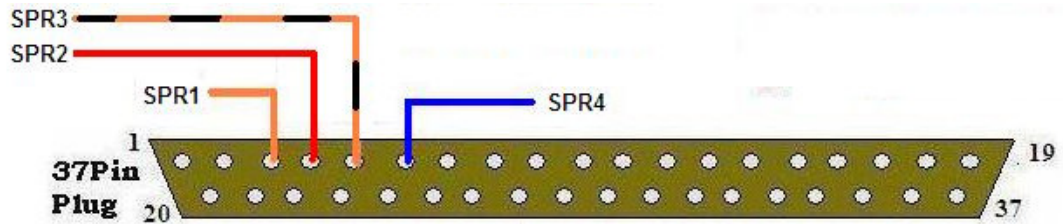




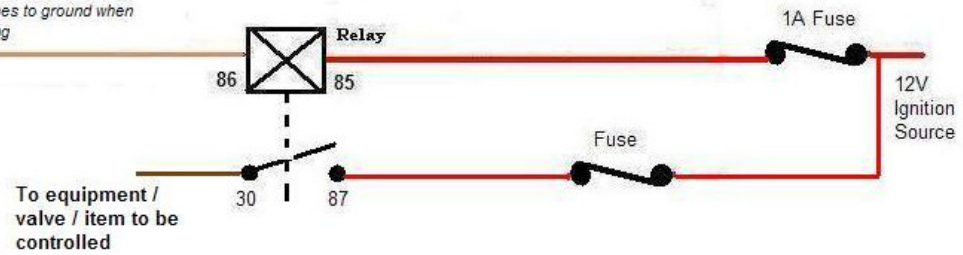
Programmable Outputs



SPR1-4
See bottom of the ECU

Programmable output

Please Note: This output is for connecting to a RELAY it switches to ground when operating



MS1-Extra

Output 1 + 2

Output turns off when actual value =
On/Off limit - Hysteresis
To create an output window set Upper
Limit. For normal output set to zero

OUTPUT 1 (X4) source: RPM

On-Off Limit (raw byte or deg F +40): 25

Off Hysteresis (raw byte or deg F): 1

Upper Limit (raw byte or deg F +40): 35

Output1 Invert for Temps: Normal

OUTPUT 2 (X5) source: CLT

On-Off Limit (raw byte or deg F +40): 240

Off Hysteresis (raw byte or deg F): 5

Upper Limit (raw byte or deg F +40): 0

Output2 Invert for Temps: Normal

Fetch From ECU Send To ECU Close

In the example for Output1 you will see that it is selected to RPM, so when the engine RPM is above 2500 (25 Raw) the output will come on until the engine RPM drops 100 (1 raw) RPM below the setpoint. There is also an Upper Limit so in the same example if the RPM goes above 3500, (35 Raw) the output will go off until it comes under the Upper Limit again.

For temperatures you simply enter the degrees F +40, so in the above example Output 2 will turn on when the coolant temp is above 200 F (240 - 40F). The output will stay on until the coolant goes below 195F as it has a hysteresis of 5 (5F) There is no upper limit set so it wont turn off when above the setpoint.

The output can also be inverted, so it will effectively be OFF when it is ON, etc

Output 3 + 4

OUTPUT 3 (U1 pin15)

OUTPUT 3 (PTD0) source: DECEL

On-Off Limit (raw byte or deg F +40): 0

Off Delay Timer (Sec): 3.2

OUTPUT 4 (LED18)

OUTPUT 4 (LED18) source: MAP

On-Off Limit (raw byte or deg F +40): 220

Use above source or FAN Control: Source

Shift Light: On

Shift light Lower Threshold (rpm): 7300

Shift Light Upper Threshold (rpm): 8300

Fan control (X2 or LED18)

Fan on temperature (C): 92

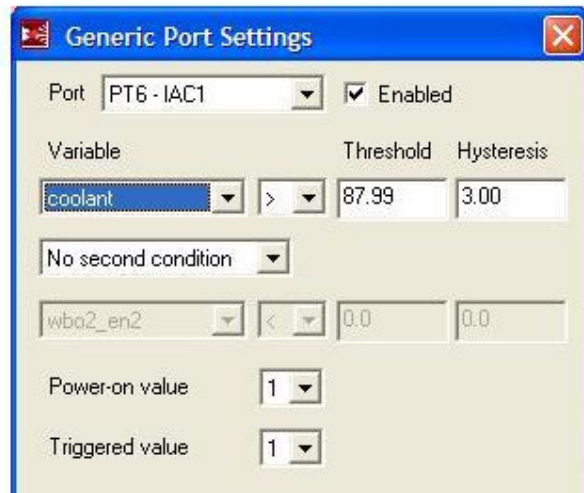
Fan off temperature (C): 88

Fetch From ECU Send To ECU Close

Output 3 can NOT be used if you are using the output for Spark Control e.g. a 8cy wasted spark setup)
This output has the option for a delayed off. So once it has trigger the output will only turn off after the time delay. This can be used for what ever you want, the example uses DECEL to trigger the output to a valve that drains off boost when the decel cuts in.

Output 4 is used if LED 18 is set to Output4 option in Codebase and Outputs (Note: this can NOT be used if you are using the output for Spark Control e.g. a 6cyl or 8cy wasted spark setup) . This can also be used for the coolant fan output, this allows you to run Water Injection on the X2 output and still use the coolant fan settings.

MS2-Extra



MS2 is slightly different, in that it can use 2 conditions to switch the output on with. This example shows an output that switches on if the coolant is above 88C, it will switch off when the coolant drops to 85C.

Note that the LEDs (D14-16) are as follows:

PM3 - Inj LED = D14

PM4 – Accel LED = D16

PM5 – Warmup LED = D15

D14 is usually used for a Spark output!