

# *iButton Interface Module.*

*iButton Interface Module* provides an efficient, user-friendly solution for authorized access and key management challenges. The compact iButton based system is self-contained, requires no software and allows users to quickly setup, modify, add and delete access privileges with touch of a button. A user need only touch the electronic key to the reader to authenticate the key and receive access. iButton Interface Module (IIM) can either control lock solenoid or be connected to another electronic module to facilitate more advance functions.

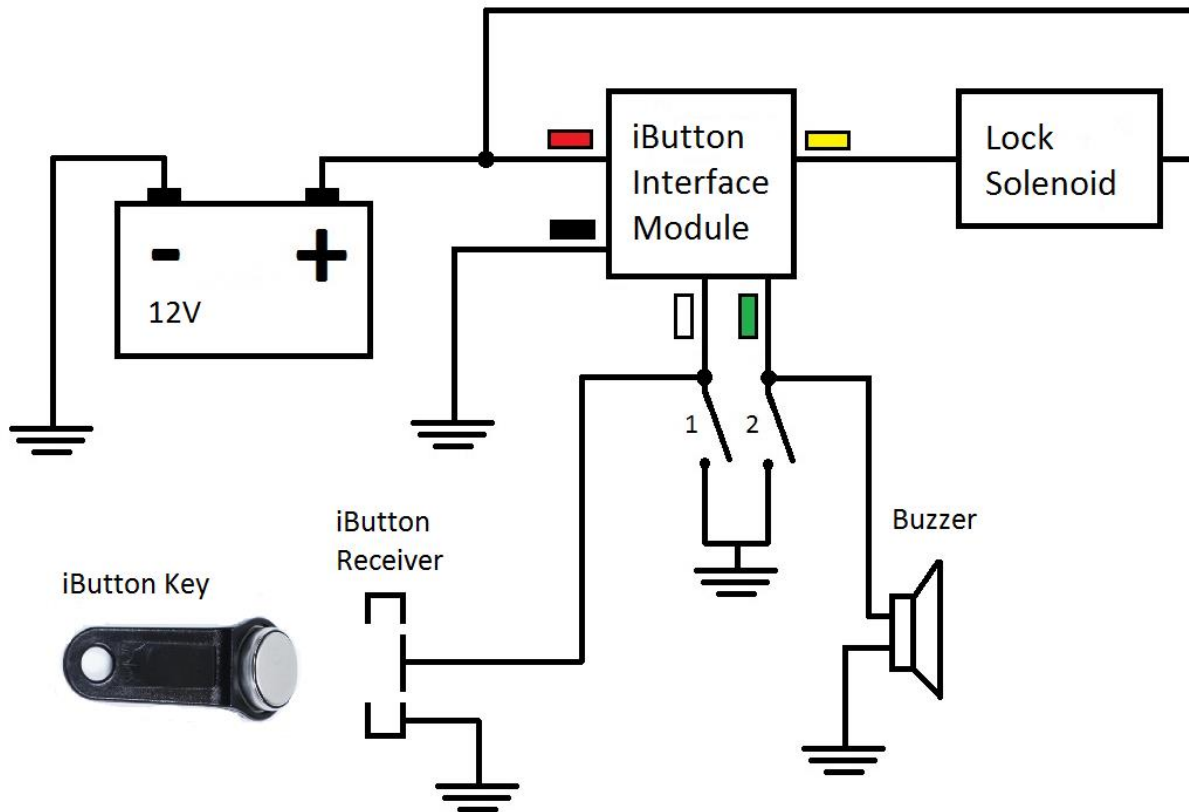
IIM can function in three different modes:

- 1- Timeout mode.
- 2- Timeout Enhanced Mode.
- 3- On-Off mode.

IIM can manage up to 20 keys and provide up to 10amp of output current making it suitable for various applications like:

- Door lock control
- Construction equipment, off-highway vehicles, farm equipment
- Electronic enclosures
- Gaming
- HVAC
- Industrial machinery
- Marine
- Secure storage
- Vending Machines
- Secure On Off switch

Voltage range:	5v-20v
Max current:	10amp
Minimum time duration:	0.1 second
Maximum time duration:	400 days
Current consumption:	0.004amp
Max number of keys	20
Key type	DS1990A



\*\*\* For up to date installation instructions and videos visit [www.bit.ly/timer20](http://www.bit.ly/timer20)

## 1. Please read the entire manual before connecting and using iButton Interface Module.

iButton Interface Module consist of :

- iButton Key – 64 bit unique code user ID.
- Controller – validates user key against stored IDs.
- iButton Receiver – vandal proof iButton receiver.
- Buzzer – provides key access and configuration feedback.
- Buttons 1 and 2 – optional buttons to manage mode and timeout setting.

## 2. Key management.

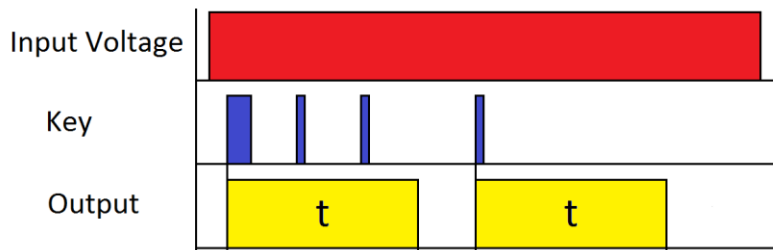
During initial setup the first key enrolled becomes the master programming key. Master programming key will be used only to add or delete access keys.

- Initial touch of the key will produce long beep which indicates successful register of the master programming key.
- Next touch of the master programming key will produce an increasing frequency melody which indicated starting of the programming mode.
- An un-programmed key connected to the iButton receiver while in programming is added to the valid key list and confirmed with a single beep.
- A programmed key connected to the iButton receiver while in programming is deleted from the valid key list and confirmed with the double beep.
- Another touch of the master key ending the programming mode which is confirmed with a decreasing frequency melody.

If the master key is lost then full reset of the unit has to be performed. See unit full reset procedure below.

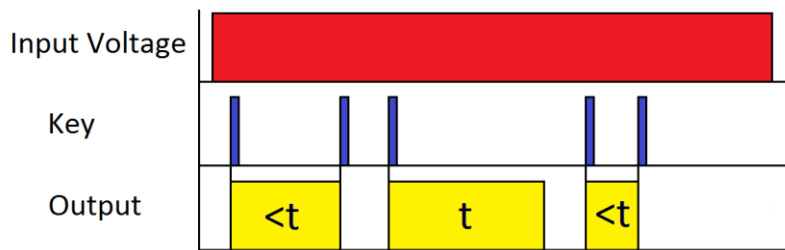
## 3. Understanding iButton Interface Module modes.

### **TIMEOUT (Default mode)**



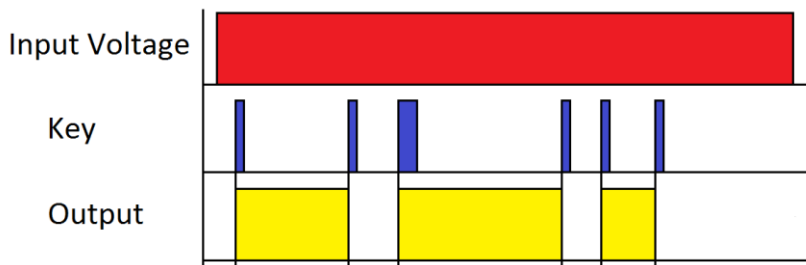
Timeout mode allows the user to activate output every time the key is authenticated. The time  $t$  is set from the factory to 2 seconds which works great with electronic solenoid locks. The time can be changed and set between 0.1sec and 400 days depending on the timeout needs.

### **TIMEOUT Enhanced mode**



In Timeout Enhanced mode not only user can activate the output with preset timeout but second application of the key, while output is active, will deactivate the output and reset timeout. The time  $t$  is set from the factory to 2 seconds which works great with electronic solenoid locks. The time can be changed and set between 0.1sec and 400 days depending on timeout needs.

## On-Off mode



In On Off mode application of the key will first activate output and consecutive application of the key will deactivate the output. In this mode system acts as a secure On-Off switch.

### 4. Changing modes and time duration.

From the factory IIM comes set to Mode 1 (Timeout) and  $t$  set to 2 seconds. This works great for electronic solenoid lock where the successful authentication of the key activates the lock for 2 seconds. There are three different modes (see above), so IIM can be switched to any of the three modes depending on implementation. Time  $t$  can also be set from 0.1sec to 400 days duration.

To change the modes and timing, buttons 1 and 2 would need to be connected to the module White and Green wires (as shown on the diagram above).

To change mode and timing follow the procedure below:

- Push button 1 and 2 (or ground White and Green wires) and supply power to the module. The output will become active. Release buttons. Module is now in programming mode.
- To change the timing  $t$  push the button 1 and hold it for the period of time you want it to set. For example if the required duration is 5 seconds then push button 1 for 5 seconds and release.
- Then push buttons 1 and 2 together to save configuration and move the next parameter. Once both buttons are pushed the output will become active for 3 seconds as a confirmation.
- Now mode can be set. Push the button 1 according to required mode. Push one time to set the mode to 1, push two times to set the mode to 2 and etc.
- Disconnect the power. Now module is set. Test the functionality and redo programming if necessary.

Mode and time programming procedure is identical to multi-functional timer procedure. For more details visit: <http://bit.ly/timer20doc>

### 5. Full reset of the iButton interface module.

Follow the procedure to fully delete all the stored keys and reset configuration to default.

- Push button 1 and 2 (or ground White and Green wires) and supply power. The output will become active. Without releasing button 1 and 2 remove disconnect and reply the power. Repeat power application five times. On the fifth time the output will cycle two times indicating full reset.
- Repeat master key programming and adding additional keys.