

Why resistive multitouch?

Multitouch applications with resistive touch technology

The PCAP technology is currently the most common input medium for multitouch applications. However, there are certain applications that still require resistive touch technology. What is the reason for choosing the resistive multi-touch technology? In which applications will it be used?



Resistive multi-touchscreen

Why resistive technology?

Reasons for using resistive touch technology are the absolute resistance to extreme EMC interference, the need for an actuating force and the safe function with conductive media such as water, blood or salt solution on the full-surface touch panel. In addition, compared to a PCAP touch screen, a resistive touch screen can be completely shielded at the front with a metal mesh grille.

Multitouch functionality

The resistive technology has been further developed to enable the multitouch functionality. The two ITO layers, film and

glass, of a resistive multi-touch screen are structured in rows and columns (x and y direction) and individually put in contact with the connecting tail. The layers are kept apart by printed micro-dots. When the resistive multi-touchscreen is actuated, both layers make contact. The position is still evaluated with analogue resolution in the individual zones. The touch screen controller for the evaluation can be placed either as chip-on-flex, as a separate board or on customized electronic boards. Possible interfaces are USB and I²C.

Resistive multi-touchscreens require a low actuation force and can therefore be operated with a variety of objects such as fingers, pens and thick gloves.

Application areas

This technology was developed for applications where PCAP technology reaches its physical limits and multitouch functionality is required.

These are mainly applications where no EMC radiation is allowed to escape to the outside. A PCAP touchscreen cannot be shielded at the front because this would block the capacitive field at the same time. With resistive touch, the shielding can be laminated onto the upper ITO film in a highly transparent manner. The resistive touch screen requires an actuating force for evaluation, which is not impaired by the conductive and

flexible shielding layer on the surface. This shielding layer makes contact with the metallised housing, whereby the application is completely EMC-shielded.

Resistive multi-touch technology is used in medical applications such as MRI or CT, where interference fields can cause negative interaction.



MRI medical application

For communication applications in high-security areas, tap-proof input systems are realised with this resistive multitouch technology.



Communication application

Thus, resistive multi-touch panels offer reliable operation in different environments without interfering signals. Even if the touch panel surface is covered with conductive liquids, this technology ensures safe functionality and correct gesture and multi-touch operation.

Selecting the optimal technology

Every SCHURTER input system is a customized solution. Designing input systems for the most demanding applications requires a high level of know-how and experience. Our engineers develop and design the optimal HMI solution in close cooperation with you. The right choice of the most suitable multitouch technology for your application is made on the basis of the application requirements.

The experts at SCHURTER will be happy to advise you on the selection of the optimum solution for your application.

About SCHURTER

The SCHURTER Group is a globally successful Swiss technology business. With our components ensuring the clean and safe supply of power, input systems for ease of use and sophisticated overall solutions, we impress our customers with agility and excellent product and service quality.

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