

Quick Start Programming Guide

Introduction

EasyC is a programming language that you will use to tell your robot what to do. In EasyC, programs are written using icon-based code, but the interface includes a window that displays the program in a text-based format as well.

Test Your Kit

Before you start writing and downloading programs, you may wish to test the various components of the Vex system. The “Test the Kit” link in the Hardware section shows you how to set up a basic test bed and test your Vex parts.

Build Squarebot

The next step is to construct a robot. If you haven’t done so already, click the “Build Squarebot” link in “Hardware” for Squarebot Building Instructions and follow the instructions to build the robot.

Set up the Programming Kit

The Programming Kit includes both a USB-to-serial cable and a programming module. The serial end of the cable plugs into the programming module, allowing you to download programs from your computer to the Micro Controller.

First, attach the USB-to-serial cable to your computer. Next, attach the serial connector of the USB-to-serial cable to the programming module. Then, attach the robot interface cable to the programming module. Finally, connect the robot interface cable to the “serial” port on the Vex controller. You will need to set up the hardware in this fashion each time you wish to download a program to your robot.

Connect bumper sensor

Plug one of Squarebot’s bumper sensors into Analog/Digital port 6. You don’t need to physically connect the sensor to your robot for this exercise.

Install EasyC

If you have not already done so, install EasyC by putting the EasyC disk in your disk drive, and clicking through the installation.

Start EasyC

Start EasyC by clicking the START button on your computer, then selecting “programs/intelitek easyC for VeX controller/intelitek easyC for VeX controller”

If this is the first time you’ve opened the software, the evaluation mode screen will appear. To register easyC, click the “Get Unlock Code” button and follow the instructions that appear. You may also click the “Run in Evaluation Mode” button.

Open Test file

When the EasyC GUI appears, click “File/Open Project.” Navigate to the Test Code folder and open “BUMPERTTEST.ECP” This program will check the status of your robot’s bumper sensor and continuously report the data back to you.

Download the program

Make sure that the programming kit is connected properly. Turn the Vex controller on. Click the “Build and Download” icon on the main toolbar. It is the icon with the aqua arrow, the ninth button from the left on the line below File, Edit, etcetera.

An alert box should appear, displaying the words “The HEX file was successfully built. Would you like to download the program?”

Click Yes. The download window will open and display the status of the download. Do not turn the robot off or disconnect it from the programming module. The robot will start executing the code immediately upon finishing the download.

If you want to make the robot stop executing the program, either click the button on the programming module, or turn the Vex controller off.

Open terminal window

Click the Terminal Window icon on the main toolbar. It is the button to the right of the “Build and Download” icon, the tenth button from the left. This window displays the status of the bumper sensor. When the bumper sensor is not pressed down, the window should read, “Bumper Switch = 1.” When the bumper sensor is pressed down, the window should read, “Bumper Switch = 0.” If this happened, turn off the Vex controller and close the terminal window.

You can now begin learning how to write your own programs by going to our “Motors On” lesson in the EasyC section under Motors.