

## PANEL LENSES FOR PCB MOUNTED LEDs

VCC's new CMC and SMC series lenses are designed to be firmly attached to the display panel and still permit the PCB LEDs to be easily inserted or removed.

The traditional method of mating PCB mounted LEDs with display panels has been to allow the LED to protrude through a hole in the panel. Additional interfacing methods include gluing the LED to the panel and the use of retaining clips and rings. These methods result in a very restricted LED viewing angle, an LED unprotected from a possible push-through problem, and permitting the transmission of electrostatic discharge (ESD) through the LED resulting in circuit board IC component damage.



VCC's new CMC and SMC Series low-profile, button-type lenses are designed for mounting 3mm and 5mm LEDs. These lenses have a smooth, clean look with a convex shaped surface protruding a mere .070" above the panel. This minimizes the potential problem of snagging, interference or physical damage that might result from outside agencies such as clothing, jewelry, tools etc.

Installation is accomplished by passing the lens through a panel hole and then pressing a ring on the back of the lens. This permits the PCB mounted LED to easily move in or out of the lens. The circuit board is now completely independent of the display panel simplifying its installation or removal for assembly or repair.

These new CMC and SMC lenses greatly increase the aesthetics of the display panel. In addition, these lenses considerably increase the viewing angle of both 3mm and 5mm LEDs. Their low-profile design greatly enhances the light output of the LED by significantly reducing the ambient light effect upon the lens. When the lens is used with a diffused LED this angle increases from 90 degrees up to 180 degrees, a 100% change. These increases in viewing angle are accomplished by the use of a convex shaped lens in conjunction with fresnel rings.

The CMC and SMC Series low-profile, button type lenses are constructed of optical quality, U.L. Listed, polycarbonate plastic in six colors including red, amber, green yellow, blue and water clear.