ODK Outdoor Kiosk Series

Outdoor LCD Sunlight Exposure Considerations

Can the LCD Display Perform in Direct Sunlight?

The sun is the #1 enemy of outdoor kiosks. For this primary reason, using a true outdoor kiosk like the ODK series is necessary. Below are some of the factors why. Red font indicates the strongest considerations:

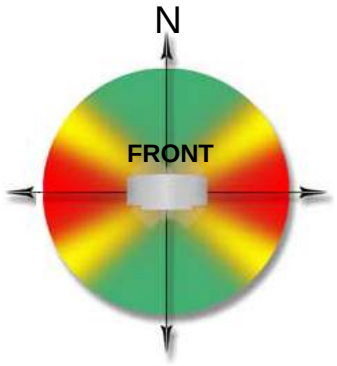
1. Displays have to be very bright to be visible in the sun. Luminance should normally be 1500+ nits through the cover glass.
2. Displays should be backlit with high quality LEDs. Remember that LEDs experience degraded luminance capability over time.
3. Direct sunlight can cause the liquid crystal to boil and result in black blotching on the display, a phenomenon called Solar Clearing. The LCD needs to remain below this boiling point, which requires some mechanism for cooling the LCD.

How Does the Display Handle Temperature and Humidity?

Beyond sunlight, temperature and humidity are the next biggest factors to control for in the design of an outdoor LCD display. Here's why:

1. Displays have to regulate internal temperature to produce a bright picture. If a display cannot keep cool on hot days, or keep warm in cold conditions, brightness will drop-off.
2. How exactly do you cool the display? A/C systems drip condensation inside and outside the display, require maintenance, and consume significant energy. How do you heat the display in freezing conditions?
3. The display must be sealed to prevent condensation inside the cover glass and protect internal electronics from getting wet. This means the display needs to work in rain, sleet, snow, and hot, humid summertime. Putting an LCD screen inside an environmentally sealed box is almost always a poor solution.
4. On-board electronics have to be rated to for the internal operating temperature of the display. This means high-quality components are a must.

Optimum Outdoor Kiosk Orientation



NOTE: Position unit where the LCD screen will be exposed to the least amount of direct sunlight during the day.