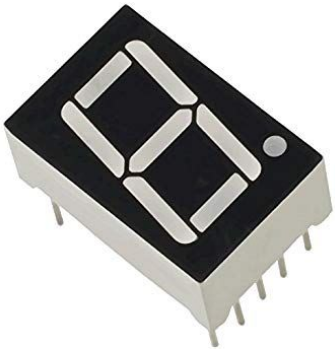
Z2M Part Number:
EDD-00004-A
EDD-00004-B

7 Segment 1-Digit Display Device (Technical Note)

What is 7 segment display?

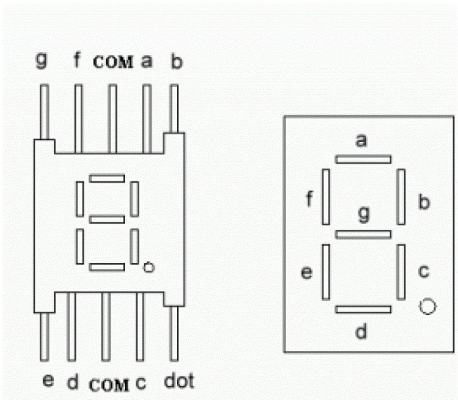


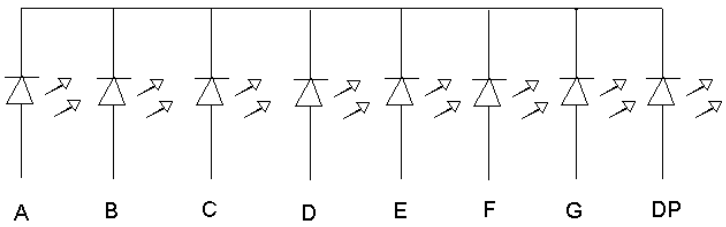
A seven-segment display is a form of electronic display device for displaying decimal numerals that is an alternative to the more complex dot matrix LED.

Seven-segment displays are widely used in digital clocks, electronic meters, basic calculators, and other electronic devices that display numerical information.

Scientific Fact and Applications

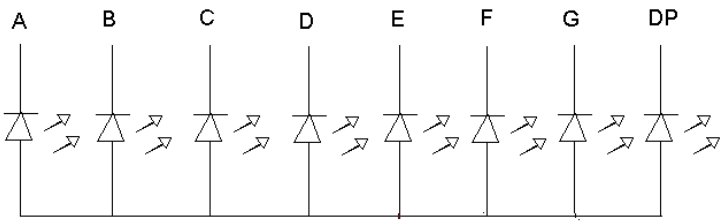
These are available in two modes, which are common Cathode (CC) (EDD-007-A) and common Anode (CA) (EDD-007-B). For color variations, these devices are available in color such as white, blue, red, yellow and green (Red is commonly used). It is a low current operated device. Individual segment operates as a separate part and can be lit when the connections are made. Thus, a programmed logic is necessary to display any meaningful content of numerals.





Common Cathode EDD-007-A

Common Anode EDD-007-B



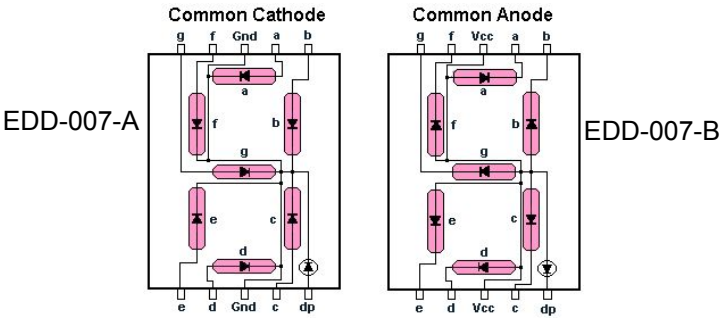
Applications:

Digital Clocks:

These are the clocks which do not require high resolution of picture quality. They are electronic clocks which use 7 segment LED to display time. Such clocks are still in action at various public places we visit in day to day life.

Basic Calculators:

The calculators which are used for simple calculations make the use of 7 segment LED to display the digits and the operations.



AN-021 Rev 1.0

Z2M Part Number:
EDD-00004-A
EDD-00004-B

7 Segment 1-Digit Display Device (Application Note)

Project

To display integers from 0 to 3 ie 0,1,2,3 on 7 segment display using Arduino

Components Required

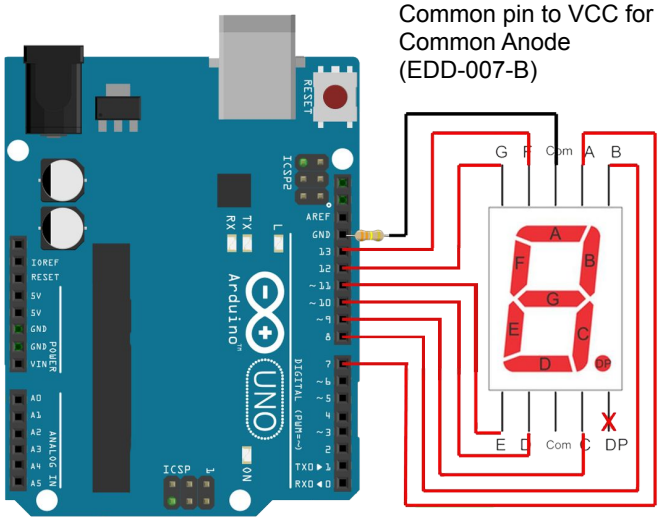
Component	Z2M Part No.	Quantity
7 Segment 1 Digit Display	EDD-00004-A or EDD-00004-B	1
Arduino UNO	EMX-00001-A	1
330 ohm resistor	EDR-00001-330Z	1

Procedure

1. Connect **A** of 7 seg. display to **7th** pin of Arduino
2. Connect **B** of 7 seg. display to **8th** pin of Arduino
3. Connect **C** of 7 seg. display to **9th** pin of Arduino
4. Connect **D** of 7 seg. display to **10th** pin of Arduino
5. Connect **E** of 7 seg. display to **11th** pin of Arduino
6. Connect **F** of 7 seg. display to **13th** pin of Arduino
7. Connect **G** of 7 seg. display to **12th** pin of Arduino
8. Connect one end of **Com** from 7 seg. Display to **330ohm** resistor
9. Connect the left out leg of **330ohm** resistor to GND of Arduino

Schematic

This schematic is for EDD-007-A. Change Common pin to VCC for Common Anode (EDD-007-B)



Challenge Yourself

1. Display present time using multiple seven segment displays
2. Design person counter using sensor and 7 seg. display

Code

```
/*connecting following pins to make COMMON
CATHODE 7 segment LED work. For Common Anode the
1's and 0's in digitalWrite should be swapped*/
int f = 13;
int g = 12;
int e = 11;
int d = 10;
int c = 9;
int b = 8;
int a = 7;
void setup()
{ /*Mentioning every pin of 7 segment LED as
output pin*/
  pinMode(f, OUTPUT);
  pinMode(g, OUTPUT);
  pinMode(e, OUTPUT);
  pinMode(d, OUTPUT);
  pinMode(c, OUTPUT);
  pinMode(b, OUTPUT);
  pinMode(a, OUTPUT);
}

void loop()
{/*Displaying character "0" on the 7 segment
display*/
 digitalWrite(a,1);
 digitalWrite(b,1);
 digitalWrite(c,1);
 digitalWrite(d,1);
 digitalWrite(e,1);
 digitalWrite(f,1);
 digitalWrite(g,0);
 delay(1000);
  /*Displaying character "1" on the 7 segment
display*/
 digitalWrite(a,0);
 digitalWrite(b,1);
 digitalWrite(c,1);
 digitalWrite(d,0);
 digitalWrite(e,0);
 digitalWrite(f,0);
 digitalWrite(g,0);
 delay(1000);
  /*Displaying character "2" on the 7 segment
display*/
 digitalWrite(a,1);
 digitalWrite(b,1);
 digitalWrite(c,0);
 digitalWrite(d,1);
 digitalWrite(e,1);
 digitalWrite(f,0);
 digitalWrite(g,1);
 delay(1000);
 /*Displaying character "3" on the 7 segment
display*/
 digitalWrite(a,1);
 digitalWrite(b,1);
 digitalWrite(c,1);
 digitalWrite(d,1);
 digitalWrite(e,0);
 digitalWrite(f,0);
 digitalWrite(g,1);
 delay(1000);
}
```