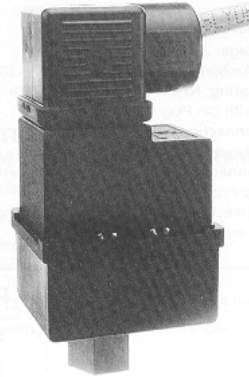


# FV31 ELECTRONIC FAN SPEED CONTROL

The FV31 controls the head pressure in air-cooled condensers by reducing the fan speed to maintain head pressure as the outside temperatures/condenser pressure drops. As the motor speed drops under lower ambient/load condition fan noise is also reduced.

The FV31 is designed for use with permanent split capacitor and shaded pole fan motors, **approved for use by motor/equipment manufacturers for variable voltage, phase angle (triac) speed control.**



## FEATURES

- ❶ Pressure Operated Fan Speed Control to maintain Head Pressure
- ❶ Compact size: 2 x 2 x 1-1/2"
- ❶ State-of-the-Art Electronics
- ❶ Direct mount—Easily retrofit to suitable motor
- ❶ Selectable Low Pressure Minimum Speed or "Turn Off" Operation
- ❶ Adjustable Pressure Setting
- ❶ 4 and 2.5 amp designs to optimize motor/system performance
- ❶ Multiple FV31's can be used in parallel on multi-circuit condensers

## FV31 OPTIONS

- ❶ Custom Calibration
- ❶ Reverse Pressure Action
- ❶ Alternate Pressure Connection
  - 1/4" SAE Male Flare
  - 1/4" Sweat Tube
  - 36" Capillary with 1/4" extension tube/flare nut
- ❶ Other Operating Voltages/Pressure Ranges

## SPECIFICATIONS

**Supply Voltage:** 230V AC + 15-20%.

**Operating Ambient Temperature:** -5 to +130°F  
Depending upon air flow and current.

**Protection:** Provide an ultimate enclosure to protect from direct rain, sunlight and external damage.

**Electrical Connections:** Terminals to accept Din 43650 plug or 3/16" Q.C.'s.

**Pressure Connection:** 1/4" SAE female flare with Schrader depressor.

**Mounting:** Direct mount—supported by pressure connection.

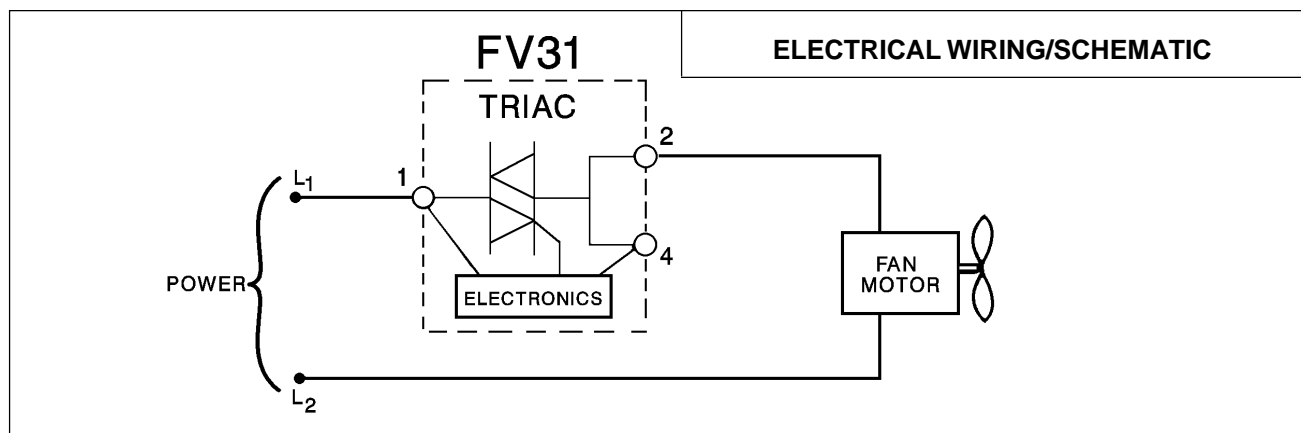
**Weight:** 3-1/2 ounces

**Approvals:** UL/CUL

CE Low Voltage Directive 72/23/EC

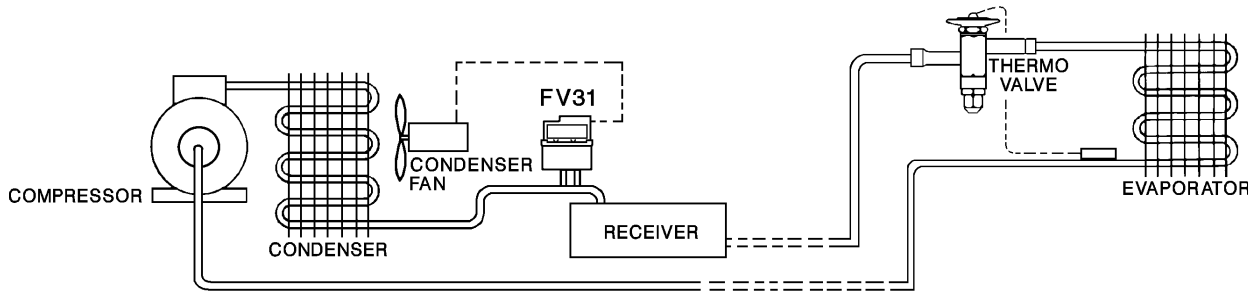
## TYPE DESIGNATION-RATINGS

TYPE	Operating Pressure Range	Modulating Band PSI	Factory Setting @ Maximum Speed PSIG	Max. Proof PSIG	Max. Cont. Current amps
FV31-S2-15-S	95/220	~35	160	450	4.0
FV31-S2-25-S	190/360	~55	235	520	4.0



# SYSTEM INSTALLATION INSTRUCTIONS

The FV31 connects to the top of the receiver or liquid line after the condenser, where it will sense the high side pressure. The standard FV31 with 1/4" SAE female flare includes a valve depressor for ease of installation. The FV31 should ideally be mounted in a location where there is moving outside air.



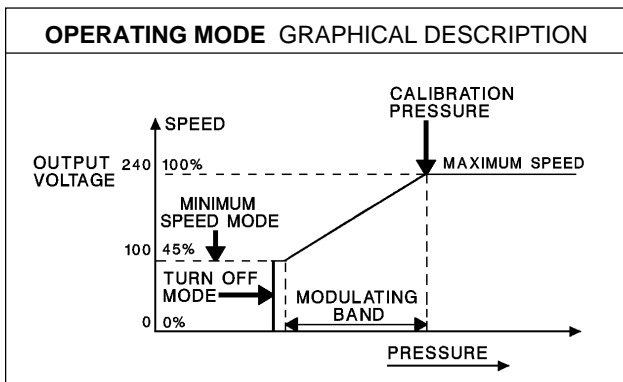
## ADJUSTMENTS TO OPERATING MODE

### Turn Off mode:

Within the modulating band pressure range, the FV31 varies fan speed from maximum to minimum speed on decreasing pressure. On a further decrease in pressure below the minimum speed point, the fan motor will be turned off. On increasing pressure, the fan motor will then restart at minimum speed.

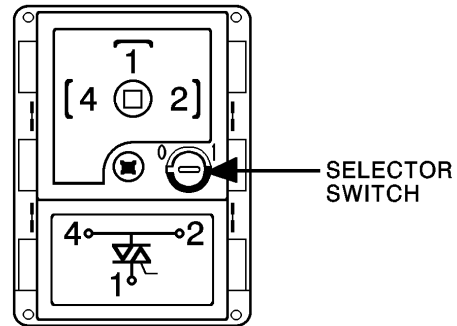
### Minimum Speed mode:

Within the modulating band pressure range, the FV31 varies fan speed from maximum to minimum speed on decreasing pressure. On a further decrease in pressure below the minimum speed point, the fan motor will continue to operate at the minimum speed setting. On increasing pressure, the fan motor will speed up once the pressure rises above the minimum speed point.



## OPERATING MODE SELECTION

With electrical connection plug removed, rotate selector switch:  
 CLOCKWISE to "0" for Turn-Off Mode  
 COUNTERCLOCKWISE to "1" for Minimum Speed Mode



## SetPoint Adjustment (Calibration)

From the Pressure Fitting End of the control, remove the calibration screw plug exposing the allen head calibration screw.

With Allen wrench, rotate calibration screw:

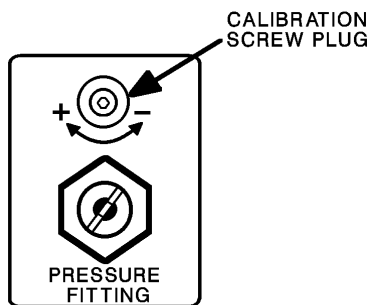
CLOCKWISE to increase pressure

COUNTERCLOCKWISE to decrease pressure.

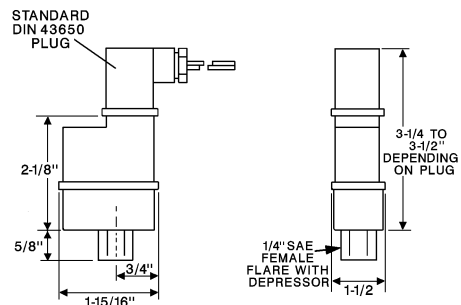
1 full turn equals approximately the following PSIG change in the pressure setting (see table below).

After changing pressure setting, the actual operating pressure range should be verified with a gauge and the calibration plug replaced.

Control Type	Operating Pressure Range	1 Turn Equals
FV31-S_-15-S	95 to 220 PSIG	20 PSI
FV31-S_-25-S	190 to 360 PSIG	36 PSI



## FV31 DIMENSIONAL DIAGRAMS



## ORDERING INFORMATION FOR FV31

Electronic Fan Speed Control	
PCN	DESCRIPTION
097521	FV31-S2-15S 95 TO 220 PSIG
097520	FV31-S2-25S 190 TO 360 PSIG
097525	FV EMC-06