

# SOLAR TRAFFIC CONTROLS

## “Wireless” Traffic Control Solutions

**APPLICATION:** *Sensor-Activated Crosswalk Flasher*

**LOCATION:** *County of Arlington, VA U.S.A.*

### **Description**

The system is composed of three solar-powered points, two being sensor stations and the third a dual 12-inch, flashing beacon system. The sensor stations are located on either side of the crosswalk on the curbs. The flashers have been placed upstream from the crosswalk.

When the site was surveyed, it was noted power was available within 50 feet of the street lights. It appeared that the site could easily be connected to AC. However, county personnel indicated this was impossible as the electric utility owned the lighting system and would not share the power. Nor could we tap into a feed from a nearby building due to the extensive site remediation work required.

Each sensor station is equipped with a Smartwalk® 1400 microwave pedestrian sensor. Since power was an issue, each sensor required a separate solar power system for operation. Ultimately, the sensors were capable of running from either an AC or 12VDC source and pulled approximately 0.2A in standby. The dry contact output of the sensor was connected to the input of a radio transmitter unit with a digitally-coded signal. The radio transmitter also had a low standby draw and was 12VDC-compatible, making all the necessary hardware solar friendly.

Due to various site conditions, including shading by a large building, a 110W solar array was used to power each station, and an oversized battery included for extended back-up. All the hardware was installed on a 4.5-inch O.D. pole with a breakaway base. The sensor was installed at a height of 12 feet above the pavement as recommended by the manufacturer.

The flasher system was linked to both sensor stations using a digitally-coded receiver. Once the signal was received, the flasher began operation for the programmed run-time with a set of toggle switches in the system's enclosure. The unit uses two 12-inch, amber DC LED lamps from Precision Solar Controls which are configured for wig-wag operation.

Arlington County needed the system to enhance safety at this particular mid-block crossing as static signs had proven ineffective. The county is currently considering installing these systems in other locations within its jurisdiction. Proximity of the different sites will not be an issue since the digital coding of the radios allows multiple transmitter/receivers to operate without interfering with each other.



*Sensor station for sensor-activated crosswalk flasher. Photo courtesy of Randy Dominick, Traffic Systems & Technology.*



*Dual 12-inch, flashing beacon system upstream from the crosswalk. Photo courtesy of Randy Dominick, Traffic Systems & Technology.*

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This is a handicap-friendly system because there's no contact needed for activation. Additional options are available for the system such as a "tattletale" light to make the unit more user friendly. The system sensors operate on a 24-hour basis. The flashing beacons only activate when alerted by the sensors. The total run-time is one hour of flashing per day.

The Arlington County solar-powered crosswalk flasher illustrates many of the benefits of solar technology: no trenching, no boring and reduced costs. Solar-powered traffic controls are the answer when power is too difficult to obtain; when it takes too long to run it to a site or where there's too many obstacles in the ground. If you can't bore under the road or across the road or dig up paving stones – solar is a viable solution.

When a traffic control project is defined correctly, i.e., all the equipment in the load and each component's duty cycle identified, solar clearly offers a cost-effective and feasible alternative – almost a set-it-and-forget-it type of product.

### ***Provide Your Requirements to Solar Traffic Controls***

Name \_\_\_\_\_ Company \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Telephone (\_\_\_\_) \_\_\_\_\_ Fax (\_\_\_\_) \_\_\_\_\_ Cellular (\_\_\_\_) \_\_\_\_\_  
e-mail \_\_\_\_\_

The success of your solar-powered project is based on three things:

- ***Location: where your application site is - nearest town and state***
- ***Load: number and size of lamps, timers and other controls - anything which draws power.***
- ***Duty Cycle: hours per day and number of days per week the load is active (on).***

The above information enables us to provide you with a Sizing Report which forms the basis of your warranty.

### ***Type of System (please check your requirements)***

#### ***Solar Flasher***

Lamp Size:  12 inches  8 inches  Other - Please indicate size \_\_\_\_\_  
Lamps per pole:  1  2  Other - Please indicate quantity \_\_\_\_\_  
Lamp Color:  Amber  Red  
Type:  School Zone  24-Hour  Sensor Activated  
Run time: \_\_\_\_\_ hours per day \_\_\_\_\_ # of days per week  
Module Option:  Vandal Resistant Activation:  Timer  Pager

#### ***DCUPS Flasher***

Lamp Size:  12 inches  8 inches  Other - Please indicate size \_\_\_\_\_  
Lamps per pole:  1  2  Other - Please indicate quantity \_\_\_\_\_  
Lamp Color:  Amber  Red  
Type:  School Zone  24-Hour  Sensor Activated  
Run time: \_\_\_\_\_ hours per day \_\_\_\_\_ # of days per week  
Module Option:  Vandal Resistant Activation:  Timer  Pager

#### ***Sensor Power System***

Sensor load: \_\_\_\_\_ amps/watts  
Communications Load: \_\_\_\_\_ amps/watts

#### ***Location***

Application Site (nearest town): \_\_\_\_\_  
State/Province: \_\_\_\_\_

Please fill in your requirements with **blue or black pen**. Please **fax** to Solar Traffic Controls at 480-449-9367.

**Questions?** Please call us at 480-449-0222. We will contact you with a quote for your system.



#### ***For more information***

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