

Smart AI-Based, Multi-Joint, Robot Kit

ROBOTIS ENGINEER KIT2

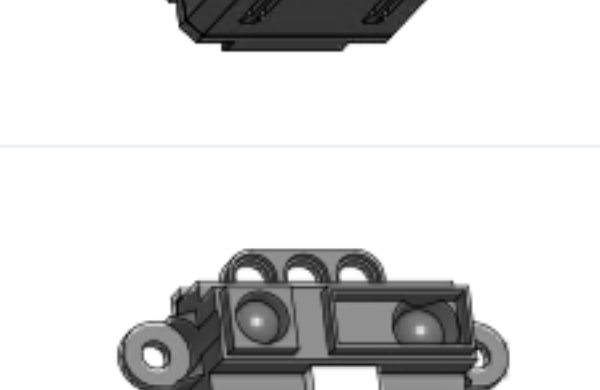
ENGINEER KIT2 comes equipped with Raspberry Pi Camera + Raspberry Pi Zero Board for Vision Processing. In addition to vision processing capabilities with the Pi Camera, ENGINEER KIT2 includes Python Programming Content enabling users to program their robots in PYTHON to participate in Education, Hobby, Entertainment and Competition Activities.

ENGINEER KIT2 also allows user to fully integrate 3D Printing Capabilities by providing STL(CAD) files to create their own robotic examples.



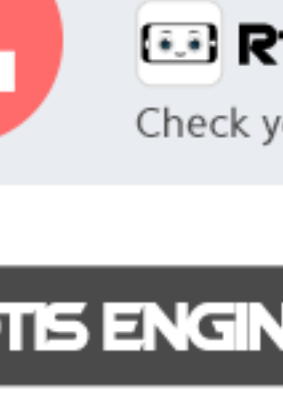
- Joint-Based Movement
- DYNAMIXEL Modular Actuator
- Standard Curriculum
- Diverse Robot Applications
- Multiple App Integrations
- Python Integrations
- K12 LINE UP Systematic Pipeline for Robotics Education

Hardware Specifications



Raspberry Pi Zero W x1

- 1GHz single-core CPU
- 512MB RAM
- Mini HDMI port
- Micro USB OTG port
- Micro USB power
- CSI camera connector (v1.3 only)



Raspberry Pi Camera Module V2 x1

- Resolution : 2592 x 1944 pixels
- Size : 25 x 23 x 9[mm]



LED Module x1

- Weight: 12[g]
- Size: 99.2 x 44.5 x 8.0[mm]
- Allowable Voltage : 3.3 ~ 5.0[V]



DYNAMIXEL XL430-W250-T x5

- Stall Torque : 1.5[Nm] (at 12.0[V], 1.4[A])
- No Load Speed : 61[rpm] (at 12.0[V])
- Weight : 57.2[g]
- Size : (W x H x D) 28.5 X 46.5 X 34.0[mm]
- Gear Ratio : 258.5 : 1
- Part Material : Engineering Plastic Case / Plastic Gear



DMS-80 x1

- Weight : 4.4[g]
- Detecting Distance : 10 ~ 80[cm]
- Recommended Voltage Supply : 4.5 ~ 5.5[V]

ROBOTIS ENGINEER KIT2 Robot Configurations



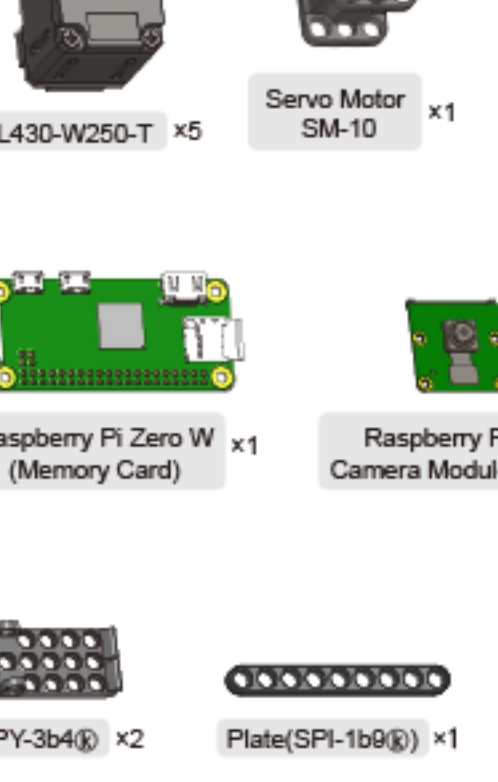
Install various applications on the App Store & Play Store. Download **R+ENGINEER** & **R+Task** in order to connect your robot. Check your QuickStart Guide for additional details.

ROBOTIS ENGINEER KIT2 Examples



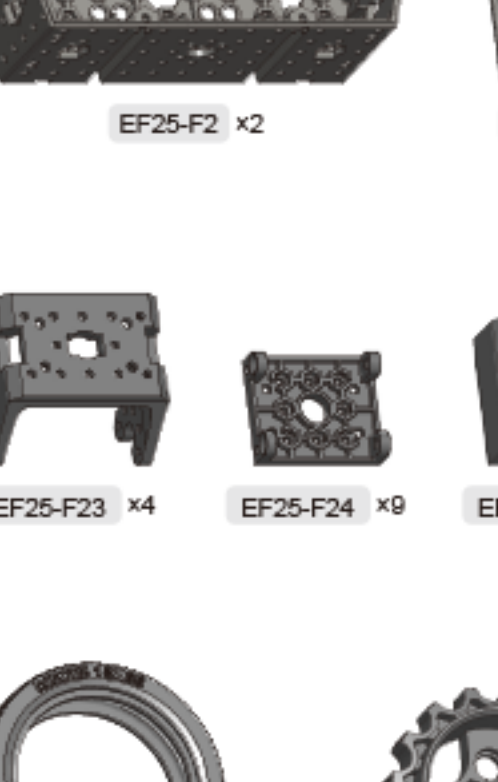
MAX-E2

MAX-E2 is a High Performance Humanoid Robot developed specifically for competition. Equipped with a camera, the MAX-E2 supports remote control, facial recognition and other vision processing functionalities. Powered by DYNAMIXEL, the MAX-E2 is capable of 18 degrees of freedom.



Commando

Commando is an Autonomous Artificial Mobile Robot which uses its camera to detect various colors, codes and lines.



Scorpi

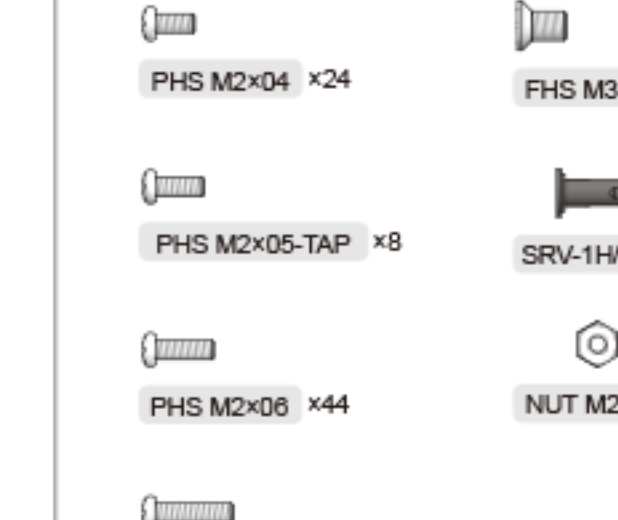
Scorpi is a Responsive Bio-Mimetic Robot which can interact with nearby objects using the DMS-80 (Distance Measuring Sensor). With its parallel link structure, Scorpi can perform speedy and dynamic six-legged walking movements.

MAX-E2



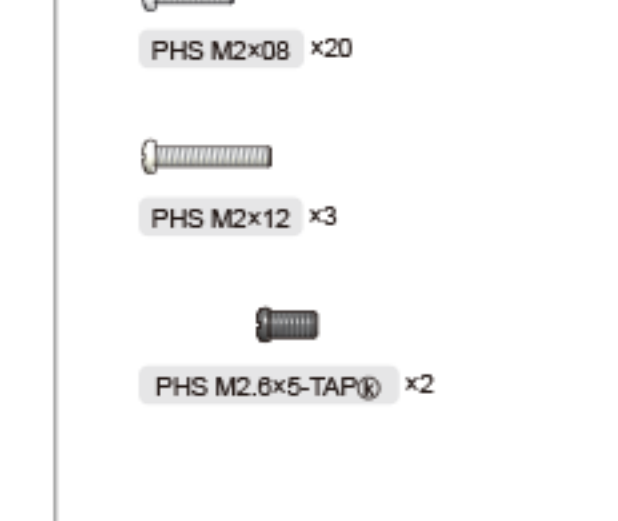
REMOTE

Control and change MAX-E2 to various modes as FIGHT / SOCCER / etc.



STREAMING

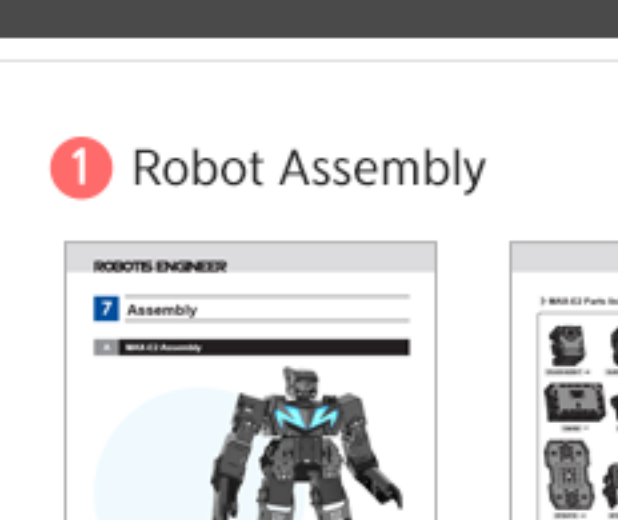
Control the robot by watching videos taken from Raspberry Pi camera on your smart device and selecting buttons.



FACE

Certain motions as greetings is available by face detection using Raspberry Pi camera.

Commando



REMOTE

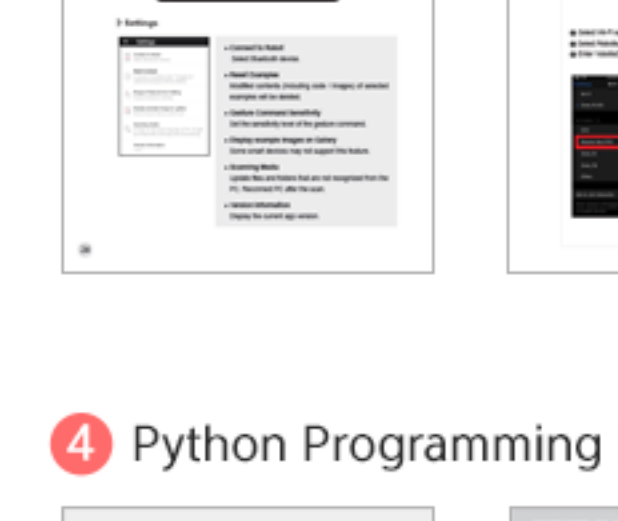
Controlling and ordering motions, directions, cameras, etc. Select [WHEEL SPEED] to change the speed of the robot.



DEMO : Line Tracing Mode

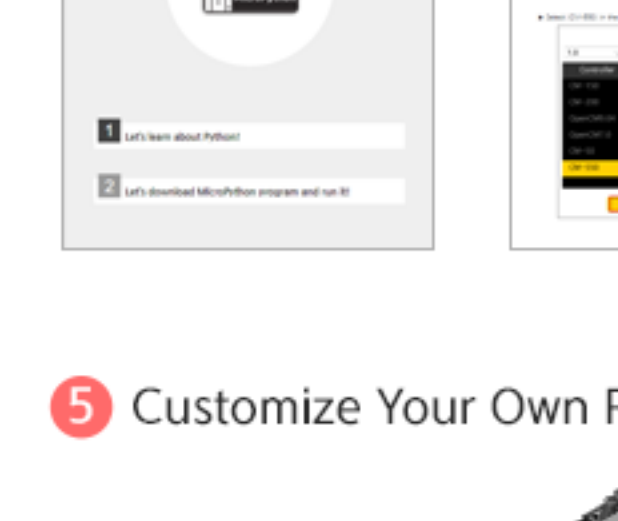
Commando will recognize red, blue and green line for tracing.

Scorpi



REMOTE

Control Scorpi's moves, directions, speed, and various motions with the tail and the claws.



GESTURE

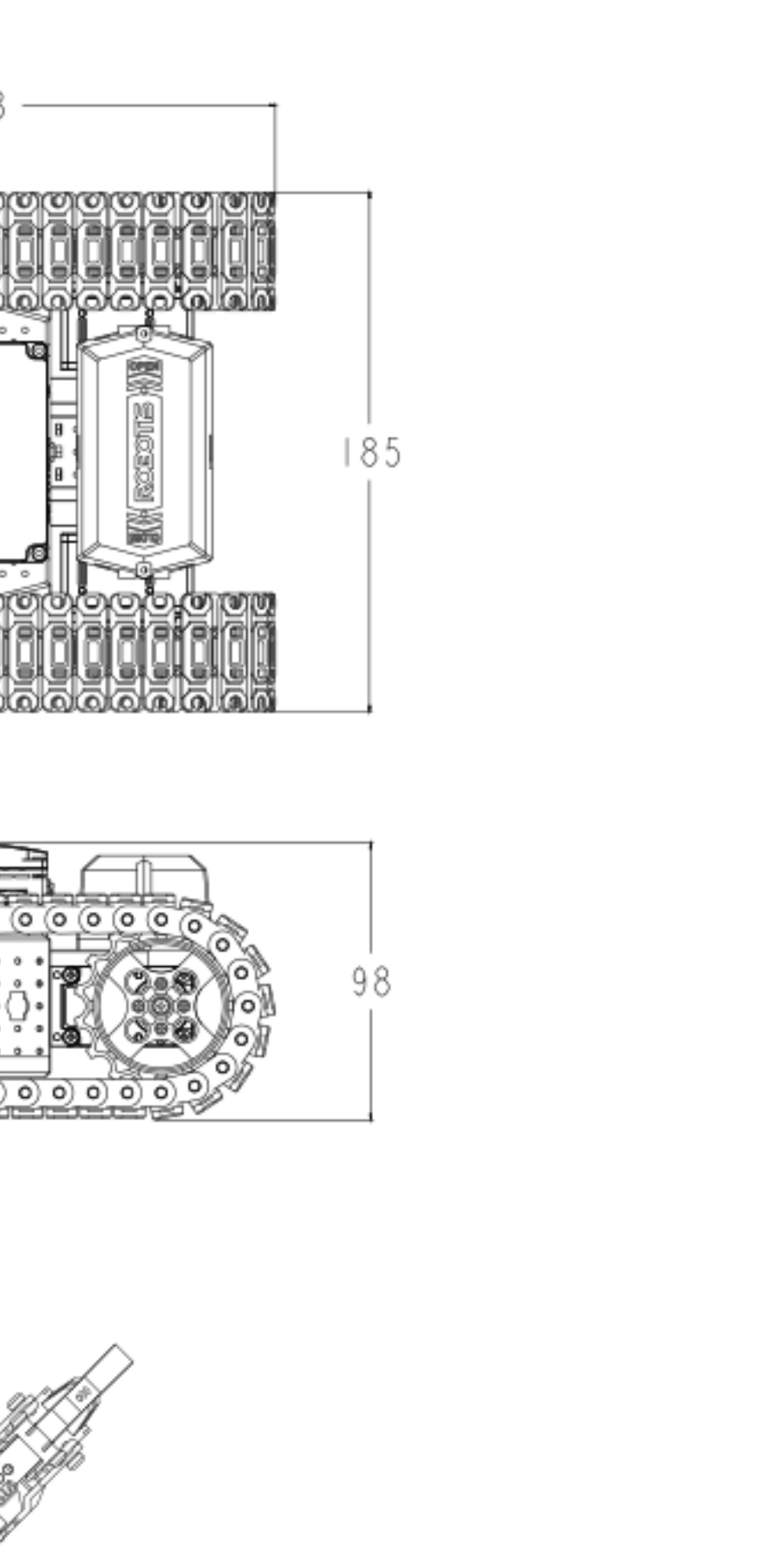
After running the gesture mode, hold the screen of the smart device upwards. In this state, tilt the device to move the robot. If you shake the device strongly, the robot attacks by moving its tail.

ROBOTIS ENGINEER KIT2 Part List

- XL430-W250-T x5
- Servo Motor SM-10 x1
- Idler (HN11-101) x5
- Idler Cap (HN11-101) x5
- Cable Cover-X430 x5
- Raspberry Pi Zero W (Memory Card) x1
- Raspberry Pi Camera Module v2 x1
- EF25-LED Module x1
- BT-410 Dongle x1
- SPY-3B4 x2
- Plate(SPI-1B6) x1
- DMS-80 x1
- EF25-F2 x2
- EF25-F14 x1
- EF25-F18 x2
- EF25-F10 x4
- EF25-F20 x2
- EF25-F23 x4
- EF25-F24 x9
- EF25-F25 x3
- EF25-F21 x1
- EF25-F22 x1
- TB3 Caterpillar-ICT-01 x70
- Tire 2 (TR-06) x4
- TB3 Sprocket Wheel-LSW-01 x4
- FP04-F10 x4
- FP04-F09 x3
- FP04-F54 x1
- Quick Start x1
- Sticker x1
- Raspberry Pi Camera Cable x1
- USB Micro B to B Cable x1
- Grease x1

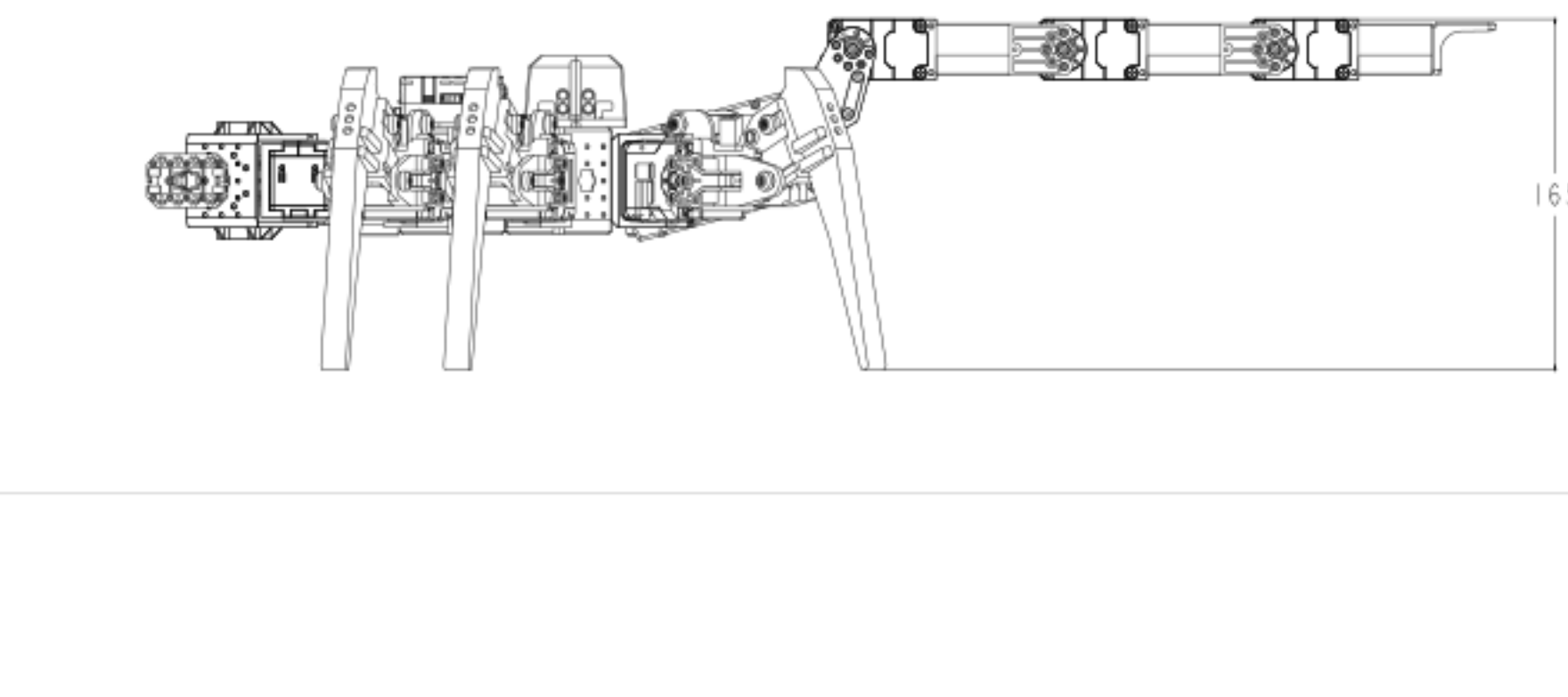
1:1 SCALE

- PHS M2x04 x24
- PHS M2x05-TAP x8
- PHS M2x06 x44
- PHS M2x08 x20
- PHS M2x12 x3
- PHS M2.6x5-TAP x2
- FHS M3x05 x5
- SRV-1H(IP) x10
- NUT M2 x60



Curriculum

1 Robot Assembly



2 Download Program Application (PC)

Visit our website (en.robotis.com) to download Python & R+Task 3.0 on PC

3 ROBOTIS ENGINEER KIT Control Application

4 Python Programming Lessons (24 Chapters)

5 Customize Your Own Robot

Dimension

