

## QDB-2 Car Vehicle Automobile Actuator Error Detector

### HIC QDB-2

#### Main Technical Parameters:

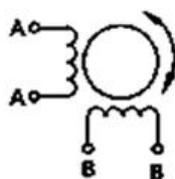
1. Drive and test ignition coil: independent ignition, group ignition, coil type, module type, etc.
2. Drive and test fuel injector: Gasoline 12V car injector, Diesel vehicle 12V 24V injector.
3. Drive and test various types of electromagnetic valves (duty cycle controlling type), Fuel metering valve, etc.
4. Drive and test various types of duty cycle-controlled motor, Urea pump motor, etc.
5. Drive and test Idle speed stepping motor, instrument stepping motor, Headlight steering stepping motor, etc.
6. Output frequency, amplitude, duty cycle adjustable hall signal, simulate various types of duty cycle type sensors: air conditioning pressure sensor (duty cycle type), air flowing meter (duty cycle type), etc.
7. Operating power supply: 12V-24V, have polarity-reverse, over-current protection.
8. Electromagnetic coil driving current range: 0-3.5A
9. Output frequency range: 1Hz-100KHz.
10. Duty cycle adjusting range: 1%-100%
11. Adjustable voltage range: 1.25V-11.5V

#### Stepper motor driver testing ranges

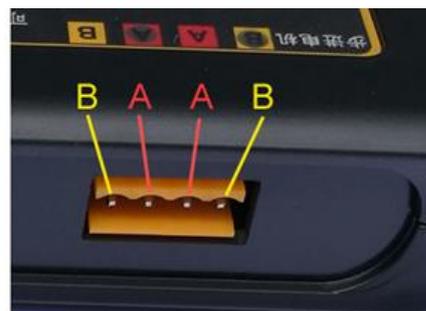
Automobile stepper motors mainly including: Instrument stepper motor, Idle speed stepper motor, Headlight follow-up steering and headlight height adjustment stepping motor, etc. Stepping motor consist of two groups of coils: A group coil and B group coil.

#### Stepper motor testing steps:

- 1, Connect operating power supply to QDB-2A (\*power supply voltage must be lower than 12VDC).
2. Use multimeter to check two coil groups, then connect A group coil to AA (QDB-2A), B group coil to BB (QDB-2A).
3. Then press QDB-2A Stepping motor UP/Down button, the stepper motor should rotate normally, if the stepper motor does not rotate, it indicates the stepper motor has error/damaged.



Stepper motor circuit





## QDB-2 Automobile Actuator Error Detector Functions

### Frequency meter display explanation:

1. **XXX (no decimal point):** min. unit is 1Hz, the value range of 1Hz ~ 999Hz;
2. **X.XX (decimal point in the hundred):** min. unit is 0.01KHz, the range of 1.00KHz ~ 9.99KHz;
3. **XX.X (decimal point in ten):** min. unit is 0.1KHz; value range of 10.0KHz ~ 99.9KHz
4. **X.X.X (decimal point in ten and hundred):** min. unit is 1KHz; value range 1KHz ~ 150KHz

### Electric-magneto coil driver testing steps:

The modules like Injector, solenoid valve, duty-cycle controlled motor, ignition coil (coil type) etc. has internal functional block: solenoid valve coil with two terminals.

1. Connect power supply to QDB-2A. If the coil parts power supply is 12V, pls connect 12V power supply to QDB-2A; if coil part is 24V, connect 24VDC power supply.
2. Then connect one of the coil terminals to QDB-2A **Power supply voltage output terminal**, and adjust output frequency to 10Hz. \* If user use it drive valves, electronic throttle, small motor, user needs to adjust frequency to 50-100Hz, duty cycle to 1%,

2. Connect another coil terminal to QDB-2A **Electric-magneto coil driver terminal**, then the coil parts should work normally.
3. Press QDB-2A duty cycle adjusting UP/Down button to adjust the duty cycle, If the coil part still does not work, it indicates this coil part has been damaged.



### Hall signal output signal simulation & testing (Hall signal frequency, amplitude & duty cycle are all adjustable)

Hall signal output current is low weak signal, it cannot drive coil directly in theory, but the device tested has integrated driving module inside, so hall signal can drive it directly. For example: module type ignition coil, module type motor

**Integrated driving module has 3 wires inside: power supply +, power supply-, signal input.**

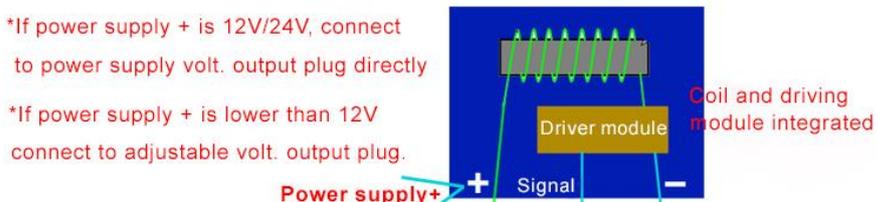
1. Connect 12V/24V operating power supply to QDB-2A, if the power supply of the device tested is lower than 12V, user can connect it to QDB-2A **Adjust volt. output terminal** directly; if its power supply is 12V or 24V, user can connect it directly to QDB-2A **Power supply voltage output terminal**.

2. Well connect GND wire and adjust frequency to 10Hz-200Hz, adjust duty cycle to 99% (QDB-2A Hall signal output terminal outputs negative duty cycle signal), adjust QDB-2A adjusting Knob/Button to make it output voltage (Hall signal amplitude) 5-11V.

3. Connect the device tested signal wire to QDB-2A Hall signal output terminal.

After that, the device tested should work normally, if it cannot work

normally, user can adjust duty cycle lower, if it still does not work, it indicates the device tested was damaged.



Packing Details

QDB-2 Package Details



\*The specification is subject to change without notice.

For technical support, pls contact us: [hicomponent.com@hotmail.com](mailto:hicomponent.com@hotmail.com)