R829-G

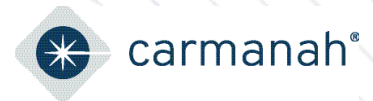## Cabinet-Based School Zone Flashing Beacon Data Sheet

Beacons decrease vehicle speeds by 5 to 7 mph in school zones:

- ✔ Highest intensity output in the industry
- ✔ MUTCD 11th edition and Buy America/BABA compliant
- ✔ Solar or AC-powered
- ✔ Solar Power Report™ (SPR) prepared for every location to ensure battery longevity

Superior Design and Technology

The R829-G is a cabinet-based system with a separate, high-power solar panel. This design enables the R829-G to work with third-party time clocks and remote monitoring, as well as operate at higher intensities in challenging environments. MUTCD flash patterns, available ITE intensity, and multiple configurations enable the R829-G to handle all school zone and speed limit sign applications.

Easy Installation

All components, including the battery or AC power supply, Energy Management System (EMS) and optional time clocks 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.

Calendar Operation

Schedule beacon operation with our easy software-based calendar program, or use third-party time clocks for local or remote control.

Advanced User Interface

The R829-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. Optional wireless connection enables one beacon's calendar settings to control multiple school zone beacons.

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

R829-G

Cabinet-Based School Zone Flashing Beacon Data Sheet

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carmanah®

CABINET DIMENSIONS

21.0"
534 mm

15.7"
399 mm

8.2"
208 mm

23.7"
603 mm

2.5"
63 mm

SOLAR PANELS AND MOUNTS

3.5" - 4.5" Diameter Round
Top of Pole Mount

Side of Pole Mount

PANEL*	LENGTH	WIDTH
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.

BEACON MOUNTING

Single Beacon   Dual Beacon   Triple Beacon – Alternating Flashing

Quad Beacon

BEACON SPECIFICATIONS

Optical	Configurable to MUTCD 11th Edition (Chapter 4S) Standards
	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 (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: 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
	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 OBUI or optional USB connection
Beacon Communication	Optional encrypted, wireless radio with 2.4 GHz mesh technology
	Optional radio allows calendar program, manual override switch, or input device from one system to remotely control other systems
	User-selectable multiple channels to group different beacons and ensure a robust wireless signal
	Instantaneous wireless activation: <150 ms
	Wireless range: 1000 ft (305 m)
	Integrated, vandal-proof antenna
Power System	Solar or AC-powered
	AC: 100-240 VAC input, 6-14 AWG Replaceable AC-DC power supply, circuit breaker, terminal block wiring
Energy Collection	50 or 80 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 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	Internal time clock: calendar programming via our simple software
	Also compatible with 3rd-party time clocks: • Applied Information AI 500-070B • Temple FCU 500-071 (FL only) • RTC AP21, AP22, CPR2102, and M2M modem Other time clocks may also be compatible.
	Manual override switch: allows local control of beacons
	Junction box: lockable, hinged door, corrosion-resistant aluminum enclosure allows easy calendar programming and access to manual override switch
Warranty	**5-year limited warranty, 1-year limited on batteries**