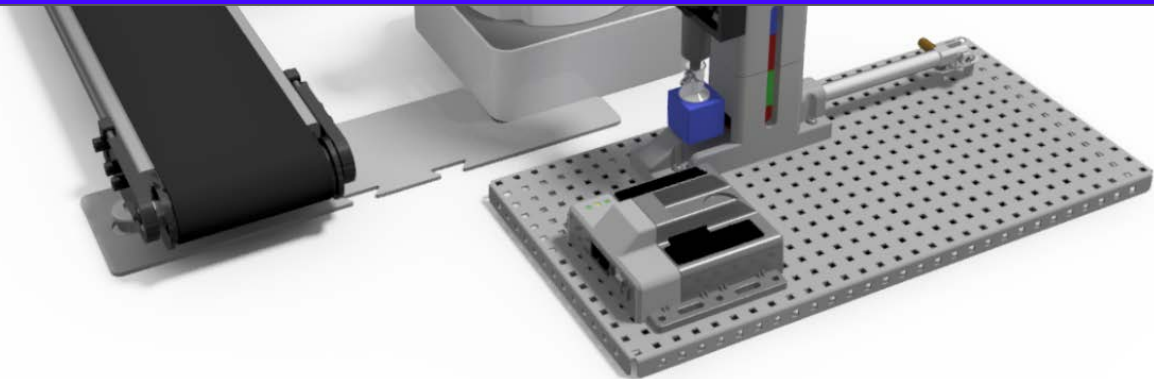


Blockly & Dobot

Hardware Connections



Connecting the Dobot Magician

There are many inputs and outputs that can be connected to the Dobot Magician



Caution: NEVER wire anything to the Dobot Magician while it has power on. ALWAYS shutdown the Dobot before making connections or damage to the robot could occur.

Types of Inputs

- Digital Switch
- Color sensor
- Infrared detector
- Another robot
- Microcontroller

Types of Outputs

- Gripper
- Vacuum pump
- Conveyor belt motor
- Another robot
- Microcontroller

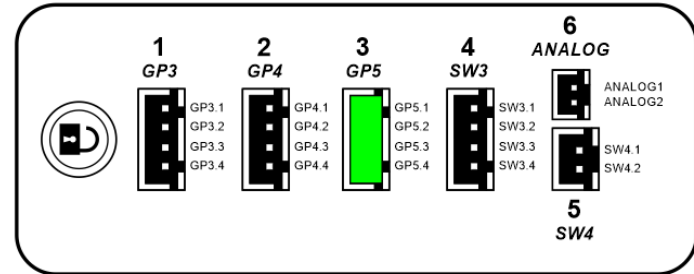
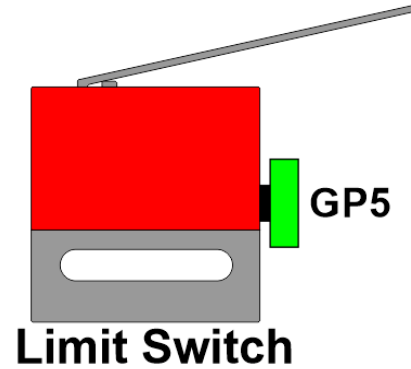


Inputs - Dobot Magician

Digital Switch

A digital switch can be used to manually send an input to a robot.

Example: *A worker inspects a part while a robot waits a safe distance away. When inspection is complete and the part is returned, the switch is hit by the worker telling the robot to come get the part.*

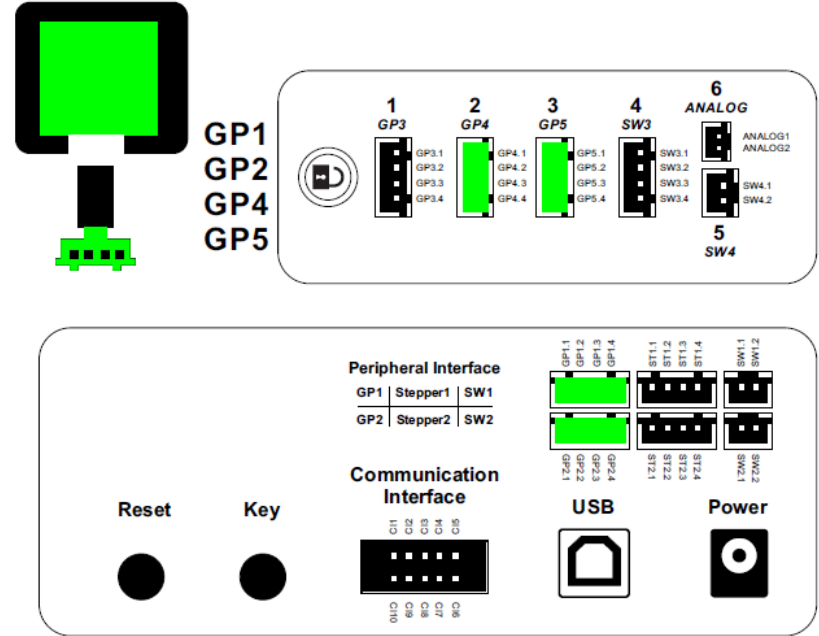


Inputs - Dobot Magician

Color Sensor

A color sensor can be used to distinguish the difference in color between red, blue, and green objects.

Example: *Make the robot sort products and place them in appropriate bins with other products of similar color.*



Inputs - Dobot Magician

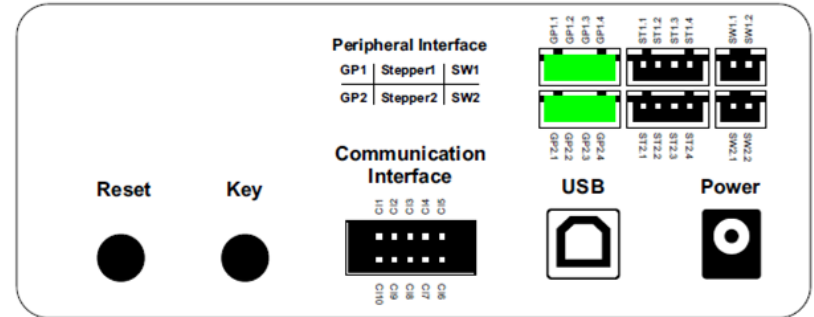
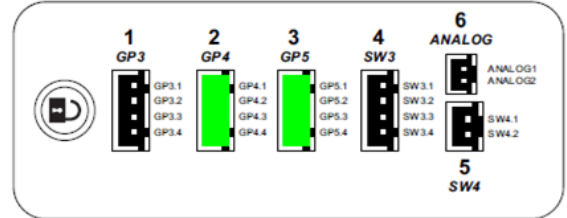
Infrared (IR) Sensor

An infrared sensor can be used to detect whether an object is in place in a work cell.

Example: *Make the robot wait until a part is put in place before moving. Place this sensor on a conveyor, and when a part is seen by this sensor, the robot can start and stop the belt.*



GP1
GP2
GP4
GP5





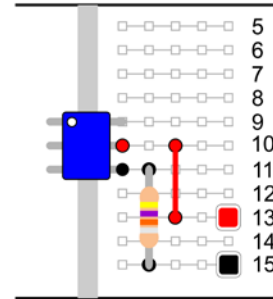
Inputs - Dobot Magician

Another Robot

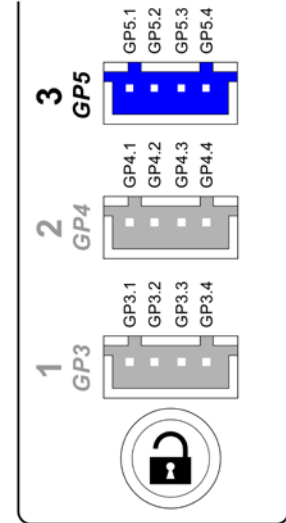
Your robot can wait for a signal from another robot. A handshake module is used to isolate different voltages.

Example: *Wait until a robot has completed an operation before this one starts.*

Receive Signal



**EIO-5
INPUT**
➔





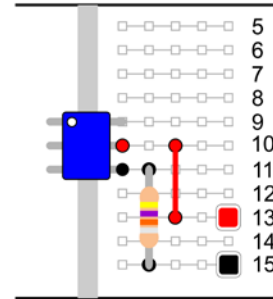
Inputs - Dobot Magician

Microcontroller

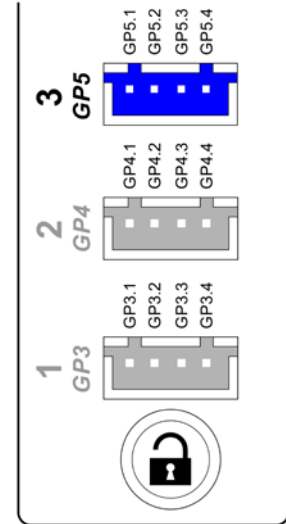
A robot can wait for a signal from another machine or a microcontroller. A handshake module is used to isolate the different voltages.

Example: *Make the robot wait until a part is finished in a CNC machine.*

Receive Signal



**EIO-5
INPUT**



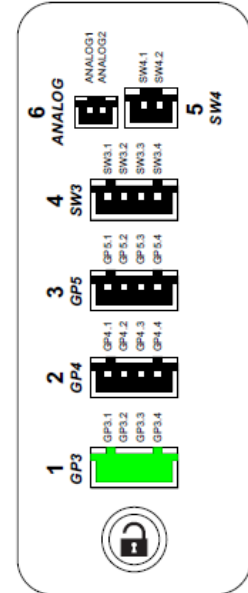
Outputs - Dobot Magician

Wrist Rotate Servo

A robot can send a signal to End of Arm Tooling (EoAT) to rotate a gripper, in turn rotating the part.

Example: A palletizing operation requires you to place nine rectangular boxes on a pallet. This servo allows you to orient the boxes correctly on the pallet.

Wrist Rotate Servo

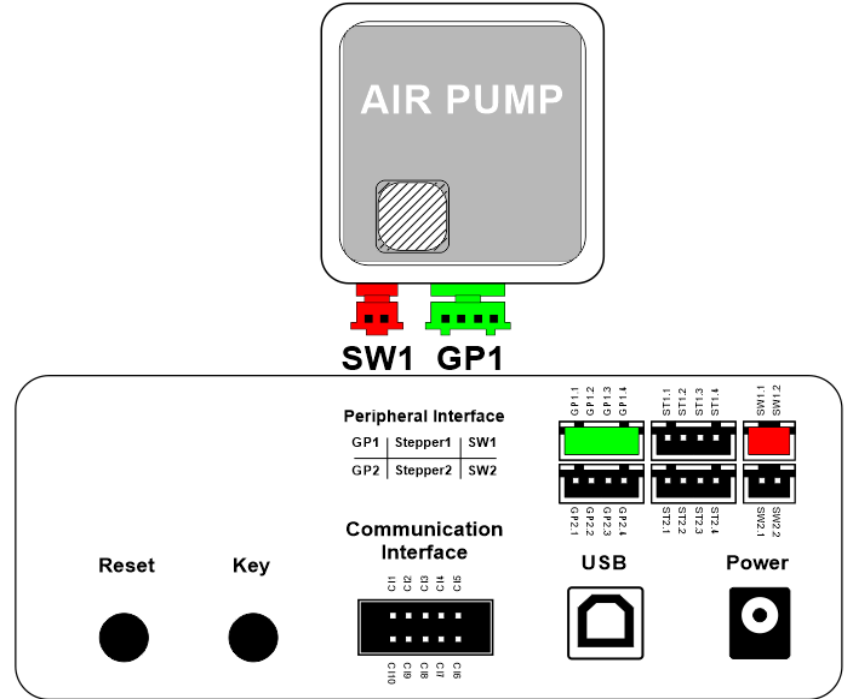


Outputs - Dobot Magician

Vacuum Pump

A robot can turn pneumatic devices on and off. Many grippers and EoAT use pneumatics for activation

***Example:** This can be used as part of pick and operation to activate the vacuum gripper on or off.*

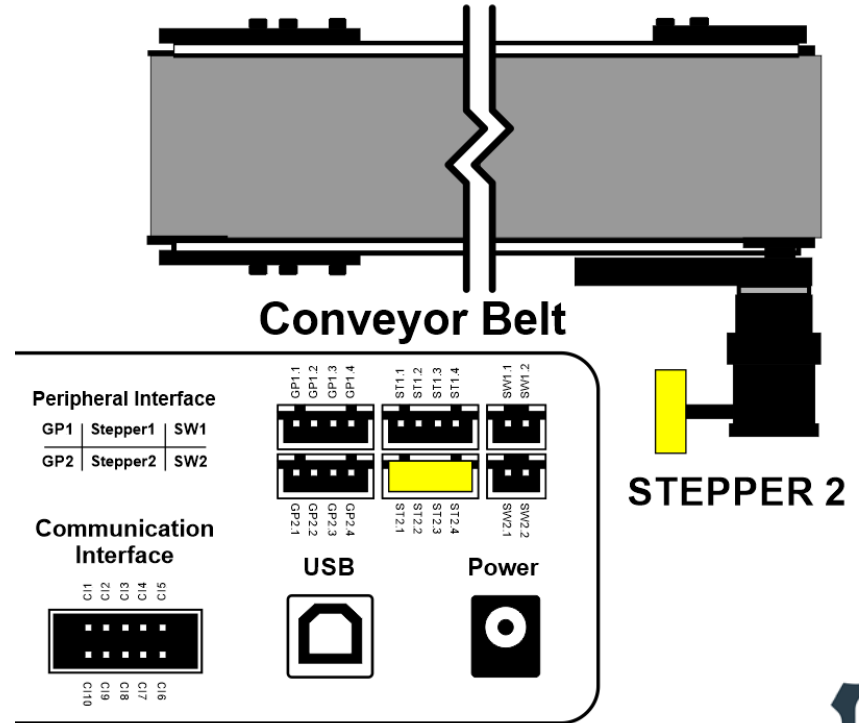


Outputs - Dobot Magician

Conveyor System

A robot can turn a conveyor system on and off.

***Example:** Have your robot place a part on the conveyor, then turn the belt on to move the part to another operation within a workcell.*





Outputs - Dobot Magician

Another Robot

A robot can send a signal to another robot. A handshake module is used to isolate different voltages.

Example: Complete an operation with your robot and send a signal to another one to come get it and place it on a pallet.



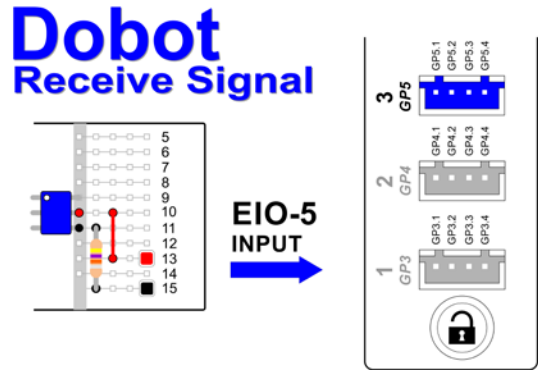
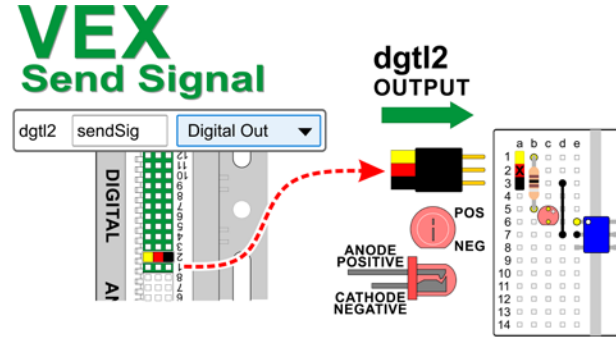


Outputs - Dobot Magician

Microcontroller

A robot can wait for a signal from another machine or a microcontroller. A handshake module is used to isolate different voltages.

Example: *Make the robot wait until a part is finished in a CNC machine.*



Resources

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