Instructions For Use

The EEVMATE is a tool designed to help HVAC mechanics in the testing, manual driving, calibration, and freeing of stuck unipolar stepper motor driven electronic expansion valves. Read Instructions carefully before use.

Kit Includes:

EEVMATE Tool

Adapter Cable

Usb Power Converter

Blank Adapter(for field and custom adaptation)

Battery Caddy and 9v Battery Adapter (battery not included)

Specifications

- **Max current: 1 amp**
- **Tool voltage limitations: 5vdc-12vdc**
- **Power converter: Input: 5vdc Output 12vdc**
- **Adapter cable pin spacing: 2.5mm**

Figure 1

Configuration

- **The adapter cable is compatible with many 5 and 6-pin horizontal wire harness connectors. On the 6-pin male end of the adapter cable the pins are numbered 1 through 6, The red marking indicates the pin 1 end. Pins 1 and 2 are common. (See figure 1)**
- **Color schemes and pin outs vary but most likely, your motor will be using 1 or 2 wires colored red, red and brown, or grey as common. For a 6-pin connector, connect the male 6-pin connector of the adapter cable to the motor's connector matching the commons as identified above. For use on motors with 5-pin connectors, connect the adapter so that pin 1 of the 6-pin connector (marked red) of the adapter cable is hanging over the edge of the motor's connector, and is unused.**
- **The supplied blank connector can be used for terminal block or splice connection, as well as customized adapter building. Use the wiring diagram in figure 1 as a guide.**
- **Connect the 5-pin female connector to the tool.**
- **Connect the male USB end of the power converter into a 5vdc source and the male barrel connector into the tool.**
- **For use with a 9v Battery slide the Battery Caddy over the tool. Slide a 9v battery into the Battery caddy and connect the tool using the 9v battery adapter. Note: Battery life between different manufacturers may vary. Low battery life may cause the tool to appear operational but not provide enough voltage to operate the valve. A good indication of low battery life is a dimming of the on-board LED lights that flash while driving the tool.**
- **Switch the 1/0 switch to the 1 position.**

Operation

- **Rotation can be switched by pushing the joystick either upward or downward. Note: The correlation between joystick direction and valve direction (open or close) varies. Speed can be manipulated by applying a varying degree of upward/downward pressure on the joystick.**
- **There are four red LEDs built into the tool. The LEDs are wired in parallel with the output circuit to each individual phase. They should light up in pairs (2-2 phase excitation) and a visual shift left to right or right to left (depending on direction of throttle) can be observed at low speeds. This is a good indicator that power is being applied to each phase of your motor. If the LEDs are not behaving in this way there may be a problem with your wiring, the motor being tested, or the tool. At higher throttles of the joystick the shift will be too fast to see but should appear that all four LEDs are lit.**
- **Normal mode top speed is 20-25 pulses per second.**
- **As each pulse is executed, a count is recorded and displayed on the on-board OLED display. Driving the joystick downward will subtract from the count, driving the joystick upward will add to the count. The minimum and maximum counts are -20000 and 20000. If the minimum or maximum is reached the count resets to 0.**
- **The tool is equipped with a "turbo" mode. Applying inward pressure on the joystick before throttling upward or downward will increase your maximum speed to 200-220 pulses per second. This will disable live counting on the screen, but the count is recorded and will be displayed once the throttle is released.**
- **The tool is programmed with a 2-2 phase excitation. Though it should be possible for the tool to drive a motor on a system delivering a 1-2 phase excitation it won't be able to precisely replicate the system control sequence.**

This product is NOT waterproof. Moisture on the internals will destroy the electronics

IMPROPER USE OF THIS PRODUCT MAY CAUSE DAMAGE TO EQUIPMENT

USE RESPONSIBLY

This product comes with a 1-year warranty

Damage by moisture or damage by trauma to the OLED display are not covered

For technical support please contact us at eevmatetech@gmail.com