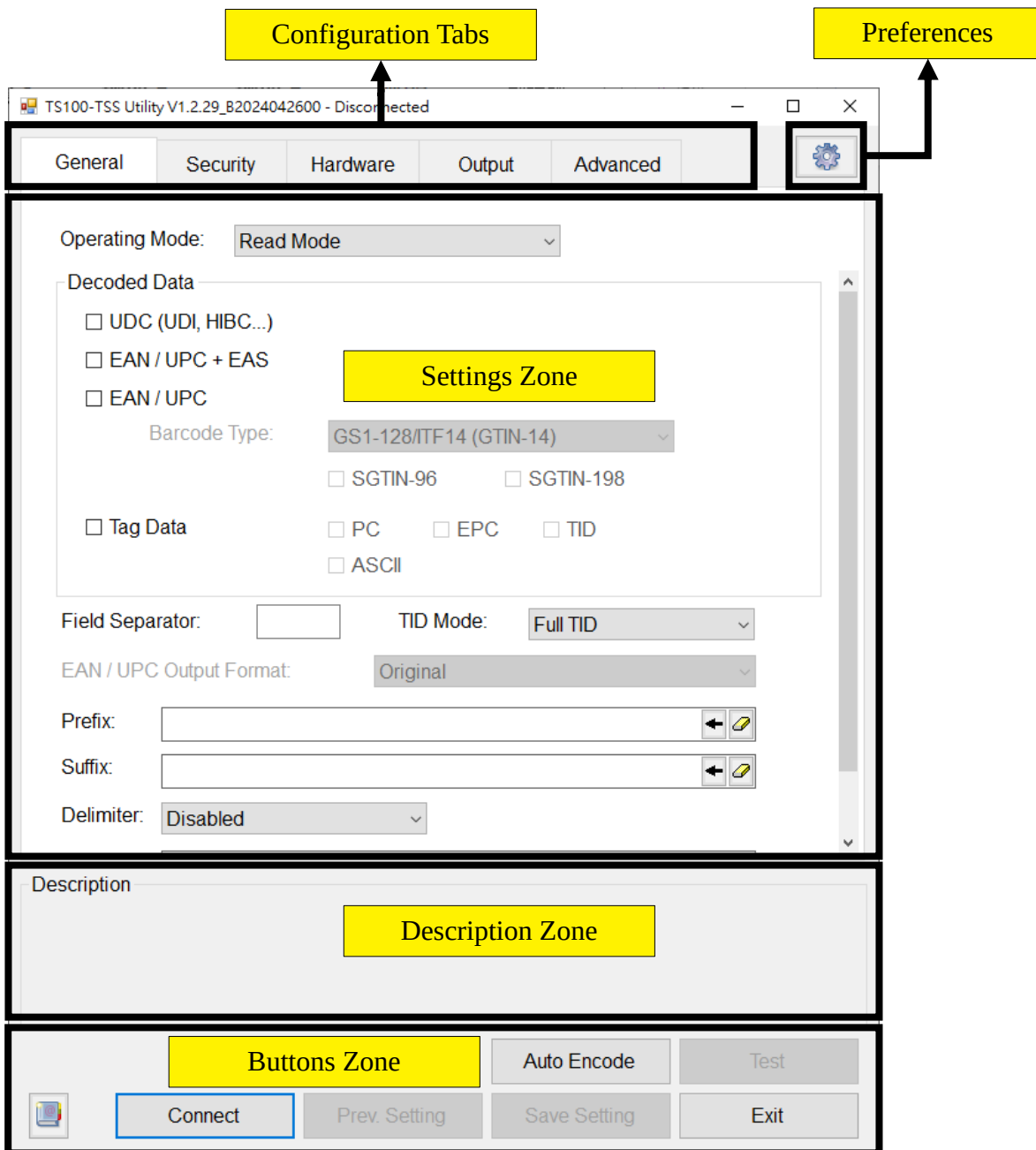
## Start the Program

Follow below steps to execute **TS100Utility**:

1. On the taskbar, click **Start** button, and then select **GIGA-TMS** folder.
2. Click **TS100Utility** to configure TS100/TS100A.

# Using TS100Utility

## Explore the User Interface



The main window contains following elements:

### 1. Configuration Tabs

Show different type of configuration. There is following tabs:

- **General Tab:** Set up Operating Mode of TS100/TS100A. For further information, please refer to [General Settings](#).
- **Security Tab:** Enable/Disable tags protection. Enable to prevent tags from unauthorized modifications. For further information, please refer to [Security Settings](#).

- **Hardware** Tab: Modify hardware configurations. For further information, please refer to [Hardware Settings](#).
- **Output** Tab: Set up output interface and data type. For further information, please refer to [Output Settings](#).
- **Advanced** Tab: Modify Inventory settings or/and output interface. For further information, please refer to [Advanced Settings](#).

## 2. Settings Zone

Show the details of specified configuration.

## 3. Description Zone

Move the mouse over the UI elements of TS100Utility to display the description here.

## 4. Buttons Zone

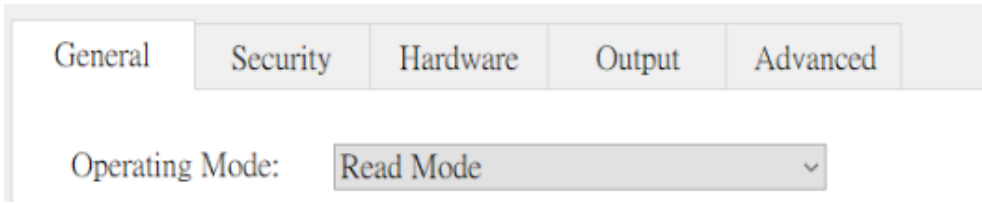
- **Connect/Disconnect**: Connect or disconnect to TS100/TS100A.
- **Prev. Settings**: Retrieve settings from TS100/TS100A.
- **Save Settings**: Update modified settings to TS100/TS100A.
- **Exit**: Disconnect with TS100/TS100A and close the program.
- **Test**: Update current settings to TS100/TS100A and test functions. For further information, please refer to [Test Functions](#).
- **Help**: Open the TS100 user manual.
- **Auto Encode**: Start the Auto Encode application. Please refer to Auto Encode User Manual on Disk5472 for more details.

## 5. Preferences

Modify software settings. For further information, please refer to [Preferences Settings](#).

# General Settings

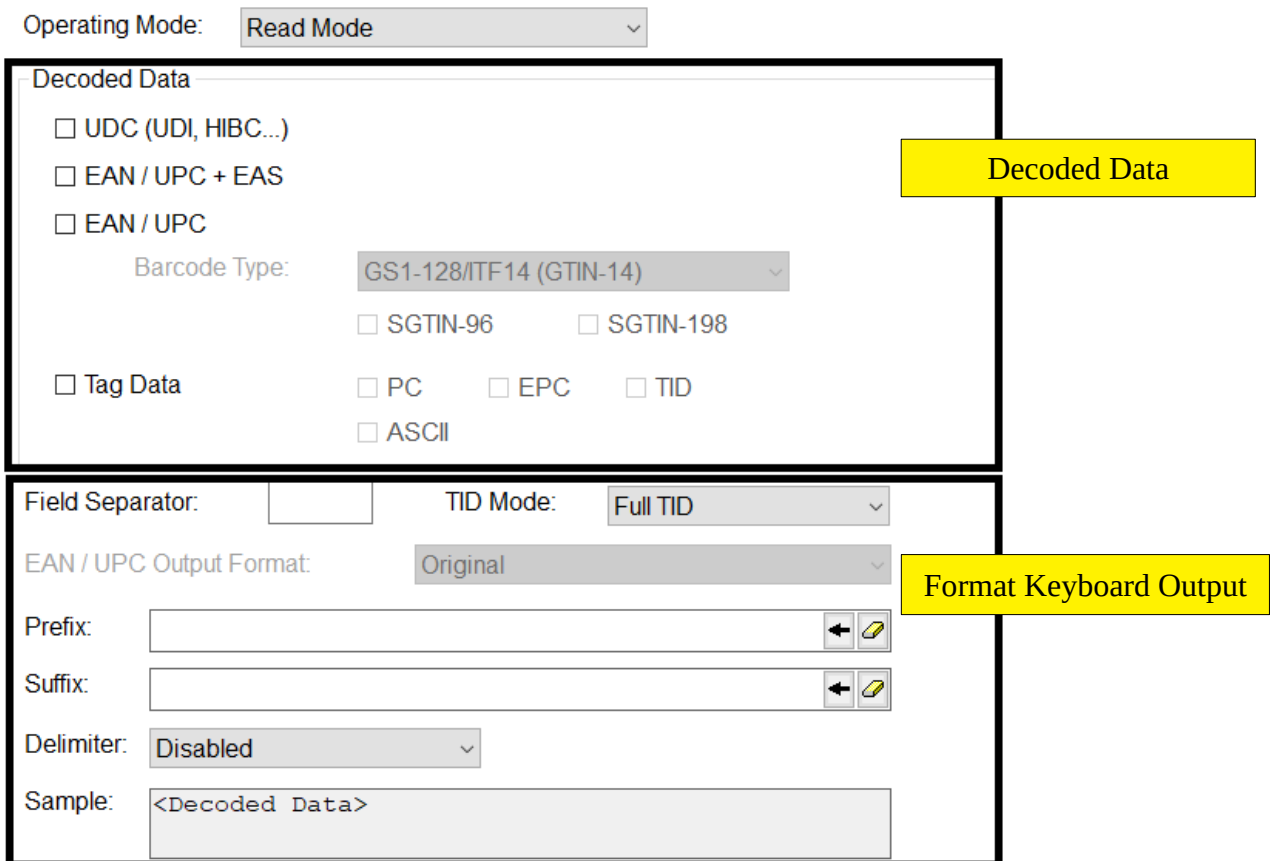
In **General Tab**, you could change Operating Mode from the below list.



*NOTE: The list only shows supported Operating Modes by the connected device. For supported Operating Mode, please refer to [TS100/TS100A Features](#).*

After Operating Mode changed, it shows relative configuration as following.

- Read Mode



1. **Decoded Data:** TS100/TS100A tries to decode tags in selected formats.
2. **Format Keyboard Output:** Set up field separator, TID mode, prefix, suffix or/and delimiter. Sample field shows the result of output format. (Only apply in keyboard output.)
  - **Field Separator:** Use a char to split each part of Tag Data (PC, EPC and TID).
  - **TID Mode:** Set up TID format of the output.
  - **EAN/UPC Output Format:** Change EAN/UPC output to the selected format.
  - **Prefix\*:** Append an indicated string to the beginning of the output.
  - **Suffix\*:** Append an indicated string to the end of the output.



- **Delimiter:** Append a delimiter to the end of the output.

\* *NOTE: Prefix/Suffix fields will record visible keys or control keys, so you may use to delete/clear text.*



- Deactivate Mode

Operating Mode:

EPC Prefix

Deactivate EPC Prefix (Hex):  EPC Prefix

Reactivate EPC Prefix (Hex):

Normalize EPC Prefix (for Read)

Normalization:  Normalize EPC Prefix (for Read)

Company Length:

Prefix:

Suffix:  Format Keyboard Output

Delimiter:

Sample:

1. **EPC Prefix:** TS100/TS100A replaces *EPC Prefix* with *Deactivated EPC Prefix* of tags.
2. **Normalize EPC Prefix (for Read):** TS100/TS100A outputs modified EPC after tags were deactivated. If Normalization is enabled, it outputs EPC with EAN/UPC prefix instead.
3. **Format Keyboard Output:** Set up prefix, suffix or/and delimiter. Sample field shows the result of output format. (Only apply in keyboard output.)

For more information, please refer to [Deactivate/Reactivate Tags](#).

- Reactivate Mode

Operating Mode:

EPC Prefix

Deactivate EPC Prefix (Hex):

Reactivate EPC Prefix (Hex):

Normalize EPC Prefix (for Read)

Normalization:

Company Length:

Prefix:

Suffix:

Delimiter:

Sample:

1. **EPC Prefix:** TS100/TS100A replaces *EPC Prefix* with *Reactivated EPC Prefix* of tags.
2. **Normalize EPC Prefix (for Read):** TS100/TS100A outputs modified EPC after tags were reactivated. If Normalization is enabled, it outputs EPC with EAN/UPC prefix instead.
3. **Format Keyboard Output:** Set up prefix, suffix or/and delimiter. Sample field shows the result of output format. (Only apply in keyboard output.)

For more information, please refer to [Deactivate/Reactivate Tags](#).

- Tag Analysis Mode

Nothing else need to set in this mode.

*NOTE: If you select this mode, [Output Interface](#) will set to “keyboard Emulation” only.*

- Verify Mode

Nothing else need to set in this mode.

- Encode Mode

Operating Mode:

Format

UDC Universal Data Convert to EPC

EAN / UPC + EAS

EAN / UPC

ASCII

**Format:** Specified a format to encode barcode data.

- Customized Read Mode

Operating Mode:

EPC Prefix

Deactivate EPC Prefix (Hex):

Reactivate EPC Prefix (Hex):

Normalize EPC Prefix (for Read)

Normalization:

Company Length:

Prefix:

Suffix:

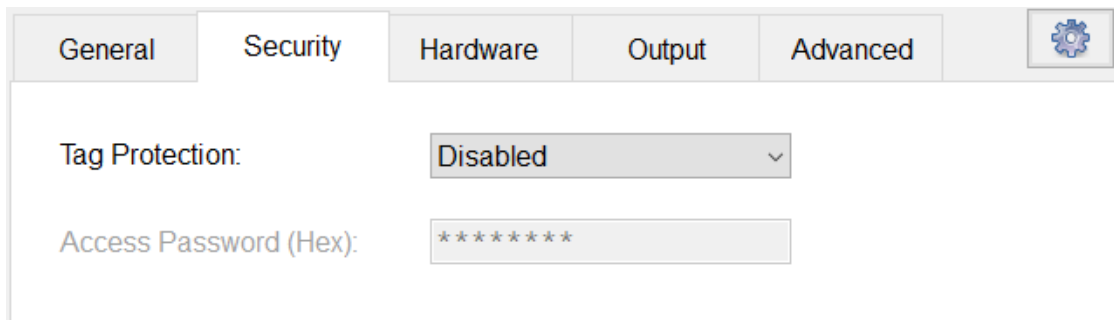
Delimiter:

Sample:

1. **EPC Prefix:** TS100/TS100A inventories the tags with *Deactivated EPC Prefix* or *Reactivated EPC Prefix*.
2. **Normalize EPC Prefix:** TS100/TS100A outputs EPC after tags were inventoried. If Normalization is enabled, it outputs EPC with EAN/UPC prefix instead.
3. **Format Keyboard Output:** Set up prefix, suffix or/and delimiter. Sample field shows the result of output format. (Only apply in keyboard output.)

## Security Settings

In **Security Tab**, you could change the type of tag protection as below.



The screenshot shows a software interface with five tabs: General, Security, Hardware, Output, and Advanced. The Security tab is currently selected. Below the tabs, there are two settings:

- Tag Protection:** A dropdown menu with the value "Disabled" selected.
- Access Password (Hex):** A text input field containing eight asterisks (\*\*\*\*\*).

There are three types of protection as below:

1. **Disabled:** Disable tag protection.
2. **Dynamic Password:** The password is figured out by TS100/TS100A so that every tag has different password. (Also, every TS100/TS100A would generate different password with the same tag.)
3. **Specified Password:** Assign a static password in **Access Password (Hex)** field to protect tags.

## Hardware Settings

The screenshot shows a configuration window with five tabs: General, Security, Hardware (selected), Output, and Advanced. A gear icon is in the top right corner. The Hardware tab contains the following settings:

- Profile: USA (902.75 ~ 927.25)
- RF Power: 17 dbm ~ Mw
- Sensitivity: -74 dbm
- Buzzer Volume: A slider set to 3
- Buzzer Repeat: Alert when printing data
- USB Type: HID + Keyboard

At the bottom, there are three buttons: Wi-Fi Settings, BLE Settings, and Server Setting.

In **Hardware Tab**, you could change configurations as below.

- **Profile**
  - Identify the TS100/TS100A frequency range.
- **RF Power**
  - Optimize inventory effect.
- **Sensitivity**
  - Affect how reader distinguishes signal and noise.
  - Affect Tag Access (Write, Read, Kill, Lock) behavior.
  - Does not affect reader inventory behavior.

If sensitivity value is low (e.g. -84 dBm)

- Reader is more sensitive to RF signals.
- More likely to consider noise as a signal.
- Easier to access tags with distance.
- More difficult to access tags that are too close.

If sensitivity value is high (e.g. -60 dBm)

- Reader is less sensitive to RF signals.
- Less likely to consider noise as a signal.

- More difficult to access tags with distance.
- Easier to access tags that are too close.

*NOTE: It is not necessarily better to increase Sensitivity because noises may be considered a signal. In practice, the value with the highest probability of successful Tag Access will be selected according to the situation.*

- **(Buzzer Volume)**

Adjust the buzzer volume.

(It is invisible If the TS100/TS100A doesn't support the setting.)

- **Buzzer Repeat**

Adjust the buzzer beep times when reading tags. The beep interval is related to the

[Repeat Interval](#) setting.

- **USB Type**

Configure USB type as "HID + Keyboard" or "Virtual COM".

*NOTE: After you apply TS100 to "Virtual COM", You need to [install CDC driver](#) if your OS is under Windows 10.*

- **(Wi-Fi Settings)**

Configure Wi-Fi settings to enable the feature of connection with Wi-Fi.

(It is invisible If the TS100/TS100A without Wi-Fi module.)

- **(BLE Settings)**

Configure BLE settings to identify the device.

(It is invisible If the TS100/TS100A without BLE module.)

- **(Server Settings)**

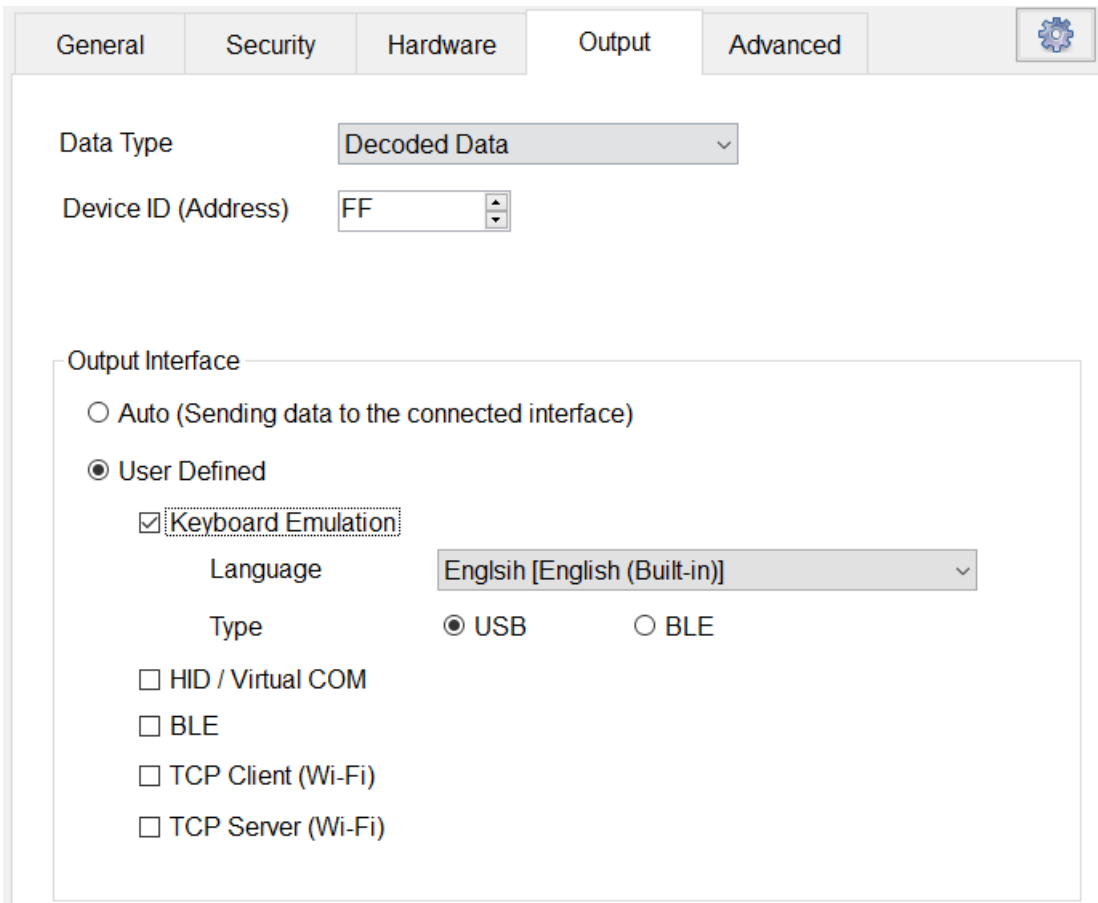
Configure the remote server settings for sending tag data to it.

And configure [Output Interface](#) to "Auto" or select "TCP Server (Wi-Fi)".

(It is invisible If the TS100/TS100A without Wi-Fi module.)

# Output Settings

In **Output Tab**, you could change configurations as below.

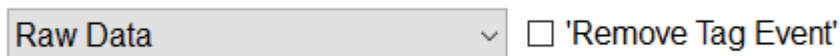


- **Data Type**

Set data as **Decoded Data** or **Raw Data**. (It does not affect “Keyboard Emulation” data.)

If **Decoded Data** selected, set the data format in [Read Mode](#).

If **Raw Data** selected, TS100/TS100A supports “Remove Tag Event”.



*NOTE: Select “Remove Tague Event”, TS100/TS100A will raise an event when a tag is moved out from the device.*

- **Device ID (Address)**

Set device ID of TS100/TS100A to identify devices.

- **Output Interface**

- **Auto:** TS100/TS100A sends data to all the connected interfaces.

- **User Defined:** Enable/Disable each output interface below.

- **Keyboard Emulation:** TS100/TS100A prints data as a keyboard.

- **Language:** Apply keyboard layout to TS100/TS100A to output prefix and suffix correctly.

*NOTE: Please make sure the barcode scanner output language is the same with it.*

- **(Type):** TS100/TS100A as a USB keyboard or a BLE keyboard. (It is invisible If the TS100/TS100A without BLE module.)

*NOTE: If you set up [USB Type](#) to “Virtual COM”, TS100/TS100A cannot be a USB keyboard.*

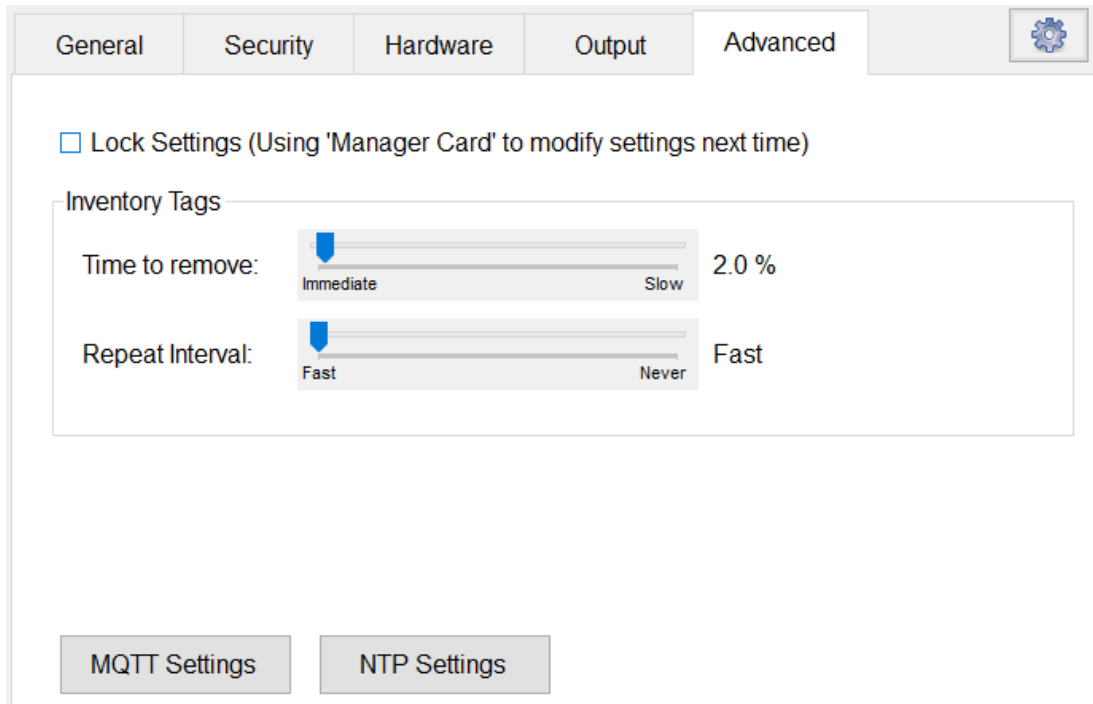
- **HID / Virtual COM:** TS100/TS100A sends data to the host by USB.
- **(BLE):** TS100/TS100A sends data through BLE. (It is invisible If the TS100/TS100A without BLE module.)
- **(TCP Client (Wi-Fi)):** TS100/TS100A sends data to the client devices which has connected to TS100/TS100A by TCP. (It is invisible If the TS100/TS100A without Wi-Fi module.)
- **(TCP Server (Wi-Fi)):** TS100/TS100A sends data to the remote server by TCP. (It is invisible If the TS100/TS100A without Wi-Fi module.)

*NOTE: Set up Remote Server IP and port at [Server Settings](#).*



# Advanced Settings

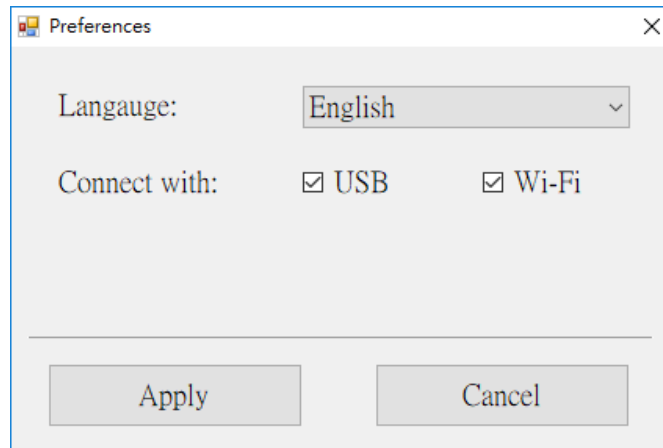
In **Advanced Tab**, you could change configurations as below.



- **Lock Settings**  
Enable to prevent from settings modification.  
*NOTE: If TS100/TS100A is locked, you should place “Manager Card” on the TS100/TS100A to unlock it before you update settings. (Please refer to [Unlock Settings.](#))*
- **Inventory Tags**
  - **Time to remove:** Set how long TS100/TS100A could not inventory the tag which just appeared in the field, it thought the tag was removed.
  - **Repeat Interval:** Set how long to re-send output data for the same tag.
- **(MQTT Settings)**  
Configure MQTT settings to enable the feature of sending tag data to an MQTT Broker.  
(It is invisible If the TS100/TS100A without MQTT feature.)
- **(NTP Settings)**  
Configure NTP (Network Time Protocol) Settings.  
(It is invisible If the TS100/TS100A without MQTT feature.)

## Preferences Settings

Click **Preferences** button, you could change configurations as below.




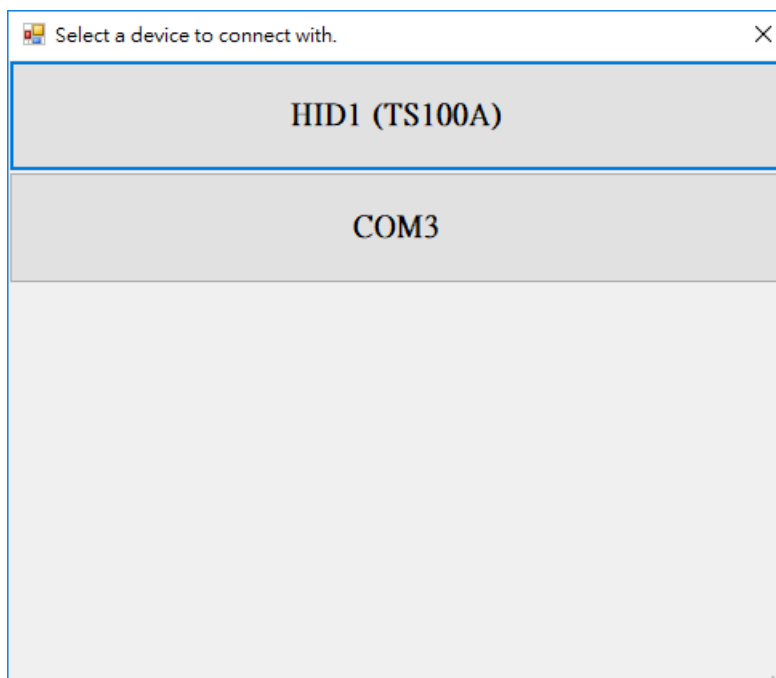
- **Language:** Modify software UI language.
- **Connect With:** TS100Utility will search TS100/TS100A in the selected interfaces when you click **Connect** button in the main window.
- **Apply:** Apply modifications.
- **Cancel:** Cancel all modifications.

## Tutorials


### Connect to TS100/TS100A

#### Connection by USB

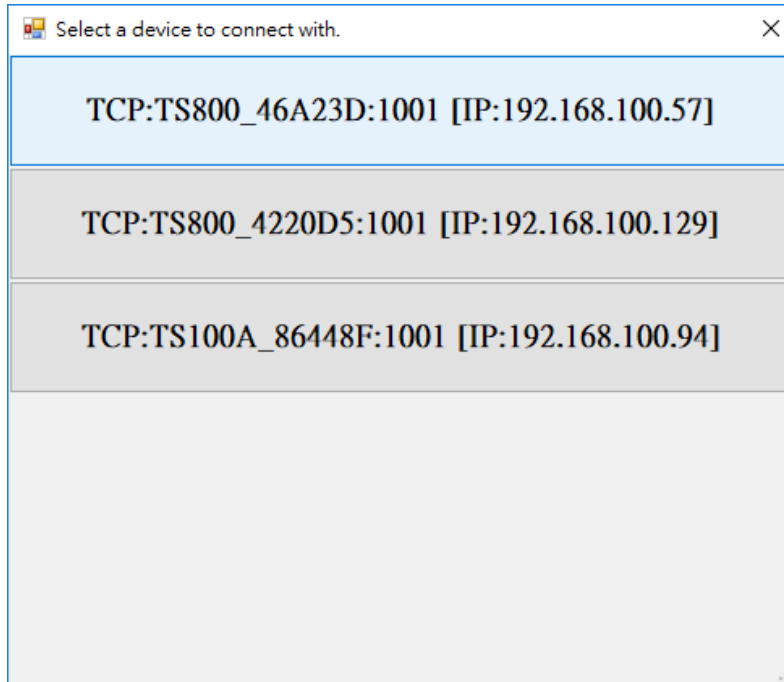
1. Plug in TS100/TS100A to your computer by USB.
2. Select the USB checkbox in the [Preferences Settings](#) and click **Apply** button.
3. Click  button in the main window.
  - 3.1. If there is only one device could be found, it connects the device directly.
  - 3.2. If there is more than one device could be found, it shows a list as blow. Then you may select a target device to connect with.



#### Connection by Wi-Fi

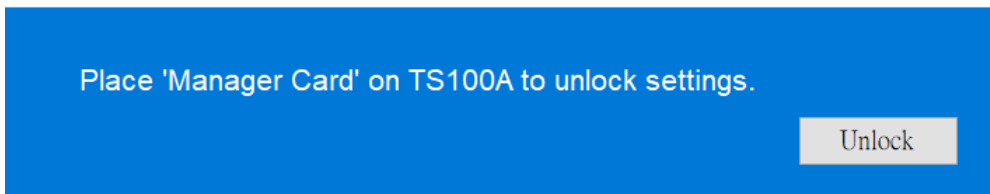
1. Make sure that [Wi-Fi Settings](#) is ready. (You may connect to TS100/TS100A by USB to set up Wi-Fi Settings.)
2. Select the Wi-Fi checkbox in the [Preferences Settings](#) and click **Apply** button.
3. Click  button in the main window.

It shows a list as blow. Then you may select a target device to connect with.

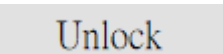


## Unlock Settings

If the device is locked, it alerts you to unlock settings as below.



Please follow below steps to unlock it.

1. Place **Manager Card** on TS100/TS100A.
2. Click  button.

## Update Settings

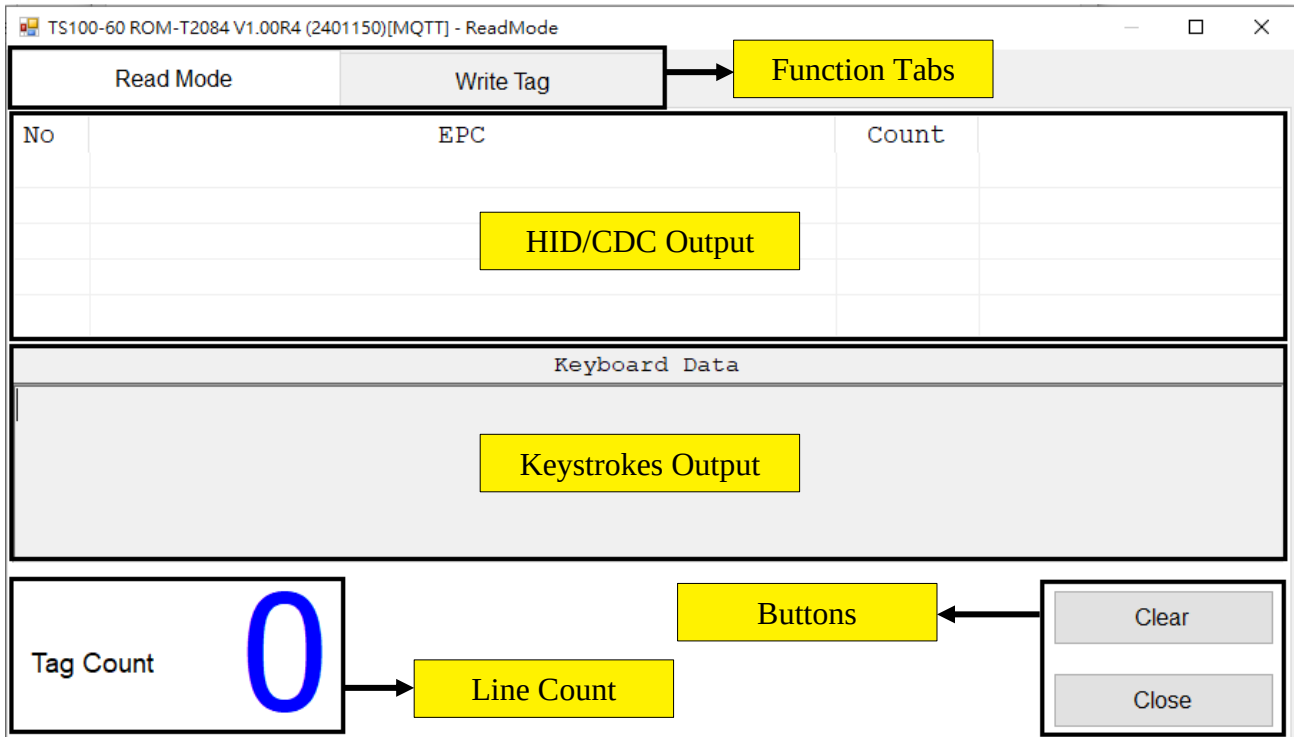
Please follow below steps to update settings to TS100/TS100A.

1. [Connect to TS100/TS100A.](#)
2. Modify settings to fit your need.
3. Click **Update** button to save the settings to TS100/TS100A.
4. Click **Exit** button to close the program.

## Test Functions

You may test current settings whether it meets your expectation in this window.

After connecting with TS100/TS100A, click **Test** button, a window shows as below:



The window contains following elements:

1. **Function Tabs:** Test TS100/TS100A in current Operating Mode or write data to tags.
  - **Operating Mode** Tab: This tab depends on which mode TS100/TS100A is.
  - **Write Tag** Tab: Encode data to tags. Refer to [Write Tag](#).
2. **(HID/CDC Output):** Show TS100/TS100A output data of USB. (It is invisible If [output interface](#) only select "Keyboard Emulation".)
3. **(Keystrokes Output):** Show TS100/TS100A output data in keystrokes. (It is visible If [output interface](#) has selected "Keyboard Emulation".)
4. **Buttons:** There is following buttons:
  - **Clear** button: Clear data in Keystrokes Zone.
  - **Close** button: Close the window and then back to main window.
5. **Line Count:** Show how many lines in Keystrokes Zone.

## Write Tags

You may write data to tags with a selected format.

Click **Test** button, and then click **Write Tag** tab on the new window. A window shows as below:

The screenshot shows a software window titled "TS100-60 ROM-T2084 V1.00R4 (2401150)[MQTT]". It has two tabs: "Read Mode" and "Write Tag". The "Write Tag" tab is selected. The interface includes a "Data" input field with a "Data" label, a checkbox for "Clear data after writing tags.", a "Format" section with radio buttons for "UDC" (selected), "SGTIN-96 + EAS", "SGTIN-96", "SGTIN-198", "Hex (EPC)", and "ASCII". A "Write Tag" button is located below the format section. To the right of the format section is an "Encode Format" label. Below the "Write Tag" button is an "Access Password" checkbox and a text field containing "00000000", with a "Write" button. A red note states "Note: TS100 can't read tags currently." Below the note is a table with columns "No.", "Data", and "Result", and a "Result" label. At the bottom are "Clear" and "Close" buttons.

The window contains following elements:

1. **Data:** Enter data for the source of encoding.
2. **Encode Format:** Support following formats:
  - **UDC:** Data could be any character. (The format is defined by GIGA-TMS.)
  - **SGTIN-96 + EAS:** Encode data to SGTIN-96 and generate a serial number by TS100/TS100A.
  - **SGTIN-96:** Encode data to SGTIN-96 and assign a serial number by yourself.
  - **SGTIN-198:** Encode data to SGTIN-198 and assign a serial number by yourself.
  - **Hex (EPC):** Write hexadecimal data to EPC without encoding.
  - **ASCII:** Encode data to ASCII.
3. **Write Tag:**
  - Assign an Access Password to unlock the tag if its EPC bank has been locked.
  - Click **Write** button to encode data in selected format and write to tags.

4. **Result:** History of writing tags.

- **Clear** button: Clear the result list.
- **Close** button: Close the window and then back to main window.

Step 1> Place a tag on the TS100/TS100A.

Step 2> Select an encode format.

Step 3> Enter data In Data field.

Step 4> Press “Write” button to write the tag.

## Deactivate/Reactivate Tags

Following below steps to deactivate and reactivate a tag.

1. Encoding a barcode data ("01234565") to a tag in "EAN/UPC" format, so that EPC data = "3038013481E8498000000001".

2. Setting:

2.1.

**Operating Mode** = Read Mode

**Decoded Data:** Select "Tag Data" and "EPC".

Operating Mode:

Output Format:

Decoded Data

- UDC (UDI, HIBC...)
- EAN / UPC + EAS
- EAN / UPC

Barcode Type:

<input checked="" type="checkbox"/> Tag Data	<input type="checkbox"/> PC	<input checked="" type="checkbox"/> EPC	<input type="checkbox"/> TID
	<input type="checkbox"/> ASCII		

2.2.

**Operating Mode** = Deactivate Mode

**Deactivate EPC Prefix** = FFFF

**Reactivate EPC Prefix** = 3400

Operating Mode:

EPC Prefix

Deactivate EPC Prefix (Hex):

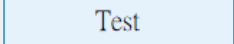
Reactivate EPC Prefix (Hex):

Normalize EPC Prefix (for Read)

Normalization:

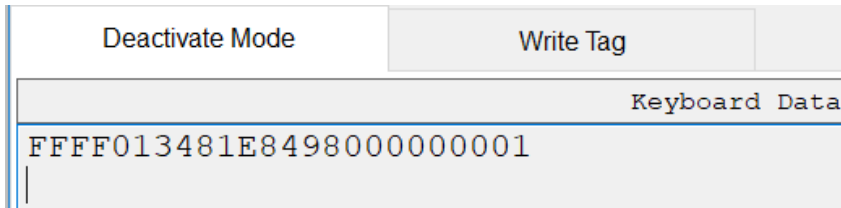
Company Length:



3. Clicking  button.

4. Taking the tag on the TS100/TS100A. The EPC data will be changed as below.

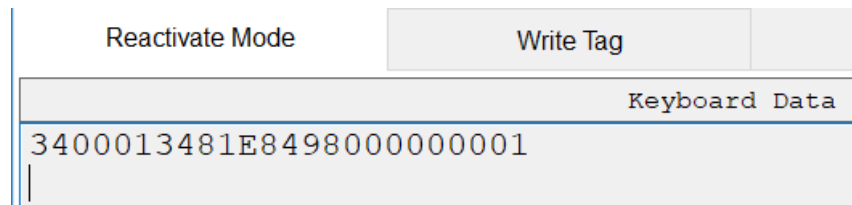
EPC data = "FFFF013481E8498000000001" (Now the tag has been deactivated.)



Deactivate Mode	Write Tag
Keyboard Data	
FFFF013481E8498000000001	

5. Setting up **Operating Mode** = *Reactivate Mode*, so that you're able to change EPC to

EPC data = "3400013481E8498000000001" (Now the tag has been reactivated.)



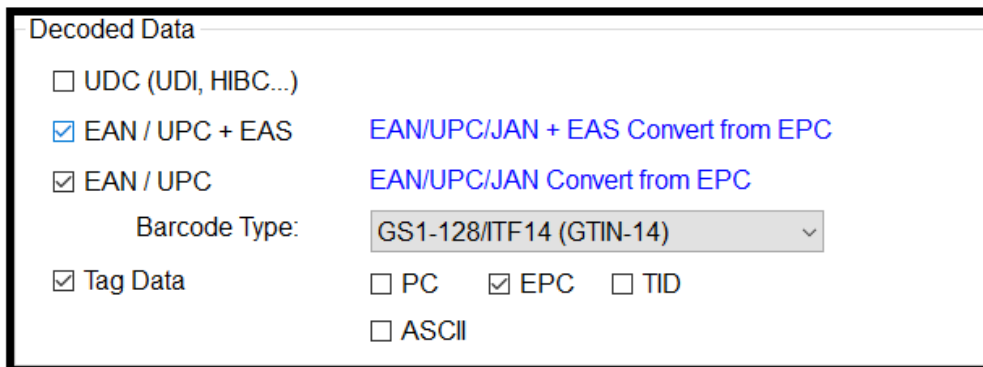
Reactivate Mode	Write Tag
Keyboard Data	
3400013481E8498000000001	

**NOTE:**

- When you deactivate/reactivate a tag, TS100/TS100A will output data. (Output data depend on what **Decoded Data** you selected in *Read Mode*.)

Operating Mode:

Output Format:



Decoded Data

UDC (UDI, HIBC...)

EAN / UPC + EAS [EAN/UPC/JAN + EAS Convert from EPC](#)

EAN / UPC [EAN/UPC/JAN Convert from EPC](#)

Barcode Type:

Tag Data  PC  EPC  TID

ASCII

- Following below steps, you could get EAN/UPC data even if EPC prefix has been changed.

(1) Setting:

**Operating Mode** = *Read Mode*

**Decoded Data:** Select *EAN/UPC*.

(2) Setting:

**Operating Mode** = *Deactivate Mode*

**Normalization** = *EAN/UPC*

Operating Mode:

Output Format:

Decoded Data

UDC (UDI, HIBC...)

EAN / UPC + EAS

EAN / UPC [EAN/UPC/JAN Convert from EPC](#)

Barcode Type:

Tag Data       PC     EPC     TID

ASCII

(3) Clicking  button.

(4) Taking the tag (EPC=3400013481E8498000000001) on the TS100/TS100A. The EPC data will be changed to "FFFF013481E8498000000001" (it is a deactivated tag).

*TS100/TS100A output the barcode data (01234565).*

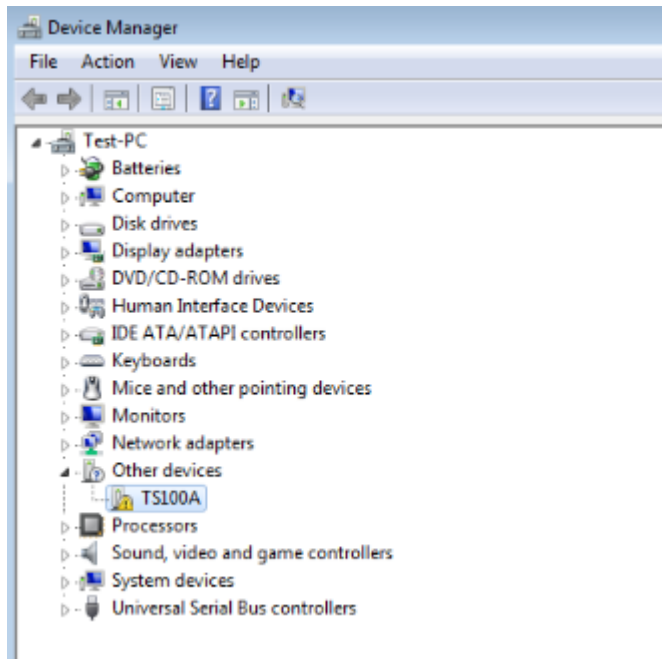
Deactivate Mode	Write Tag
Keyboard Data	
01234565	

## Install CDC driver

When you set USB Type to Virtual COM, you could follow below steps to Install CDC driver.

[Win7]

1. Open [Device Manager] / [Other devices] / [TS100A]

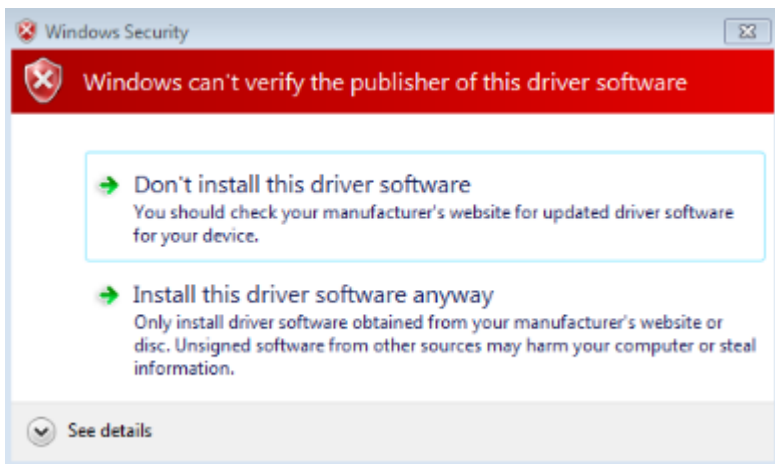


2. Right click mouse on [TS100A], select [Update driver Software...] on the pop-up menu.

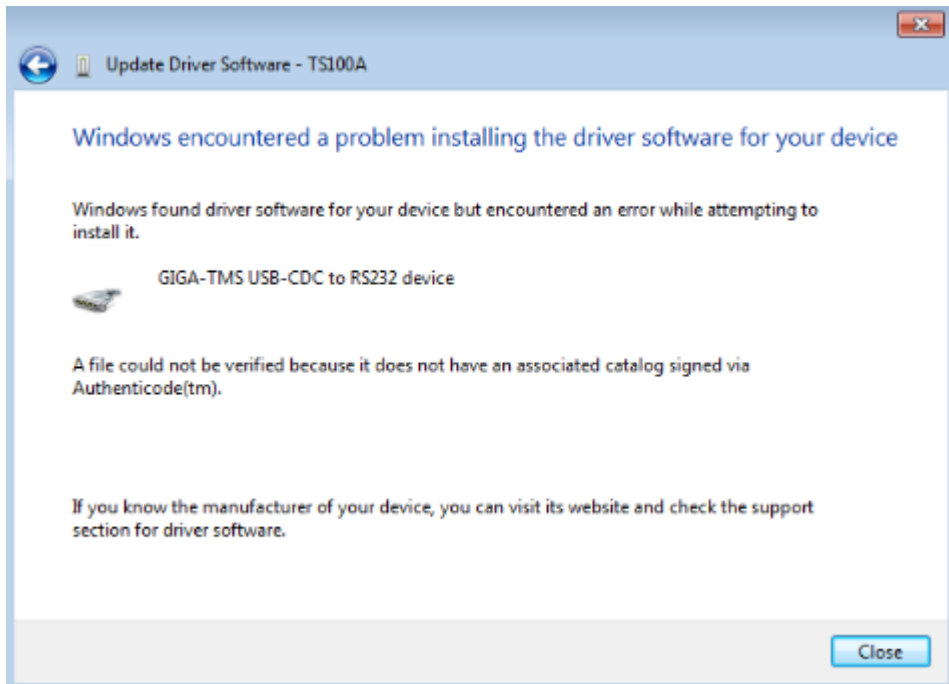
3. Select the directory which contains GIGA-TMS\_CDC.inf.

\* Download & Unzip the file: [https://ftp.gigatms.com.tw/public/disks/common/Driver/GIGA-TMS\\_CDC.zip](https://ftp.gigatms.com.tw/public/disks/common/Driver/GIGA-TMS_CDC.zip)

4. Click [Install this driver software anyway]



5. Wait for installation...



6. After installation, a device named [GIGA-TMS USB-CDC to RS232 device] under [Ports (COM & LPT)]



# Update History

## 27May2024 release

- Version 1.1R11
- Update to TS100 Utility v1.2.30.
- Update [Test Functions](#) snapshot and description.
- Update [Hardware Settings](#) snapshot.
- Update [Buzzer Volume](#) and [Buzzer Repeat](#) description.

## 10May2024 release

- Version 1.1R10
- Update to TS100 Utility v1.2.29.
- Update [TS100/TS100A Features](#) description.
- Update [Explore the User Interface](#) snapshot and add a description of “Description Zone”.
- Update [Read Mode](#), [Security Settings](#), [Hardware Settings](#), [Output Settings](#) and [Advanced Settings](#) snapshots and description.

## 10Oct2021 release

- Version 1.1R9
- Update to TS100 Utility v1.2.15.
- Add [AutoEncode](#) description.

## 8Feb2021 release

- Version 1.1R8
- Update [Sensitivity](#) description.

## 26Feb2020 release

- Version 1.1R7
- Update [Explore the User Interface](#) snapshot.
- Update [Read Mode](#) snapshot and description.

## 17Jan2020 release

- Version 1.1R6
- Add index of [Install CDC driver](#).

## 25Dec2019 release

- Version 1.1R5
- Update [Explore the User Interface](#) snapshot according to TS100Utility v1.2.2

- Update [Read Mode](#), [Deactivate Mode](#), [Reactivate Mode](#) and [Customized Read Mode](#) snapshot and description.
- Update [Write Tags](#), [Deactivate/Reactivate Tags](#) snapshot and description.

#### **10Sep2019 release**

- Version 1.1R4
- Update [USB Type](#) description.
- Add Tutorial: [Install CDC driver](#).

#### **2Jul2019 release**

- Version 1.1R3
- Update [Hardware Settings](#) description.
- Update [Output Settings](#) description.

#### **2Jul2019 release**

- Version 1.1R2
- Add Tutorials: [Deactivate/Reactivate Tags](#)
- Update [Deactivate Mode](#) description.
- Update [Reactivate Mode](#) description.
- Update description of deactivate and reactivate mode in [TS100/TS10A Features](#).

#### **24Jun2019 release**

- Version 1.1R1
- Update [Explore the User Interface](#) snapshot according to TS100Utility v1.1R5.
- Update [Tag Analysis Mode](#) description.
- Add [Output Settings](#) chapter.
- Update [Advanced Settings](#) description.
- Update [Write Tags](#) description.

#### **09May2019 release**

- Version 1.0R10
- Updated [Explore the User Interface](#) snapshot according to TS100Utility v1.1R1
- Update [Hardware Settings](#) snapshot.
  - Add [USB Type](#) description.
- Modify [Advanced Settings](#) snapshot.
  - Add [Lock Settings](#) description.

- Update [Output Interface](#) description.
- Add [Preferences Settings](#) chapter.
- Add [Tutorials](#) chapter.

#### **15Apr2019 release**

- Version 1.0R9
- Updated [Explore the User Interface](#) snapshot according to TS100Utility v1.0R32
  - Add **Preferences** description.
- Updated [Hardware Settings](#) snapshot.
  - Updated **Wi-Fi Settings** description.
- Modify [Advanced Settings](#) snapshot.
  - Updated **Output** description.
- Add [Preferences](#) chapter.

#### **18Mar2019 release**

- Version 1.0R8
- Updated Dynamic Password description.
- Updated Verify description.
- Updated Keyboard Layout description.

#### **28Jan2019 release**

- Version 1.0R7
- Modify [Explore the User Interface](#) according to TS100Utility v1.0R27

#### **07Nov2018 release**

- Version 1.0R6
- Modify Disk Number.

#### **02Nov2018 release**

- Version 1.0R5
- Updated TS100/TS100A Features topic.

#### **31OCT2018 release**

- Version 1.0R4
- Updated TS100/TS100A Features topic.

#### **31OCT2018 release**

- Version 1.0R3
- Add chapters: TS100/TS100A Features, Test Functions, Write Tags.
- Update chapter: Using TS100Utility.

#### **30OCT2018 release**

- Version 1.0R2
- Add chapters: Introduction and System Requirements.

#### **29OCT2018 release**

- Version 1.0R1