



iButtonLink
T E C H N O L O G Y

iButton® Typer™

Customer Manual

Table of Contents

Table of Figures	3
Introduction	4
Copyright Notices	4
Contact Information	4
What is an iButton® Typer™?	5
Family Features	5
Molded Body and Cable Options	5
Printing Data	5
LEDs	5
Customizable Print Options	5
Read Heads	6
HID and Serial	6
Family Members	7
Writing Variants	7
iButton® Serial Number Typer™	7
iButton® MissionCheck™	7
iButton® Log Typer™	8
iButton® Memory Typer™	8
iButton® MissionStop™	9
Non-Writing Variants	9
iButton® MissionStart™	9
iButton® Types	10
How to Use the iButton® Typer™	11
Items needed:	11
Instructions:	11
HID and Serial	12
HID	12
Serial	12
Troubleshooting	13
Appendix A: Disparity on High-Precision Humidity Measurements on DS1923 iButtons®	15
Appendix B: QuickMission™ Software	16

How to Use the QuickMission™ Software.....	17
Materials Needed.....	17
Directions.....	17
Troubleshooting the QuickMission™ Software	20
Glossary of Terms.....	21

Table of Figures

Figure 1: Example of the Serial Typer™ output	7
Figure 2: Example of MissionCheck™ output	7
Figure 3: Example of Log Typer™ output	8
Figure 4: Example of Memory Typer™ output.....	8
Figure 5: Top: iButton® Typer™ with an iButton on it. All three LEDs are on.	11
Figure 6: An iButton serial number entered in to Notepad using the iButton® Typer™.....	12
Figure 7: How the software will look when opened.	16
Figure 8: The device manager window showing where to find the COM port number	17
Figure 9: The QuickMission software. The COM port drop-down menu has been selected and shows the two COM ports in use. As referenced in Figure 8, COM port 4 is being used and will be selected.	18
Figure 10: After selecting, "Start Missioning," a warning will appear stating that starting the mission will erase all data on the iButton® and asking if you wish to continue. Select the green thumbs up to continue missioning, or the red "X" to go back.	18
Figure 11: The program waiting for an iButton® to be placed on the read head of the MissionStart Typer.....	19
Figure 12: QuickMission software showing the model number and serial number of the iButton® that has been missioned. The "Status" section indicated that the mission has been started.	19
Figure 13: The QuickMission software displaying that the mission has failed to start. The left-hand column says that there was an error communicating with the iButton®. This can be caused by the iButton® wiggling around on the read head, the iButton not being fully on the read head, or the iButton® being taken off of the read head too soon.....	20

Introduction

This new incarnation of the iButtonKeyboard provides new features and an easier-to-use interface while retaining all of the original's functionality. The iButton® Typer™ reads and prints the serial number of any iButton®, similar to the function of the old version. However, the new version of the iButtonKeyboard allows for customization with add-ons, including different keyboard layouts.

The iButton® Typer™ family of devices are advanced and intelligent interfaces to be used with Maxim Integrated iButtons®. All members of the family emulate a user typing at a keyboard to quickly, easily, and reliably input data from the iButton® into a word processing program.

Copyright Notices

© iButtonLink, LLC 2018 All rights are reserved. This document may not, in any form, be reproduced or transmitted without the prior consent from iButtonLink, LLC.

iButton® and 1-Wire® are registered trademarks of Maxim Integrated, San Jose, CA USA

Contact Information

iButtonLink, LLC
1221 Innovation Drive STE 117
Whitewater, WI 53190

Phone: (262) 662-4029
Fax: (262) 436-2403
Email: info@ibuttonlink.com
Website URL: www.ibuttonlink.com

What is an iButton® Typer™?

The iButton® Typer™ is the new incarnation of an old iButtonLink product, the iButtonKeyboard. The idea behind the iButtonKeyboard was simple: create an easier way to read the serial numbers from iButtons® and input them into a word processing program without having to type it out by hand. The iButtonKeyboard did just this, but eventually customers wanted more.

Enter the iButton® Typer™ and family. This new development by iButtonLink takes the old function of the iButtonKeyboard– inputting iButton serial numbers without having to type them by hand– and adds new features that make the iButton® Typer™ customizable and able to be used for more than just entering serial numbers.

Family Features

The iButton® Typer™ family has common features in addition to those that make each family member distinct. Learn more about the family features below.

Molded Body and Cable Options

Each iButton® Typer™ family member is molded in MacroMelt, making it water resistant. Additionally, in a break with the previous iButtonKeyboard, the iButton® Typer™ does not include a micro-USB cable with the product; a 1.5 ft micro-USB cable can be purchased separately from iButtonLink or the customer can use their own.

Printing Data

Data will be printed (or “typed”) into an open word processing program, such as Microsoft Word®, Microsoft Excel®, or Notepad, at the point the cursor is set. The data will be printed in the format specified in the document, including font style and font size. The user can instantly input data into the file most convenient for them without having to convert files or install new programs.

LEDs

Each iButton® Typer™ has three LEDs along the side to indicate the status of the iButton® being read. When connected to a computer, the red LED will come on, indicating that the Typer™ is powered. Shortly after, the yellow LED will come on, showing that the computer has recognized the Typer™. When an iButton® is placed on the read head, the green LED will come on, letting the user know that the Typer™ has recognized the iButton®.

In the case of the iButton® MissionCheck™, the LEDs can be used to read the status of the alarms set on the iButton® if a word processing program is not readily available. The red LED indicates that an alarm has been triggered. The green LED indicates that no alarm has been triggered. The yellow LED indicates that no alarms were set.

Customizable Print Options

Each member of the iButton® Typer™ family is able to be programmed to make the data printed customized for the user’s purpose.

- **US or International keyboard layouts** – have the information entered in the keyboard layout most useful to you*
- **Up to 32 characters of prefix/postfix** – have a custom string of up to 32 characters printed either before or after the serial number is printed†
- **On find/on release** – have the keyboard print both on find and on release of an iButton. The characters it prints on release can be customized up to 32 characters.†
- **Uppercase/lowercase** – have the keyboard print in uppercase letters or lowercase letters†
- **Part of serial number** – have the keyboard print only part of the iButton’s serial number†

* – programmable to all Typer™ family members

† – programmable to the iButton® Serial Typer™ only

Read Heads

Every member of the iButton® Typer™ family is available with a touch read head, allowing for the iButton® to just be placed onto the iButton® Typer™. The data will be read from the iButton® almost instantaneously.

The iButton® Memory Typer™ and Log Typer™, which have more data to deposit, are also available with a Maxim DS9100 Touch-and-Hold read head. The iButton® snaps into this read head, allowing for the iButton® to stay steady while printing its data. The iButton® can be easily removed from the read head when the data is done being written.

HID and Serial

The iButton® Typer™ family is available in both HID and serial modes. For more information on these settings, please see “HID and Serial” in the section [“How to Use the iButton® Typer™”](#).

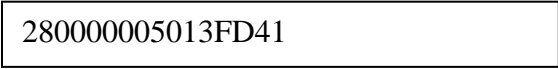
Family Members

Writing Variants

These members of the Typer™ family have the ability to take information from your iButtons®, such as the serial number, the data log, the memory, or the alarm statuses, and “write” or “type” it into an open word processing program. The other details of this part of the Typer™ family are described in the rest of the manual.

iButton® Serial Number Typer™

The iButton® Typer™ reads the 16-digit serial number of any iButton® using a touch read head. The keyboard will record the number into an open word processing program, such as Microsoft Word®, Microsoft Excel®, or Notepad. The serial number will be typed at the point the cursor is set and in the same font style and size set in the document.



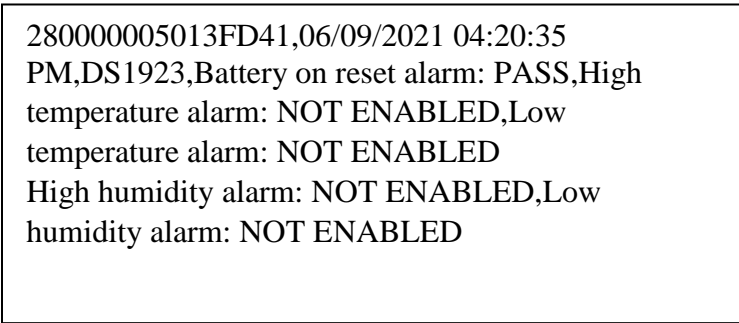
```
280000005013FD41
```

Figure 1: Example of the Serial Typer™ output

iButton® MissionCheck™

The iButton® MissionCheck reads the alarm status of an iButton® and types it into an open word processing program, such as Microsoft Word®, Microsoft Excel®, or Notepad. The alarm data will be typed at the point the cursor is set and in the same font style and size set in the document.

When plugged into a power source, such as a USB wall charger, instead of a computer, the LEDs on the MissionCheck™ can also be used to read the status of the alarms. The red LED indicates that the temperature has gone beyond or below the set parameters, triggering the alarm. The green LED indicates that the temperature has stayed within the programmed parameters and therefore has not triggered the alarm. The yellow LED indicates that there was an issue and the iButton® could not be read.



```
280000005013FD41,06/09/2021 04:20:35  
PM,DS1923,Battery on reset alarm: PASS,High  
temperature alarm: NOT ENABLED,Low  
temperature alarm: NOT ENABLED  
High humidity alarm: NOT ENABLED,Low  
humidity alarm: NOT ENABLED
```

Figure 2: Example of MissionCheck™ output

Optionally, the iButton® MissionCheck™ can be programmed to stop the mission as well.

iButton® Log Typer™

The iButton® Log Typer™ types the entire log of an iButton® data logger into an open word processing program, such as Microsoft Word®, Microsoft Excel®, or Notepad. The data log will be typed at the point the cursor is set and in the same font style and size set in the document.

This will enable you to read the data gathered by the iButton® during a mission without having to install a new program. The data can be entered into Excel®, or any other software.

```
Date/Time,Unit,Value
02/27/2017 02:26:11 PM,C,31.5
02/27/2017 02:26:16 PM,C,31.5
02/27/2017 02:26:21 PM,C,31.5
...
02/27/2017 02:41:21 PM,%,22.44
```

Figure 3: Example of Log Typer™ output

iButton® Memory Typer™

The iButton® Memory Typer™ types the entire memory of an iButton® into an open word processing program, such as Microsoft Word®, Microsoft Excel®, or Notepad. The memory contents will be typed at the point the cursor is set and in the same font style and size set in the document.

```
00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E
0F
10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E
1F
20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E
2F
...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 23
```

Figure 4: Example of Memory Typer™ output

iButton® MissionStop™

The iButton® MissionStop is similar to the iButton® MissionCheck™ in that it checks the alarm status of the iButton®, but it also stops the iButton®’s clock from running. It then prints the alarm status into an open word processing program, such as Microsoft Word®, Microsoft Excel®, or Notepad. Additionally, the alarm status is displayed on the LEDs.

Stopping the iButton® clock will stop any data collection. An iButton® QuickMission™ or iButton® programming software, such as 1-Wire® Viewer, will be needed to resume the mission and start collecting data again.

When no alarms have been triggered, the green LED will turn on. When there is an issue reading the iButton® or there are no alarms set, the yellow LED will turn on. If an alarm has been triggered, the red LED will turn on. The alarm status will be “typed” into an open word processing program as well (see [Figure 2](#) for an example of the output).

Non-Writing Variants

This part of the Typer™ family doesn’t “write” or “type” anything into an open word processing program. Instead, these Typers™ directly affect the internal clock of the iButtons, either starting or stopping it from gathering data.

iButton® MissionStart™

The MissionStart™ Typer™ only works when used with the iButton® QuickMission™ software. This Typer™ variant starts the clock on an iButton®, allowing it to record data. This is ideal for applications where iButtons® are missioned ahead of time, but do not need to start gathering data right away. Instead of programming in a long delay and wasting battery life, the internal clock of the iButton® can be stopped and then started again when needed.

The MissionStart™ Typer™ ONLY starts the internal clock of the iButton® and allows any programmed missions to start.

There are three LEDs molded into the body of the iButton® MissionStart™. The yellow LED indicates that the iButton® MissionStart™ is powered. The green LED indicates that the QuickMission™ software is reading or starting a mission on the iButton®. The red LED indicates that the software failed to mission.

For more information on how the MissionStart™ Typer™ works with the QuickMission™ software, please see “[Appendix B: QuickMission™ Software](#).”

iButton® Types

The members of the iButton® Typer™ family each work with a specific type or types of iButton®. The following chart can help you decide which iButton® Typer™ family member is right for the kind of iButtons® used in your application.

Family Member	Tasks	Supported iButtons
iButton® Serial Number Typer™	<ul style="list-style-type: none"> Automatically type in iButton® serial numbers when enrolling new users Check iButton® serial numbers 	Recommended: DS1990A, DS1990R Supported: All
iButton® MissionCheck™	<ul style="list-style-type: none"> Quickly check alarm status of any iButton® data logger Provide LED pass/fail check for shipment acceptance Type in alarm information Watch tour temperature alarm check Optionally, stop iButton® mission 	<ul style="list-style-type: none"> DS1921 family DS1922 family DS1923 DS1925
iButton® Log Typer™	<ul style="list-style-type: none"> Type in the entire log of an iButton® data logger. Enter log data into Excel, R, or other software Create a CSV file of log data quickly and easily Optionally, stop the iButton® mission 	<ul style="list-style-type: none"> DS1921 family DS1922 family DS1923 DS1925
iButton® Memory Typer™	<ul style="list-style-type: none"> Type in the memory stored in an iButton® 	<ul style="list-style-type: none"> DS197X family DS1992L/DS1993 DS1996L/DS1995 DS1921 family DS1922 family DS1923 DS1925
iButton® MissionStart™	<ul style="list-style-type: none"> Start a mission programmed to an iButton® 	<ul style="list-style-type: none"> DS1922 family DS1923
iButton® MissionStop™	<ul style="list-style-type: none"> Stop a mission programmed to an iButton® Quickly check alarm status of any iButton® data logger Type in alarm information 	<ul style="list-style-type: none"> DS1921 family DS1922 family DS1923

How to Use the iButton® Typer™

The iButton® Typer™ is a fast, easy-to-use method of reading serial numbers from iButtons®. There are no drivers to download before using the iButton® Typer™.

Items needed:

1. (1) iButton® Typer™
2. (1) Micro-USB cable
3. (1) Computer with a USB port
4. (1) Computer program with writing capabilities (Microsoft Word®, Microsoft Excel®, Notepad, etc)
5. Any number of iButtons®

Instructions:

1. Locate a USB port on the computer being used.
2. Plug the USB end of the iButton® Typer™ into the USB port. The computer should immediately recognize this as a keyboard and will not require any additional drivers to be downloaded. The red LED will come on, followed by the yellow LED.
3. Open the word processing program of choice. Format as desired.
4. Place the iButton® onto the read head. The green LED will come on. The serial number of the iButton® will type automatically into the word processing program.
5. Repeat Step 4 as needed.



Figure 5: Top: iButton® Typer™ with an iButton on it. All three LEDs are on.

Bottom: The iButton® Typer™ without an iButton on it. The red and yellow LEDs are on.

When the serial number is printed, it will look like the following:

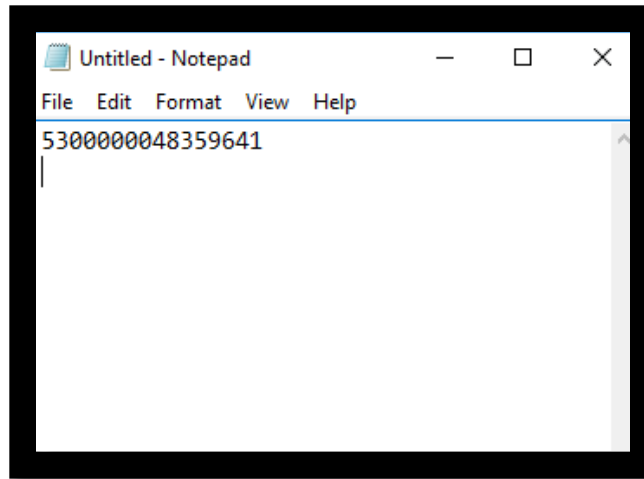


Figure 6: An iButton® serial number entered in to Notepad using the iButton® Typer™

HID and Serial

HID

The iButton® Typer™ does not need to have any custom drivers installed, similar to a normal keyboard. When the device is plugged into a USB port on a computer, it will function like a normal keyboard and “type” the serial number of the iButton®. This works on Windows and Linux.

Serial

The iButton® Typer™ can also be used as a serial device. As a serial device, make sure the settings are as follows:

- 115200 baud
- 8 data bits
- No parity
- 1 stop bit
- No flow control

If your computer is running Windows 10 or Linux, this will work without installing drivers. However, drivers will be needed if you are using Windows 8, 7, or XP. To install the drivers on those systems, run the installer found on the iButtonLink website. The installer will install files to your Windows System directory, so administrator privileges may be required.

When the iButton® Typer™ is being used as a serial device, it becomes possible program the device. This should only be performed by an iButtonLink technician or an authorized distributor. Do not attempt to program the iButton® Typer™ yourself.

Troubleshooting

Users will occasionally run into issues when using the iButton® Typer™. This section is intended to be a guide for users to attempt to answer several common questions. Technical support can also be reached by emailing info@ibuttonlink.com or calling (262) 662-4029 during our business hours.

Problem: “When I plug in the device, the red and yellow LEDs are on all the time. What does this mean?”

Solution: This is normal behavior. Please see the [description section](#) for more information on the LEDs on the iButton® Typer™.

Problem: “When I plug the device in, I only see a yellow LED on and nothing happens when I place an iButton® on the read head.”

Solution: This indicates that there is an electrical short on the device’s read head. Make sure that there is no debris on the read head when plugging it into the computer.

Problem: “The yellow and red LEDs are on, but when I put an iButton® on the read head, the green LED flashes a few times and nothing is typed on my computer screen.”

Solution: This indicates a bad connection between the iButton® and the iButton® Typer™. Make sure the correct side of the iButton® is touching the read head when you place it on the iButton® Typer™. Also make sure that there is not any debris on the read head.

Problem: “The yellow and red LEDs are on, but when I put an iButton® on the read head, nothing happens.”

Solution: This could mean one of two things. First, it could mean that the device is still being configured by the computer’s operating system. In most situations, it should only take a couple of seconds at most. However, if it takes more than 30 seconds, unplug the iButton® Typer™ from the computer and plug it back in again.

Second, this could mean that the iButton® Typer™ is not able to make any connection with your iButton®. Make sure there is not any debris on the read head. Make sure that the iButton® functions properly on any other device.

Problem: “When I place the iButton® on the read head, it prints out a lot of weird characters instead of the serial numbers.”

Solution: This means that you received an iButton® Typer™ that was not set up for your operating system’s current keyboard layout. Try switching your operating system’s keyboard to the QWERTY U.S. keyboard layout or reprogramming it to your preferred layout.

Problem: “All three LEDs are on and the iButton® Typer™ is unresponsive.”

Solution: This indicates that a serious error has occurred. It could be anything from a bad USB cable, a bad USB port, an internal hardware failure, or a bug in the internal software. Unplug the iButton® Typer™ and plug it back in again. If the error keeps occurring, try using a different USB cable and a different USB port on the computer. If the error still happens after switching out the USB cable and port, please contact iButtonLink.

APPENDIX A: Disparity on High-Precision Humidity Measurements on DS1923 iButtons®

In some pieces of software (Eclo, 1-Wire® Viewer), the measurement on high-precision humidity can vary by, at most, 0.2% RH due to a bug with how the values in the ADC (Analog to Digital Converter) are read. This is within the error range of the iButton®.

The manufacturer has been made aware of this error.

APPENDIX B: QuickMission™ Software

The QuickMission™ software starts a mission programmed to an iButton®. **It can only be used with the MissionStart™ Typer™ and with an iButton® that has a mission programmed to it but is not currently collecting data.** The software will **not** stop a mission from running.

The software can be downloaded for free from ibuttonlink.com. The iButton® MissionStart™ needs to be connected to a PC with a micro-USB cable. When the MissionStart™ is powered, the yellow LED will be on. The MissionStart™ can be plugged in either before or after the software is opened.

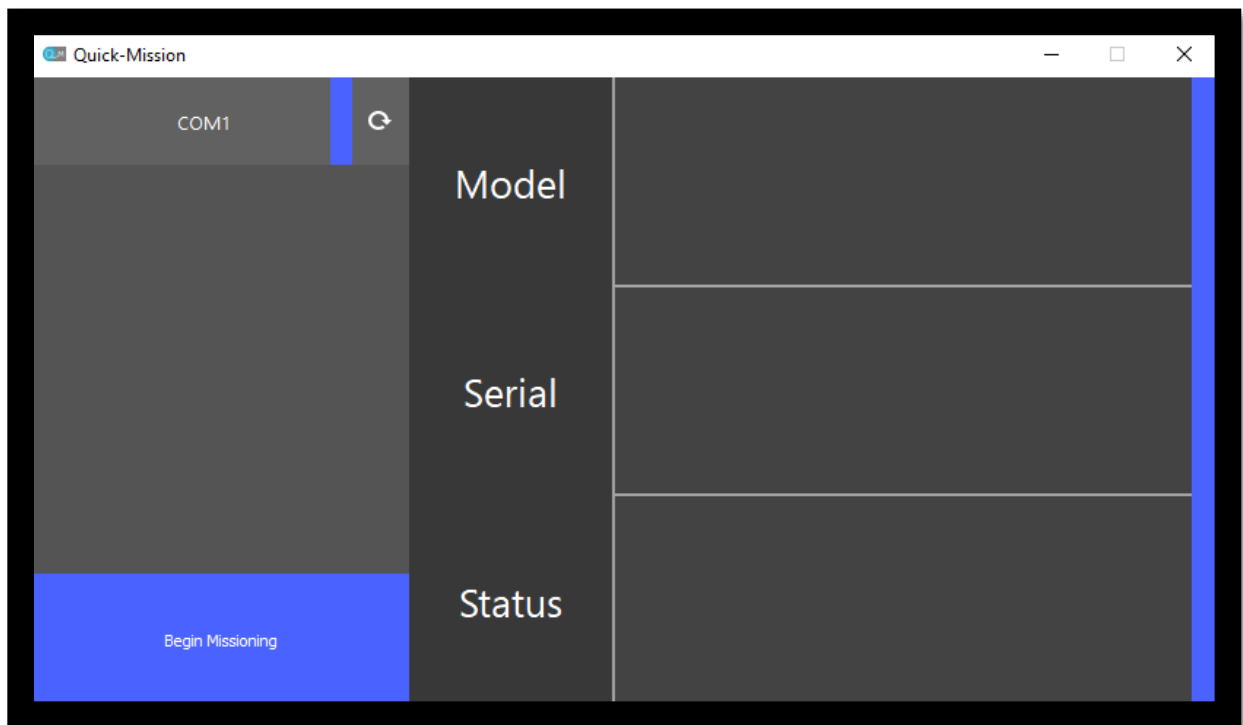


Figure 7: How the software will look when opened.

When opened, the software will look like the screen above. On the upper left-hand side of the window, there is a dropdown menu to select the COM port for the USB. Next to it is a refresh button to refresh the COM port list if needed.

At the bottom of the left-hand column, there is a “Begin Missioning” button.

The right-hand column is where the model number, the serial number, and the status of the iButton® being missioned will be displayed when an iButton® is held on the read head and “Begin Missioning” has been pressed.

How to Use the QuickMission™ Software

Materials Needed

1. (1) iButton® MissionStart™ Typer™
2. (1) micro-USB cable
3. (1) computer with a USB port
4. (1) iButton® QuickMission™ software
5. Any number of iButtons® with a mission programmed

Directions

1. Download and install the QuickMission™ software from iButtonLink.com.
2. Open the QuickMission™ software
3. Plug the micro-USB cable into the iButton® MissionStart™ Typer.
4. Plug the USB cable in to one of the USB ports on the computer being used.
5. Select the COM port for the iButton® MissionStart™ Typer™. This information can be found by navigating to the device manager from the start menu and looking under the “Ports” section. The COM port number can be found in parenthesis after the device description. The iButton® MissionStart™ Typer™ is a USB Serial Device.

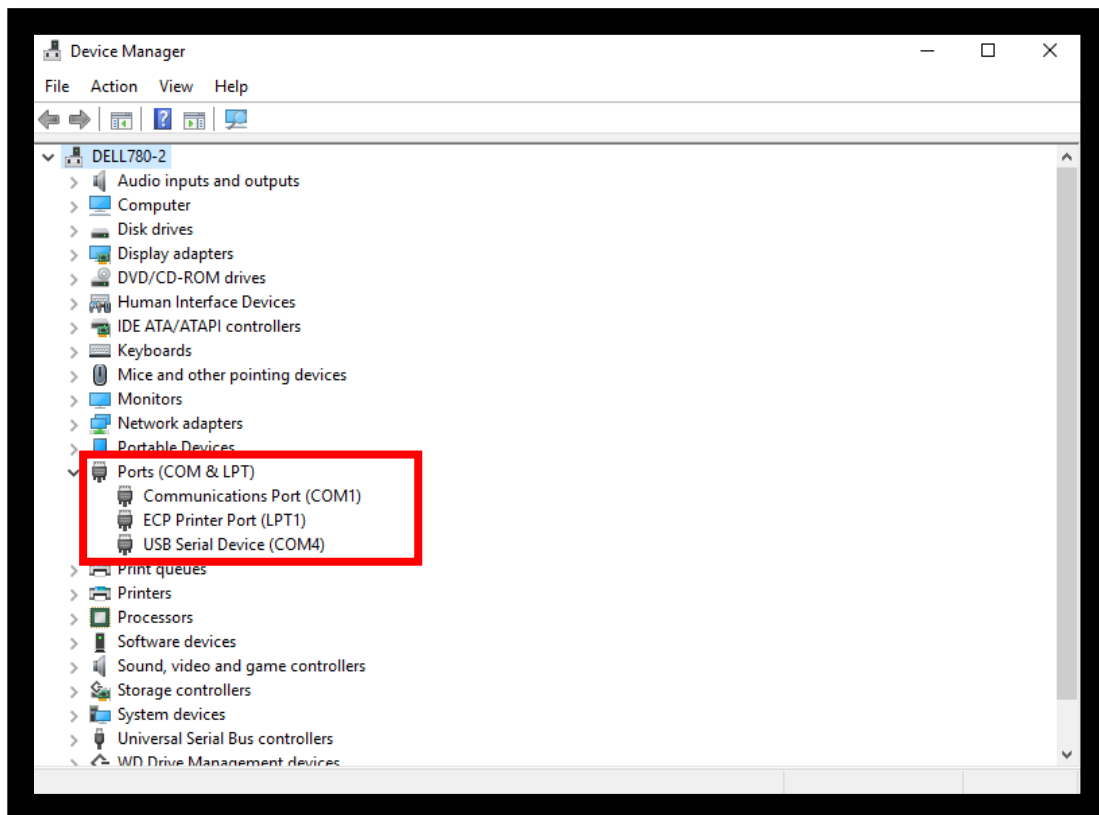


Figure 8: The device manager window showing where to find the COM port number

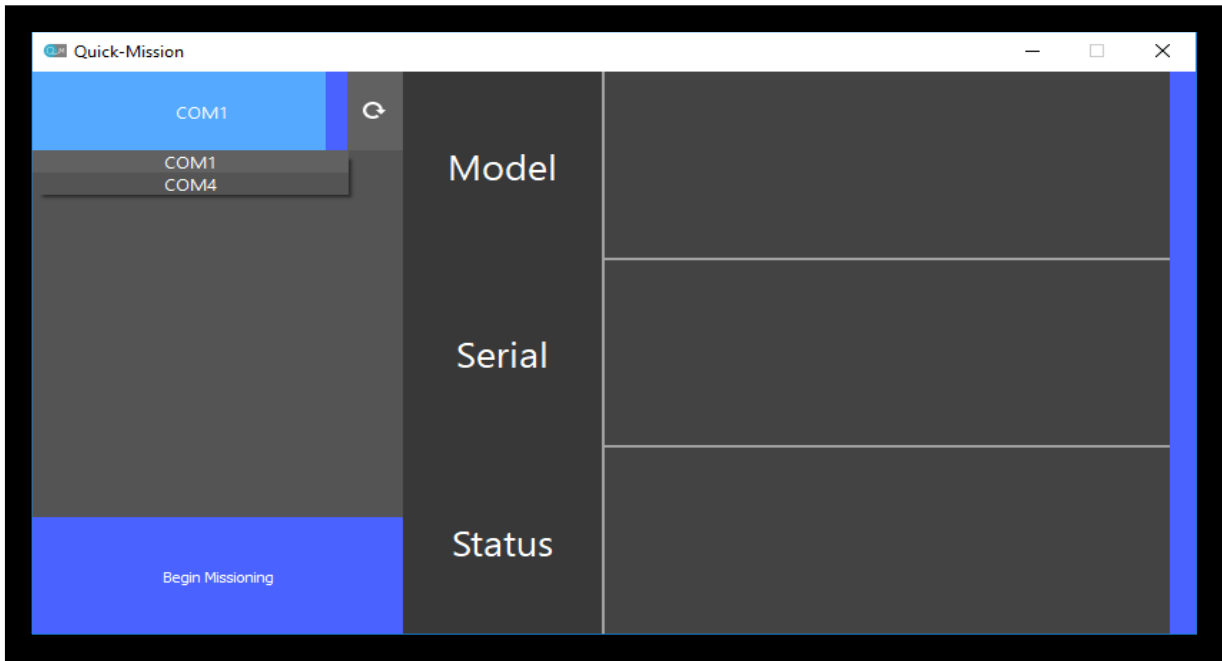


Figure 10: The QuickMission™ software. The COM port drop-down menu has been selected and shows the two COM ports in use. As referenced in Figure 8, COM port 4 is being used and will be selected.

6. Select “Begin Missioning” at the bottom of the left-hand column. A warning will appear stating that starting a mission will erase all the data on your iButton® and asking if you wish to continue. Select the green thumbs up to continue or the red “X” to go back.

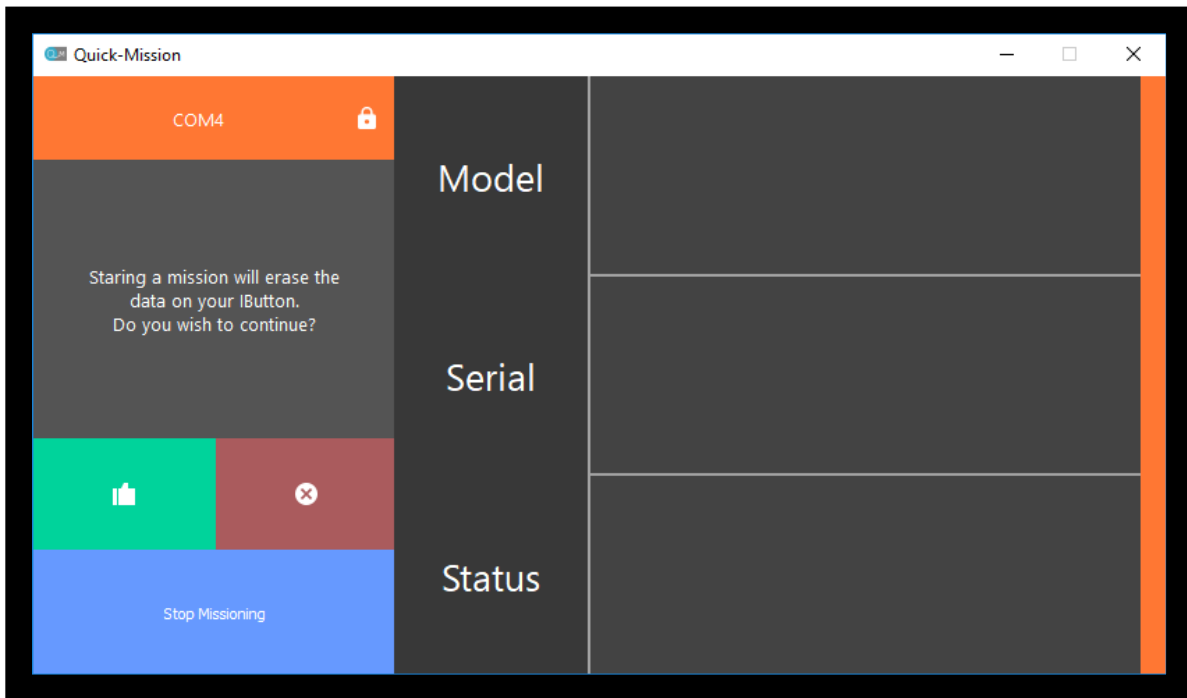


Figure 9: After selecting, "Start Missioning," a warning will appear stating that starting the mission will erase all data on the iButton® and asking if you wish to continue. Select the green thumbs up to continue missioning, or the red "X" to go back.

- After clicking the green thumbs up, the software will display the following screen. You will then be able to place and hold an iButton® on the read head.

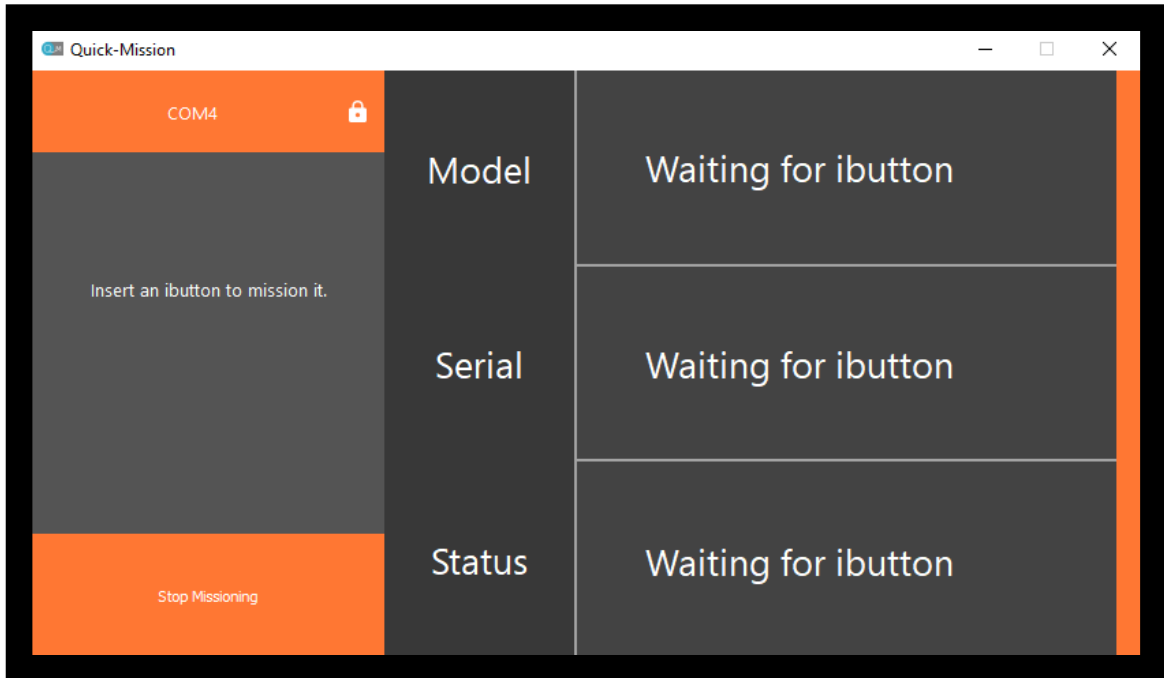


Figure 11: The program waiting for an iButton® to be placed on the read head of the MissionStart™ Typer™.

- Place and hold an iButton® on the read head of the MissionStart™ Typer™. The software will display the model number of the iButton®, the serial number of the iButton®, and the status (mission started or mission failure). The green LED will light up when the mission has been started successfully.

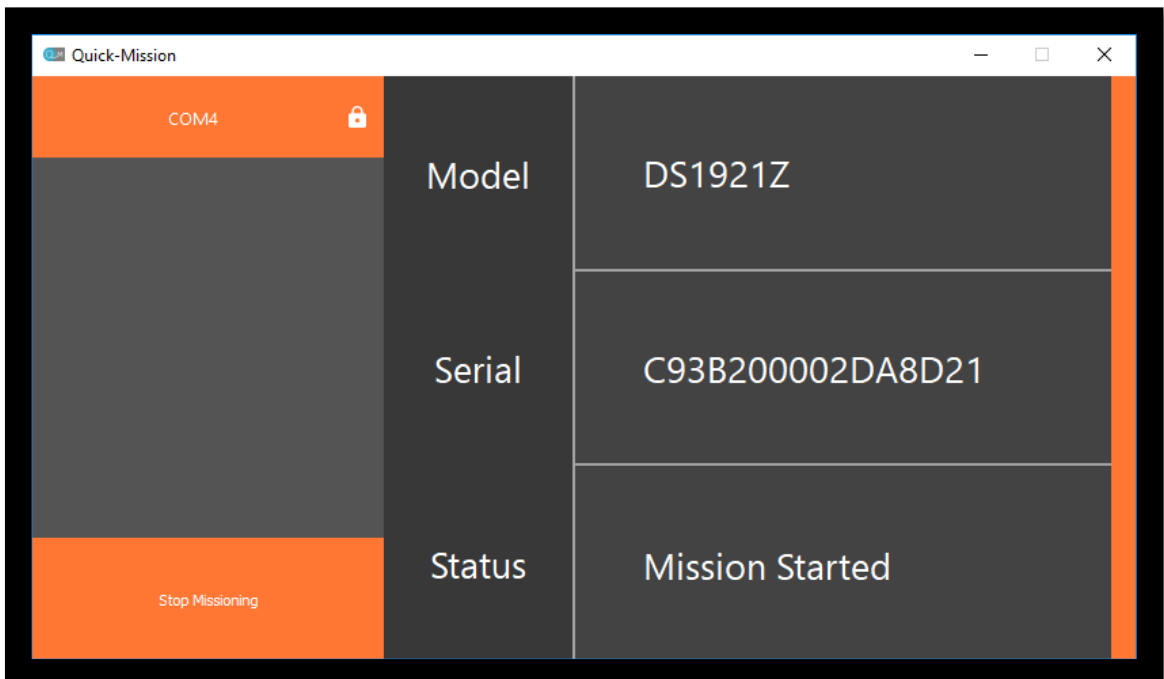


Figure 12: QuickMission™ software showing the model number and serial number of the iButton® that has been missioned. The "Status" section indicated that the mission has been started.

NOTE: If the iButton® is wiggled around on the read head or not fully on the read head, the mission will fail to start and the red LED will light up. The iButton® must be held still on the read head while the mission is being started. This should only be a few seconds.

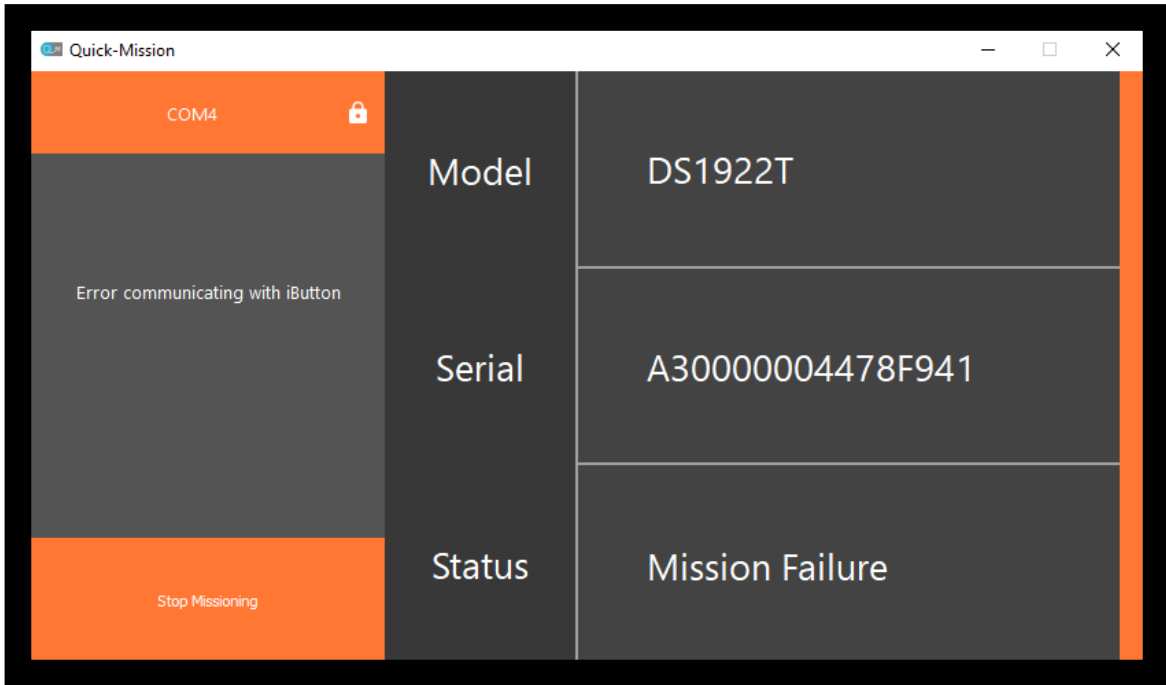


Figure 13: The QuickMission™ software displaying that the mission has failed to start. The left-hand column says that there was an error communicating with the iButton®. This can be caused by the iButton® wiggling around on the read head, the iButton® not being fully on the read head, or the iButton® being taken off of the read head too soon

9. To mission another iButton®, select “Stop Missioning,” and return to step 6. Repeat as many times as necessary.

Troubleshooting the QuickMission™ Software

- If the QuickMission™ software shows an error/mission failure from the iButton® being read improperly, stopping the mission and starting over from step 6 will generally fix it.
- If the green and yellow LEDs come on when trying to mission an iButton®, unplug the iButton® MissionStart™ Typer™ and plug it back in again.

Glossary of Terms

B

Baud

A unit of transmission speed equal to the number of times a signal changes state per second. One baud is equivalent to one bit per second.

C

COM number

The number associated with a serial communications port on a computer.

D

Data bits

The number of bits used to represent one character of data. When transmitting ASCII text via modem, either seven or eight bits may be used. Most other forms of data require eight bits.

F

Flow control

Flow control is the management of data flow between computers or devices or between nodes in a network so that the data can be handled at an efficient pace. Too much data arriving before a device can handle it causes data overflow, meaning the data is either lost or must be retransmitted.

H

HID

Human Interface Device. A computer device that takes input from humans.

O

On find

The iButton® Typer™ will print the serial number as soon as it recognizes an iButton® is placed on the read head.

On release

The iButton® Typer™ will print the serial number as soon as the iButton® is taken off of the read head.

P

Parity

A bit added to a string of binary code to ensure that the total number of 1-bits in the string is even or odd. Parity bits are used as the simplest form of error detecting code.

R

Read Head

Part of the Typer™ where the iButton® can be inserted and read by the keyboard.

S

Serial

Serial Communication. The process of sequentially sending one bit of data at a time over a communication channel or computer bus.

Serial Number

A 16-digit identification number given to the iButton® by the manufacturer.

Shorted

Short circuit. A short circuit is an abnormal connection between two nodes of an electric circuit intended to be at different voltages

String

A set of characters