

# SmartWalk™ TX

## Trail Motion Sensor

## INSTALLATION INSTRUCTIONS

### Section 1

#### General Description

The SmartWalk TX is the first microwave sensor specifically designed to monitor trails for all types of users, from walkers to bicyclists, approaching a road crossing from up to 60 ft. away. Upon detection, the SmartWalk TX will activate the trail crossing warning lights increasing their effectiveness since they are only activated while trail users are present.

### Section 2

#### Installation

The SmartWalk TX easily mounts to existing poles at a recommended height of 10–12 feet to discourage vandalism and provide an optimum target area. The versatile mounting bracket can be attached with 2 bolts through 2 - 1/2" prepunched mounting holes or by banding to the pole.

#### Mounting-(see Figure 1)

1. Remove 1/4-20 hinge bolt holding the mounting bracket to the sensor housing and detach the mounting bracket.
2. Using the bracket as a template, mark and drill mounting holes in the pole and attach or band the mounting bracket to the pole in the desired location.
3. Re-attach the sensor housing to the mounting bracket with the 1/4-20 hinge bolt removed in step 1.

#### Wiring-(see Figure 2)

1. Make all wiring connections to the wire harness PRIOR to applying power.
2. The default setting for the relay is FAIL SAFE (dipswitch #4 is on).

#### FAIL SAFE ON (Relay Energized) Wiring Diagram Dipswitch #4 is ON

Red Wire = Voltage In: 12V to 24V AC/DC+  
Black Wire = Voltage In: 12V to 24V AC/DC-  
White Wire = Relay Normally Open (N.O.)  
Green Wire = Relay Common (COM)  
Orange Wire = Relay Normally Closed (N.C.)

#### FAIL SAFE OFF (Relay De-Energized) Wiring Diagram Dipswitch #4 is OFF

Red Wire = Voltage In: 12V to 24V AC/DC+  
Black Wire = Voltage In: 12V to 24V AC/DC-  
White Wire = Relay Normally Closed (N.C.)  
Green Wire = Relay Common (COM)  
Orange Wire = Relay Normally Open (N.O.)



**NOTICE:** Operating voltage is 12V to 24V AC or DC and must be applied through an **isolated power source** for proper electrical protection. Once power is applied, the LED will flash for 10 seconds. During this time the unit is non-functioning. **The unit is ready for normal operation once the LED turns solid green.**



**WARNING: DO NOT apply 120V AC primary power to the transformer until all secondary wiring is complete.**



**WARNING: To limit exposure to electrical damage from power surges, ALWAYS wire the sensor through the transformer that is provided or a TCPS series isolation module (sold separately).**



**WARNING: DO NOT ground one side of the secondary of the transformer. Circuit ground of the unit is electrically connected to the housing. Grounding one side of the transformer may create a direct short that will permanently damage the device.**

For more information, call us toll-free at (317) 842-2545.

#### Set Up and Alignment

Sensor adjustments are made with the housing cover off. Remove the four hex head screws. Two are located on the front plate and two are on the back plate. The cover is then removed by lifting up slightly and sliding it forward (Fig. 1).

1. Set the sensor parameters via the 6 dip switches located on the printed circuit board (Fig. 2).



**NOTICE:** Dip Switches 3 & 5 are not available and factory set—DO NOT change them or the device will not function optimally.



**NOTICE:** When Approach-Only or Depart-Only detection (dip switch 6) is selected, then dip switch 1 must be set to Unidirectional (OFF). To avoid false activations, unidirectional motion detection is recommended.



**NOTICE:** When Bidirectional detection (dip switch 1) is selected, then dip switch 6 is bypassed.

2. Align the SmartWalk by adjusting the **Range Potentiometer** and the aiming angle to achieve the desired pattern placement and size. To adjust the sensor's aiming angle, loosen the 1/4-20 hinge bolt, adjust and then re-tighten.

# SmartWalk™ TX

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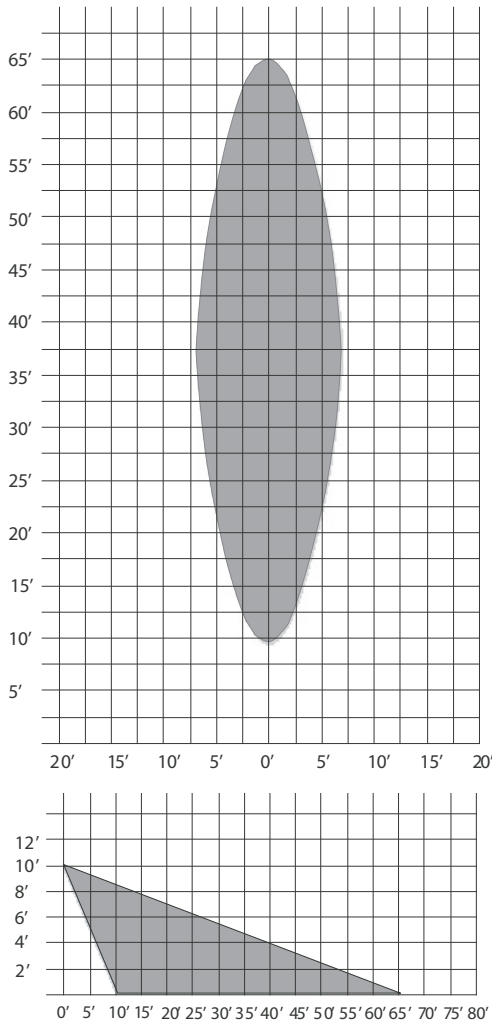
**NOTICE:** A Call Time Extension potentiometer is available to adjust the amount of time the relay stays on after detection is lost (0.1 to 25 seconds). This parameter does not usually need to be adjusted when this device is wired into a crosswalk timing control.

3. PRIOR to replacing the housing cover, walk test the device to ensure it is set up properly. A Red LED on the printed circuit board will illuminate when the relay is energized.
4. Replace the housing cover and tighten all screws.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.

### Typical Pattern Diagram

Mounting Height 10'  
Tip Angle 15°  
Range: Maximum



### Section 3

#### Technical Data

Model.....	SmartWalk TX
Operating Frequency.....	24.125 GHz ± 60 MHz (K-band)
Detection Method.....	Microprocessor-Analyzed Doppler Microwave
Detection Pattern.....	Adjustable with cover off
Detection Angle.....	Adjustable
Detection Mode.....	Selectable: Approach-Only, Depart-Only or Bidirectional
Call Time Extension.....	0.1 to 25 seconds
Power Requirements.....	12V to 24V AC or DC ± 10%
Power Consumption.....	2.0W maximum
Relay Output.....	Form C, rated at 1 amp @ 24V DC (N.O. and N.C.)
Output Power.....	5mW typical, 2mW minimum
Relay Contact Ratings.....	0.5A: 50V AC — 1A: 24V DC
Temperature.....	-29.2 °F to 165 °F (-34 °C to 74 °C)
Size.....	4"W x 4"H x 7"L (10.2cmW x 10.2cmH x 17.8cmL) (measurements include bracket)
Enclosure.....	Powder coated gray aluminum housing
Weight.....	approx. 4 lbs. (1.8 kg)
Mounting.....	Heavy-duty bracket predrilled & slotted for pole mount

### Section 4

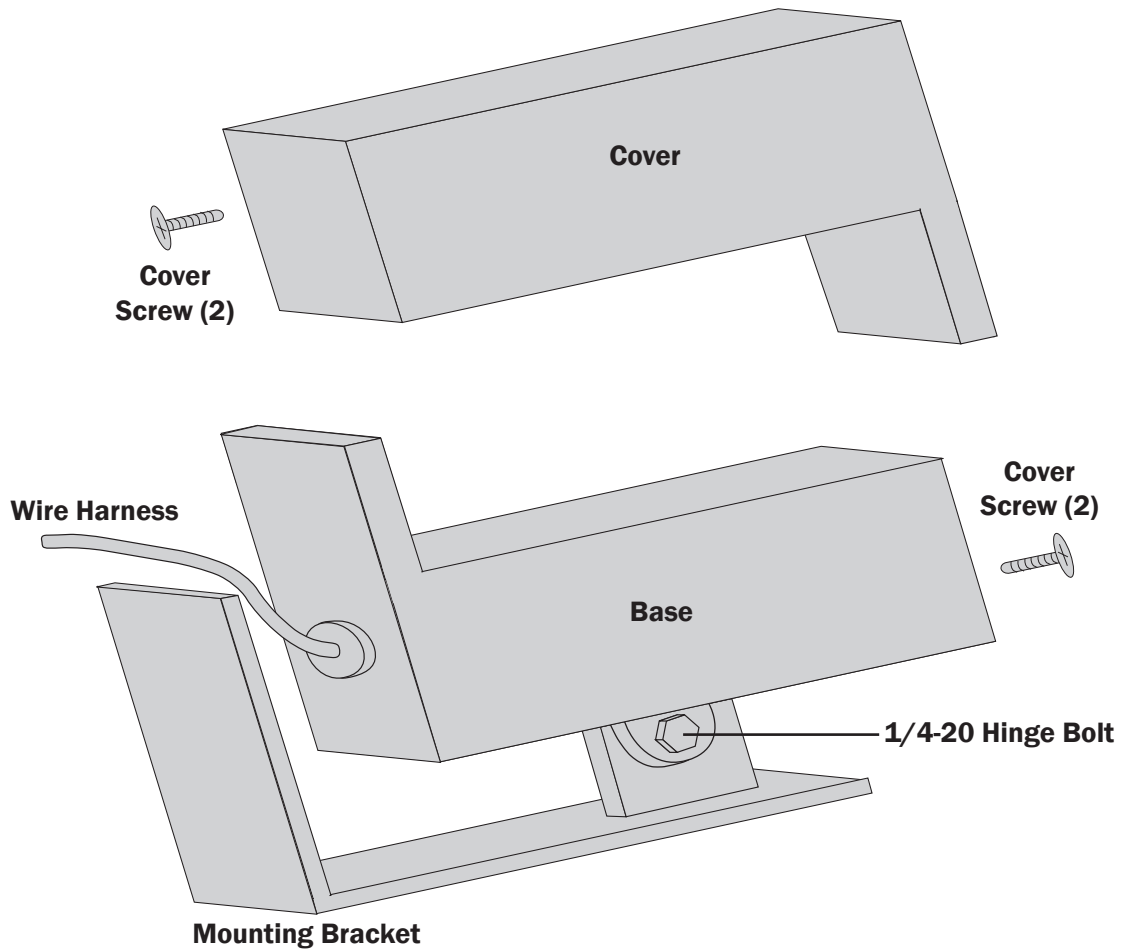
#### Warranty

MS SEDCO guarantees this product to be free from manufacturing defects for 18 months from invoice date unless specified by MS SEDCO. If, during the first 18 months, this device fails to operate and has not been tampered with or abused, the unit can be returned prepaid to the factory and it will be repaired free of charge. After 18 months, the unit will be repaired for a nominal service charge. **This limited warranty is in lieu of all other warranties, expressed or implied, including any implied warrantability of merchantability, and no representative or person is authorized to assume for MS SEDCO any other liability in connection with the sale of our products. All warranties are limited to the duration of this written limited warranty. In no event shall MS SEDCO be liable for any special, incidental, consequential or other damages arising from any claimed breach of warranty as to its products or service.**



**FIGURE 1**

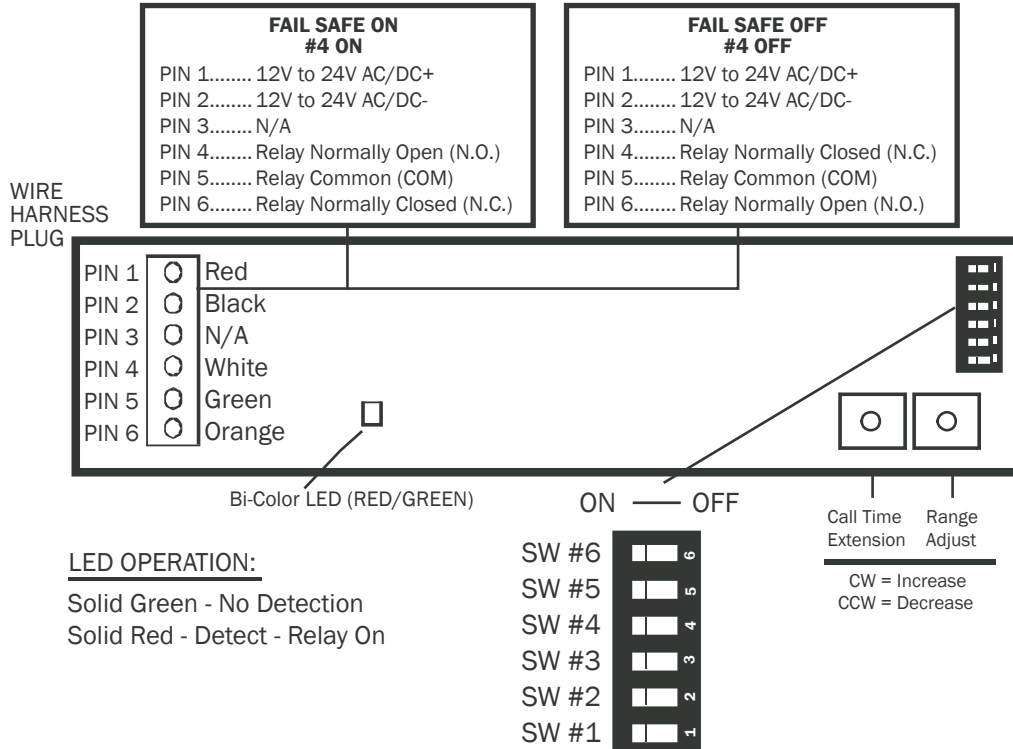
## SmartWalk TX Housing



NOTE: Mounting height is 10'–12' for optimum results.

**FIGURE 2**

**SmartWalk TX Layout & Wiring Connections**



**Dip Switch Settings**

SW	SWITCH DESCRIPTION	SWITCH 'OFF'	SWITCH 'ON'
1*	Detection Direction	Unidirectional Motion detection	Bi-directional Motion detection
2	Pedestrian Motion Sensitivity	Pedestrian Motion More Sensitive	Pedestrian Motion Less Sensitive
3	Not Used	Not Available	Not Available
4	Fail Safe State	Fail Safe Disabled	Fail Safe Enabled
5	Not Used	-----	Must Leave in 'ON' Position
6*	Approach/Depart	Approach	Depart

**WARNING - For SmartWalk TX, Switch #5 must be left in the 'ON' position.**

\*When Approach-Only or Depart-Only detection (dip switch 6) is selected, then dip switch 1 must be set to Unidirectional (OFF). To avoid false activations, unidirectional motion detection is recommended.

\*When Bidirectional detection (dip switch 1) is selected, then dip switch 6 is bypassed.