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ECM Remote Speed Controller
For Terminal Units

SUBMITTAL SHEET

The remote speed controller is used to adjust and monitor the Genteq ECM 5.0 EON™ Motor. The controller is field adjustable and has 4 modes of operation: 0-10Vdc, 2-10Vdc with on/off, manual control, and temporary manual override.

Mode: 0-10Vdc
Jumper: Blank or None
The board is factory set to accept a 0-10Vdc signal to control the airflow between 0% and 100% as shown in figure 3. This option does not allow for on/off control. When the board receives a signal less than 0.1Vdc the board goes into a manual override setting. To turn the motor off in this mode, the 24VAC power to the speed controller must be switched. This can be done by connecting it to a controller that can then switch the speed controllers' power similar to a fan relay.

Mode: 2-10Vdc with On/Off
Jumper: P
Another option is to have the board factory set to allow for on/off control by setting the jumper on to the "P" position. This setting uses a 2-10Vdc (4-20mA) control signal range with a voltage signal under 2Vdc turning the motor off. See Figure 3 for a graph covering the operating ranges.

Mode: Manual
Jumper: M
The speed controller offers a Manual Control by setting the jumper on to the "M" position. This configuration allows the controller to be manually set by a rotary pot on the front of the unit. The manual setting allows the unit to work without a 0-10Vdc or 2-10Vdc signal.

Mode: Temporary Manual Override
When the speed controller is in either 0-10Vdc or 2-10Vdc mode, the manual override is activated by manually adjusting the rotary pot above the title "Set Speed" on the front of the unit. The manual override allows the fan box to be operated and balanced before the building automation system is in place. The manual adjustment takes precedence over the automation controller signal for 15 minutes. To disable the manual override, cycle the control off/on

The speed controller features an LED light on the front of the controller that flashes to indicate the flow setting. Long flashes represent the tens digit and short flashes represent ones digit. For example a flow index of 45 will have four long flashes followed by five short flashes. Two long flashes indicate a flow index of zero and one long flash followed by ten short flashes indicate a flow index of 100.

The speed controller is equipped with an RPM feedback output which can be tied to a monitoring DDC controller or to a multi-meter.

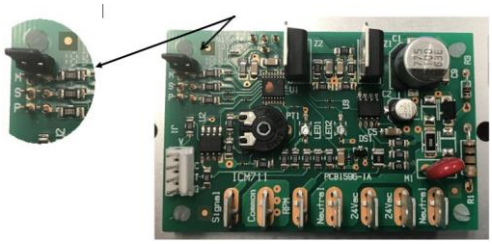

Figure 1: Jumper Setting

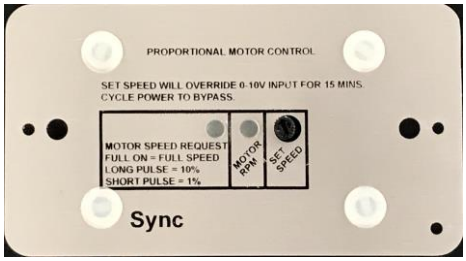

Figure 2: Front of controller

Specifications

Power..... NEC Class II or equal, 24Vac ± 20% 50/60HZ
2W, 4VA + 1VA/Motor
Control.....<u>"Blank" Configuration</u>
Signal 0-10Vdc = 0 to 100%
<u>"P" Configuration</u>
2-10Vdc = 0 to 100%
4-20mA = 0 to 100%
ON/OFF Control, 1-2Vdc (2-4mA)
RPM.....0-10Vdc, 5mA max =
Signal 0-2000RPM in 10 RPM steps
Outputs.....<u>PWM & ON/OFF supplied to ECM</u>
18 VDC (10mA max)

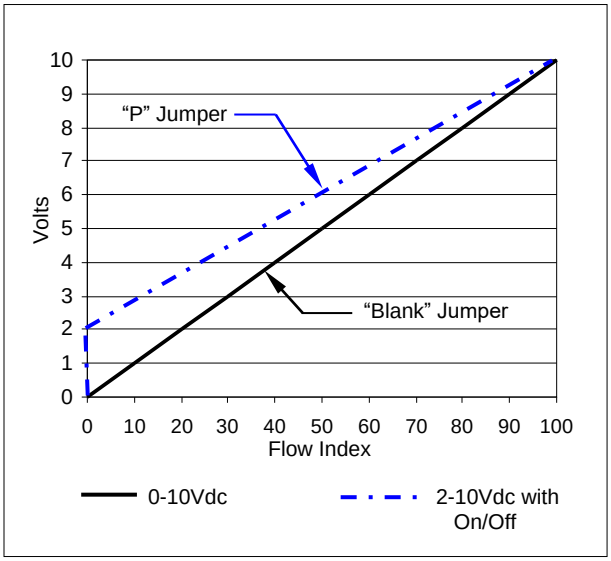

Figure 3