



Pixels? Pitch? Viewing Angle? Where do you begin?

These are the building blocks for an effective LED Message Display for your application and business location.

*Please read carefully, this is the **basic information** you should know when purchasing a LED Display.*

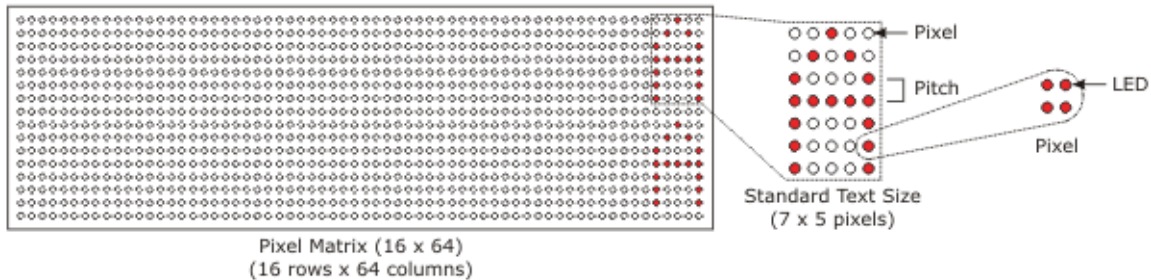
To start...

Pixels are the actual dots that create the text or images. Within each pixel are the actual lights or diodes called **LEDs** (Light Emitting Diodes).

Pixel Matrix is the arrangement, or array, of the pixels (Ex: 16 x 64). 16 pixels tall (or rows) by 64 pixels wide (or columns).

Pitch is the distance between pixels. Some companies use the term "resolution".

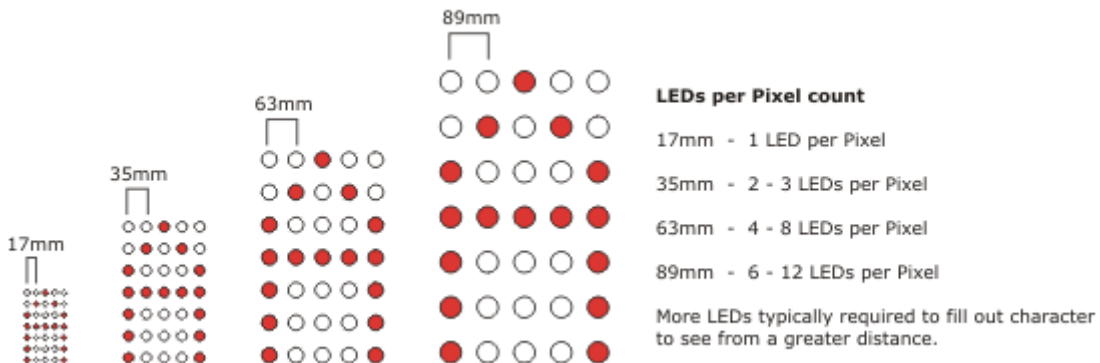
Most small LED displays have one LED per pixel and large LED displays can have anywhere from 4 to 12 LEDs per pixel.



Pitch determines the size of the text. A 17mm pitch displays 5" text as compared to a 34mm pitch which displays 9" text.

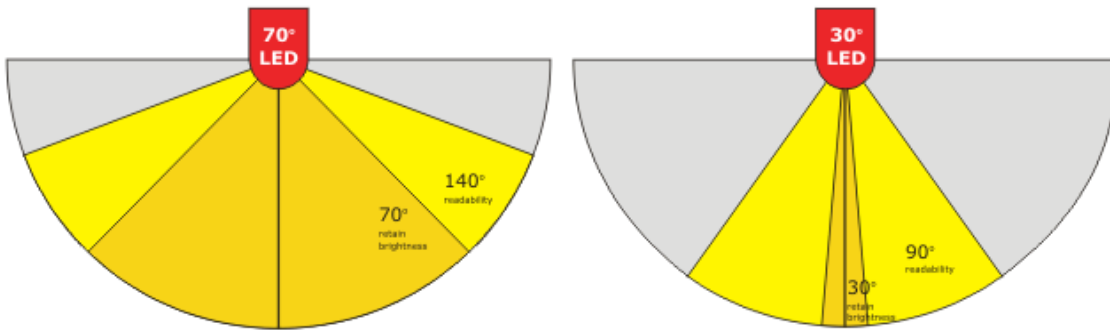
As the distance between pixels increases (the pitch), the more LED's per pixel is typically required, so the text is fuller in appearance.

Typically, a wider pitch is required for LED Displays that need to be read from a long distance.



Standard text is made up of 7 pixels high by 5 pixels wide. For example, a display with the pixel matrix of 16 x 64 will be capable of two lines of standard text. 7 plus 7 plus 2 pixels for space. The wider the Pitch, the bigger the text, even though the pixel matrix remains the same.

Viewing Angle, typically means, how far the user can walk from center facing the LED display in either direction and still see *the same brightness* of the display. Most companies refer viewing angle as *readability* and not brightness.



There are two common types of LEDs on the market, a 30 degree diode and a 70 degree diode. This degree refers to the brightness.

On a 70 degree diode, pass 35 degrees from center, the brightness will fade a bit, but the LED Display is still *readable* up to about 70 degrees from center, creating a 140 degree "readable viewing angle".

On a 30 degree diode, pass 15 degrees from center, the brightness will fade a bit, but the LED Display is still *readable* up to about 45 degrees from center, creating a 90 degree "readable viewing angle".

This is where price differences in LED displays from one company to another most commonly occur.