



## MultiQ Touch

Touch screens are used in a wide range of applications, most in retail and public environments, everything from cash register keyboards to ATMs and slot machines.

One key reason why touch screens are suitable for public use is their lack of loose parts. Another is that the touch screen interface is very direct, compared to indirect input devices such as keyboards and separate pointing devices. They are consequently very intuitive and even fun to use, requiring no training or user manuals.

There are several touch screen technologies to choose from. Which is most suitable depends on the environment and how the touch will be initiated – by finger, pen or the edge of a credit card? The most common one is the human finger. Other things might affect the choice of touch technology, such as whether or not people have wet fingers or whether sharp objects like long finger nails affect the surface of the screen.

MultiQ offers technologies for touch like capacitive, IR, SAW and resistive. Other alternatives can be produced by special request and for major projects.

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## Capacitive touch

Capacitive touch screens outer conductive layer is quite insensitive and don't easily get scratched or wear out. This means they can be used in unsupervised areas. The major drawback is that the touch can only be initiated by the skin of the finger; not by a person wearing gloves or someone who has an artificial hand or arm. Neither will the touch be initiated by a pen, edge of a credit card or other non-conductive item.

## SAW (Surface Acoustic Wave)

Just like capacitive touch screens, SAW touch screens are more or less impossible to wear out, so they are also suited to unsupervised locations. The drawback in SAW technology is that the touch is not initiated by hard objects, such as pens or edges of credit cards, since hard materials do not absorb the acoustic waves. Another problem is that drops of fluid will absorb the waves and may indicate false touches.

## Resistive touch

The touch on a resistive screen is initiated by a pressure being put on the screen, which means that any object can be used to apply the touch. However, in the long run, the surface of the screen may be scratched if sharp objects, such as sharp pens or sharp nails are used. This can be prevented by using a replaceable film on top of the outer membrane. Also, due to the risk of scratches on the screen, the resistance against vandalism is poor. For these reasons, resistive touch screens are best suited to supervised environments where the human finger is used to generate the touch.

## IR (Infra Red)

Just as for SAW and capacitive systems, there is no risk of scratching the glass or vandalism so this kind of screen is well suited to non-supervised locations. The touch will be initiated by hard as well as soft objects. A possible drawback is that the touch is initiated before the user actually makes contact with the glass of the screen, which some might regard as a nuisance.

Here follows some key parameters to take into account when choosing touch screen technology.

	Resistive	Capacitive	SAW	IR
Touch initiated by finger	Yes	Yes	Yes	Yes
Touch initiated by finger in soft glove	Yes	No	Yes	Yes
Touch initiated by hard object held in hand	Yes	No	No	Yes
Touch initiated by a prosthesis	Yes	No	No	Yes
Insensitive to false touch initialization due to drops of water	Yes	Yes	No	No
Optical performance on the screen unaffected by touch panel	No	No	Yes	Yes
Insensitive to accidental touch without touching the glass	Yes	Yes	Yes	No
Suitable for long term and repeated touch by sharp objects	No	Yes	Yes	Yes
Suitable for unsupervised locations	No	Yes	Yes	Yes

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