



Optical bonding guarantee a proper contrast in sunlight conditions

The advanced bonding process helps to overcome many of the issues that can be associated with conventional displays and touch screens, particularly in industrial, public area and outdoor applications. For example, typical display systems will have a small air gap between the LCD panel and the protective glass panel or touch sensor overlay that shields the display from potential damage. This gap will detract from the overall performance of the display in a number of ways. Light reflected between the internal surfaces of the display and the covering screen will reduce the intensity of output, often critical in outdoor applications where the display is “fighting” against high levels of ambient light. Furthermore, unless hermetically sealed, any air trapped in the gap can heat up and cool down in accordance with the LCD status and ambient temperatures, resulting in the risk of condensation formation. In extreme circumstances the trapped air will act as a thermal insulator, preventing heat dissipation from the front face of the display and in worse cases, causing the LCD to exceed its maximum operational temperature resulting in it “blacking out”. By limiting the effect of the internal reflective surfaces, the bonding process also prevents parallax errors arising – an optical effect caused by light moving through different media creating an anomaly between a point the viewer sees and touches on the overlaying surface and the image's actual position on the LCD panel. The reduction in parallax can be an important benefit to medical or industrial applications where the accurate input of data through a touch interface is critical. Operating from its clean room manufacturing facilities in Taiwan, CiVUE affixes the rigid optical elements (which includes the LCD panel, protective glass and touch sensor overlay) using a proprietary transparent adhesive in a reversible process and delivering the optical and thermal benefits described, thereby reducing the necessity for costly upgraded display backlighting and thermal management systems. Furthermore, the elastic nature of the bonding material means it effectively provides a cushioning layer between overlay and LCD enhancing impact resistance of the display, particularly important in outdoor, industrial and public area applications.



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