Superior Design and Technology
The R829-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 R829-E to handle all school zone and speed limit sign 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 school zones and speed limit signs in minutes, and new installations can be completed without the cost of larger poles, new bases, and trenching.

Calendar Operation
Schedule beacon operation with our easy software-based calendar program.

Advanced User Interface
The R829-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. Optional wireless connection enables one beacon’s calendar settings to control multiple school zone beacons.

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.
R829-E
SOLAR SCHOOL ZONE FLASHING BEACON

1.844.412.8395 | traffic@carmanah.com | carmanahtraffic.com

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Side View</th>
<th>Bottom View</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.6” (37.1 cm)</td>
<td>13.5” (34.2 cm)</td>
</tr>
<tr>
<td>4.0” (10.2 cm)</td>
<td>2.0” - 2.5” Perforated Square Pole Mount</td>
</tr>
<tr>
<td>2.38” - 2.88” Diameter Round Pole Mount</td>
<td></td>
</tr>
<tr>
<td>4.0” - 4.5” Diameter Round Pole Mount</td>
<td></td>
</tr>
</tbody>
</table>

**SOLAR ENGINE MOUNTING**

- 2.0” - 2.5” Perforated Square Pole Mount
- 2.38” - 2.88” Diameter Round Pole Mount
- 4.0” - 4.5” Diameter Round Pole Mount
- Side Pole Mount

**BEACON MOUNTING**

- Single – Integrated Engine and Beacon
- Single
- Dual – Vertical
- Dual – Horizontal Back-to-back
- Dual – Horizontal

* Other solar engine and beacon mounting configurations are available.

**ADJUSTABLE SYSTEM SETTINGS**

- User Interface: 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
- Input: momentary for push button activation, normally open switch, normally closed switch
- Flash duration: 5 sec. to 1 hr.

**ON-BOARD USER INTERFACE (OBUI)**

- 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 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

**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

**CONNECTIVITY**

- 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

**ENERGY COLLECTION**

- Maximum Power Point Tracking with Temperature Compensation (MPPT-TC) battery charger for optimal energy collection in all solar and battery conditions
- 13 W high-efficiency photovoltaic solar panel
- 45 deg tilt for optimal energy collection

**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.

**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
- Premored 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-6

**ACTIVATION**

- Internal time clock: calendar programming via our simple software
- 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

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. “Carmanah” and Carmanah logo are trademarks of Carmanah Technologies Corp. © 2018, Carmanah Technologies Corp. Document: SPEC_TRA_R829-E_RevA