HEATERS & TOUCH SCREENS

S-Tek Inc.

Heaters

LCD heaters are constructed of a layer of electrically conductive transparent film with screen printed parallel busbars positioned along the edges. Lead wires are then attached to the bus bars to provide means of electrical connection. These heaters can be provided with optical grade adhesive, laminated on the back, for easy mounting in front or behind an LCD display. Applying power to the bus bars, through the lead wires, creates a uniform heated surface. Maximum wattage of up to 1.0 W/in2 is recommended. (Wattage is a function of input voltage, surface resistively and heater geometry)

Normally, The operating temperature for TN LCD is -30 to 80 º "C" for STN LCD is -20 to 80 º "C" With the help of LCD heater, LCD operating temperature can be extended to-55 to 90 º "C".That will greatly improve the LCD performance especially at low temperature.

Typical Applications: Avionics displays, Ruggedized electronic devices, Portable military radios, Handheld terminals, Outdoor card readers, Defogging windows in environmental chambers, Gas pump, parking meters, Heating microscope stages.

Touch Screens

A touch panel or touchscreen is a touch-sensitive transparent screen mounted in front of an LCD. It provides a way for a person to interact with an electronic system. Typically the system will display several icons on the LCD and expect the user to select one by touching it. The touch causes some measurable phenomena which is converted by a controller IC into screen coordinates which are sent into the system. The system then determines which icon was selected and takes appropriate action. The phrases Touch Screen and Touch Panel mean the same thing and are interchangeable.

S-Tek is an Agent for is the main supplier of touch screens in the field of PDAs and calculators. Small TN, STN LCDs are especially well suited for handheld devices, where interaction is required but keyboards are impractical Touchscreens are so often used.

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There are several physical phenomena which can be used to detect a touch including capacitive, infrared, resistive and surface acoustic wave(SAW). Resistive touchscreens are the most common because they are simple, low cost and can be activated by finger tip or any type of stylus. Capacitive technology offers higher transparency at a higher cost. Surface acoustic wave technology requires more border, more power and a touch by finger, but gives more durability for public access applications. Among resistive touch screens, the 4 wire method is most common, and the 5 wire less so. 8 wire resistive is a variation on 4 wire and 6 wire and 7 wire are variants of the 5 wire method.

Resistive: Less Costly

A resistive touchscreen panel is composed of several layers. The most important are two thin metallic electrically conductive and resistive layers separated by thin space. When some object touches this kind of touch panel, the layers are connected at a certain point; the panel then electrically acts similar to two voltage dividers with connected outputs. This causes a change in the electrical current which is registered as a touch event and sent to the controller for processing.

Resistive touchscreen panels are generally the most affordable technology but offer only 75% clarity[citation needed] (premium films and glass finishes allow transmissivity to approach 85%[citation needed]) and the layer can be damaged by sharp objects. Resistive touchscreen panels are not affected by outside elements such as dust or water and are the type most commonly used today.

Capacitive: More Costly but the display has clear quality to it.

Capacitive touch panel, like the ones used on iPhone and iPod touch.

A capacitive touchscreen panel is coated with a material, typically indium tin oxide, that conducts a continuous electrical current across the sensor.[3][4] The sensor therefore exhibits a precisely controlled field of stored electrons in both the horizontal and vertical axes - it achieves capacitance. The human body is also an electrical device which has stored electrons and therefore also exhibits capacitance. Capacitive sensors work based on proximity, and do not have to be directly touched to be triggered. It is a durable technology that is used in a wide range of applications including point-of-sale systems, industrial controls, and public information kiosks. It has a higher clarity than Resistive technology, but it only responds to finger contact and will not work with a gloved hand or pen stylus unless the stylus is conductive and transmits the user's capacitance. Capacitive touch screens can also support Multitouch. Examples include Apple Inc.'s iPhone and iPod touch, and HTC's T-Mobile G1.