No of bits to adc conversion

Digital convertor

Analog input

Black box for ADC

The main important thing in ADC conversion is :

1.no of bits used for ADC(**Resolution**)

Ex: Different types ADC (8-bit,16,24-bit ADC) were there.

ADC support from 0 to 5v

0v-------------------🡪 0000 0000 -> in between 0 to 5v

5v-------------------🡪 1111 1111 ->

1111 1111

0000 0011

0000 0010

0000 0001

Output(it was not continue)

Input (it is continues)

|

|

|

|

20mv

0v----------------🡪0000 0000-----------🡪00H------------🡪0

5v----------------🡪1111 1111-----------🡪FFH------------🡪255

For 8-bit ADC the no of levels is 255 means 1111 1111 and resolution is 20mv generating shown beliow.

We need to find each value

5v------------------------------------------🡪255

?v------------------------------------------🡪1

This is (5v x 1) /255 ( or ) 5000mv/255=20mv

For 16-bit ADC value is = 70uv

For 24-bit ADC =is also very small.

From above the best thing for ADC converter id 24-bit ADC converter because of small change in voltage its ADC values are changed imidiatly.

NOTE: be careful when u use 24-bit **ADC** because they is chance to disturbance the sensor wires changes the sensor output and eclectic design is complex.



2)Accuracy: closeness of the correct values.

ADC contains mainly in two sections.

Digital Section

Analog section

Types of ADC :

1.single sloped ADC.

2Dual sloped ADC.

3.successive approximation ADC.

4.Flash ADC.