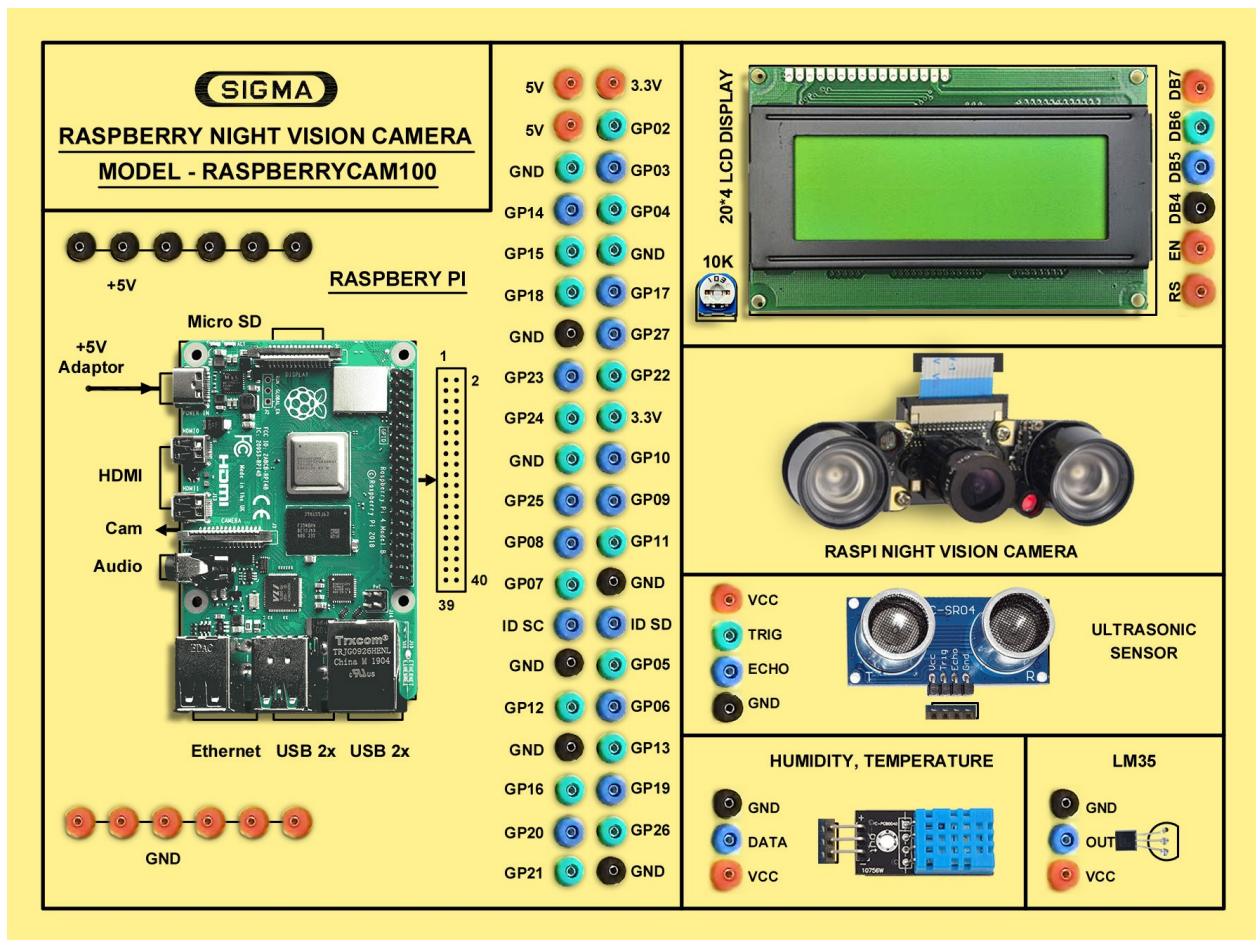




RASPBERRY PI NIGHT VISION CAMERA TRAINER MODEL - RASPBERRYCAM100

This trainer has been designed with a view to provide practical and experimental knowledge of with Solnoi Night Vision Camera Module with Raspberry Board.



SPECIFICATIONS

1. Hardware

Following Parts and Modules are assembled on Single PCB of size - 12 "x 9"

1. Raspberry Board – Pi-3

1. Processor : 64bit, ARMv7
2. RAM - 1 GB
3. Memory - 16GB
4. OS: Open Source Linux
5. Connectivity:
Dual-Band 2.4/5.0 GHz Wireless LAN
Bluetooth 5.0
USB Interface – USB 2.0 – 2 Ports, USB 3.0 – 2 Ports,
Gigabit Ethernet
6. Video and Sound
2 × micro HDMI Interface ports (up to 4Kp60 supported)
2-lane MIPI CSI camera port
4-pole stereo audio and composite video port Output
7. Power - 5V, 3A DC via USB-C Connector

2. Sensors

1. Temperature & Humidity Sensor DTH11
2. Ultrasonic Distance sensor

3. Modules and Hardware:

1. Solnoi Night Vision Camera Module
2. 20 X 4 - LCD Display
3. LEDs and Different Resistors
4. Breadboard - 400 Points for testing different Sensors and circuits

2. Accessories

1. Memory Card : 16 GB SD Card
2. USB Cable : 2 No
3. Ethernet Cable : 1 No
4. HDMI to Mini HDMI Connector Cable : 1 No
5. Power Supply Adaptor : +5V DC, 2A
6. Jumper wires -2 mm : 20 Nos.
7. Pen Drive with Software, Library, Driver, Codes, Soft Copy of Manual : 16 GB
8. Printed Practical Manual : 1 No.
9. E-Books for IOT Subject : 10 Nos. in PDF Format
10. Mp4 Video Class for IOT Subject : 40 Nos
11. Excitation accessories for each sensor

3. Cabinet and PCB

The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The PCB with components on front side is fitted in elegant wooden box having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It works on 230 V AC Supply.

EXPERIMENTS

A. Theory Experiments

1. To understand theory and working of Raspberry PI.
2. To understand Operating System for Raspberry PI.
3. To understand Communication Protocols - UART, I2C, SPI and Rs485.
4. To understand USB Interface for Raspberry PI.
5. To understand Ethernet Cable Interface for Raspberry PI
6. To understand micro SD Card Interface for Raspberry PI
7. To understand 20 x 4 LCD Display
8. To understand theory and working of Raspberry Pi Night Vision Camera

B. Practical Experiments

1. To take picture and store in SD card using Raspberry Pi Night Vision Camera
2. To take video and store in SD card using Raspberry Pi Night Vision Camera
3. To determine the distance of a nearby object using ultrasonic sensor and show it in 20x4 LCD
4. To determine temperature and humidity sensor using DHT11 and show it in 20x4 LCD