

# TPS / ATPS

(Throttle Position Switch/Adjustable-TPS)

Can be use with any 0-5V sensor signal.

The TPS/ATPS module is a non-contact electronic switch, no mechanical parts to wear out and no brackets to install or adjust. This module is intended to operate a relay or any electronic device by switching one side of the relay or device to ground. The relay or electronic device is switched on when the vehicles own throttle position sensor is outputting a voltage equal to or greater than the voltage set point you have selected, in other words our module turns on at or above a throttle setting that you have selected.

In the standard (Non-Adjustable, TPS) version, the voltage turn-on threshold is chosen by you at the time of purchase, typically a voltage from 4.0v to 4.5v is chosen, your TPS is then programmed with your selection before it is shipped to you.

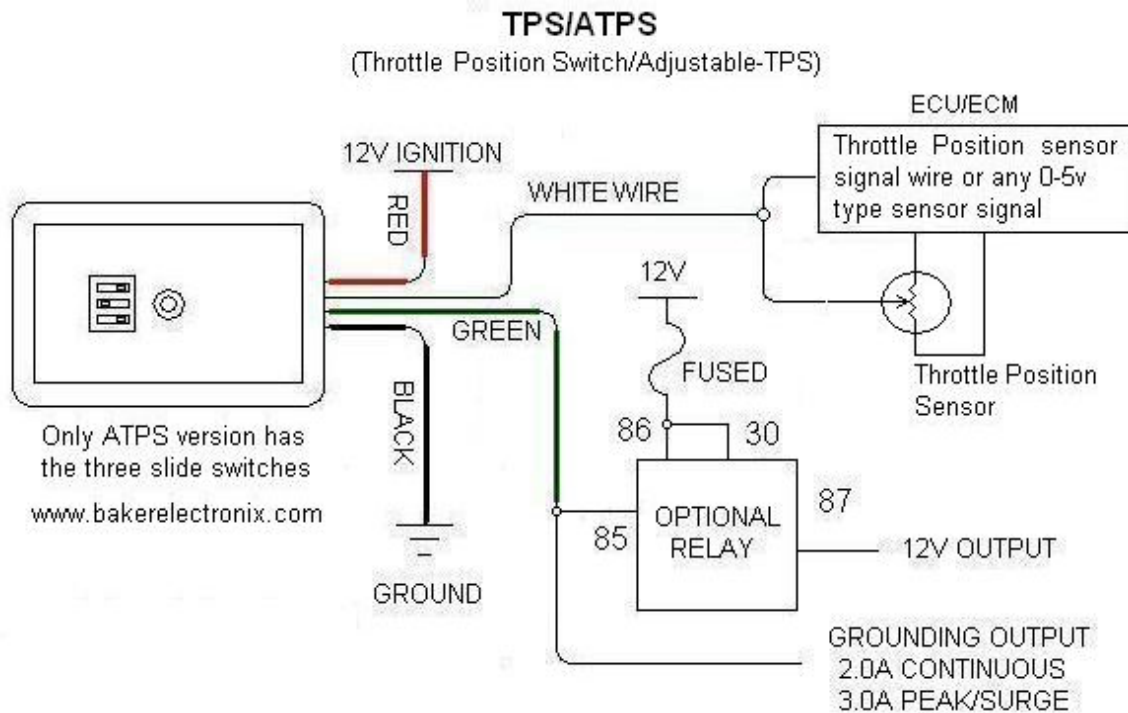
In the adjustable version (\$10 extra): The ATPS comes with three slide switches on the front of it that allow you to adjust the turn-on voltage threshold, in eight steps, from as low as 0.1V to as much as 4.9V with a 0.1V turn off hysteresis threshold to reduce relay cycling. The standard settings are from 4v to 4.9v, for custom voltage settings please specify the voltage range you would like to be able to adjust between.

The TPS and ATPS module will flash its setting (0-7) on the LED to confirm your settings at power up and within 5 seconds after the switch settings have been changed by the user. During normal operation the module will flash its LED every five seconds, one flash if the output is off and two flashes if the output is on. Changes in output status (on/off) will cause the LED to flash to indicate that it has just turned on or off.

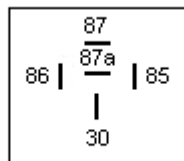
## Features:

- Reverse voltage protection in the event of incorrect power connections
- Low current (5 - 8mA)
- Output wire can sink/ground up to 2.0A continuous, 3A peak
- Internal flyback diode to reduce voltage spikes
- Indicator LED to confirm operation and indicate mode
- Light weight (1.06oz)
- Small package (2.12in. by 1.38in. by 0.58in.)
- 12 month warranty from date of purchase against manufacturer defects

## Typical wiring:



## Bosch type relay (not included):



COM: 30  
NO: 87  
NC: 87a  
Coil: 85, 86

Bottom view

## AFRC Wires:

- **Red:** 12V ignition
- **Gray:** Relay driver output, capable of sinking 2.0A to ground, connect to low side of relay coil or other electronic device.
- **White:** Throttle sense wire. This wire snoops the 0-5 volt signal from the vehicles own Throttle Positions Sensor.
- **Black:** Ground

We recommend connecting the four wires by using insulated crimps or soldering and using appropriate insulation electrical tape or heat-shrink tubing.

### Adjusting the turn on threshold:

The ATPS module has three slide switches on it that can each be turned either 'on' (up towards LED) or 'off' (away from LED) allowing the user to adjust it to eight different settings: 000 or (off, off, off), 001, 010, 011...111 or (on, on, on). The eight settings (0-7) are in binary format, increment the binary setting for a higher turn on voltage or decrement the setting for lower turn on voltage. See table below.

### Switch setting table for the standard version (4.0V-4.9V, 0.1V hys):

Switches (1,2,3)	Turn on threshold	Turn off threshold (0.1V )
0* (000) (off, off, off)	4.0V	3.9V 80% Throttle
1 (001) (off, off, on)	4.1V	4.0V
2 (010)	4.2V	4.1V
3 (011)	4.4V	4.3V
4 (100)	4.5V	4.4V
5 (101)	4.6V	4.5V
6 (110)	4.8V	4.7V
7 (111)	4.9V	4.8V Full or W.O.T.

\* Note: the LED flash code for the zero setting is one long pulse.

### We offer free Technical support via Email.

When requesting support let us know the problem you are having, what vehicle you are connecting it up to (Make, Model, engine size, and year) and what wire colors you have on your vehicles throttle position sensor. Please do not call us with technical questions as we are better equipped to answer your questions by email and this also allows us to send you copies of documentation when applicable.

For warranty service, questions, or comments regarding this or any of our products, please contact Baker Electronix at [bakerelectronix@verizon.net](mailto:bakerelectronix@verizon.net).