

MasterCube XMARS01 eX-Mars Robot Cube User Guide

Home » MasterCube » MasterCube XMARS01 eX-Mars Robot Cube User Guide 1

Contents

- 1 MasterCube XMARS01 eX-Mars Robot Cube
- **2 REQUIREMENTS**
- 3 INSTALL THE DRIVER FOR THE BLE DONGLE
- **4 PAIRING BLE DONGLE AND EX-MARS**
- **5 INSTALLING THE EX-MARS CUBE SCRATCH**
- **6 RUNNING THE EX-MARS CUBE SCRATCH**
- 7 Documents / Resources
- **8 Related Posts**



MasterCube XMARS01 eX-Mars Robot Cube

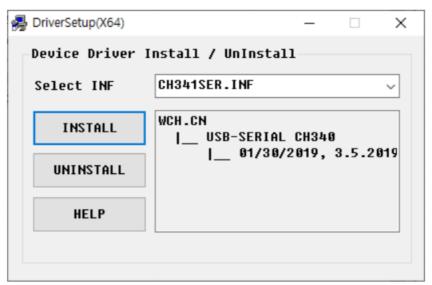


REQUIREMENTS

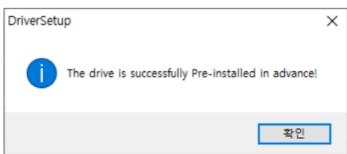
• Windows 10 (32bit or 64bit)

INSTALL THE DRIVER FOR THE BLE DONGLE

1. Run SETUP.EXE in the installation folder before mounting the BLE dongle to a USB port.



2. Pressing the INSTALL button installs the driver file.



3. When the BLE dongle is mounted on a USB port, the driver is recognized and recognized by Device Manager



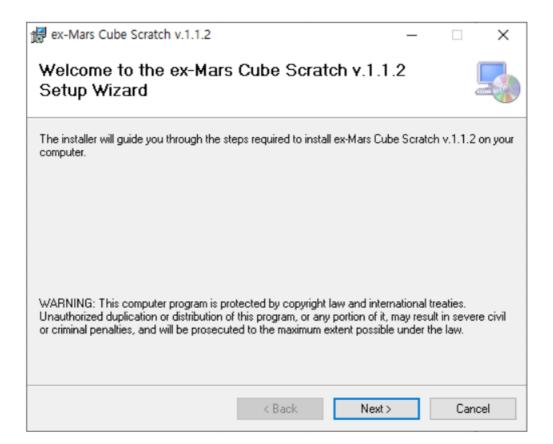
PAIRING BLE DONGLE AND EX-MARS

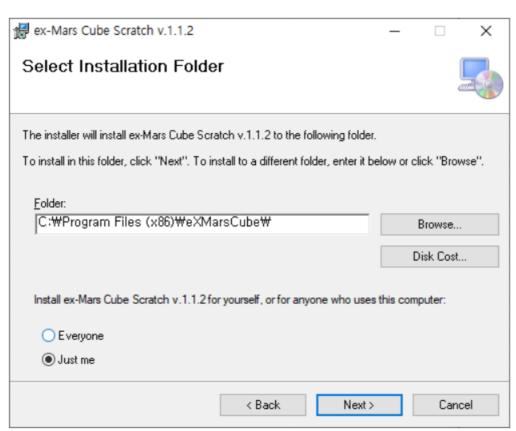
The BLE dongle has a status LED and button switch. The status LED displays three states:

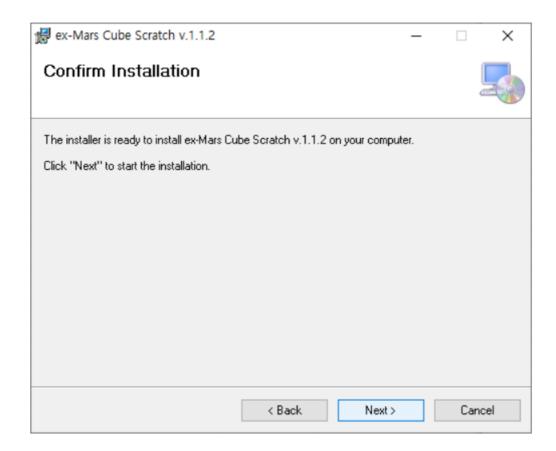
- 1. There is no paired Bluetooth device and is waiting for pairing
 - LED flashes at 0.3 second intervals, attempts pairing if there is an unpaired Xmas near the Bluetooth USB dongle (within 30 cm).
- 2. There is a paired Bluetooth device, but it is not connected
 - LED flashes every second, press button switch for more than 3 seconds to ① status.
- 3. The paired Bluetooth device is present and connected
 - $\bullet\,$ LED ON, press button switch for more than 3 seconds to $\ensuremath{\mathfrak{D}}$ status.

INSTALLING THE EX-MARS CUBE SCRATCH

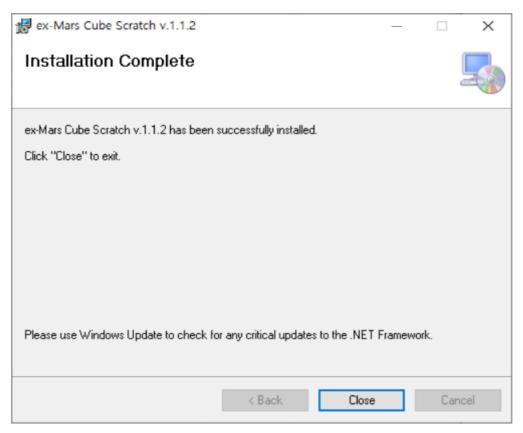
- 1. Run the 'ex-Mars Cube Scratch Installer v□. □□.msi'.
- 2.





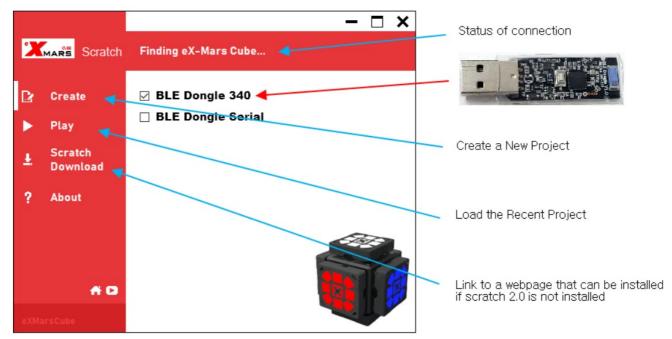


5.

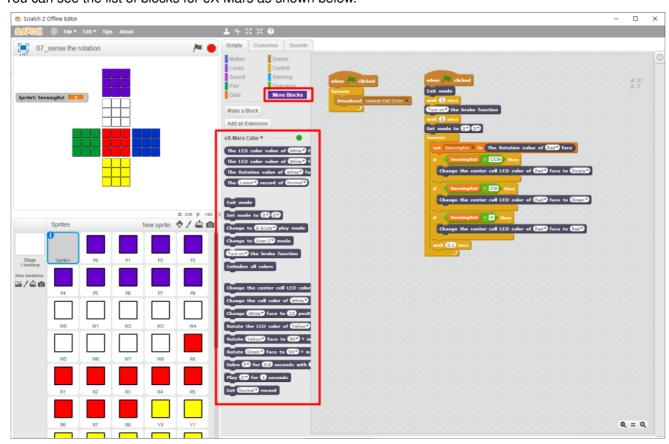


RUNNING THE EX-MARS CUBE SCRATCH

1. Run eX-Mars Cube Scratch from the Windows Start button.



- 2. If Scratch 2.0 is not installed, click the Scratch Download button in the figure above to download and install Scratch 2.0 from the official scratch site.
- 3. You can see the list of blocks for eX-Mars as shown below.



Example 1 - 01_Jinglebell.sb2

Run Jingle Bell Mode (Mode83) on eX-Mars

```
when clicked

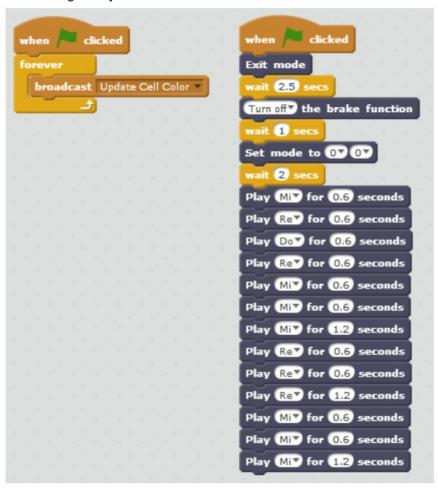
forever

broadcast Update Cell Color wait 2 secs

Set mode to 8 3
```

Example 2 – 02_play music.sb2

Play a part of the children's song 'Mary Had a Little Lamb'.



Example 3 – 03_get the dice number.sb2

Run dice function of eX-Mars and read the dice.

```
when clicked

forever

broadcast Update Cell Color v

wait 2 secs

Set mode to 8 v

wait 3 secs

repeat until dice < 7

Get dice number record

wait 1 secs

set dice v to Dice number record
```

Example 4 – 04_select a mode by self rotation.sb2

Example of automating the process of manually selecting modes in eX-Mars.

```
when 🦰 clicked
broadcast Update Cell Color
                                wait 2 secs
                                Set mode to 0▼ 0▼
                                 vait 2 secs
                                Exit mode
                                 vait 2 secs
                                Turn off♥ the brake function
                                wait 2 secs
                                set Main v to 3
                                set Sub v to 0
                                repeat Main
                                 Rotate Purple▼ face to 90▼ o in a CW▼ direction
                                  wait 1 secs
                                Rotate Yellow face to 90 0 in a CW direction
                                wait 2 secs
                                repeat Sub
                                 Rotate Purple▼ face to 90▼ o in a CW▼ direction
                                  wait 1 secs
                                Rotate Green face to 90 0 in a CW direction
```

Example 5 – 05_user solving.sb2

After the user solves Mode 20, press the 'Space key' to show the game history.

```
when clicked

forever

broadcast Update Cell Color vait 2 secs

Turn on the brake function

wait 2 secs

Set mode to 2 0 vait 3 secs

wait until key space pressed?

Get 20~28 mode record

wait 1 secs

set Record v to The Latest record of 20~28 mode value and the color value are record of 20~28 mode value and the color value are record of 20~28 mode value are record of 2
```

Example 6 – 06_bot solving.sb2

Example of automating the process of manually solving in Example 5.

```
when 🦰 clicked
                                 Exit mode
                                 wait 3 secs
broadcast Update Cell Color ▼
                                 Turn off▼ the brake function
                                 Change to User 3▼ mode
                                 Set mode to 2 0
                                 wait 10 secs
                                 Solve F♥ for 0.8 seconds with Purple♥ as front face
                                 Solve R'V for 0.8 seconds with PurpleV as front face
                                 Solve (FV) for (0.8) seconds with (PurpleV) as front face
                                 Solve L▼ for 0.8 seconds with Purple▼ as front face
                                 Solve L♥ for 0.8 seconds with Purple♥ as front face
                                 Solve F'V for 0.8 seconds with PurpleV as front face
                                 Solve R♥ for 0.8 seconds with Purple♥ as front face
                                 Solve FV for 0.8 seconds with Purple as front face
                                 Solve L▼ for 0.8 seconds with Purple▼ as front face
                                 Solve L▼ for 0.8 seconds with Purple▼ as front face
                                 Solve FV for 0.8 seconds with PurpleV as front face
                                 Solve F♥ for 0.8 seconds with Purple♥ as front face
```

Example 7 – 07_sense the rotation.sb2

This example changes the color of the center block of red faces by detecting the direction of rotation when the user rotates the red faces.

```
when clicked

forever

broadcast Update Cell Color 

wait 2 secs

Turn on the brake function

wait 2 secs

Set mode to 0 0 0 0 forever

set SensingRot to The Rotation value of Red face

if SensingRot = CCW then

Change the center cell LED color of Red face to Purple

if SensingRot = 0 then

Change the center cell LED color of Red face to Green

wait 0.1 secs
```

accept questions about coding content in this document.

Documents / Resources



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