



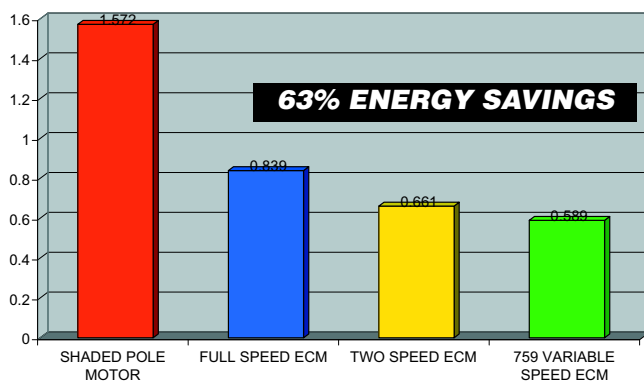
759-ECM Variable Speed Evaporator Fan Control

### Description

The 759-ECM is a true Variable Speed ECM Evaporator Fan Speed Control for walk in and reach in Coolers and Freezers. The 759 Control allows maximum efficiency, reduced compressor run time, reduced product shrinkage, and increased product shelf life by operating the evaporator fan(s) at an OPTIMUM speed at all times. When the refrigeration system shuts off active cooling, the intelligent 759 Control monitors the vault temperature and runs the ECM fan(s) at the minimum required speed. As the vault slowly increases in temperature, the fan(s) adapt their speed to prevent stratification and to optimize the percent time that the compressor remains off during a cycle. This efficiency is most pronounced after the product has cooled to vault temperature and the fan(s) can then draw cooling from the product as the vault warms up to keep the vault at a lower temperature than would normally be possible. As the temperature increases to the point where the refrigeration system must activate cooling, the fan(s) increase to maximum speed. The 759 Control constantly monitors each refrigeration cycle and optimizes ECM fan motor(s) speed for a **REMARKABLE 63% ENERGY SAVINGS** over constant speed Shaded Pole motors.

The installation of the 759 Control does not require changes to the thermostat or compressor connections. The Control uses sensors to monitor the vault, coil and expansion valve temperatures and provides a PWM and/or 0-10Vdc or 10-0Vdc (fail safe) 100mA (12 motors) ECM motor drive signal. The Control has an option to directly monitor the compressor/fan ON signal.

759 VARIABLE SPEED kWh SAVINGS



### Application

The 759-ECM Control can be used with new or existing equipment, can be used with mechanical or electronic expansion valves, is not refrigerant specific and can be applied to a wide range of walk in and reach in Coolers and Freezers.

Installation is simple and does not require changes to the thermostat or compressor wiring. Simply attach four temperature sensors, connect power to the 759 Control, and install the variable speed ECM motor(s). The 759 Control requires no programming or set-up. It will learn the vault conditions and optimize the fan speed for maximum efficiency.

### Features

Can control single or multiple ECM motors (up to 12) with continuously variable speed using PWM and/or 0-10Vdc or 10-0Vdc (fail safe) signals.

Inputs consist of four supplied sensors to monitor vault temperature, expansion valve high & low temperatures, and evaporator coil temperature.

An optional fifth sensor can be used to monitor a second evaporator coil temperature.

Monitors the refrigeration cycle and continuously adapts without any set-up. The installer has the option to set the ECM motor maximum and/or minimum fan speed.

An Override button is provided to bypass the control functions and keep the fan(s) at maximum speed.

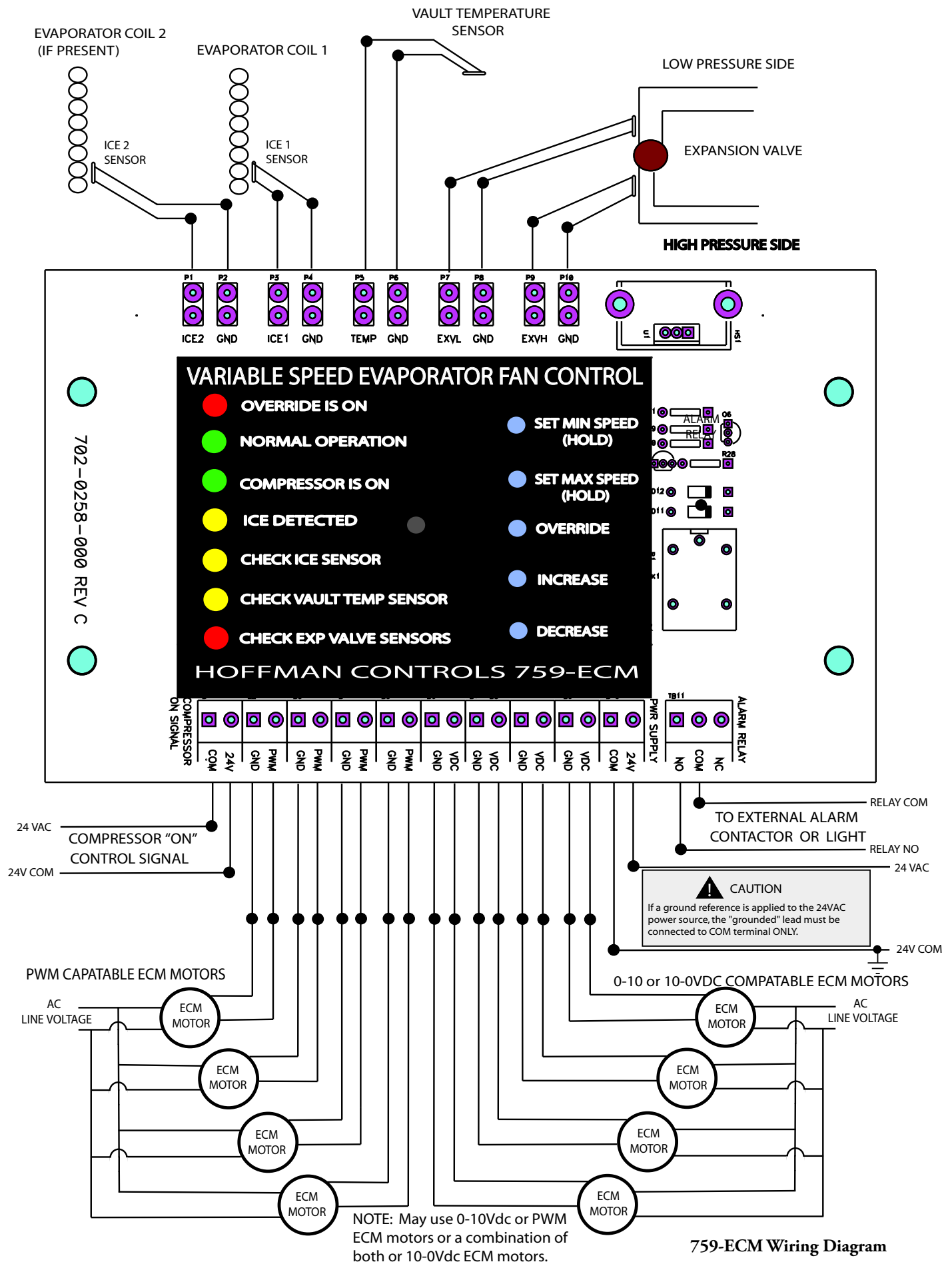
Fault detection LED's are provided for coil icing, bad expansion valve sensors, bad vault temperature sensor, and bad icing sensor.

Display LED's are provided for normal operation, control override, and compressor ON.

24V/10A NO & NC switch contacts are provided to activate an external alarm or warning light when an expansion valve sensor fault or override operation is detected.

### Specifications

Motor Types: PWM, 0-10Vdc, 10-0Vdc variable speed ECM motors  
 Motor Speed: Field Adjustable  
 Input Voltage: 24Vac (+20%/-10%)  
 Output: 0% to 100% PWM @ 80Hz  
 PWM amplitude 17.5Vdc and/or 0-10Vdc or 10-0Vdc, 100mA (max.)  
 Humidity: 95%, Non Condensing  
 Ambient: -20°C (-4°F) – +52°C (+125°F)  
 Dimensions: (L x W x H) 7.3" x 4.5" x 1.6"  
 Alarm Switch Contacts: NO or NC @ 24V/10A



759-ECM Wiring Diagram