WW200

Wrong-Way Vehicle Detection and Warning System Data Sheet

carmanah®

A smarter wrong-way detection system that leverages radar technology to trigger high-intensity flashing lights, increasing driver awareness only when a wrong-way incident occurs:

- ✔ Configurable radar settings for detection speed and sensitivity
- ✔ Highest LED intensity output in the industry
- ✔ Mounts to standard poles
- ✔ Scalable design: multiple signs can be added with synchronized flashing
- ✔ Flashing light options include LED enhanced signs in various sizes or light bars
- ✔ Powered by solar or AC
- ✔ Solar Power Report™ (SPR) prepared for every location to ensure battery longevity

Wrong-way vehicle detection systems are up to **80% effective in stopping wrong-way drivers***.

Superior Detection Technology

The system monitors highway ramps 24 hours a day for wrong-way vehicles without interfering with other traffic detection systems. When the radar unit detects a wrong-way vehicle, the system activates the LEDs to warn the driver of their error and encourage self-correction.

Easy Solar Installation

With its highly efficient and compact design, installation is quick and uncomplicated, dramatically reducing installation costs. Existing WRONG WAY signs can be retrofitted in minutes, and new installations can be completed without the cost of larger poles, new bases and trenching.

Advanced User Interface

The WW200 comes with an on-board user interface for quick LED configuration and system status monitoring. It allows for simple, in-the-field adjustment of flash pattern, duration, intensity, ambient auto adjust, night dimming, and more. The radar is easily programmed using the included PC software, allowing for quick setting configuration for detection speed, sensitivity and more.

Reliable

Carmanah backs every system with a three-year limited warranty. 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.

WW200 with LED enhanced wrong way sign

WW200 with red LED light bars

MUTCD compliant

Buy America compliant

3-year limited warranty

Solar-sized for every location

Nevada DOT, Wrong Way Driver System, preliminary research press release.

WW200

Wrong-Way Vehicle Detection and Warning System Data Sheet

1.844.412.8395 | traffic@carmanah.com | carmanah.com

carmanah®

SOLAR ENGINES

Compact, 15w integrated solar engine

Large, 30w integrated solar engine

Cabinet-based, 20w, 50w, and 80w solar and AC systems

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

WARNING LIGHT OPTIONS

LED Enhanced Sign (R5-1a)

Light Bar(s)

LED ENHANCED WRONG WAY SIGN

36" x 24" (914 mm x 610 mm)

42" x 30" (1067 mm x 762 mm)

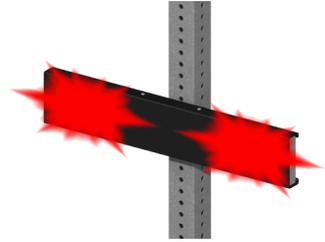| |
|---|
| MUTCD Chapter 2B compliant, R5-1a layout |
| 3M Diamond Grade DG3 retroreflective sheeting, 4092 red |
| 8 red LEDs |
| 36" and 42" sign sizes |

SYSTEM SPECIFICATIONS

On-Board User Interface	Adjustable system settings with auto-scrolling LED display
	System test, status, and fault detection: battery, solar, beacon, day/night
	Intensity setting: 20 to 1400 mA for multiple light bars or LED enhanced signs
	Radio settings: enable/disable, selectable channel from 1 to 14
	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
Connectivity	Encrypted, wireless radio with 2.4 GHz mesh technology
	User-selectable multiple channels to group different signs and ensure a robust wireless signal
	Communicates with all nearby WW200 and WW100 wrong-way warning systems
	Instantaneous wireless activation: <150 ms
	Wireless range: 1000 ft (305 m)
	Integrated, vandal-proof antenna
Energy Collection	Solar or AC-powered
	45-degree solar panel 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.
	Tool-less battery change with quick connect terminals and strapping for easy installation
Solar Engine Construction	Weatherproof, gasketed enclosure with vents for ambient air transfer (NEMA 3R)
	Lockable, hinged enclosure for access to on-board user interface and batteries
	Corrosion-resistant aluminum with stainless steel hardware
	Raw aluminum finish or powder coated in yellow or black
	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 140° F (-40 to 60° C) battery operating temperature
Warranty	**3-year limited warranty (1-year battery warranty)**

DETECTOR SPECIFICATIONS

Radar Unit	24 GHz radar unit detects wrong-way vehicle
	Radar technology for accurate detection at night and in adverse weather conditions
	Adjustable radar parameters, such as detection speed, sensitivity, trigger event settings and duration, and others
	3rd-party tested radar detection range to 1000 ft
	Universal bracket mounts to pole with standard banding, through bolts, U-bolts, band clamps, and more

WARNING LIGHT SPECIFICATIONS

LED Enhanced Sign	MUTCD compliant: 2009 MUTCD, Chapter 2B Signs
	High-power LEDs in waterproof housings
	Aluminum channels protect wiring; includes junction box
Light Bar	Light bar optics = maximum efficiency and no stray light Exceeds SAE J595 class 1 intensity when used as recommended Meets SAE J578 chromaticity
	3" (76 mm) x 7" (178 mm) clear, UV-rated polycarbonate lens with red LEDs
	High-power LEDs: +90% lumen maintenance (L90) based on IES LM-80