

# LED Enhanced Signs

## Data Sheet



LED flashing signs improve driver compliance at crosswalks, school zones, warning and stop signs:

- ✓ Brightest in the industry: more than 1,000,000 mcd daytime light intensity
- ✓ System is reliable, compact and lightweight
- ✓ Solar Power Report™ (SPR) prepared for every location to ensure battery longevity

### High-Intensity Light Output

Our LED Enhanced Sign provides high-intensity light output that can improve driver response under all conditions, no matter the time of day or weather. We use the same quality LEDs found in our rectangular rapid flashing beacons, and each sign is powered by Carmanah's robust solar or AC engine. This sign includes nighttime dimming, multiple flash pattern and intensity settings and ambient auto adjust.

### Easy Installation

Carmanah's LED Enhanced Signs are conveniently shipped pre-configured from the factory, and installation is quick and uncomplicated—dramatically reducing installation costs. Retrofitting can be done where existing sign bases are used to enhance these sites in minutes, and new installations can be completed without the cost of larger poles, new bases and trenching.

### Solar Sizing for Reliable Performance

Carmanah's LED Enhanced Flashing Signs are the most reliable and brightest signs on the market because we're experts at sizing-up solar. Using your sign settings and environmental factors at your location site, Carmanah's solar modeling tool produces a Solar Power Report and recommended product model that will provide dependable, year-after-year operation.

### Advanced LED Enhanced Sign Options

Our LED Enhanced Sign 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. An optional manual override switch or wireless connection for local or remote control are also available.



MUTCD compliant



Buy America compliant



5-year solar engine warranty



3-year LED sign warranty



Solar-sized for every location

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### SIGN TYPES



**R1-1**  
Red LEDs



**R2-1**  
White LEDs



**W11-2**  
Yellow LEDs



**S1-1**  
Yellow LEDs



**W1-2**  
Yellow LEDs



**S5-1**  
White/Yellow LEDs



**R1-2**  
Red LEDs



**R5-1a**  
Red LEDs



**R3-2**  
White LEDs



**R5-1**  
White LEDs

\*Many sign shapes, sizes and configurations are available. Contact Carmanah for more information.

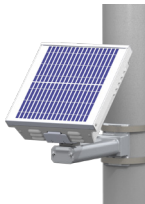
### SOLAR ENGINE MOUNTING

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

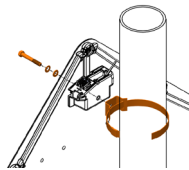
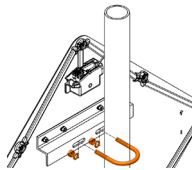
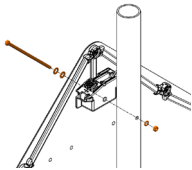


### LED SIGN MOUNTING

Through Bolt

U Bolt

Banding to Pole



### ACTIVATION OPTIONS

Activation	Standard operation is flashing 24 hrs./day
	Optional internal time clock for calendar programming
	Optional manual override switch allows local control of beacons
	Optional junction box: lockable, hinged door, corrosion-resistant aluminum enclosure allows easy calendar programming and access to manual override switch
	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	

### 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 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 LED enhanced signs	
Optical	Calendar: internal time clock function	
	Radio settings: enable/disable, selectable channel from 1 to 14	
	Output: enabled when flashing daytime and nighttime, or nighttime only	
	Activation counts and data reporting via OBUi or optional USB connection	
	Light intensity: 1,000,000 mcd minimum daytime	
	Viewing angle: 15°	
	LEDs meet MUTCD optical requirements for color, flash rate and dimming	
	MUTCD compliant: 2009 MUTCD, Chapter 2A, 2B, 2C, and 7B Signs	
	3M High Intensity Prismatic or Diamond Grade retroreflective sheeting and components	
	Sign Construction	High-power LEDs in waterproof housings
Connectivity	UV-resistant polycarbonate channels protect wiring; includes fully integrated junction box	
	0.08-0.10" aluminum sign face with stainless steel hardware	
	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 signs 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	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	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 enclosure for access to on-board user interface and batteries	
	Optional padlockable latch	
	Corrosion-resistant aluminum with stainless steel hardware	
Environmental	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	
Warranty	-40 to 165° F (-40 to 74° C) system operating temperature	
	-40 to 140° F (-40 to 60° C) battery operating temperature	
	<b>5-year limited on solar engine, 3-year limited on LED signs, 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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