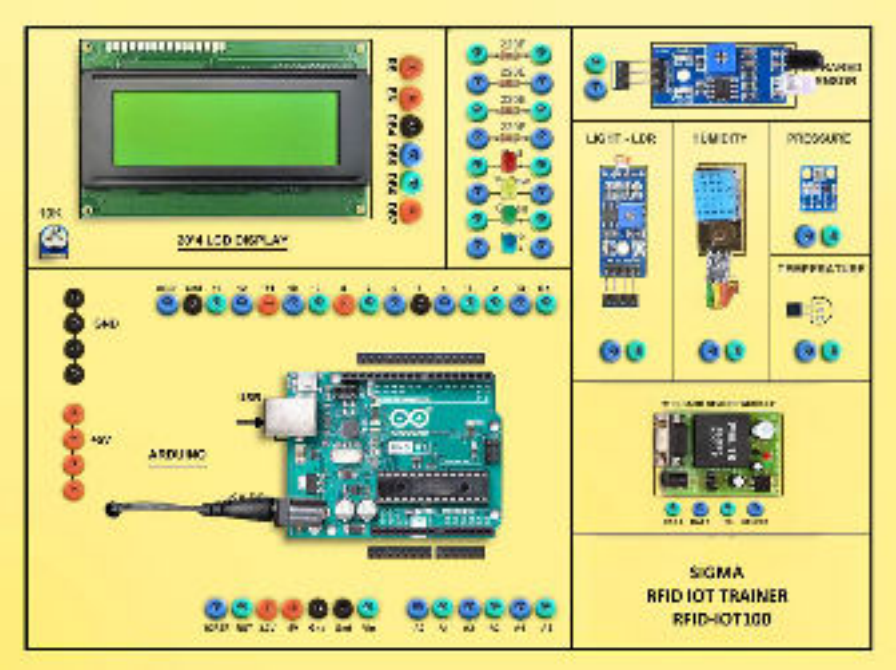
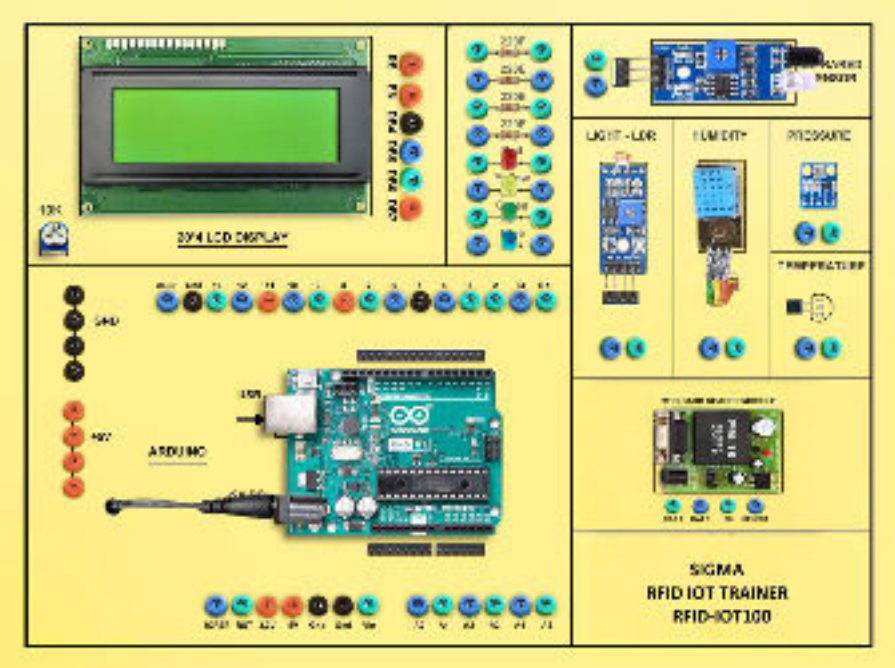
# RFID IOT TRAINER

## MODEL- RFID-IOT100




**Transmitter**




**Receiver**

This trainer has been designed with a view to provide practical and experimental knowledge of Wireless Internet of Things (IOT) with RFID Wireless module with Arduino IOT Board.

## SPECIFICATIONS

### A. Main Specs

1. Following Parts and Modules are assembled on Single PCB of size - 18 Inch x 15 Inch.
2. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place.
3. The PCB with components on front side is fitted in elegant wooden box having lock and key arrangement.
4. Modules and Parts should be removable without desodlering for easy repair / replacement
5. The acrylic cover is fitted on PCB to safeguard main parts.

### B. Arduino Microcontroller Board

1. ATMega328P Processor - AVR CPU at up to 16 MHz
2. 8 Bit AVR® RISC Based microcontroller
3. Memory : 32KB Flash, 2KB SRAM, 1KB EEPROM
4. Power On Reset (POR)
5. 2 x 8 Bit Timer/Counter
6. 1 x 16-bit Timer/Counter
7. USART, SPI, I2C
8. PWM Channels : 6 Nos.
9. Digital Input / Output pins : 14 Nos (of which 6 provide PWM output)
10. 16 MHz Ceramic Resonator
11. USB Port
12. Power Jack – 9V DC, 1A

## C. Modules

### RFID Card Reader Module

1. RFID Reader Writer Sensor RC522 with RFID Keychain and RFID Cards
2. Working frequency :13.56 MHz
3. Card Reading Distance :0 to 60mm（Mifare1 Card）
4. Transmission Rate : up to 424 kbit/s.
5. The low-voltage, low-cost, small size of the non-contact card chip to read and write.
6. Suitable for Smart meters and portable Handheld Devices.
7. Advanced Modulation and Demodulation concept completely integrated into all types of 13.56MHz passive contactless communication methods and protocols.
8. ISO14443A frames and error detection.
9. Supports rapid CRYPTO1 encryption algorithm, terminology validation MIFARE products.
10. MFRC522 support MIFARE series of high-speed non-contact communication, two-way data Low cost, and ideal for user equipment development.
11. The reader and RF card terminal design meet advanced applications development and production needs.
12. Can be directly loaded into the various reader molds, very convenient.

## D. Hardware:

1. 20 X 4 - LCD Display
2. LEDs and Different Resistors
3. 2 mm interconnection Sockets

## E. Accessories

1. USB to Square USB Cable : 1 No
2. 2 mm Banana Jack Jumper – Connectors : 30 Nos
3. 9V, 1A Power Adaptor – Barrel 2.1mm : 1 No
4. Pen Drive - 16 GB with All Codes : 1 No
5. Printed Manual : 1 No.
6. Softcopy of Manual – On Pen Drive : 1 No
7. E-Books for IOT Subject – On Pen Drive : 10 Nos. in PDF Format
8. Mp4 Video for IOT Subject – On Pen Drive : 40 Nos

## EXPERIMENTS

1. To understand theory and working of Arduino Board
2. To understand Operating System for Arduino Board
3. To understand Communication Protocols
4. To understand USB Interface for Arduino Board
5. To understand that how to connect 20 x 4 LCD Display to Arduino Board

6. To understand theory of RFID Sensor
7. To Read and Write data on RFID Cards using RFID Reader/Writer Sensor RC522
8. To design an RFID based Attendance System using Arduino.

# Contact us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