"Wireless" Traffic Control Solutions

APPLICATION: *Intersection Ahead Flasher with "Wireless" Control*
LOCATION: Pima County surrounding Tucson Metro Area, AZ, U.S.A.

Description

An intersection advance solar-powered flasher was installed at Ajo and Alvernon located on the south side of Tucson. The intersection is located at the bottom of an overpass making it difficult for approaching motorists to see the signal. Coupled with the posted 45 mph speed limit on Alvemon - actual speeds are higher - you have a situation ripe for rear-end collisions. Static signs had been in place for years yet the county needed something more active.

Solar Traffic Controls was asked to propose an equipment package which would allow the flasher to run only when the lamp was in the red interval or whenever it was not green. Also to have a programmable time delay from the time when the selected logic trigger dropped; and to devise a way to put an alarm into the traffic control cabinet if the flasher lost radio communication with the traffic cabinet.

STC met the challenge by modifying its design of a Solar Ped-X wireless crosswalk slave for the flasher. To interface with the TS2 traffic cabinet at the site, STC revised its design of a Solar Ped-X master control panel so it ran from the nominal 120VAC supply in the cabinet and monitored the field wiring outputs for the logic. The interface control panel includes logic inputs which make it compatible with either TS1 or TS2 applications. In TS1applications, load switch logic lines may be used to trigger the flasher.

All communication between the two units is done using FHSS radio and Yagi antennas. RF design was especially critical in this application since there are high voltage transmission lines adjacent to the site. Davis-Monthan Airfield is also adjacent to the site so radar and licensed high power communications are also present for interference.

In addition to the wireless link, solar power was a natural choice for the flashing beacon. This was due to the fact that the equipment was to be installed on an embankment where no power was available. It was impossible to bore a conduit under the roadway in this area as well.

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Take these steps to insure the success of your solar-powered project:

1. Location - identify the site of the application; for example, the nearest town, village or city and state.
2. Load - specify the number and size of lamps, timers or other controls (anything which draws power).
3. Duty Cycle - determine how many hours per day and which days per week the load will be drawing power.

Go to "Send us your requirements" at www.SolarTrafficControls.com/support/requirements.php for more details.

Solar Power: a free source of energy

STC's solar-powered systems are designed for quick and easy installation in the field. Our careful front-end engineering minimizes your installation costs and provides years of trouble-free operation. The standard solar power system includes the solar array, system enclosure with all the necessary electronics, color-coded wiring harnesses, sealed batteries and full documentation. DC LED lamp kits can also be purchased. These include the LED beacon, lamp housing and mounting hardware.

STC Systems are Cost Effective

Our solar flasher systems allow you to stretch your budget to obtain the traffic safety devices you need at affordable prices. Most systems are equivalent to the cost of obtaining an AC power drop. Battery life is typically three to six years; less expensive than grid electricity for the same period of time.

Solar Traffic Controls (STC) provides solar-powered traffic control systems for city, state and federal DOTs; police, firefighting and public works departments; facility maintenance and plant safety industries. Our primary products are solar-powered flashing beacon systems used for school zones and 24-hour applications. We also supply specialized flasher systems using environmental sensors and custom communications packages to control the flashing beacon systems. Our product spectrum also includes wireless power systems for ITS, EMS and HAR. STC's products and services are sold through a network of regional distributors who offer technical support for your project.

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