



## MAF Conversion Kit For E28 535i, E24 635i, E23 735i with PSC1

### Installation Instructions

 **WARNING!** Not designed to work with 1987 vehicles built before 09/86

#### Parts Included:

- Split Second PSC1
- Split Second ARM1
- MAF Sensor
- MAF Reducer
- Wiring Harness

#### Parts installation:

- 1) Remove the air flow meter and bracket.
- 2) Attach the MAF Reducer to MAF Sensor.
- 3) Install the MAF assembly in place of the air flow meter.
- 4) Due to the light weight of the MAF assembly, the bracket is not needed for support.
- 5) Route the harness along the firewall and pass it through the grommet on the passenger side into the area below the DME. The DME is the Motronic control unit just above the glove box. To access the DME, open the glove box and lower the black vinyl cover at the top of the glove box area. The DME is the silver box with the large connector along its left hand side. Push a piece of heavy gauge solid wire through the grommet in the firewall from the inside of the car. Tape the bundle of wires to the solid wire. Spray some WD-40 on the end of the bundle to make it easier to pull through.
- 6) Mount the PSC1 in the glove box area.
- 7) Thread the wires from the PSC1 to the open area to the left of the DME above the glove box.
- 8) Determine a suitable location for the ARM1. Popular spots are on the steering column or in the glove box.
- 9) Mount the ARM1 with the velcro provided. Note that one of the screws on the bottom of the ARM1 is tied to +12V. Be sure those screws do not contact chassis ground.
- 10) Thread the wires from the ARM1 to the open area to the left of the DME above the glove box. Thread the **ORANGE** wire through the firewall grommet to the engine bay.

#### Wiring Instructions:

 **WARNING!** Disconnect the negative terminal of the battery before connecting the **RED** and **BLACK** leads. Be sure you know the anti-theft radio code before disconnecting the battery.

**Use solder and heat shrink for the best possible electrical connections. Crimp connectors are provided for convenience.**

- 1) Remove the excess wire jacket so that the PSC1, ARM1 and harness wires can be accessed next to the DME. Secure the end of the wire jacket with heat shrink tubing or a zip tie so it does not fray.

- 2) Crimp the **BLACK** wires from the PSC1 and ARM1 together on one side of a butt splice connector. Crimp a 1 foot length of left over **BLACK** wire and the harness **BLACK** wire together on the other side of the butt connector. Tie the loose **BLACK** wire to the **GRAY/BLUE** wire (AFM ground) in the DME harness leading to pin 6.
- 3) Connect the **BROWN** wire from the ARM1 to one of the **BLACK** wires using an instant splice connector.
- 4) Crimp the **RED** wires from the PSC1 and ARM1 together on one side of a butt splice connector. Crimp a 1 foot length of left over **RED** wire and the harness **RED** wire together on the other side of the butt connector. Unwrap the tape around the bundle of wire leading to the DME. Tie the loose **RED** wire to the **RED/BLUE** wire in the DME harness leading to pin 35 using an instant splice connector. This will provide a switched +12V.
- 5) Connect the **YELLOW/BLACK** wire to the **BLACK/BLUE** wire leading to the DME connector pin 21 using an instant splice connector. This wire provides the tachometer input to the PSC1. Be sure to connect to the standard diameter **BLACK** wire. The larger diameter **BLACK** wires are shielded wires for other signals.
- 6) Connect the **VIOLET** wire to the **GREEN/YELLOW** wire leading to the DME connector pin 7 using an instant splice connector. This wire provides the air flow input to the DME. **NOTE: If the stock air flow meter is reconnected, the VIOLET and GRAY wires must be disconnected using the in-line connectors in the PSC1 wiring harness.**
- 7) Connect the **GRAY** wire to the **GRAY/ VIOLET** wire leading to the DME connector pin 22 using an instant splice connector. This wire provides the temp signal to the DME. The **GRAY** wire has an in-line connector for the same reason as the **VIOLET** wire. As an alternative, you can use the IAT1 instead of the PSC1 **GRAY** wire. This will provide improved cold start performance.
- 8) Thread the **WHITE** wire from the ARM1 to the area beneath the ash tray. Connect the **WHITE** wire to the **GRAY/RED** wire leading to the ash tray light using an instant splice connector. When the headlights are turned on, this wire provides the +12V for the ash tray light. This voltage causes the ARM1 to dim at night.
- 9) Connect the **GREEN** wires in the MAF harness to the **GREEN** wire on the PSC1 using a butt splice connector.
- 10) Connect the **BROWN** wire on the MAF harness to the **BLACK** wire on the PSC1.
- 11) Find the three wire connector for the oxygen sensor located about six inches in front of the firewall on the exhaust side of the engine bay. The connector has two **WHITE** wires and one **BLACK**. Connect the **ORANGE** wire from the ARM1 that was passed through the firewall grommet to the **BLACK** wire on the side of the connector that leads to the DME using an instant splice connector.
- 12) Reconnect the negative terminal of the battery.
- 13) Plug the harness connector into the MAF sensor.
- 14) Program the fuel curve in map table A using the Split Second R4 software. Refer to the R4 data sheet for programming information.

If you have any difficulty with installation, please call us at (949)863-1359 for assistance. We hope you enjoy the precise, filtered operation of your new PSC1 air/fuel ratio calibrator and increased horsepower of your 535i.

**THANK YOU FOR CHOOSING SPLIT SECOND**