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PWM to Stepper Motor ICV Control Module

This module converts the ECU PWM 0% to 100% Signal into steps for the ICV. It will control the stepper from fully closed at 0 steps to open at 200 steps.

Operation

A typical 1% PWM change equates to a 2 step change.

10% = 20 steps

50% = 100 steps

100% = 200 steps

Resetting

Each time the module sees a 0% request, it will perform a reset. This is so the position does not become “lost” if the voltage is dropped below the minimum threshold (9v), sometimes seen under cranking.

If used as an idle stepper motor, we suggest setting the minimum duty cycle to 0% so the module can re-set when unused (engine RPM exceeds operation limit). This can be found under Idle parameters> idle valve control settings.

Mounting

This unit is waterproof, so it is safe to be mounted within the engine bay. The ambient temperature of where the control module is mounted must not exceed 60 degrees C

Operation voltage

Minimum = 9v

Maximum = 15v

Frequency

Minimum = 90Hz

Maximum = 300Hz

Recommended = 100Hz



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Connector Pinouts

Control Module
1 - Coil 1 Positive
2 - Coil 1 Negative
3 - Coil 2 Positive
4 - Coil 2 Negative
5 - PWM Input from ECU
6 - NC
7 - 12V From engine control relay
8 - NC
9 - NC
10 - NC
11 - NC
12 - Power Ground

Webcon Idle valve
A - Pin 1 of control module
B – Pin 3 of control module
C – Pin 4 of control module
D – Pin 2 of control module