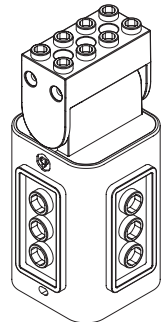
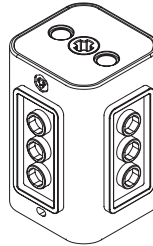
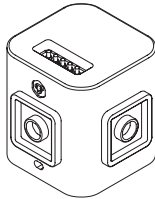
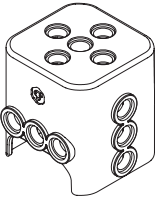


Smart Building Blocks

Product Manual



Fun Way to Code

Install the App



www.tinkamo.com/help



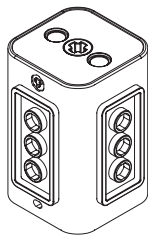
www.tinkamo.com/app



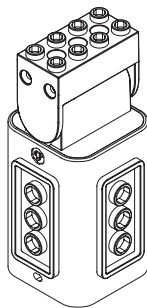
Before you start using the product, please scan the QR code above to read the help Manual and install the Tinkamo App, or visit the official website "www.tinkamo.com/help" and "www.tinkamo.com/app" to read and download.

Product family

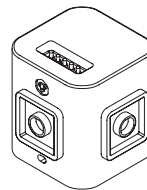
Actuator series



Motor actuator

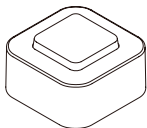


Servo actuator



Core module

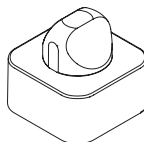
Controller series



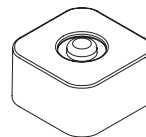
Button controller



Slider controller



Knob controller

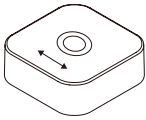


Joystick controller

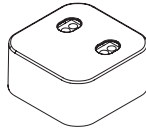
※You may not own all the modules, it's actually based on the packaging.

Product family

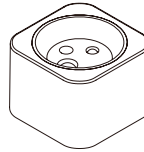
Sensor series



Distance sensor



Line sensor

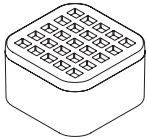


Color sensor



Sound sensor

Display series



Color pixel display

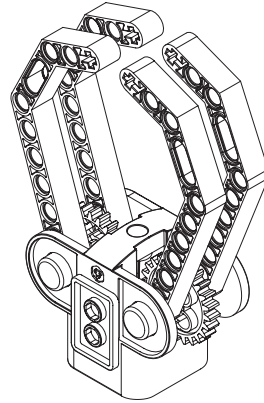
※You may not own all the modules, it's actually based on the packaging.

Product family

Mechanical series



Gearbox module



Grabber module

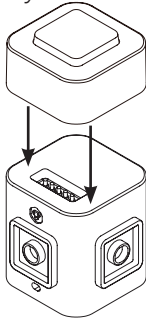
※You may not own all the modules, it's actually based on the packaging.

Code with Line™

Step one:

*Motor/Servo actuator does not need this step

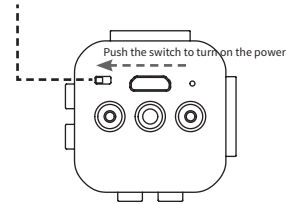
Align the bottom of the function module with the top of the core module to make them snap together magnetically.



Step two:

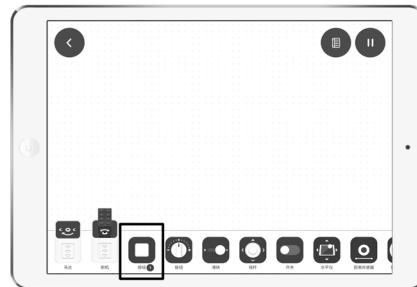
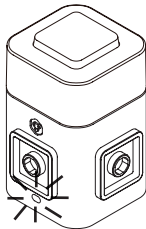
Turn on the power switch at the bottom of the module, open the Tinkamo App, enter the "My ideas" and click "Create!" to create a new Line™ coding project.

Power switch



Step three:

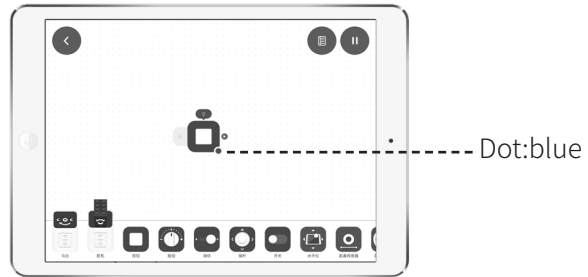
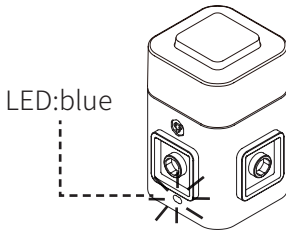
The bluetooth status LED is flashing in white, and a number ① pops up next to the button icon in the app, indicating that the button controller module can be connected.



Code with Line™

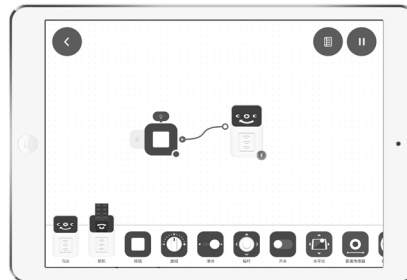
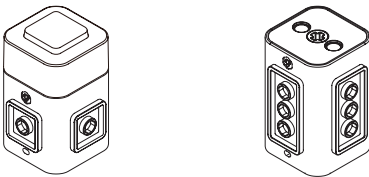
Step four:

The connection can be completed by dragging (or tapping) the button icon to the center of the screen. At the same time, the color of the bluetooth status LED on the button module will be the same as the color in the lower right corner of the button icon. At this point, pressing the real button module will cause the same response from the buttons in the App on screen.



Step five:

Connect the button icon to the motor icon, and the button controller module can control the operation of the motor actuator module with coding.)



Specifications

Actuator series

Motor actuator

Size: 34mm x 34mm x 48mm

Battery rated voltage: 3.7V

Battery rated capacity: 300mAh

Rated charging voltage and current: 5V0.2A

Charging time: 7.5h (typical)

Battery endurance: 12h (typical)*

At 3.0V:

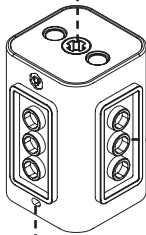
Speed: $70 \pm 10\%$ rpm (no-load speed)

Stalling torque: 280g.cm Min

Operation Frequency: 2400-2483.5MHz

Maximum RF Output Power: 6db

Cross shaft connector



Brick connector

Bluetooth status LED

Blinking white: Disconnected

Steady color: connected

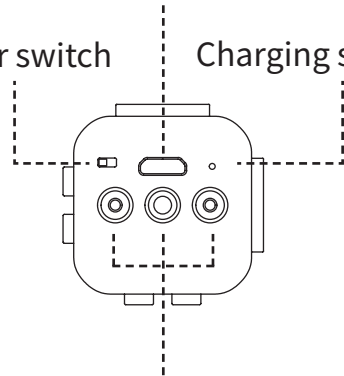
MicroUSB charging connector

Power switch

Charging status LED

Red: Charging
Green: full

Peg connector



* Test environment: Install the Grabber module on the motor actuator module head and place it vertically. The program is open for 10s and closed for 10s.

Specifications

Actuator series

Servo actuator

Size: 34mm x 34mm x 75mm (steer head vertical state)

Rotation angle: $\pm (60^\circ \pm 5^\circ)$

Battery rated voltage: 3.7V

Battery rated capacity: 300mAh

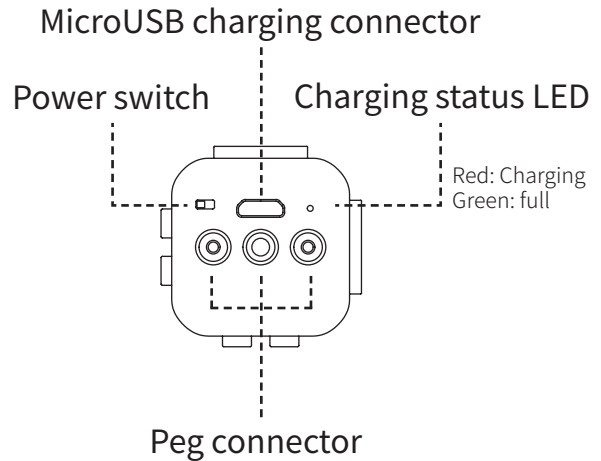
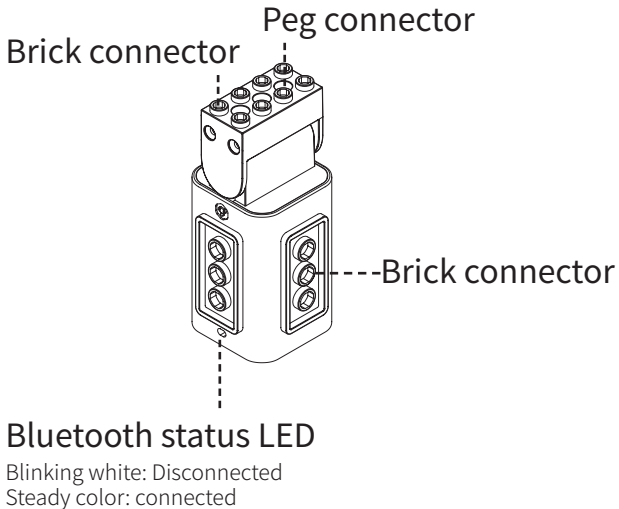
Rated charging voltage and current: 5V0.2A

Charging time: 7.5h (typical)

Battery endurance: 11.5h (typical)**

Operation Frequency: 2400-2483.5MHz

Maximum RF Output Power: 6db



** Test environment: Install 5 2x4 brick blocks on the head of the servo actuator module and place it vertically. Every 5s, the servo head will swing once.

Specifications

Actuator series

Core actuator

Size: 34mm x 34mm x 31mm

Battery rated voltage: 3.7V

Battery rated capacity: 300mAh

Rated charging voltage and current: 5V0.2A

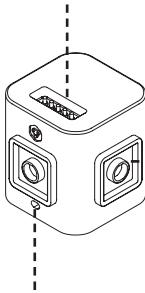
Charging time: 4h (typical)

Life time: 10h (typical) ***

Operation Frequency: 2400-2483.5MHz

Maximum RF Output Power: 6db

5-pin magnetic connector



Brick connector

Bluetooth status LED

Blinking white: Disconnected
Steady color: connected

MicroUSB charging connector

Power switch

Charging status LED

Red: Charging
Green: full

Peg connector

*** Test environment: When used with the Color pixel display module, the Color pixel display module comes with a love-shaped pattern.

Specifications

Controller series

Button controller

Size: 30mm x 30mm x 20mm

Service life: >1000 times (typical)

Knob controller

Size: 30mm x 30mm x 30mm

Effective rotation angle: $180^{\circ} \pm 10^{\circ}$

Working temperature: $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$

Slider controller

Size: 30mm x 30mm x 22mm

Effective sliding stroke: $10 \pm 0.5\text{mm}$

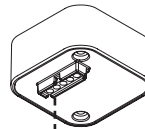
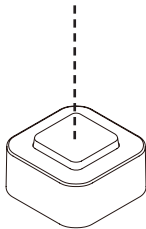
Joystick controller

Size: 30mm x 30mm x 20mm

Operating temperature range: $5^{\circ}\text{C} \sim 35^{\circ}\text{C}$

Sliding handle force: $12 \pm 5\text{mNm}$ ($120 \pm 50\text{gf.cm}$)

Button



5-pin magnetic connector

*Show with the button controller module

Specifications

Sensor series

Distance sensor

Size: 30mm x 30mm x 13mm
Minimum sensing distance: 2cm
Maximum sensing distance: 150cm

Color sensor

Size: 30mm x 30mm x 24mm
Maximum detectable color depth: 24bit

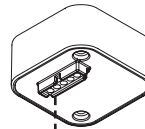
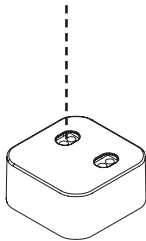
Line sensor

Size: 30mm x 30mm x 17mm
Best working distance: 3.5~10.5mm

Sound sensor

Size: 30mm x 30mm x 17mm
Category: Electret condenser microphone
Sensitivity: $-34 \pm 3\text{dB}$
Maximum input sound pressure: 110dB

Infrared transmitting/receiving sensor



5-pin magnetic connector

*Show with the line sensor module

Specifications

Display series

Color pixel display

Size: 30mm x 30mm x 20mm

Total LEDs: 25 pcs

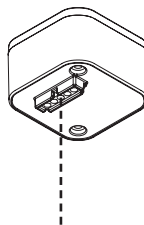
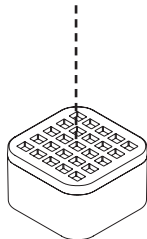
Luminous intensity (one LED, typical, no filter):

Red: 100mcd,

Green: 300mcd,

Blue: 90mcd.

5 x 5 LEDs



5-pin magnetic connector

Specifications

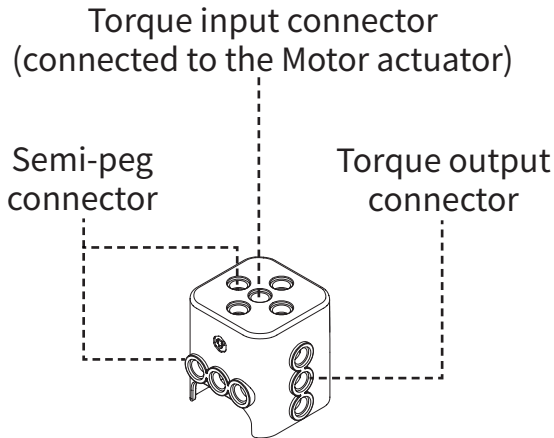
Mechanical series

Gearbox module

Size: 30mm x 32mm x 33mm

Minimum input and output speed ratio: 1:2

Maximum input and output speed ratio: 2:1

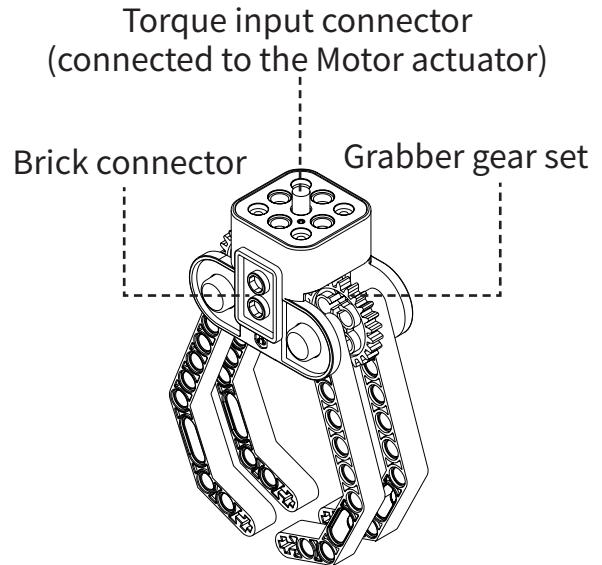


Grabber module

Size: 34mm x 42mm x 54mm

Maximum opening angle: 120°

Maximum snatch weight: 500g



Manufacturer info.

Product Name: Tinkamo Smart Building Blocks - Play Kit/Tinker Kit
Company Name: Shanghai Chuangdou Technology Co., Ltd.
Company Address: 2nd Floor, Tongji Technology Building, No.46 Guokang Road,
Yangpu District, Shanghai, China
Manufacturer Name: Shanghai Chuangdou Technology Co., Ltd.
Manufacturer Address: 2nd Floor, Tongji Technology Building, No.46 Guokang Road,
Yangpu District, Shanghai, China
trade Name: Tinkamo
Importer's Name: XXXX
Importer's Address: XXXX

FCC info.



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

Changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

FCC Statement:

"This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help."

FCC info.



This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with Industry Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements Industry Canada limites établies pour un environnement non contrôlé.

Trouble shooting

If the Bluetooth status LED is always white and the module is not recognized by the app, try to toggle the switch and restart the module to recover.

If the module has the magnetic connector and need to be used with the core actuator module can not connected to the app, the magnetic connector Pogopin may be contaminated. Turn off the power, disconnect the charging cable, and try to wipe the cleaning interface with cotton and reuse it. If the fault still cannot be eliminated, please call or contact our customer service.

- For users using the Android client, please use the tinkamo™ software to connect the module directly. Do not use the Bluetooth function in Android Settings - Bluetooth to connect the module, which may cause the tinkamo™ software to not recognize the module.
- For more help, please visit: www.tinkamo.com/help.

Custom care



If you have any problems during use, please contact us by our website "www.tinkamo.com" or e-mail address "listen@tinkamo.com". We will answer your questions as soon as possible.

Warranty Card

User info.

User name: _____ Phone: _____

Address: _____

Sales info.

Sales date: _____ serial number: _____

Dealer name: _____ Dealer phone: _____

Dealer address: _____

Maintenance record

Repair one:

Date: _____ Maintenance staff: _____

cause of issue: _____

Repair two:

Date: _____ Maintenance staff: _____

cause of issue: _____

Certificate



