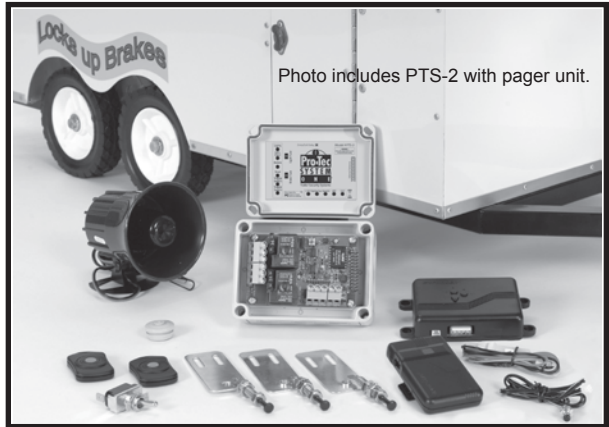




***"Professional Technology to
Pro-Tec Your Investment"***

Trailer Security Systems Model # PTS-2

Congratulations!
On your purchase of a state-of-the-art trailer security system. This system has been designed to provide years of trouble-free operation.



Kit Includes:

Control module
Two transmitters
Siren
Brake safety toggle switch
3- Pin type door switches
3- Door switch brackets
Mounting screws
5- Crimp connectors
1-Double membrane entry seal
Insurance rebate card
Warranty card
2- Vinyl Decals.

***PTS-2P Package includes
the items to left plus:***

Pager and base unit
Manual page button

Optional Equipment:

Momentary Key Switch
LED Light
Interior Key Pad
Magnetic Switches
Motion Detector

***Note: Pager requires AM/FM
antenna (not included).***

888-741-1004

www.protecsystemone.com

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What It Does . . .

The Pro-Tec System Two is designed to monitor and protect your trailer and its contents while at a race, job site, rest stop, hotel, restaurant, etc. This is accomplished by door switches and an accelerometer. Any acceleration or deceleration of the trailer or opening of a door will trigger the alarm. This will cause the electrical brakes of the trailer to be applied, running lights will then flash, and the siren will sound. If you have the optional pager system, the pager will be notified up to one mile away, thus alerting you of a potential problem.

This device complies with part 15 of FCC rules. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This Owner's Guide should help you get the most out of your system. Please take the time to read it thoroughly, prior to using the system.



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NOTE

Wires must be kept away from the internal antenna

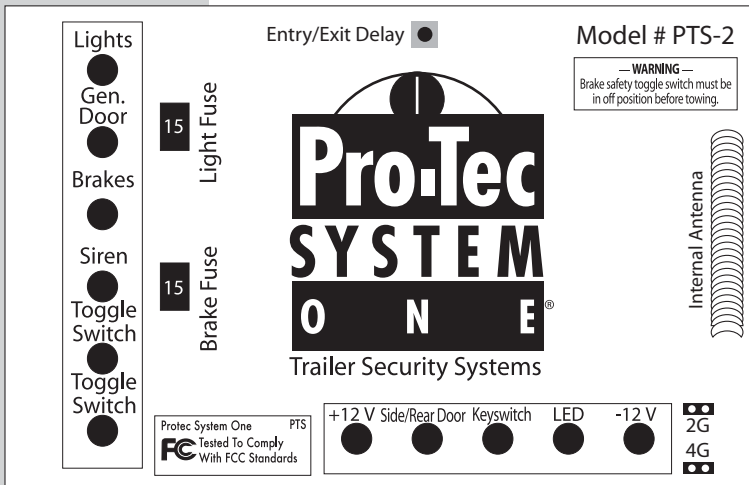
Control Box Installation

Recommended Mounting Position

High on the front wall. The higher the control box is mounted the better the reception would be.

Wire Routing

- Use one of the punch outs near either terminal block. Snap in the double membrane entry seal to the hole you punched out.
- Cut the dimple off the outer side of the entry seal.
- Pass the wires thru entry seal and route to designated terminal block position.



**Control Box Outside Dimension:
5.12" Length, 3.70" Width, 2.24" Depth**

**NOTE**

AM/FM antenna not included. If trailer has existing AM/FM antenna both radio and pager can use the same antenna.



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Alarm Installation

Step One:

Deciding on component locations.

Siren:

1. Siren can be mounted inside or outside of the trailer or both.
2. Keep it away from heat sources.
3. Point siren down so water does not collect in it.

Control Unit

1. Mount securely inside trailer
2. The higher the control unit is mounted in the trailer, the better the transmitter range will be.

Switches

1. Mount pin switch.
2. Make sure switch bracket is mounted to trailer and properly grounded.
3. To install our optional magnetic switches wires must be run inside the walls.

Optional Equipment

1. Mount pager AM/FM antenna outside of trailer.
2. Keypad is for interior use only.

Wiring Installation

1. Route wiring through trailer so chaffing and/or pinching will not occur.
2. Solder or crimp connectors are trouble free if done properly.
3. Insulate all connections with shrink tube or quality electrical tape.
4. When wiring control box keep wires away from internal antenna.

Wiring Installation, cont.

Wiring Size and Routing:

1. Installation of 12 volt full size automotive battery, grounded to trailer and kept charged is needed for proper operation.
2. Use 20 gauge wire from door switches to control unit. Use separate wire for each door and connect to terminal block marked for that door.
3. Connect 14 gauge wire from trailer running lights circuit to terminal block.
4. Connect 14 gauge wire from positive side of trailer brake to brake output terminal.
5. Mount brake safety toggle switch. Both terminals on the brake safety toggle switch connect to two terminals marked toggle switch on the terminal block in the control box.
 - 5a. If brake safety toggle switch is left in the on position before towing siren will sound upon brake compression. This switch is to prevent accidental trailer brake activation while towing.
6. Connect siren (red wire) to control module terminal block, connect (black wire) to trailer ground.
7. Connect 12 gauge wire from negative battery terminal to control module terminal block marked -12V.
8. Connect 12 gauge wire from positive battery terminal to control terminal block marked +12V.
 - 8a. Improper wiring of 12V positive or negative wire will damage unit.



NOTE

12 volt automotive battery must be grounded to trailer chassis



CAUTION

The brake safety toggle switch must be turned off before trailer is to be towed.

This switch is to prevent accidental trailer brake activation while towing.

NOTE: If this switch is not installed, the alarm brake feature will not work.



NOTE

Wires must be kept away from the internal antenna

Testing Alarm

Close ALL doors and press the button or turn the key switch if you have the optional keypad refer to keypad instructions.

1. Trailer lights should flash once.
2. Alarm in now armed.
3. Open side door
 - a. Running lights are flashing.
 - b. Siren is sounding.
 - c. Brakes are engaged.
 - d. Optional Pager will sound.
 - e. Press button once or turn key switch to disarm alarm.
 - f. Trailer lights will flash twice.

Repeat above sequence to test all doors.

The alarm will go off for 1 minute (siren will sound, lights will flash, brakes will lock.) If at the end of the minute if it still sees a trigger it will continue for another minute and then go into nuisance prevention, ignoring that sensor or switch.

Accelerometer

The alarm circuit uses an accelerometer integrated circuit that allows the alarm to sense acceleration or deceleration no matter how it is mounted. When the alarm is armed, the trailer's position is saved in memory so that if the trailer is moved the alarm may be triggered.

Accelerometer Sensitivity	JUMPER 2G	JUMPER 4G
4 - highest	X	X
3 -	removed	X
2 -	X	removed
1 - lowest	removed	removed

(X = installed)

Accelerometer Sensitivity

The sensitivity of the accelerometer may be reduced by removing one or two jumpers labeled 2G and 4G (see chart below). The alarm is factory preset most sensitive with both jumpers installed.



Nuisance Prevention Circuitry

Your system has Nuisance Prevention Circuitry (NPC). It prevents annoying repetitive trigger sequences due to faulty door pin switches or environmental conditions such as thunder, jackhammers, airport noise, etc.

It is designed to lock out an alarm trigger for two hours if two alarms are generated by the same switch or sensor within a 2-hour period. After a two-hour lockout, the alarm trigger is re-enabled.

Here's how it works: Lets say the alarm triggers two times. NPC will interpret this pattern of triggers as false alarms. NPC ignores or bypasses that sensor or switch (along with any other sensors or switches sharing the same zone).

This ensures that a sensor that continuously triggers will remain bypassed.

Using Your System

Arming:

You can turn on, or arm, the system by pressing the transmitter button on the key fob or using the optional key switch or keypad. When the system is armed, you will see the running lights flash once.

Disarming:

1. Press button or optional key switch or key pad. Running lights will flash twice. Trailer is now disarmed and safe to enter.
2. If siren is sounding, hold button or key switch once. This will silence the siren and stop the flashing running lights.
3. Once the system is disarmed after the alarm has been triggered, it will display what set the alarm off. After the two flashes for the disarm and a two second pause, it will display:
 - a. One flash for the side door
 - b. Two flashes for the generator door
 - c. Three flashes for the accelerometer sensor

After these codes are displayed, they are erased from memory so the user should look for these codes when disarming the system.

Keypad Wiring Instructions

1. Connect 12volt power to 12v+ on terminal block of key pad.
2. Connect 12volt negative wire to 12v negative position on terminal block of key pad.
3. Connect jumper wire from 12v negative terminal to the "com" on the Output area of the terminal block.
4. Connect wire to the "N.O." terminal located in the Output Section of the terminal block. This wire needs to be run to the Pro-Tec System control box and connected to the "Key Switch " terminal.
5. A plastic header jumper must be installed across two pins marked key switch jumper on the nine position pin rail above the 12v+ terminal on the Pro-Tec System circuit board .(See enclosed diagram on page 9)
6. All wires should be 18ga. or 16ga. Stranded wire.



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Keypad Operations

Entry/Exit Delay

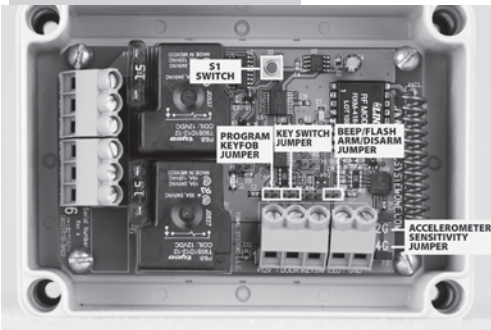
This is a programmable delay time that must be used to operate the interior keypad. In arming the alarm, the alarm will not be activated or the siren will not sound until after the preset delay from 0 to 35 seconds in 5-second increments has expired. The delay is programmed when the alarm is in the STANDBY MODE (the on-board led is not blinking).

To check the delay time, press and release the push button S1. The siren will beep to indicate the programming mode. The status led D7 will flash to indicate the current delay time (see chart). If the button is not pressed again quickly, another beep will indicate the return to STANDBY MODE, keeping the selected delay value. To change the delay time, press S1 to enter the programming mode. Once the led flashes indicate the current setting, press S1 again to go to the next delay setting. The led will flash to indicate the delay time (see chart). Discontinue pressing S1 once the desired delay time has been reached. The alarm will return to the STANDBY MODE.

DELAY TIME (sec)	LED FLASHES
0	8 Fast flashes
5	1 Flash
10	2 Flashes
15	3 Flashes
20	4 Flashes
25	5 Flashes
30	6 Flashes
35	7 Flashes

STEP-BY-STEP:

1. Momentarily press the button switch S1
2. After a beep, led D7 flashes to indicate the current delay setting (see chart)
3. To change the delay setting, momentarily press switch S1 again.
4. If the led flashes indicate an undesired delay setting, continue step 3.
5. Once the desired setting is reached, do nothing – a second beep indicates the end of the delay programming mode.





THE KEY SWITCH COMES WITH SOLDER TERMINALS. USE OF EXCESSIVE HEAT WILL MELT THE KEY SWITCH.

Programming Key Fobs

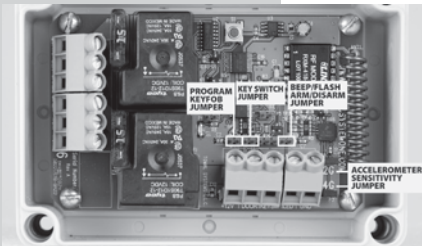
Programming Key Fob and Receiver:

These instructions are for new key fobs or to reprogram existing key fobs that have lost existing programs.

Original key fobs come pre programmed with the alarm.

Programming can either be done when the unit is first powered up or in the disarm status only.

To program the receiver to key fob, momentarily short out the two program jumper pins on the circuit board. If done correctly, the LED on the circuit board will flash at a rate of 300ms. After this happens, press the button on the key fob, then release. Momentarily short out between the two program pins again. This will stop the LED blinking and shut it off. Unit is now programmed.



Key Switch Installation

Install a jumper on the key switch jumper pins. Connect one (1) side of the key switch to a chassis ground and the other side to the terminal block marked Key switch.

Beep/Flash Jumper

The arm/disarm annunciator may be changed from blink lights to a blinking lights and beep combination. In the STANDBY MODE, momentarily short the pins labeled BEEP/FLASH ARM/DISARM JUMPER.

The lights will flash or the siren will beep to indicate the current mode. To change the mode, short the pins until the beep or flash indicator changes to the desired state. Remove the short to keep the selection. The lights will flash or the siren will beep to indicate the selection is complete.

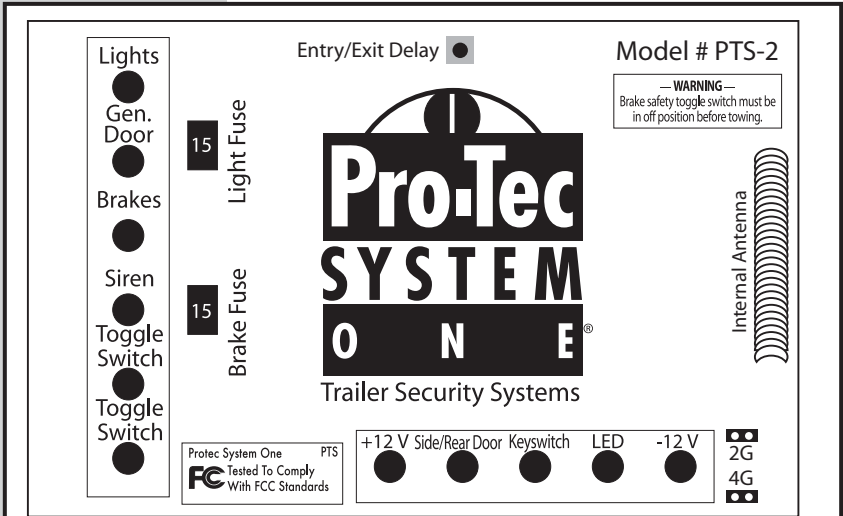


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Automatic Battery Tester

A new circuit has been added to the board that measures the battery voltage and gives an alarm signal if the charge is low (battery voltage <= approximately 11volts). The battery is tested when the alarm is armed and disarmed. If the battery is discharged, the siren will beep with 3 sets of 2 quick beeps to distinguish the beeping from any other beep alert. The beeps will sound after the arming or disarming beeps or flashes. The alarm may continue to function for a while with a discharged battery, but the siren and lights may not function properly and the battery may be permanently damaged and its lifetime shortened. To prolong battery life, it is a good idea to keep the battery charged.

Wiring Diagram



Specifications:

- Voltage Max. 15V DC
- Operating Temp. 185 degrees
- Current 7 Milliamps (armed)
- 19 Milliamps (with optional LED)

Warranty

TOMAL Systems, LLC promises to the ORIGINAL PURCHASER to repair or replace (with a comparable model) any electronic control module which proves to be defective in workmanship or material under normal use for life. If warranty service is necessary you must have a clean copy of your sales receipt.

This warranty is void if the product has been damaged by accident, unreasonable use, neglect, improper service or other causes not arising out of defects in materials or construction. This warranty is nontransferable and does not apply to any unit that has been modified or used in a manner contrary to its intended purpose and does not cover batteries.

The unit in question MUST be returned to the manufacturer, postage prepaid. This warranty does not cover labor costs for the removal, diagnosis, troubleshooting, removal or installation of the unit.

These systems are a deterrent against possible theft. TOMAL Systems LLC is not offering a guarantee or insuring against the theft of the trailer or its contents, and disclaims any liability for the theft of the trailer and/or its contents. TOMAL Systems LLC does not authorize any person to create for it any other obligation or liability in connection with the security system.

“TO THE MAXIMUM EXTENT ALLOWED BY LAW, ANY AND ALL WARRANTIES ARE EXCLUDED BY THE MANUFACTURER AND EACH ENTITY PARTICIPATING IN THE STREAM OF COMMERCE THEREWITH. THIS EXCLUSION INCLUDES BUT IS NOT LIMITED TO, THE EXCLUSION OF ANY AND ALL WARRANTY OF MERCHANTABILITY AND/OR ANY AND ALL WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND/OR ANY AND ALL WARRANTY OF NON-INFRINGEMENT OF PATENTS IN THE UNITED STATE OF AMERICA AND/OR ABROAD. NEITHER THE MANUFACTURER OR ANY ENTITIES CONNECTED THEREWITH SHALL BE RESPONSIBLE OR LIABLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, AND CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, DAMAGES FOR LOSS OF TIME, LOSS OF EARNINGS, COMMERCIAL LOSS, LOSS OF ECONOMIC OPPORTUNITY AND THE LIKE. NOTWITHSTANDING, THE ABOVE MANUFACTURER DOES OFFER A LIMITED WARRANTY TO REPLACE OR REPAIR THE CONTROL MODULE AS DESCRIBED ABOVE”



IMPORTANT NOTICE

A product's warranty is automatically void if its serial number is defaced, missing, or altered.

Serial # _____

Date Installed ____ / ____ / ____

Purchased From: _____

