SMC SOLAR

Traffic Controller 230V/SOLAR

SMC is a traffic signal controller specifically designed for managing alternating one-way traffic in wireless and off-grid mode.
It is also ideal for small intersections, worksite vehicle exits, mountain roads, construction zones, and similar scenarios.
The system has been engineered to offer maximum flexibility and ease of use, meeting even the most specific requirements of demanding users.

General Features

- Management of one local traffic signal group, with the option to control a remote group via radio or cellular network (on a separate SMC device);
- Multilingual menu interface;
- Nighttime dimming function for traffic signal outputs;
- Equipped with solar or UPS battery backup;
- Supplied in an IP55 enclosure measuring 316x936x160 mm, 230V version;
- Expandable via Arduino shield connector;
- Optional 4G router for device communication, remote command execution, and status/fault SMS notifications;
- Programmable actuations based on timers or external event triggers;
- Interface capability with pedestrian push-buttons, radio command receivers, and vehicle radar sensors as triggers for requested actuations;
- GPS support for unlimited synchronization between two autonomous and isolated devices;
- Optional radio module for communication up to 500 meters between two or more devices;
- Two digital inputs and two digital outputs enable communication with external equipment;
- Lamp monitoring system to detect faulty signal lights.

Operating Modes

The SMC system consists of at least two isolated SMC devices operating in one of the following modes:

- **Isolated Mode:** Intended for use on a single-lane alternating traffic road where the two units do not communicate with each other. Once simultaneously activated, a high-precision GPS ensures long-term synchronization between the two controllers. If restarted, synchronization is automatically re-established.
- **Radio Mode:** Communication between 2, 3, or 4 devices up to 500 meters apart via a 2.4 GHz radio module to manage input events from radar, push-buttons, and remote controls in a master-slave configuration. Continuous communication allows remote monitoring of connected devices, which switch to flashing mode (on all devices) if a fault occurs (e.g., LED module failure, low voltage, incorrect lamp status, etc.).
- **4G Mode:** Offers the same functionalities as Radio Mode but uses a 4G cellular network via a router, enabling communication without distance limitations. (Requires two data SIM cards and cellular coverage.)

Electrical Specifications

The SMC is available in two versions:

- 230V Version: Powered by the mains supply, equipped with an 18Ah battery providing up to 15 hours of blackout backup;
- SOLAR Version: Equipped with a solar charge controller and a 55Ah battery for continuous off-grid operation;
- Maximum power consumption during operation is 3W (with 6W / 12V LED lamps);
- Operating temperature range: -20°C to +70°C.

SMC Card

- The SMC card measures 136 x 108 mm;
- It is designed to be housed in a plastic enclosure that is permeable to radio waves.

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