MUTCD-compliant, pedestrian-activated warning beacon for uncontrolled marked crosswalks

- Improve pedestrian safety by increasing driver yield rates
- Ultra-efficient optics and Energy Management System (EMS)
- Compact design to simplify installation
- Proven technology platform
- Meets and exceeds MUTCD requirements

Superior Design and Technology
The R820-E utilizes a self-contained solar engine integrating the Energy Management System (EMS) with an on-board user interface, housed in a compact enclosure together with the batteries and solar panel. MUTCD flash patterns, available ITE intensity, and multiple configurations enable the R820-E to handle all crosswalk applications.

Easy Installation
With its highly efficient and compact design, installation is quick and uncomplicated, dramatically reducing installation costs. Retrofitting can be done where existing sign bases are used to enhance existing marked crosswalks in minutes, and new installations can be completed without the cost of larger poles, new bases, and trenching.

Advanced User-Interface
The R820-E comes with an on-board user interface for quick configuration and status monitoring. It allows for simple in-the-field adjustment of flash pattern, duration, intensity, ambient auto adjust, night dimming, and many more. Settings are automatically sent wirelessly to all units in the system.

Reliable
Designed with Carmanah's industry-leading solar modeling tools to provide dependable year-after-year operation.

Trusted
With thousands of installations, Carmanah's beacons are the benchmark in traffic applications and other transportation applications worldwide.
On-Board User Interface (OBUI)

Adjustable system settings with auto-scrolling LED display on our latest EMS System test, status, and fault detection:
- battery, solar, button, beacon, radio, day/night
- Flash patterns: RFB1 (WW+S), RFB2 (WSDOT), 0.5 sec. alternating (MUTCD), 0.5 sec. unison (MUTCD), 0.1 sec. unison, 0.25 sec. unison, 0.1 sec. x3 quick flashes unison, 0.1 sec. x3 quick flashes alternating
- Input: momentary for push button activation, normally open switch, normally closed switch
- Flash duration: 5 sec. to 1 hr.
- Intensity setting: 20 to 1400 mA for multiple circular beacons, RRFBs, or LED enhanced signs
- Nighttime dimming: 10 to 100% of daytime intensity
- Automatic Light Control: reduces intensity if the battery is extremely low
- Temperature correction: yellow or red beacons
- Calendar: internal time clock function
- Radio settings: enable/disable, selectable channel from 1 to 14
- Output: enabled when beacons flashing daytime and nighttime, or nighttime only
- Activation counts and data reporting via OBUI or optional USB connection
- MUTCD compliant: 2009 MUTCD, Chapter 4L, Flashing Beacons, Manual on Uniform Traffic Control Devices (MUTCD)
- ITE VTCSH-LED Circular Signal Supplement compliant: meets ITE or 1.7x ITE intensity when used as recommended
- Yellow, black, or green signal heads in UV-resistant polycarbonate or aluminum
- Connectivity
  - Encrypted, wireless radio with 2.4 GHz mesh technology
  - Wireless update of settings from any unit to all systems on the same radio channel
  - User-selectable multiple channels to group different beacons and ensure a robust wireless signal
  - Communication with all other Gen III radio-enabled systems including our R920-E, R920-F, and SC315 RRFBs
  - Instantaneous wireless activation: <150 ms
  - Wireless range: 1000 ft (305 m)
  - Integrated, vandal-proof antenna
- Energy Collection
  - 13 W high-efficiency photovoltaic solar panel
  - 45 deg tilt for optimal energy collection
  - Maximum Power Point Tracking with Temperature Compensation (MPPT-TC) battery charger for optimal energy collection in all solar and battery conditions
- Energy Storage
  - 12 V 14 Ahr. battery system
  - Replaceable, recyclable, sealed, maintenance-free, best-in-class AGM batteries offer the widest temperature range and longest life
  - Battery design life: +5 yrs.
  - Tool-less battery change with quick connect terminals and strapping for easy installation
- Solar Engine Construction
  - Weatherproof, gasketed enclosure with vents for ambient air transfer (NEMA 3R)
  - Lockable, hinged lid for access to on-board user interface and batteries
  - Corrosion-resistant aluminum with stainless steel hardware
  - Raw aluminum finish or yellow, black, or green powder coated
  - Prewired to minimize installation time
  - High-efficiency optics and EMS = the most compact, lightweight system
  - 19 lb (8.6 kg) including batteries, excluding beacons and push button
- Environmental
  - -40 to 165° F (-40 to 74° C) system operating temperature
  - -40 to 140° F (-40 to 60° C) battery operating temperature
  - 150 mph (241 kph) wind speed as per AASHTO LTS-8
- Activation
  - Push button: ADA-compliant, piezo-driven with visual LED and two-tone audible confirmation
- Warranty
  - 5-year limited warranty

Specifications subject to local environmental conditions, and may be subject to change.

All Carmanah products are manufactured in facilities that are certified to ISO quality standards.
US Patent No 6,573,659. Other patents pending.
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