Resistive VS Capacitive touch panel technology:

Let us compare them to help you decide which type is best for you.

**About Capacitive Touch Panels**

- Built-in controller with I2C interface (400KHz)
- Multi-touch capability, 5 simultaneous touches: touch, swipe, directional & zoom gestures
- Sizes designed to mate with 3.5”, 4.3” & 5.0” TFTs
- 6H hardness, >1 million touches
- 82% light transmittance
- 6mA at 3.3V power supply
- 0.03mA sleep mode

As capacitive screens don’t need much contact at all, you can swipe across them very lightly and get just as good a response as you would with a slow, heavy drag. Capacitive Touch Panels are made of an insulator that is coated with a transparent conductor. Typically, Capacitive Touch Panels consist of glass as the insulator coated in indium tin oxide (ITO). The human body is also an electrical conductor, so when the human body comes into contact with the Capacitive Touch Panel, the touch panel’s electrostatic field becomes distorted. It is this distortion that is then read by the touch panel controller and, depending on the program written, the display will respond accordingly.

Projected capacitance has an etching on the conductive layer which forms a grid pattern allowing it to be more accurate and have a more flexible operation. The grid pattern on the conductive layer is often overlayed with a pattern on the insulating layer. Since this type of capacitance has a greater resolution, the touch panel can operate without direct contact allowing it to be operable under screen protectors or other protective insulating layers. In addition to the human body, projected capacitance can also interact with an active or passive stylus. There are two different sensor types for projected capacitive touch panels: Mutual Capacitive and Self Capacitive.

**About Resistive Touch Panels**

- Can operate with pointing devices like stylus, pen, nail, gloved finger, etc.
- Sizes fit 2.4”, 3.5”, 4.3”, 5.7”, 7.0” TFTs
- Can operate at any level of humidity
- approx 75% light transmittance
- 3H hardness, >1 million touches
- Lower cost

The resistive touch panel is made up of several layers. When you press down onto the touch panel with your finger or stylus, the top layer flows and pushes back into a layer below it. This will effectively complete a circuit and tell the controller which part of the touch panel is being pressed.

**Key Features and advantages:**

- Easy to integrate with USB interface capability
- Multi-touch capability. 5 simultaneous touch, swipe, directional & zoom gestures
- Sizes designed to mate with 3.5”, 4.3”, 5.0” TFTs
- 6H hardness, 1 million touches
- 82% light transmittance
- 6mA at 3.3V power supply
- 0.03mA sleep mode

As capacitive screens don’t need much contact at all, you can scan across them very lightly and get just as good a response as you would with a slow, heavy drag. Capacitive Touch Panels are made of an insulator that is coated with a transparent conductor. Typically, Capacitive Touch Panels consist of glass as the insulator coated in indium tin oxide (ITO). The human body is also an electrical conductor, so when the human body comes into contact with the Capacitive Touch Panel, the touch panel’s electrostatic field becomes distorted. It is this distortion that is then read by the touch panel controller and, depending on the program written, the display will respond accordingly.

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