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TS1000
Crosswalk System Controller
AC Powered Model

General Description

The patented TS1000 is a next-generation controller designed from the ground up for superior performance, easy installation and outstanding reliability. Using state-of-the-art micro-controller technology, the TS1000 provides both standard and enhanced user selectable flash patterns:

- Standard MUTCD Pattern (50 or 60 flashes per minute)
- Seven MUTCD Compliant Enhanced Patterns
- Auto-sequencing Flash Pattern Mode

Each enhanced flash is composed of a unique pattern of pulses sent during the flash period and conforms to MUTCD requirements. The Auto-sequencing Flash Pattern Mode continuously cycles through all seven enhanced flash patterns, displaying a single pattern during each activation period.

The TS1000 is available in either an AC powered or Solar powered model, supports a wide range of crosswalk system configurations, and is compatible with standard activation devices (push-buttons, pedestrian crossing pads) and standard pre-warning devices (LED flashing signs and beacons).

Why Our Crosswalk System Controller Is Better

Superior Performance

- Available in either energy efficient AC Powered or Solar Powered Models.
- TSC Enhanced Flash Patterns and Auto-sequencing Flash Pattern Mode are designed to maximize pedestrian safety by increasing driver awareness and response to warning systems.
- Generation of contrasting flash patterns to crosswalk and pre-warning systems is supported by dual DC outputs.
- An activation override switch provides for continuous flashing of crosswalk during sporting and other high-traffic events.

Easy Installation

- Conveniently located, clearly labeled wiring blocks simplify field wiring and allow easy access during installation.

Ordering Codes

Product Code	Model	Activation Options	Mounting Options
SC-TS1000	- AC: 100-240 VAC	- 1: BDL3 Push-buttons - 2: XAV2E-LED Push-buttons - 3: PEDXPADS - 4: PEDXPADS and BDL3 Push-buttons - 5: SmartWalk XM Pedestrian Presence Sensor - 6: Programmable Timer - 7: BDL3 Wireless Push-Buttons* - 8: Photo-Sensor Bollards	- A: NEMA 4 Compliant Enclosure - B: TS1000 Back Panel (customer supplied enclosure) - C: PA Back Panel (customer supplied Power Adapter enclosure)

* BDL3 Push-Button Stations must be ordered with wireless interface option (-W).

Notes: 1. Please contact TSC to discuss any modifications or additions to the controller system.
 2. Pole Mounting Bracket Kit (SC-626005) supports U-bolts for pipe sizes 2" to 4" and 6" to 8". U-bolts and pipe not included.



AC Powered TS1000

- LED status and digital displays allow easy verification of system operation and configuration during setup and testing.
- Controls are provided for easy onsite customization of system operation.

Outstanding Reliability

- Internal components are protected by input and output surge protection, and replaceable fuses to protect against output overload conditions.
- Water tight, NEMA 4 compliant, aluminum enclosure with integrated door lock provides protection from adverse weather and security from unauthorized access.

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How to Specify the TS1000-AC Crosswalk System Controller

The system controller shall be model SC-TS1000-AC as marketed by Traffic Safety Corporation or approved equal. In order to be approved equal, the proposed device must satisfy the following requirements:

1. System controller shall support multiple MUTCD compliant regular and enhanced flash patterns, and be capable of auto-sequencing through all enhanced flash patterns, one pattern per activation period.
2. Output pattern operation, power limitations and output flash pattern selection:
 - a. **Output A (Primary DC Power Output)**
The maximum DC power output of the primary (10 amp limit) shall be 120 watts (150 watts for high-power model). The output flash pattern shall be selected by the pattern selector control located on the control card.
 - b. **Output B (Secondary DC Power Output)**
The maximum DC power output of the secondary (10 amp limit) shall be 120 watts (150 watts for high-power model). The output flash pattern shall be selected by a set of output mode selector switches (1-4) located on the control card: 1-Same as primary; 2-In sync with primary, but non-enhanced; 3-Non-enhanced complement of primary; 4-Continuously on while primary is flashing. Notes: (a) Enhanced flash patterns cannot be used when operating in wig-wag mode. (b) Only one output mode switch can be on (closed) at a time for proper operation of the system.
 - c. The combined output power of the primary and secondary DC outputs shall be 120 watts (300 watts for the high-power model).
 - d. A dual AC output option shall be available. The AC outputs shall be in sync with the primary and secondary DC outputs. The output power capability on each output shall be limited to 360 watts (120 volts x 3 amps). Enhanced flash patterns cannot be used when operating in the wig-wag mode.
3. System controller shall be based on an integrated, high-speed 8-bit microcontroller with non-volatile firmware and memory. All settings must be retained in the event that input power is removed.
4. System controller shall include the following controls and indicators:
 - a. **Power LED Indicator:** A visual indicator LED shall be provided to indicate the "power on" condition.
 - b. **Activation Duration Setting:** Activation duration shall be field adjustable in one-second increments, over a range of 1 to 99 seconds. Duration setting shall be displayed on a digital numeric display.
 - c. **Flash Pattern Setting:** Flash pattern setting shall be field adjustable and be displayed on a digital numeric display.
 - d. **Push-Button Test and LED Indicator:** System shall include an internal push-button used to activate the system during field tests. System shall include a visual indicator LED to indicate internal push-button and external activation device calls.
 - e. **Override Switch:** System shall include an override switch to allow switching from manual system activation to continuous system activation.
 - f. **Output LED Indicators:** System shall include visual indicator LEDs which indicate: system activation, primary output (A), and secondary output (B) status.
5. System shall support activation from standard contact-closure type push-buttons, push-buttons with audio message capability, and passive pedestrian sensors.
6. System shall provide a field selectable option to allow an activation call to be ignored, or be used to reset the cycle during an ongoing crossing cycle.
7. **System Protection:** All DC outputs shall be protected with a replaceable fuse. In the AC powered model, the input AC voltage shall be protected by a thermal-magnetic circuit breaker integral to the AC power supply. The AC power supply shall include transient surge protection. All DC electronics shall be electrically isolated from the AC input voltage.
8. **System Controller Enclosure:** The system shall include a single enclosure for ease of installation. The system shall be housed in a NEMA 4 compliant, aluminum enclosure with a thickness of 0.125" and with approximate dimensions of (20" H x 16" W x 7.32" D, mounting tabs add an additional 3" in height) to provide protection from adverse weather conditions. The enclosure shall have a mill finish and be supplied with NEMA 4 compliant lock for security from unauthorized access, and come with a minimum of one key.
9. **Warranty:** The crosswalk system controller shall be warranted against defects in workmanship and materials for one year from date of shipment and is eligible for TSC's 5-Year Limited System Warranty.

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