



Solar-Powered Pedestrian Beacon



SOLAR ROADWAY LIGHT

Typical Applications

- Uncontrolled marked crosswalks

Features & Benefits

- Completely self-contained with no external wiring (or control cabinet)
- No external power required
- Wireless activation of other beacons in the system
- No control cabinet required
- Installation requires no trenching, cabling or disruption to traffic flow
- MUTCD & ITE compliant
- Comes with MUTCD standard 12" yellow LED lenses
- Excellent performance with visibility up to 0.5 mile (0.8 km) during the day and 7 miles (11 km) at night
- Low capital cost compared to traditional hardwired systems
- Uses LEDs (light emitting diodes) instead of traditional incandescent bulbs
- Charges under all types of weather conditions
- Designed to operate reliably throughout North America
- Provides up to five years of operation with no maintenance or servicing
- Battery pack is replaceable to extend the life of the unit further
- Up to 30 days operating capacity from a full charge
- Manufactured under ISO9001 Quality Assurance Standards
- 30 day satisfaction guarantee and three year warranty

For more information, visit [www.roadlights.com](http://www.roadlights.com)

Units use wireless spread spectrum to activate beacons across the road - no cabling or trenching required.

Integrated solar panels can be optimally oriented towards the sun.

All batteries and electronics are contained within the top housing and out of harm's way - no control cabinet required.

ITE compliant 12" yellow LED lens.

Uses arrays of high-intensity LEDs - no bulbs



The Carmanah Model R820 is a solar-powered, push button activated crosswalk warning beacon. Using LED illumination, the unit is designed to operate reliably with no scheduled maintenance for up to 5 years.

Introduction

Combining advanced electronics and software with an innovative, patented combination of solar-power and LED technology, the Model R820 is the most advanced pedestrian beacon available.

The R820 provides a bright LED-based flashing beacon for uncontrolled marked crosswalks. The product has been designed to operate reliably under all environmental conditions at most locations in North America.

Significant savings are achieved through the installation of the R820, as the unit requires no external power. Frequency hopping spread spectrum technology provides a wireless link between multiple beacons in a system - no trenching, cabling or disruption to traffic flow. Even the process of obtaining power connection permits and underground checks is avoided.

Proven Platform Technology

With more than 90,000 units installed in 110 countries since 1993, Carmanah is a leader in solar LED technology and has proven its products to be more durable and reliable than anything comparable on the market.

30-Day Risk-Free Evaluation

Order an R820 today and evaluate the product's quality, performance and reliability for yourself. If you are not fully satisfied, you can return it for a full refund.

**No external wiring, no battery or bulb replacement, no maintenance, no worries...**

Model R820

THE LEADER IN SOLAR LED LIGHTING SOLUTIONS





Solar-powered Pedestrian Beacon

SPECIFICATIONS

LIGHT OUTPUT

Daytime Effective Intensity, Flashing	570 Cd
Daytime Peak Intensity	800 Cd
Nighttime Effective Intensity, Flashing	285 Cd
Nighttime Peak Intensity	400 Cd
Average day range	0.5 mi / 0.75 km
Divergence (Vertical/Horizontal)	20° / 30°

OPERATION

Daily Operation Profile <sup>1</sup>	2 hrs continuous or intermittent. Example: 240 activations daily at 30 seconds per activation.
Required Solar Insolation For Daily Operational Profile <sup>2</sup>	2 hrs
Continuous Operation Without Sun <sup>3</sup>	30 days minimum
Lifespan of LED's	Up to 100,000 hrs
Color Output	Yellow
Dominant Wavelength	590 nm.
Flash Pattern (On Time / Off Time)	0.55 s / 0.55 s (MUTCD compliant "bouncing ball")
Battery Capacity	400 Whr

LENS

Colors	Yellow (ITE compliant)
Material	8" or 12" polycarbonate lens is hard coated for abrasion resistance

COMMUNICATION

RF Transmitter	900 Mhz FHSS (frequency hopping spread spectrum)
Transmitter Output Power	Less than 100 mW
Effective Range <sup>4</sup>	165 ft / 50 m, line of sight operation
Antenna Type	Omnidirectional dipole
Maximum Number Of Independent Systems <sup>5</sup>	64

OPERATING TEMPERATURES

Optimal Ambient Range	-20° to +25° C (-4° to 77° F)
Maximum Ambient Temperature Range <sup>6</sup>	-40° to +80° C (-40° to 176° F)
Storage Temperature <sup>7</sup>	20° +/- 5° C (68° +/- 5° F)

HOUSING

Head and support structure	Powder coated aluminum. Fits a standard 4.5" OD pole.
Signal Housing	Injection molded UV stabilized polycarbonate.
Switch	Die-cast aluminum body with a 2" ADA compliant polycarbonate button.

PATENTS

Trademarks and Patents	Patents pending
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<sup>1</sup> 67% daytime operation, 33 % nighttime operation. Optional auxiliary solar panel increases performance profile by 100%

<sup>2</sup> Total daily solar energy (1.75 kilowatt hours/meter<sup>2</sup>/day) required on an optimally oriented solar panel, averaged over the month receiving the lowest solar radiation at the installation site.

<sup>3</sup> Beginning with a fully charged battery. Battery discharge limited to 90% of capacity.

<sup>4</sup> Factory limited.

<sup>5</sup> Unlimited via software addressing.

<sup>6</sup> Consistent ambient temperatures above +25°C (+77°F) may affect overall battery life. Temperatures above +60°C (+140°F) may affect output. Operational times are also reduced below -20° C due to the effects of low temperature on battery performance.

<sup>7</sup> To prevent deep cycling and ensure maximum battery life, stored units MUST be recharged every 4 to 6 months. See product manual for more details..

All specifications are subject to change without notice.

A flexible design means the R820 can be configured as required:

- Bi-directional
- Vertical dual flasher
- Horizontal dual flasher

For extra clearance, security and flexibility, the top solar housing can be mounted on any length pole, independent of the signal heads



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