

R920-F

Solar-Powered Rectangular Rapid Flashing Beacon Data Sheet



Rectangular rapid flashing beacons (RRFBs) improve pedestrian safety by increasing yield rates to 72-96% at crosswalks:

- ✓ Meets MUTCD (Chapter 4L) and MUTCDC (Canada) Standards and is Buy America/BABA compliant
- ✓ Compact and lightweight solar engine
- ✓ Audible pushbutton activation with all ADA compliance features
- ✓ Solar Power Report™ (SPR) prepared for every location to ensure battery longevity

Superior Design and Technology

The R920-F 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. A larger solar engine enables the R920-F 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.

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 R920-F 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**

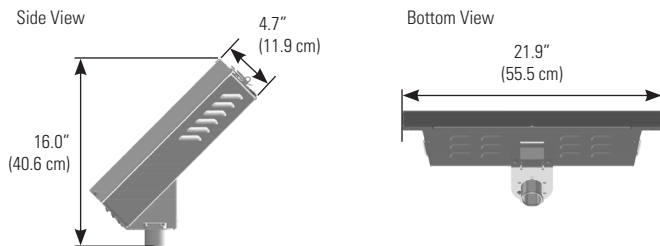
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SOLAR ENGINE DIMENSIONS



SOLAR ENGINE MOUNTING

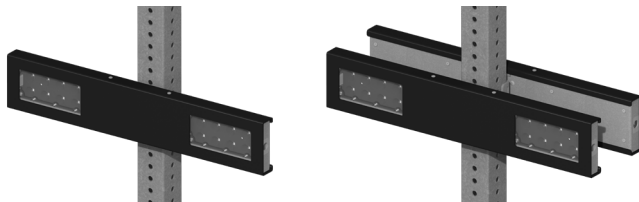
2.0" - 2.5" Perforated Square Pole Mount 2.38" - 2.88" Diameter Round Pole Mount 3.5" - 4.5" Diameter Round Pole Mount Side Pole Mount



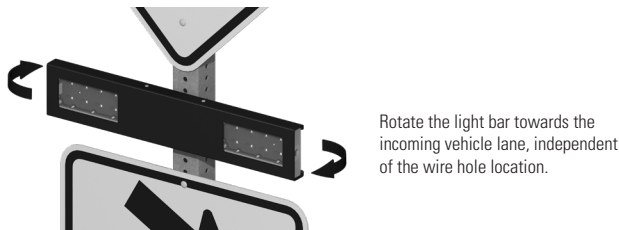
LIGHT BAR CONFIGURATION

Uni-directional Configuration

Bi-directional Configuration



IN-THE-FIELD AIMING



BEACON SPECIFICATIONS

Optical	Configurable to MUTCD 11th Ed. (Chapter 4S) Standard
	Purpose-built light bar optics = maximum efficiency and no stray light
	Exceeds SAE J595 class 1 intensity by 2.5 to 3x when used as recommended
	Meets SAE J578 chromaticity
	3 in (76 mm) x 7 in (178 mm) clear, UV-rated polycarbonate lens with yellow LEDs
	High-power LEDs: +90% lumen maintenance (L90) based on IES LM-80
	Side-emitting pedestrian confirmation LEDs
	Independent, stainless steel mounting brackets make back-to-back installation simple and enable in-field aiming for maximum effectiveness
	Yellow, black, or green powder coated light bar covers

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 meet MUTCD 11th Ed. (4L.03) Standard
	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 RRFs, circular beacons, 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 OBUi 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 R820-E, -F, and -G circular beacons
	Instantaneous wireless activation: <150 ms
Energy Collection	Wireless range: 1000 ft (305 m)
	Integrated, vandal-resistant antenna
	30 W high-efficiency photovoltaic solar panel
	45 deg tilt for optimal energy collection
Energy Storage	Maximum Power Point Tracking with Temperature Compensation (MPPT-TC) battery charger for optimal energy collection in all solar and battery conditions
	12 V 36 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	Tool-less battery change with quick connect terminals and strapping for easy installation
	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
Environmental	High-efficiency optics and EMS = the most compact, lightweight system
	39 lb (17.7 kg) including batteries, excluding beacons and pushbutton
	-35 to 165° F (-37 to 74° C) system operating temperature
	-40 to 140° F (-40 to 60° C) battery operating temperature
Activation	150 mph (241 kph) wind speed as per AASHTO LTS-6
	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
Warranty	5-year limited warranty, 1-year limited on batteries
Customize	Build an RRF online

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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