

Preco 7300 series LED beacon design considerations
By Dean Wilkinson, 1/11/2007

The new Preco 7312 LED beacon offers the increased reliability and life expectancy of LED technology, ½ the power consumption of our existing 3318 and like competitive products, and SAE J845 class 3 compliance.

With the advent of high power, high brightness LEDs in recent years, a number of suppliers have started to manufacture LED based safety beacons. The LED beacon offers advantages over the Xenon flash tube beacon in operating life and reliability in vibration, and the overall product current draw is typically less than half that of a Xenon beacon. Additionally, the LEDs do not require the use of a costly and life limiting flash capacitor found in a Xenon beacon.

The flash patterns of many LED strobe style beacons are made up of long duration flashes with much lower peak intensity than the flashes from a Xenon flash lamp. Such flash patterns typically are not as attention getting as the short duration high peak intensity flash found in Xenon beacons, especially when viewed peripherally. The 7312 LED beacon utilizes a flash pattern that consists of 8 short duration pulses that are closely spaced. The result is a single flash that visibly flickers. This flickering pattern enhances the attention getting characteristic of the light since the human eye is more sensitive to flicker in the peripheral region of the visual field. Since the purpose of warning lights is to alert personnel to the presence of equipment that is operating nearby, and observers not looking directly at the equipment are most at risk for a collision, gaining their attention through peripheral vision is crucial. The flash pattern used in the 7312 LED beacon is designed to be more attention-getting than existing class 3 or un-classed single flash Xenon strobes.

The 7312 LED beacon has a small mechanical form factor and is intended for installation on forklifts, people movers, and other light vehicles that need a class 3 light for indoor operations where higher classification lights are not required. The 7312 beacon can operate on DC input voltages between 8V to 91V and is protected against over-voltage up to 150V.