

GE ECM Motor™ 3 Point Floating Control Unit

Application

The ECM 3 Point Control Unit provides a means to remotely increase or decrease the output of General Electric's ECM Motor™. These are fractional horsepower motors featuring an internal microprocessor to provide exceptional efficiency, performance and motor life. The motor may be programmed for constant flow or constant torque. The EVO/ECM-3PT remotely increases/decreases the output from 1% to 100% of the programmed control range. The motor must be programmed for Vspd control.

Increase/decrease buttons, or an increase/decrease pair of discrete outputs from an automation system controller adjusts the flow index, setting the motor's output.

The ECM-3PT's 0-10V output signal may be connected back to the automation controller. This signal represents actual airflow when the motor is programmed for constant airflow operation.

A green lamp continually flashes out the flow index, which is directly related to flow. A red status lamp indicates the ECM motor status. The ECM motor may be programmed to a variety of status lamp applications.

Control circuits may interrupt power to the ECM-3PT to stop the ECM Motor™. Magnetic starters or power relays are not required!

Ordering

Contractor Version EVO/ECM-3PT- CON

7 Place Terminal Strip For Field Wiring

OEM Version EVO/ECM-3PT-OEM

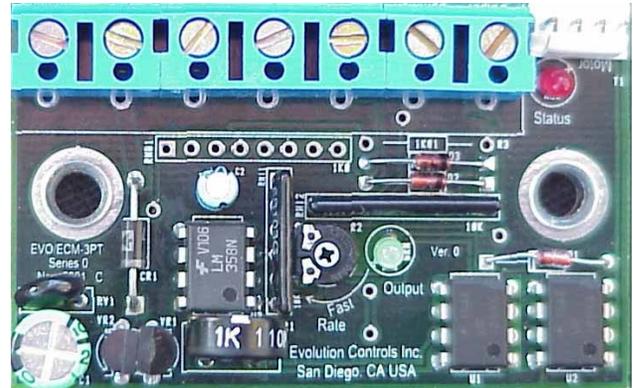
7 1/4 " TAB Connections For Cable Harness Wiring

ADD an -R extension for LED Indicators on the back

Motor Cables: *(Other Lengths Available)*

4' ECM-CBL04 20' ECM-CBL20
8' ECM-CBL08 12' ECM-CBL12

22 AWG, 4 Conductor CMP Plenum Cable



EVO/ECM-3PT-CON

Control Sequence

On power up, the output is 1 percent (0 Vdc). When power is applied to the increase input, the output increases at an adjustable rate until power to the increase input is removed. The output decreases at the same rate when power is applied to the decrease input. The ECM-3PT holds this value until a voltage is applied to the increase or decrease input, or until power is removed from the control. The output ceases to decrease when the output reaches 1 percent (0 Vdc) and ceases to increase when the output reaches 100 percent (10Vdc). Applying power to the increase and decrease inputs at the same time keeps the output at the same value.

The rate is the time required for the output to travel from 1 percent (0 Vdc) to 100 percent (10 Vdc). The rate is adjustable from 45 seconds to 360 seconds (6 minutes).

When DC signals are used to increase and decrease, the rate is twice as fast as marked on the control.

The ECM motor must be programmed for Vspd control, and the Vspd factors programmed to match the manufactured equipment. The equipment manufacturer may produce a chart or graph showing the relationship between the setting (percent) and the output of the manufactured equipment.

Specifications

Power NEC Class II Only
 24 Vac ± 20% 50/60 Hz
 1 W, 2 VA + 1VA/Motor
 (2 motors/controller Max.)

Motor Outputs Go & Signal 24 Vdc @ 20mA

Signal Supports ECM Autoswitch Function

0-10 Volt Output ± 2%, 0-5 mA

Increase/Decrease Inputs 24Vac ± 20%
 10-24Vdc (*doubles rate*)

Rate Adjust 45 to 360 Seconds

Thermal Stability >0.01%/°F

Operating Environment 0°F to 130 °F (-18°C to 55°C)
 10-80% rh

Wiring

Power the EVO/ECM-3PT Control Unit with a 24 Vac NEC Class II power source. Observe all code requirements regarding Class II circuits to insure a safe, reliable installation. Connect the neutral connection to the grounded side of the 24 Vac Class II power source as required by code.

Connect the 24Vac 50/60Hz connection to the hot side of the 24 Vac Class II power source. The application's control circuit may interrupt the hot side of the power source from the ECM-3PT as a means to stop the ECM Motor™.

The motor end of the control cable is fitted with a keyed 16-pin connector. Fit this connector into the mating socket on the ECM Motor™.

The other end is fitted with a 4-pin connector. Fit this connector into the mating socket on the edge of the EVO/ECM-3PT controller. Be sure you are lined up with the socket before pushing in the connector.

Mounting

The controller should be mounted inside a metal control cabinet or enclosure. The "R" version may be mounted to an inside cabinet wall where viewing the indicators without opening the cabinet is desired. The ECM Cable is factory fitted with a connector at each end. The end connecting to the controller may be pulled through an empty 3/4" conduit.

Mount the controller with clearance for the 24 Vac power wires, increase/decrease wiring and control cable connector. Make sure the adjustment access hole is visible and accessible to the field technician.

