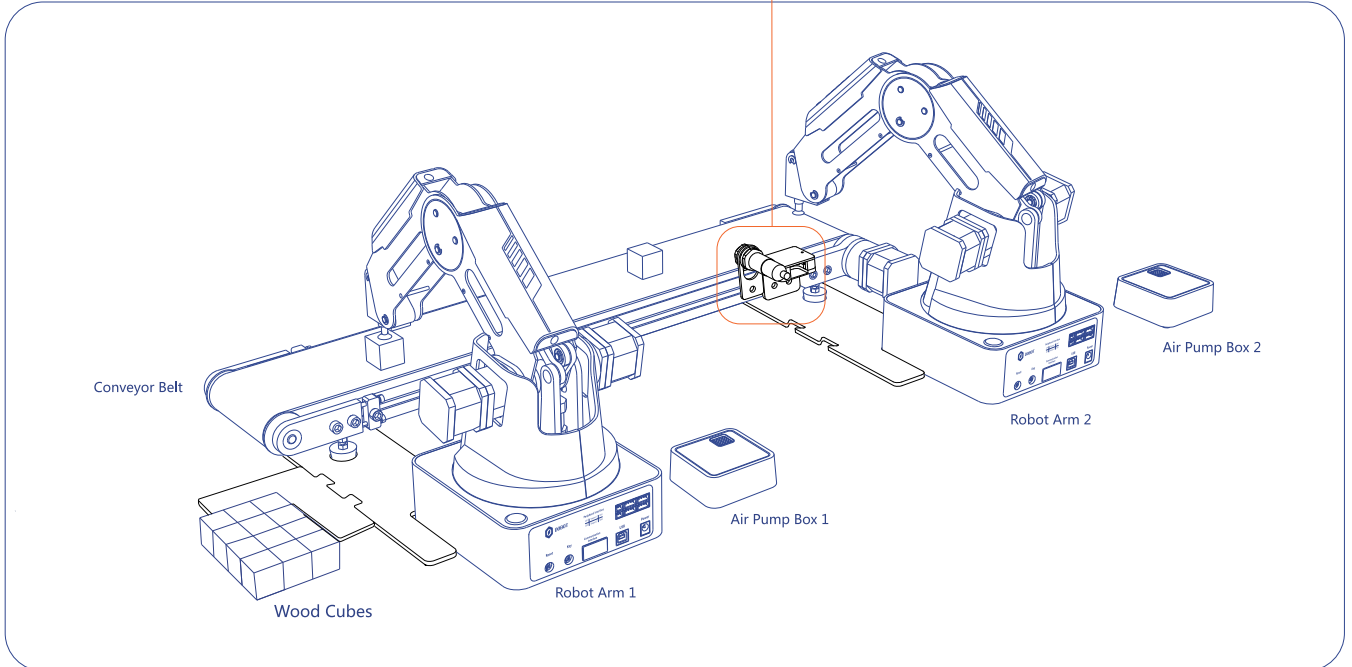# Conveyor Belt DEMO Instruction

Photoelectric switch

Color Recognizing Sensor

Air Pump Box 2

Robot Arm 2

Conveyor Belt

Air Pump Box 1

Wood Cubes
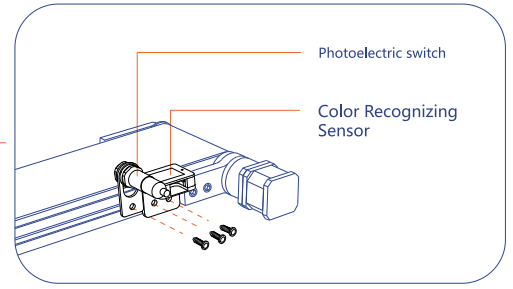
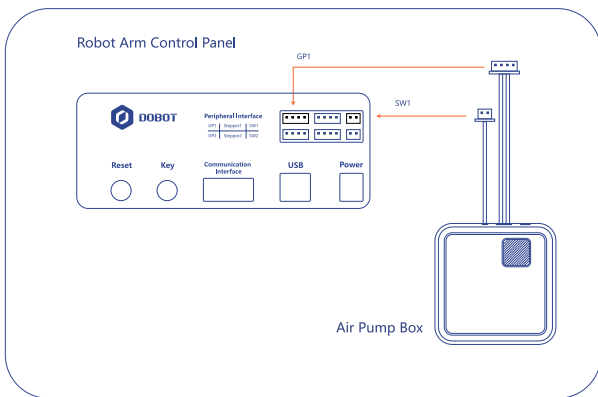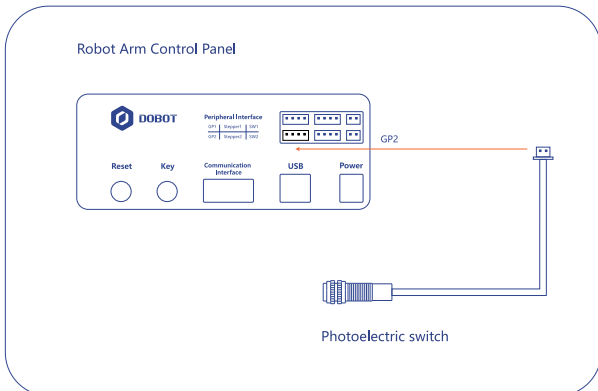Robot Arm 1

Install the sensors and place the robot arms, conveyor belt and wood cube as shown in the picture.

Robot Arm Control Panel

GP1

SW1

DOBOT

Peripheral Interface

GP1 Stepper1 SW1
GP2 Stepper2 SW2

Reset   Key   Communication Interface   USB   Power

Air Pump Box

Connect Air Pump Boxs to Robot Arm 1 & 2

Forearm Interface

Color Recognizing Sensor

SW4

ANALOG

SW3

GP5

GP4

GP5

GP3
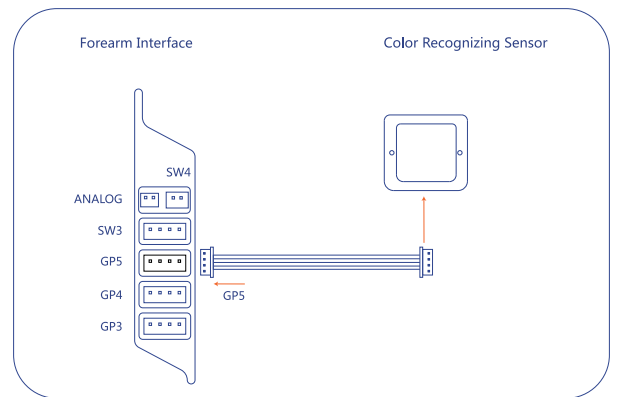
Connect Color Recognizing Sensor to Robot Arm 2

Robot Arm Control Panel

DOBOT

Peripheral Interface

GP1 Stepper1 SW1
GP2 Stepper2 SW2

Reset   Key   Communication Interface   USB   Power

GP2

Photoelectric switch

Connect Photoelectric switch to Robot Arm 2

Robot Arm Control Panel

Stepper1

DOBOT

Peripheral Interface

GP1 Stepper1 SW1
GP2 Stepper2 SW2

Reset   Key   Communication Interface   USB   Power

Stepper Motor of Conveyor Belt
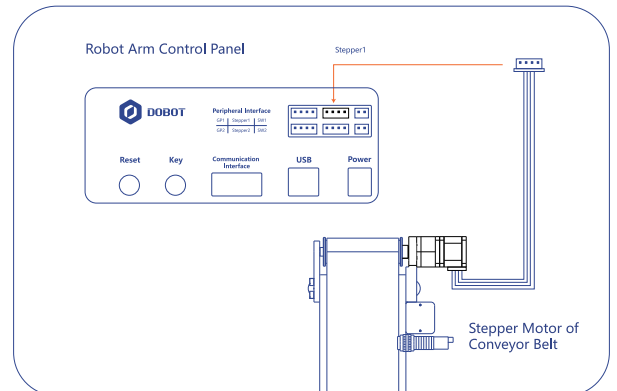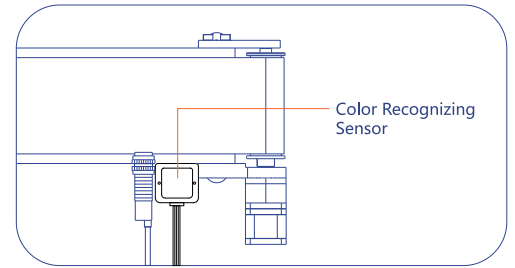
Connect Stepper Motor to Robot Arm 1

sensor Instructions
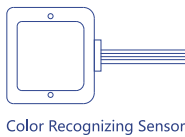
一、Color Recognizing Sensor Instructions

Function: The color recognition sensor can identify three basic colors: Blue, Green, Red. It outputs the related color information through the IO1 and IO2 composite states.

Connection: Connect the Peripheral Interfaces of the Dobot: GP1, GP2, GP4, GP5.
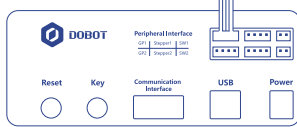
Instructions :

（1）Use the color recognition sensor block preset in the Blockly module to get the color states.
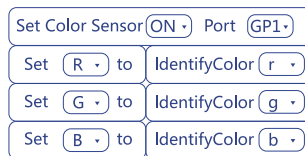
Color Recognizing Sensor

For example: Connect color recognition sensor to GP1. R, G, B are the variables to store the related results.

Peripheral Interface
GP1 | Stepper1 | SW1
GP2 | Stepper2 | SW2

Reset   Key   Communication Interface   USB   Power

Robot Arm Control Panel

Set Color Sensor [ON ▾] Port [GP1 ▾]
Set [R ▾] to IdentifyColor [r ▾]
Set [G ▾] to IdentifyColor [g ▾]
Set [B ▾] to IdentifyColor [b ▾]

（2）Search IO composite states to get the color information:

Color Information	IO1	IO2
Red	0	0
Green	0	1
Blue	1	0
None	1	1

The related variable value is 1 and other variable values are 0 when the color recognition sensor corresponds to the related color value.

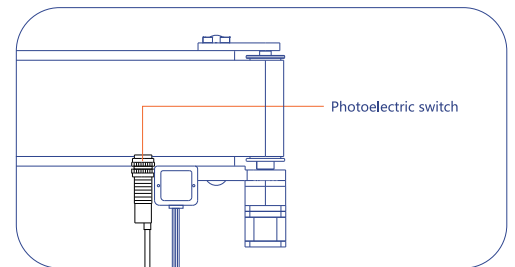For example: when a red block is recognized, the result values are: R=1, G=0, B=0.

Color Recognizing Sensor

二、Photoelectric Switch Instructions:

Function: Detect whether there are objects in front of the Photoelectric Switch or not.

Connection: Connect the Peripheral Interfaces of the Dobot: GP1, GP2, GP4, GP5.

Instructions : Read IO value to Detect .
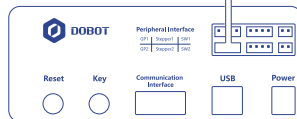
Photoelectric switch

For example: connect photoelectric switch to GP2, configure GP2 to the related IO1 pin--EIO14 to get input information , and then get the result.

Photoelectric switch

Robot Arm Control Panel

Peripheral Interface
GP1 | Stepper1 | SW1
GP2 | Stepper2 | SW2

Reset   Key   Communication Interface   USB   Power

Read the IO value to determine the signal

Color information	IO1
	1
	0

Addressing of Peripheral Interface IO:

Forearm Interface

GP5			
Function	GND	5V	IO1	IO2
Addressing	-	-	EIO4	EIO5

GP4			
Function	GND	5V	IO1	IO2
Addressing	-	-	EIO6	EIO7

GP3			
Function	IO1	IO2	IO1	IO2
Addressing	-	-	EIO8	EIO9

GP5
GP4
GP3

Robot Arm Control Panel

Peripheral Interface
GP1 | Stepper1 | SW1
GP2 | Stepper2 | SW2

Reset   Key   Communication Interface   USB   Power

GP1			
Function	GND	5V	IO1	IO2
Addressing	-	EIO10	EIO11	EIO12

GP2			
Function	GND	5V	IO1	IO2
Addressing	-	EIO13	EIO14	EIO15