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Benefits of Resistive Touchscreens

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The benefits of resistive touchscreens

Touchscreens have become an integral part of our lives. We use touchscreens when we type out a text message on our smartphones, when we scroll through a selection menu at a restaurant, when we need to get cash out from an ATM, and when we're using an elevator in a shopping mall. As technology begins to advance and becomes more and more interactive, touchscreens are bound to be found everywhere – from personal gadgets like tablets, laptops, printers and gaming consoles, to household appliances like cooktops and washing machines, and to public conveniences like car GPS systems, elevators and ticket vending machines to name a few.

In all these touchscreens, you must have noticed a difference between the texture of the touch panels, the response time, and the required pressure you need to apply with your fingers? This is because the underlying technology is different in different touchscreens. Based on the types of touch sensors used in the development of a touchscreen, there are a few types of touchscreens.

Resistive touch

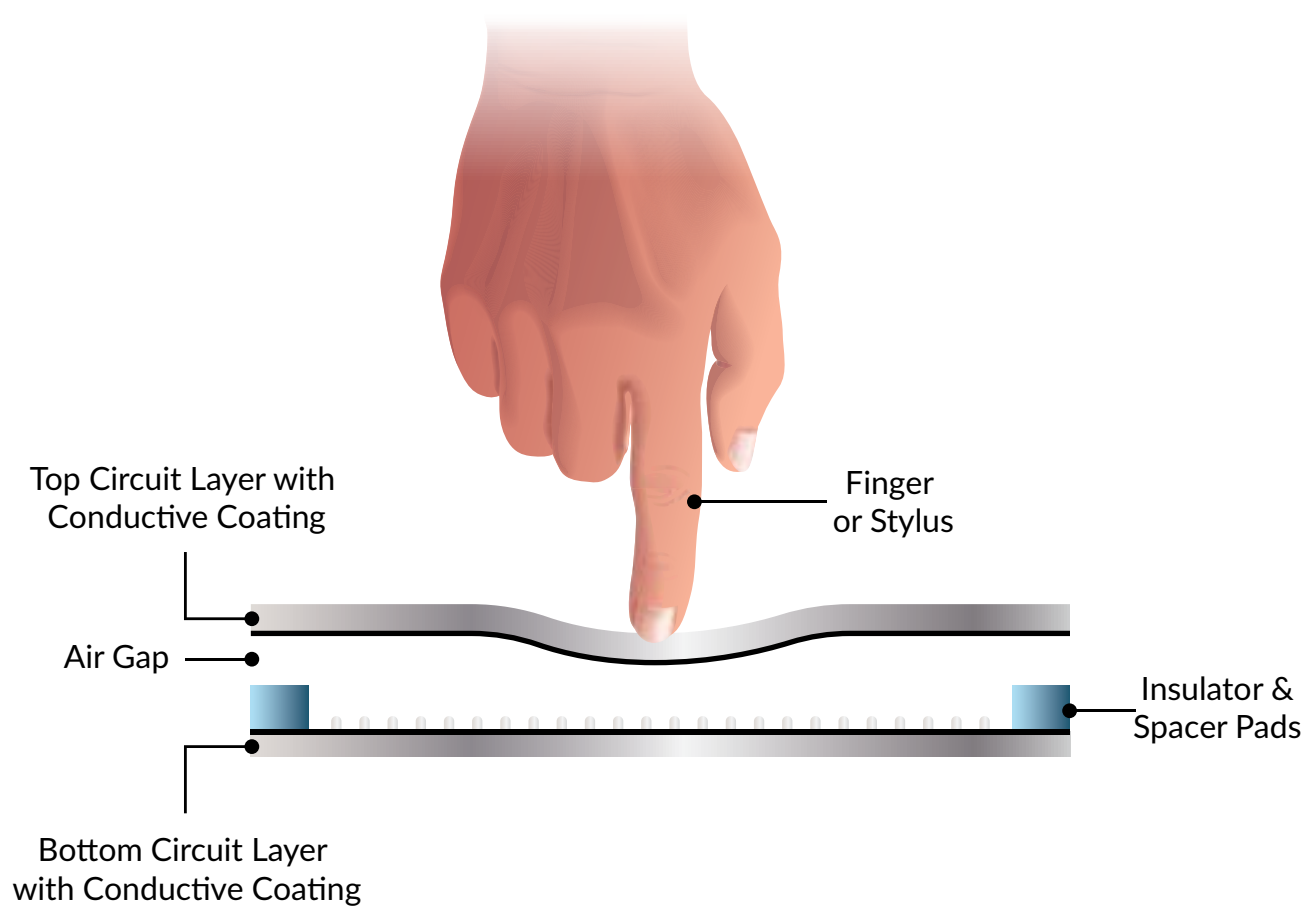
Resistive touch is one of the most commonly used touchscreen technologies and was once the most prevailing type of touchscreen interfaces. It was the American inventor Dr. Samuel G. Hurst who founded the first resistive touchscreen in 1971. He called the sensor Elograph, after his company Elographics and he even received a US patent for his invention in 1975.

Let's find out more about resistive touch, as well as the benefits of resistive touch.

What is resistive touch?

As the name suggests, resistive touch works on the basis of a pressure applied to the screen. A resistive touchscreen consists of several thin layers. The layers comprise of a bottom glass panel that is followed by two resistive circuit layers which are coated with electrically conductive thin metallic layers separated by a slim gap consisting of separator dots.

When pressure is applied on the screen with a finger or stylus, the outer resistive layer is pushed onto the inner layer. The two metallic conductive layers come into contact closing a circuit, causing a current loop and generating a change in resistance on both vertical and horizontal axis. The change is detected by the sensors located on the screen's edges which in turn find out the exact location by using the horizontal-vertical axis coordinates to indicate the touch point.



Benefits of resistive touch

Let's take a look at the benefits of resistive touchscreens and where they can be suited for a variety of applications.

✓ Minimal production cost - affordable

Resistive touchscreens are less complex to make due to its simple structure and cost less when compared to other touch technologies. The affordability of the resistive touchscreen explains their success in high-use applications like PDAs and Internet appliances.

✓ Reacts to multiple types of touch

Resistive touchscreens have more sensors per inch than a capacitive touchscreen; the touchscreens can be touched to perform the desired action using a bare finger, gloved finger and stylus. This property makes resistive touchscreens the preferred choice in an industrial setting, where operators have to use gloves on the resistive touch panel. On the contrary, most of the capacitive touch screens will not work with gloves since the screen actually detects the electrical properties of the finger.

✓ Extremely durable

Resistive touchscreens are extremely durable and can be used in tough and harsh environments. The surface is resistant to liquids like water, oil and grease and other contaminants like dust and moisture.

✓ Power consumption is less

Resistive touchscreens do not use much power.

✓ Precision with handwriting recognition

Resistive touchscreens are well suited for handwriting recognition. The touchscreen can come with a built-in handwriting recognition capability.

✔ **Less sensitive to stray stimuli**

Though a high degree of sensitivity can be a good feature for a touchscreen, it is not always an advantage in industrial environments. Resistive touchscreens do not respond to stray stimuli such as liquid spills and spatters that are common in an industrial unit that can cause the terminal to react unintentionally.

✔ **High Resolution**

Resistive touchscreen devices can have a resolution of 4096 x 4096 DPI or higher. This high resolution makes them ideal for watching movies and playing games. Furthermore, it also supports accurate touch control.

✔ **Resistive sensors can have no exposed glass**

Most touchscreen technologies use glass plates as the outer touch layer. This is usually not allowed in the food and beverage facilities as they have strict 'no exposed glass' policies. Resistive screens use a tough polycarbonate outer layer that can contain the glass, even if the sensor screen is shattered by impact.

Resistive touch screens have been widely used for many years and hope to remain a popular, well proven and trusted solution in the future as well.

For a great range of LCD screens, visit: <https://www.4dsystems.com.au>



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