

## iButton System Manual Projtechs – 2 Relays (R1/R2)

### 1. Introduction

Projtechs thanks you for purchasing this Access Control - iButton.

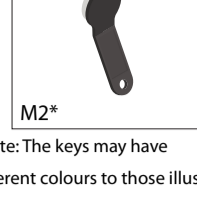
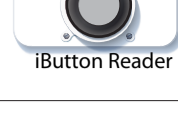
This system was developed for practical and secure access control for gates/conveyor /shutters, controlled by an electric motor with intelligent actuation by two alternating relays.

Authentication and security through iButton keys (DS1990A / 1-Wire).



This model works with:

- **1 Main Master Key (M1)** – System Administrator
- **1 Secondary Master Key (M2)** – Group Master
- **Up to 26 user keys**, each one associated with the master that registered it:
  - Users of M1
  - Users of M2




\*Note: The keys may have different colours to those illustrated


Each master can only manage its own users.

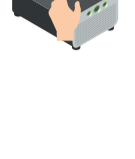
### 2. Components and Visual Indicators

#### LED Lights:

- **Green** +  confirms actions / success.
- **Red** = Error / Access denied

#### Components:


- **Button:** works as the "key"
- **Reader:** Where you place the iButton keys
- **Sound:** Makes a "beep" to confirm actions 



#### Initial Preparation (only done once)

### 3. Starting from Scratch - Total Reset

**Warning:** This procedure erases EVERYTHING (masters and users)


1. Switch off the power
2. Press and hold the button
3. Switch on the power (still with the button pressed)
4. Continue holding for 10 seconds
5. The system confirms with a sequence of green and red LEDs and beeps. 
6. Release the button only after 10 seconds.



**Ready!** The system is clean and ready to use.

### 4. Creating Your Main Key (M1)

The **M1** is the most important key - it is the system administrator.

1. After cleaning the system (or if it's new), place any key on the reader
2. This key automatically becomes the Main Master Key (M1)
3. The green LED lights up and you hear a beep 



**IMPORTANT:** Keep this key safe! Only it can control the entire system.

#### 4.1 Creating and Managing the Second Master Key (M2)

The M2 is an optional master key, useful for having a second administrator with limited powers or for adding keys for tenants, employees... to their own group of users.

##### What is the M2 for?


- To give a key to an employee
- Give control to a shift manager
- Manage users of a specific area




#### 4.2 How to Create the M2

**IMPORTANT:** Only M1 can create or delete M2!

##### 1. Enter programming mode with M1:

- Place M1 to enter programming mode.
- **Click the button once** (no need to hold).
- The system enters "M2 registration mode" (confirms with short beeps). 



2. Place the key you wish to transform into M2.
3. The system saves M2 and confirms (green/beep). 
4. To exit programming mode, place M1 again.



##### 5. M2 created successfully!

- Ready!** Now you have two master keys:
- **M1** - Can manage everything (including M2)
  - **M2** - Can add/remove only its own users

**Note:** If you place a key and you want to change M2 later, repeat the process and replace it.

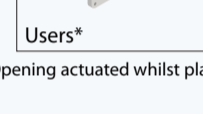
### 5. How to Use Day-to-Day

#### Access with User Key

##### 1. Place your key on the reader

2. If the key is registered:
  - **Green LED** lights up
  - You hear a "beep"
  - The current relay (R1 or R2) activates immediately
  - It remains on whilst the key is placed

\*Note: The keys may have different colours to those illustrated



Opening actuated whilst placed

3. When removing the key:
  - The relay **switches off**
  - The system automatically alternates to the other relay on the next use (R1 → R2 → R2 → R1...)
4. If the key is NOT registered:
  - **Red LED** flashes
  - Does not activate any relay.



Removes, stops and alternates

#### Automatic Relay Alternation

Alternation is useful when:


- One relay activates "Open" and the other "Close"
- Two different devices need to be actuated alternately

The switch always happens after release (removing the key / releasing the button).

### 6. Adding New User Keys


Only Master keys (M1 or M2) can add user keys!

##### 1. Enter programming mode:

- Place your Master key (M1 or M2)
- You see the green LED flash 1x + beep 




##### 2. Add the new key:

- Place the key you wish to add
- The green LED flashes 1x + 1 beep 
- **Key added!**



##### 3. Repeat step 2 for each key

##### 4. Exit programming mode:

- Place your Master key again
- The green LED flashes 2x + 2 beeps 
- Finished!



#### 6.1 Removing User Keys


##### Removing a Specific Key

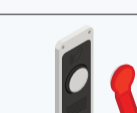
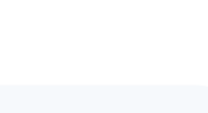
1. **Enter programming mode** (place the Master)
2. Place the key you want to remove
3. Confirms with red LED
4. **Key removed!**
5. **Exit programming mode** (place the Master again)



#### 6.2 Removing ALL Keys at Once

Useful when there is some necessary change

1. **Enter programming mode** (place the Master)
2. **Press and hold the button**
3. **Place the same Master** (still with the button pressed)
4. **Continue holding for 10 seconds**
5. The red LED flashes rapidly
6. **Release** when you hear the long beeps 
7. **All keys** of that group have been erased!



**Note:** If you use M1, it only erases M1 users. If you use M2, it only erases M2 users.

#### 6.3 How to Use M2 Day-to-Day

M2 works exactly like M1 for adding and removing users, but only manages its own group:

- Enter programming mode with **M2**
- **Add users** (they become associated with **M2**)
- Remove only M2 users
- Cannot see or modify M1 users



#### 6.4 How to Delete M2

1. **Enter programming mode with M1**
2. **Press the button** (a short press)
3. **Place M2 itself on the reader**
4. System signals the removal
5. **M2 deleted!**
6. Exit programming mode (place M1)



**Note:** When you delete M2, the users that were registered by it remain saved in the system, but are left without an "owner" until you do a total reset.

### 8. Quick Situations Table

- **No M1 registered** → first key placed becomes M1
- **Valid user key** → activates current relay whilst placed; alternates when removed
- **Key not registered** → error (red), does not activate relay
- **Button (normal mode)** → activates current relay whilst pressed; alternates when released
- **Place M1** → enters/exits programming mode
- **Programming mode** → new key adds / existing key removes
- **Programme M2** → in programming mode, click button 1x and place new key
- **Total reset** → hold button 10s during boot

### 9. Important Tips

- **Keep M1 safe** - It is the most important key in the system
- **Use M2** when you want to give management powers to another person, but without total control
- **Always test new keys after adding them**
- **Before selling or moving the equipment, perform a total reset**

**Be careful** when doing batch removal or reset - there is no way to undo it!

### 10. Common Problems

#### The key doesn't work:

- Check if the key is registered
- Try adding it again

#### I entered programming mode by mistake:

- Place the Master again to exit

#### I lost the M1 key:

- You will have to do a total reset and start from scratch
- That's why you should always keep M1 safe!

#### The LED flashes red constantly:

- It may be in error mode
- Try switching it off and on again

**System:** iButton M1/M2 for 2 alternating relays conveyor/motorised Shutters

**Capacity:** 2 Masters + 26 Users - PiB26cfShutter/PiB26sfShutter

User Manual - Version 1.0