



iButtonLink
T E C H N O L O G Y

iButton® Typer™

Customer Manual

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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.

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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® Alarm Typer™, 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. Customization specifications will be taken at the time of order and programmed by an iButtonLink technician before the iButton® Typer™ is shipped. Do not attempt to program the Typer™ yourself.

- **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

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.



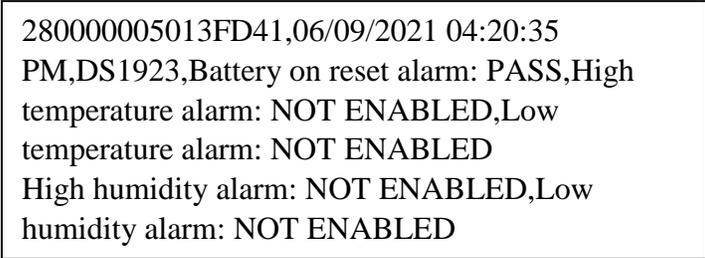
```
280000005013FD41
```

Figure 1: Example of the Serial Typer™ output

iButton® Alarm Typer™

The iButton Alarm Typer™ 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 Alarm Typer™ 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 indicated that the temperature has stayed within the programmed parameters and therefore has not triggered the alarm. The yellow LED indicates that no alarms were enabled.



```
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 Alarm Typer™ output

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 general-purpose 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: Exmaple of Memory Typer output

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® Alarm Typer™	<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 a 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

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:

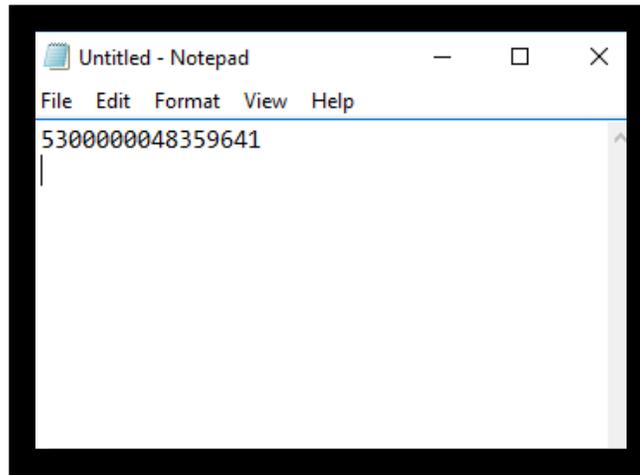


Figure 6: An iButton serial number entered in to Notepad using the iButton® Typer™

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.

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