OMRON

Built-In Color Sensor

B5WC-VB2323

Sample Code Operation Manual

Built-In Color Sensor

E622-E1-01

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■Revision History

Revision	Year/Month	Contents
A	2026/3	First Release

Additional Notes

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Note that the contents of this document or specifications for B5WC-VB2323 noted in this document may change without notice.

Contents

Introduction

This document is the manual for the OMRON Built-In Color Sensor Module B5WC-VB2323 Sample Code (hereafter referred to as the “Sample Code”).

1 Outline

The Sample Code is used to evaluate the main functions of the OMRON Built-In Color Sensor Module B5WC-VB2323(hereafter referred to as the “Device”) on an Arduino in combination with your PC.

2 Caution

Make sure to read the Device’s data sheet before using it.

Make sure to read the Device’s data sheet when verifying its proper operation.

Make sure to follow the instructions in the Device’s data sheet when using it.

3 Operating Environment

The Sample Code was tested in the environment described below.

Arduino board	Arduino Mega 2560 R3 Arduino Uno R3
Arduino IDE	1.8.7
OS	Windows 11 Professional 64-bit

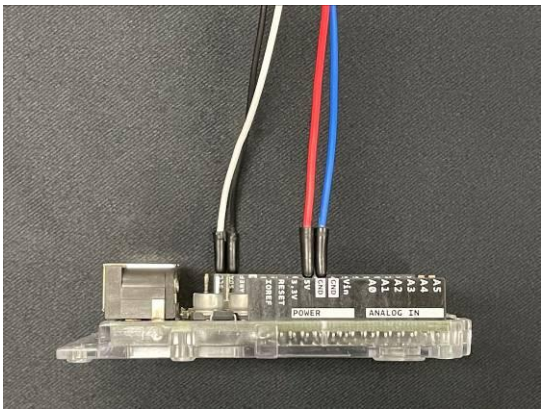
4 How to use the Application

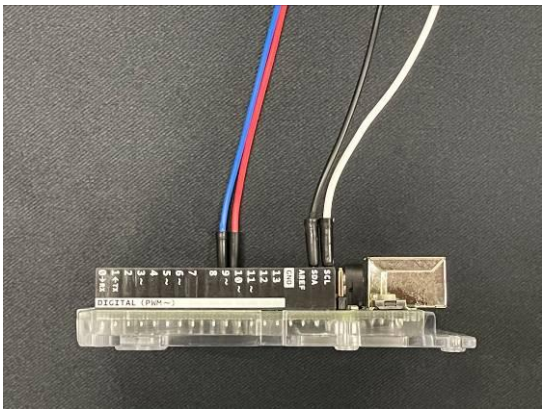
4.1 Connection

Connect the Device to Arduino and Arduino to PC.

Connect the Arduino to the PC after connecting the Device to the Arduino.

Example of connection between the Device and Arduino UNO





4.2 Download the Arduino IDE

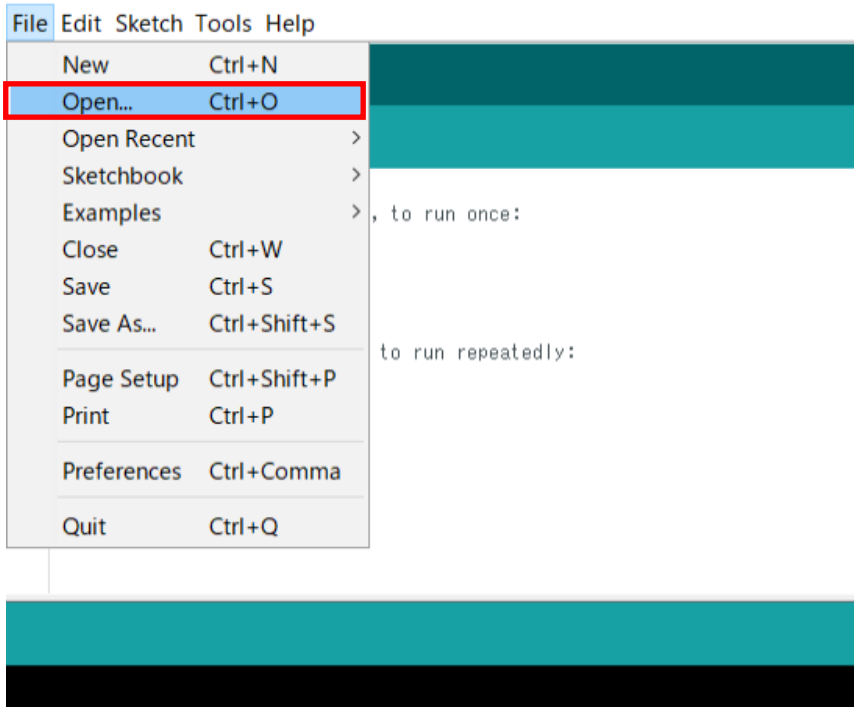
Download the Arduino IDE from the following URL.

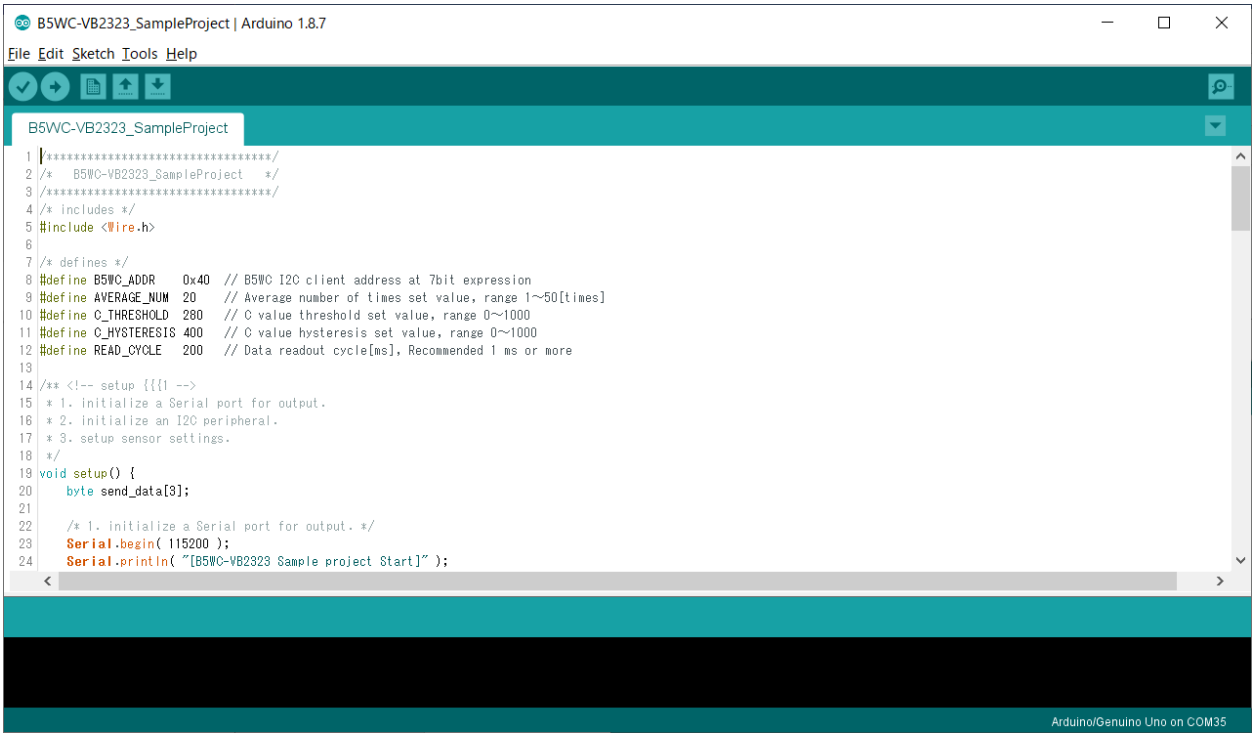
https://www.arduino.cc/en/Main/Software

4.3 Open Sample Code

Start the Arduino IDE and open the Sample Code.

[File]-[Open]-[B5WC-VB2323_SampleProject.ino]

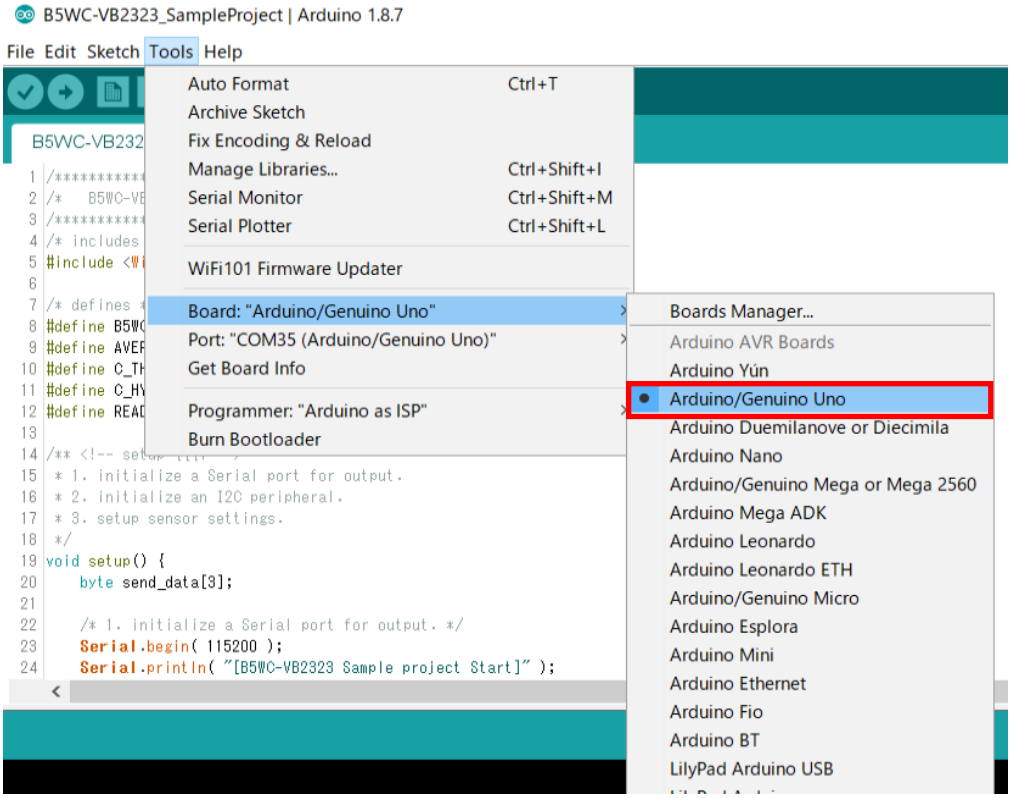




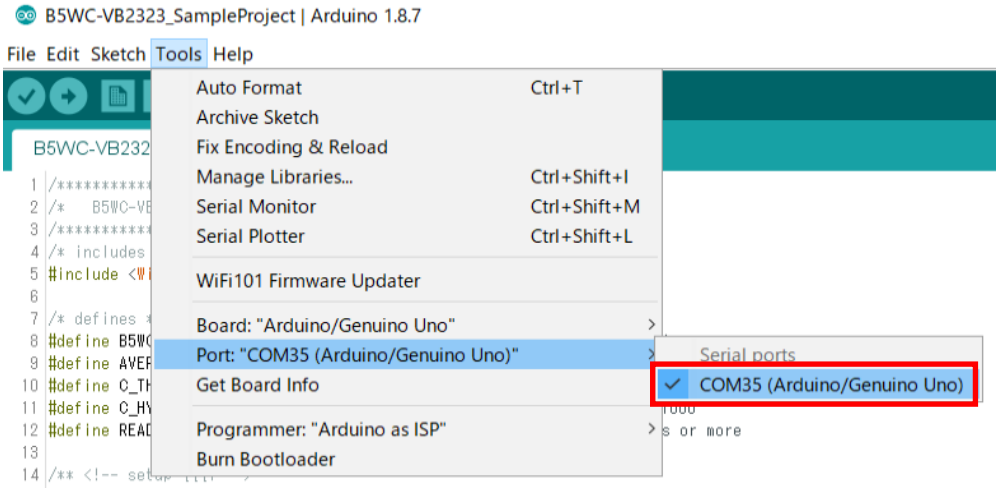
4.4 Upload to Arudino

Configure connection settings.

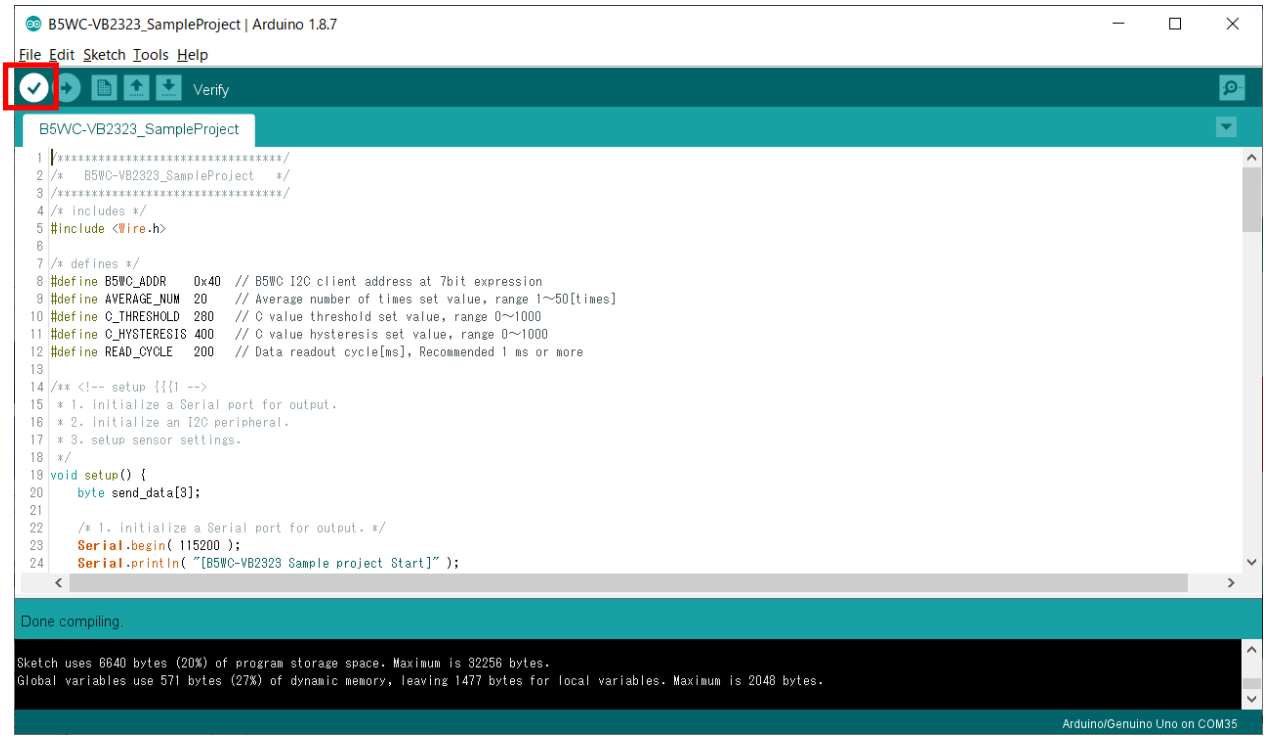
[Tools]-[Board]-[Select the Arduino board you are using]



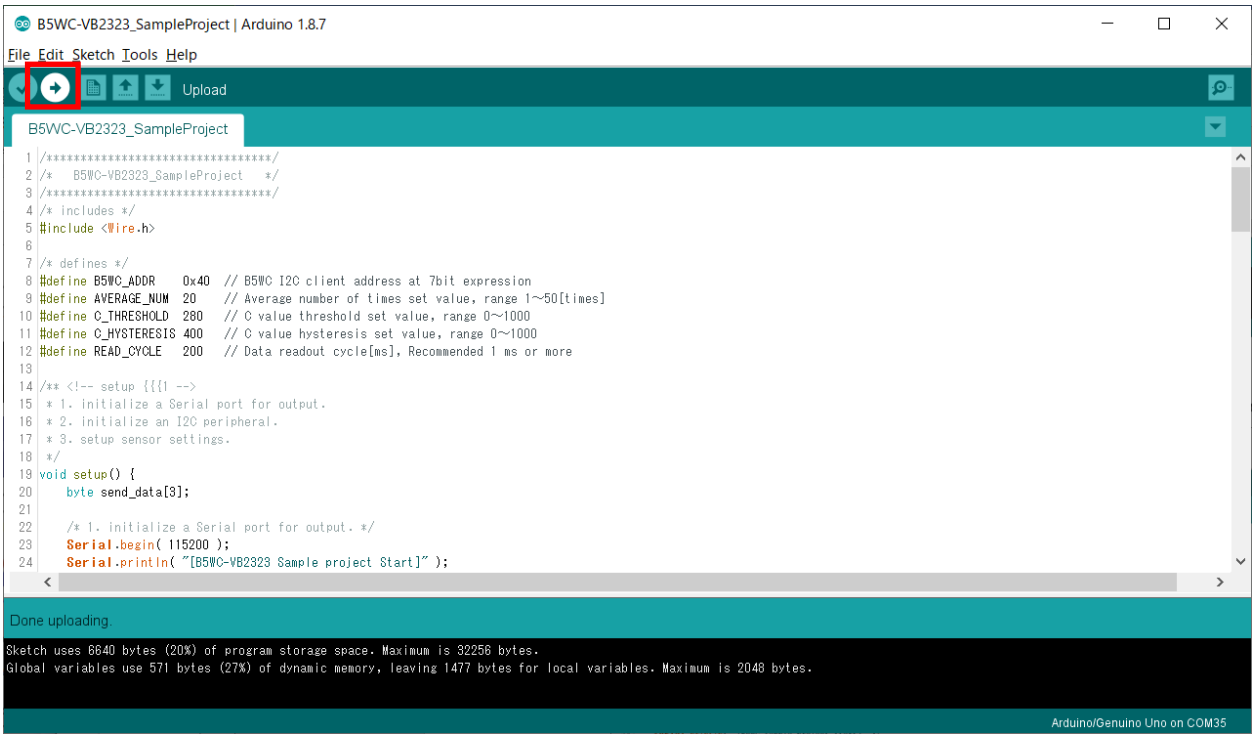
[Tools]-[Port]-[Select the USB port to which the Arduino is connected]



Click on "Verify" to make sure there are no errors.



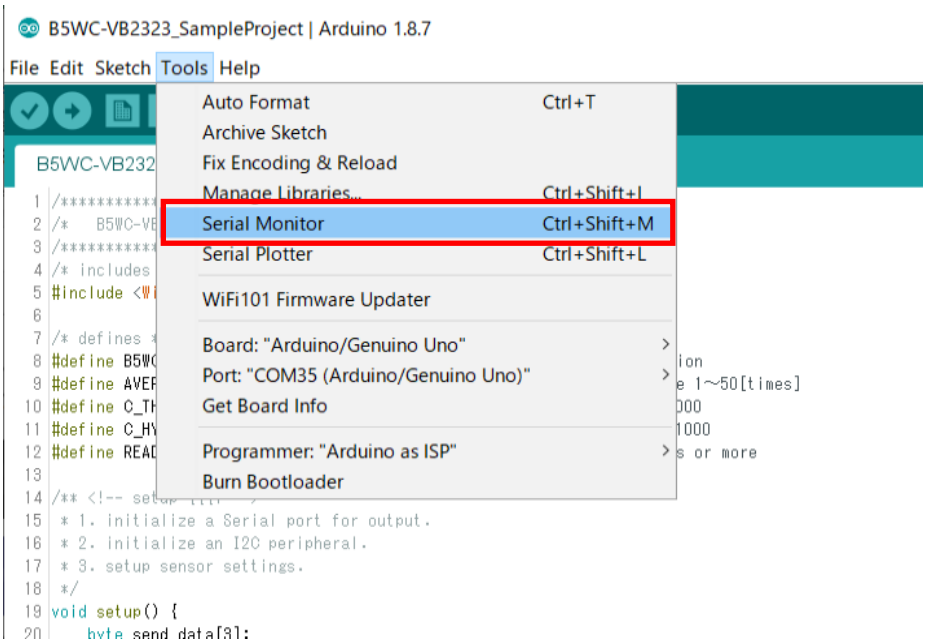
Click "Upload" and confirm that the message "Done uploading" is displayed on the screen.



4.5 Data acquisition

Open the Serial Monitor window.

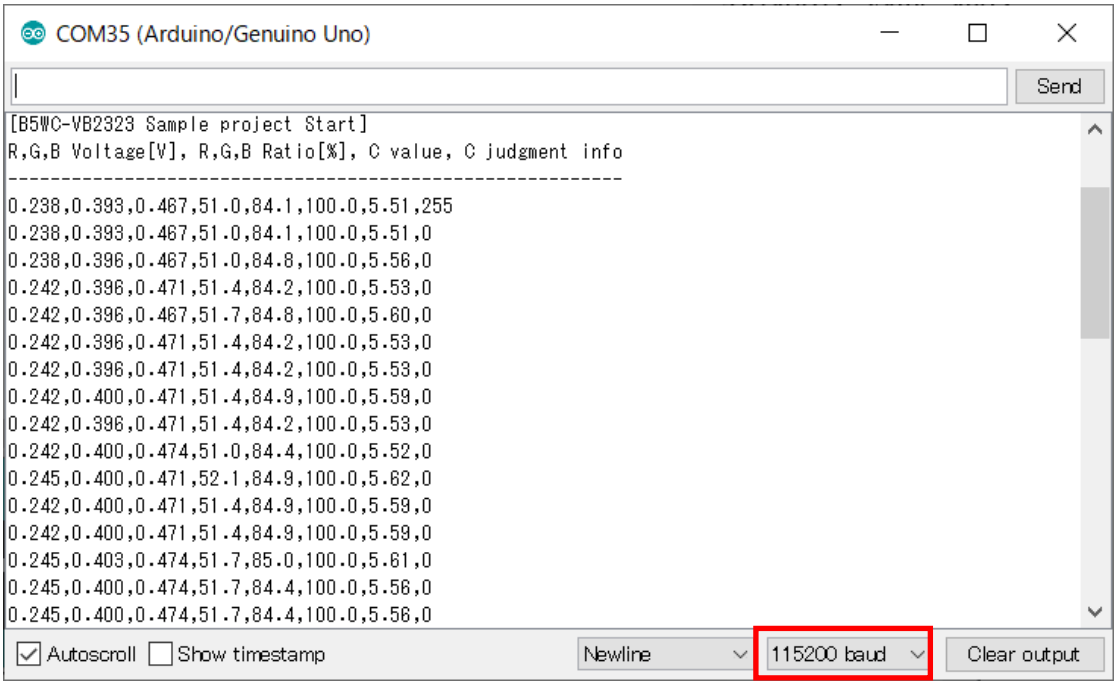
[Tools]-[Serial Monitor]



Data is displayed in the Serial Monitor window.

The communication speed of the Serial Monitor should be 115200 baud.

The data display shows R(voltage), G(voltage), B(voltage), R(ratio), G(ratio), B(ratio),C value, and C judgment information in order from left to right. R(ratio), G(ratio), and B(ratio) show the ratio of each RGB output voltage when the highest value among the RGB output voltage values is 100%.



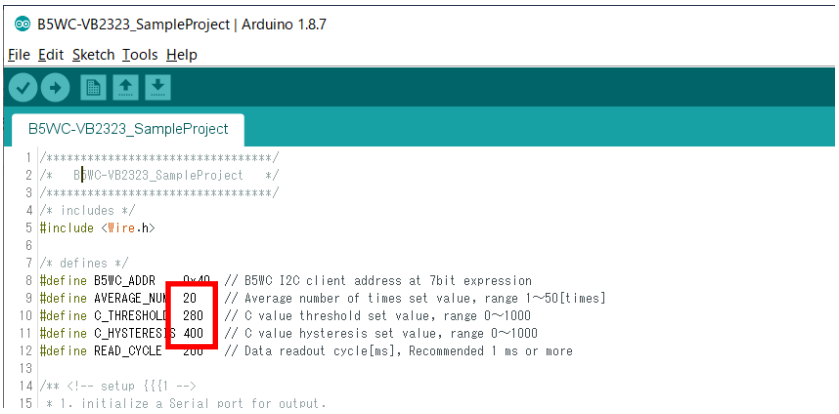
4.6 Sample code changes

This sample code is designed to set each operation setting value of this device to a fixed value.

The average count, C value judgment threshold, and C value judgment hysteresis can be set to any desired value by rewriting the values in this sample code. The changes and steps are as follows.

[Changes]

Operation setting value	Sample code	Default value	Settable range
Average number of times (AVERAGE_NUM)	Line 9	20(20 times)	1～50(1～50 times)
C value threshold (C_THRESHOLD)	Line 10	280(2.80)	0～1000(0～10.00)
C value hysteresis (C_HYSTERESIS)	Line 11	400(4.00)	0～1000(0～10.00)



[Change procedure]

1. Change the sample code to any value according to the above [Changes]
2. 4.4 Try again from "Click "Verify" and make sure there are no errors."

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Cat. No. E622-E1-01