

# R820-G

## Cabinet-Based Circular Beacon Data Sheet



Circular flashing crosswalk beacons improve pedestrian safety by increasing yield rates at unsignalized, marked crosswalks:

- ✓ The R820-G meets MUTCD requirements and is Buy America compliant
- ✓ Audible pushbutton or passive pedestrian activation
- ✓ Solar or AC-powered
- ✓ Solar Power Report™ (SPR) prepared for every location to ensure battery longevity

### Superior Design and Technology

The R820-G is a cabinet-based system with a separate, high-power solar panel. This design enables the R820-G to work with audible pushbutton stations, passive activation sensors, and remote monitoring, as well as operate at higher intensities and increased activations in challenging environments. MUTCD flash patterns, available ITE intensity, and multiple configurations enable the R820-G to handle all crosswalk applications.

### Easy Installation

All components, including the battery or AC power supply, Energy Management System (EMS) and optional audible pushbutton controller are housed in a compact, lockable, purpose-built enclosure. It also incorporates a wire routing and termination system, and all components are wired at the factory for an efficient installation.

### Advanced User Interface

The R820-G 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

Every solar-powered model is solar-sized by location to ensure year-after-year operation. Carmanah includes a Solar Power Report to prove sustainability over a 12-month period.



MUTCD  
compliant



Buy America  
compliant



5-year limited  
warranty



Solar-sized for  
every location

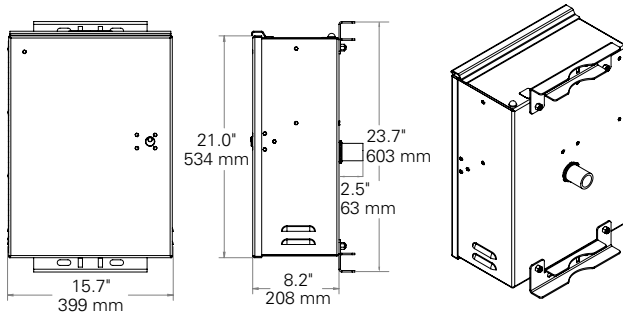
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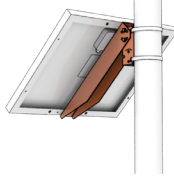
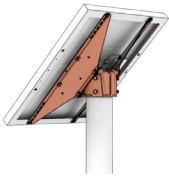
### CABINET DIMENSIONS



### SOLAR PANELS AND MOUNTS

3.5" - 4.5" Diameter Round  
Top of Pole Mount

Side of Pole Mount



PANEL*	LENGTH	WIDTH
20 W**	18.5" (470 mm)	13.6" (345 mm)
50 W	26.3" (668 mm)	21.2" (538 mm)
80 W	30.7" (780 mm)	26.5" (672 mm)

\* Carmanah will conduct a site assessment and provide an Solar Power Report™ to determine the correct solar panel and battery size.

\*\* Only available in a Side of Pole configuration.

### BEACON MOUNTING

Dual Beacon

Quad Beacon

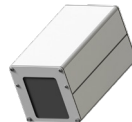


### ACTIVATION OPTIONS

Standard Pushbutton

Audible Pushbutton Station

Passive Activation Sensor



### BEACON SPECIFICATIONS

Optical	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
	12 in (305 mm) or 8 in (203 mm) diameter LED modules, yellow
	High-power LEDs: +90% lumen maintenance (L90) based on IES LM-80
	Yellow, black, or green signal heads in UV-resistant polycarbonate or aluminum

### SYSTEM SPECIFICATIONS

On-Board User Interface (OBU)	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: RFB (WW+S), RFB1 (WW+S legacy), RFB2 (WSDOT), 0.5 sec. alternating (MUTCD), 0.5 sec. unison (MUTCD), 0.5 sec. x3 alternating (MUTCD), 0.1 sec. unison, 0.25 sec. unison, 0.1 sec. x3 quick flashes unison, 0.1 sec. x3 quick flashes alternating, steady on	
	Input: momentary for pushbutton activation, normally open switch, normally closed switch, dusk-to-dawn operation	
	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	
	Ambient Auto Adjust: increases intensity during bright daytime	
	Automatic Light Control: reduces intensity if the battery is extremely low	
	Temperature correction: yellow beacons	
Beacon Communication	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	
	E.g., for relay control of overhead lighting	
	Activation counts and data reporting via OBU or optional USB connection	
	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	
	Communicates with all other Gen III radio-enabled systems including our R920-E, R920-F, and SC315 RRFBs	
	Instantaneous wireless activation: <150 ms	
Power System	Wireless range: 1000 ft (305 m)	
	Integrated, vandal-proof antenna	
	Solar or AC-powered	
	AC: 100-240 VAC input, 6-14 AWG	
	Replaceable AC-DC power supply, circuit breaker, terminal block wiring	
	20, 50, or 80 W high-efficiency photovoltaic solar panel	
	Energy Collection	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 battery system with multiple sizes: 35, 55, 100 Ahr.
	Replaceable, recyclable, sealed, maintenance-free, best-in-class AGM batteries offer the widest temperature range and longest life	
Battery design life: +5 yrs.		
Cabinet Construction	Weatherproof, gasketed enclosure with vents for ambient air transfer (NEMA 3R)	
	Lockable, hinged door with #2 lock	
	Optional padlockable latch	
	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	
	Environmental	-40 to 165° F (-40 to 74° C) system operating temperature
	-40 to 162° F (-40 to 72° C) battery operating temperature	
	150 mph (241 kph) wind speed as per AASHTO LTS-6	
Activation	Pushbutton: ADA-compliant, piezo-driven with visual LED and two-tone audible confirmation	
	Audible pushbutton station: ADA-compliant, piezo-driven with visual LED and customizable voice message confirmation	
	Passive activation: microwave-based sensor detects pedestrian	
<b>Warranty</b>	<b>5-year limited warranty, 1-year limited on batteries</b>	

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.

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