USER'S MANUAL

FOR

Raspberry Pi with Expansion Board

Manufactured By

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Experiment No. - 01

Aim: To interface LED and Switches with Raspberry Pi.

Requirement:

- Raspberry Pi with Expansion Board
- 10 Pin FRC x 2
- RPI Power Adapter
- VGA/HDMI Monitor, Keyboard & Mouse
- HDMI to VGA Convertor(Optional)
- Interfacing board

Procedure:

1. Connect Keyboard, Mouse and Display to Raspberry Pi.
2. Short the pin 1&2 of jumper JP1 on RPI expansion board.
3. Connect the Power Adapter to Raspberry Pi and turn in ON
4. Connect SV2 on RPI expansion board to SV3 on Interfacing Board.
5. Connect SV3 on RPI expansion board to SV1 on Interfacing Board.
6. Open the File Explorer in Raspberry pi and navigate to Documents=> Sample-Codes
7. Open the LED-Switch program using Thonny IDE
8. Click on Run button
9. Turn the switch ON to turn on the respective LED.

Experiment No. - 02

Aim: To interface Push-buttons with Raspberry Pi.

Requirement:

- Raspberry Pi with Expansion Board
- 10 Pin FRC x 1
- RPI Power Adapter
- VGA/HDMI Monitor, Keyboard & Mouse
- HDMI to VGA Convertor(Optional)
- Interfacing board

Procedure:

1. Connect Keyboard, Mouse and Display to Raspberry Pi.
2. Short the pin 1&2 of jumper JP1 on RPI expansion board.
3. Connect the Power Adapter to Raspberry Pi and turn in ON
4. Connect SV3 on RPI expansion board to SV2 on Interfacing Board.
5. Open the File Explorer in Raspberry pi and navigate to Documents=> Sample-Codes
6. Open the Push-button program using Thonny IDE
7. Click on Run button
8. Observe the output on Shell terminal in Thonny IDE

Experiment No. - 03

Aim: To interface RGB LED with Raspberry Pi.

Requirement:

- Raspberry Pi with Expansion Board
- 10 Pin FRC x 1
- RPI Power Adapter
- VGA/HDMI Monitor, Keyboard & Mouse
- HDMI to VGA Convertor(Optional)
- Interfacing board

Procedure:

1. Connect Keyboard, Mouse and Display to Raspberry Pi.
2. Short the pin 1&2 of jumper JP1 on RPI expansion board.
3. Connect the Power Adapter to Raspberry Pi and turn in ON
4. Connect SV2 on RPI expansion board to SV4 on Interfacing Board.
5. Open the File Explorer in Raspberry pi and navigate to Documents=> Sample-Codes
6. Open the RGB LED program using Thonny IDE
7. Click on Run button
8. Observe the RGB LED on interfacing board.

Experiment No. - 04

Aim: To interface DHT sensor with Raspberry Pi.

Requirement:

- Raspberry Pi with Expansion Board
- 10 Pin FRC x 1
- RPI Power Adapter
- VGA/HDMI Monitor, Keyboard & Mouse
- HDMI to VGA Convertor(Optional)
- Interfacing board

Procedure:

1. Connect Keyboard, Mouse and Display to Raspberry Pi.
2. Short the pin 1&2 of jumper JP1 on RPI expansion board.
3. Connect the Power Adapter to Raspberry Pi and turn in ON
4. Connect SV2 on RPI expansion board to SV4 on Interfacing Board.
5. Open the File Explorer in Raspberry pi and navigate to Documents=> Sample-Codes
6. Open theDHT-11 program using Thonny IDE
7. Click on Run button
8. Observe the output on Shell terminal in Thonny IDE

Experiment No. - 05

Aim: To interface IR sensor with Raspberry Pi.

Requirement:

- Raspberry Pi with Expansion Board
- 10 Pin FRC x 1
- RPI Power Adapter
- VGA/HDMI Monitor, Keyboard & Mouse
- HDMI to VGA Convertor(Optional)
- Interfacing board

Procedure:

1. Connect Keyboard, Mouse and Display to Raspberry Pi.
2. Short the pin 1&2 of jumper JP1 on RPI expansion board.
3. Connect the Power Adapter to Raspberry Pi and turn in ON
4. Connect SV2 on RPI expansion board to SV4 on Interfacing Board.
5. Open the File Explorer in Raspberry pi and navigate to Documents=> Sample-Codes
6. Open the IR sensor program using Thonny IDE
7. Click on Run button
8. Put hand in front of IR sensor and remove after some time, and observe the output on shell terminal of Thonny IDE.

Experiment No. - 06

Aim: To interface ADC with Raspberry Pi.

Requirement:

- Raspberry Pi with Expansion Board
- 10 Pin FRC x 2
- RPI Power Adapter
- VGA/HDMI Monitor, Keyboard & Mouse
- HDMI to VGA Convertor(Optional)
- Interfacing board

Procedure:

1. Connect Keyboard, Mouse and Display to Raspberry Pi.
2. Short the pin 1&2 of jumper JP1 on RPI expansion board
3. Connect the Power Adapter to Raspberry Pi and turn in ON
4. Connect UEXT on RPI expansion board to SV5 on Interfacing Board.
5. Open the File Explorer in Raspberry pi and navigate to Documents=> Sample-Codes
6. Open the LED-Switch program using Thonny IDE
7. Click on Run button
8. Rotate the pot VR3 on interfacing board, and observe the output on shell terminal of the Thonny IDE.