Fan Speed Controller

GB

Controls head pressure to air conditioning and refrigeration systems

Technical Specification:

- **Two models available:** one for cooling only, and the other for heating and cooling
- Condenser temperature coil sensor
- Max 3 amp output
- Push on connectors
- Minimum speed adjustment
- 230V 50-60 Hz
- Power consumption internal : 8 W
- Heat pump model: reversing valve input 24 to 240V A.C. opto isolated
- Setpoint 30 to 60°C

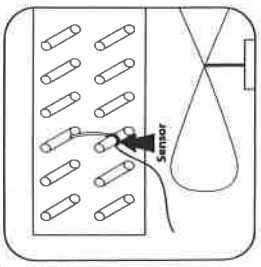
Description:

The "ASPEN FAN SPEED CONTROLLER" is designed to regulate the condensing pressure of your air conditioner in "cooling" mode in case of outdoor working temperatures below +21°C with a minimum of –5°C. The goal is to obtain a condensing pressure between 230 psig and 245 psig for installations running on R22/R407C with a positive difference of +8% towards installations running on R410a. For the air conditioners "heat-pump" type there is the "FAN SPEED CONTROLLER HEAT PUMP" which has a terminals to be connected parallel to the 4-way valve in "heating" mode. This connection type is in order to let the controller know the difference between "cooling mode" and "heating mode" and to adapt regulation according to the situation.

Installation Notes:

The fan speed controller is not waterproof and should be installed in the electrical compartment of the condensing unit in order to avoid short-circuits by direct influence of rain or humidity.

A. Disconnect the power supply from the fan motor and connect it to L (= live), N (= neutral) and also earth (= E). Starting from the controller the fan motor will receive its electrical supply again through the connectors ML (= motor live) and MN (= motor neutral). In case of installation on a heat-pump unit, the connectors T1 & T2 have to be connected in parallel on the connectors of the 4-way valve. After that, the small mode switch on the side of the connector box has to be positioned to the left or to the right side: to the left side in case the 4-way valve is under tension in "heating" mode (= the standard position of the mode switch) or to the right (= very exceptional) in case the 4-way valve is not under tension in "heating" mode.



B. Connect the thermal sensor to the terminals on the controller and fix the sensor side to a bend of the condenser coil in the middle between an entrance point and outgoing point of the refrigerant tubing. In case of any doubt, measure the condensing temperature and select the point which is closest to the saturation point.

C. If possible put a thermal paste on the sensor or isolate it in order to obtain the best measurements and working results.

D. Finish the electrical wiring correctly after modification of the unit in order to prevent short-circuits through unconnected wiring and always use well insulated materials.

Setting up controller:

In the right upper corner of the controller box you will find a potentiometer in order to set the minimum fan speed (= MIN SPEED) of the condenser fan while the ASPEN FAN SPEED CONTROLLER is working. This minimum setpoint has to be set in such a way that the fan never stops running even when wind pressure on the fan occurs, this is in order to avoid burning out the fan motor.

Next to the set point is a second potentiometer (= SET POINT) in order to set the desired condensing temperature while the ASPEN FAN SPEED CONTROLLER is working. The standard position of this potentiometre is set between +45°C and +50°C condensing temperature, which is ideal for an air conditioner working with lower outdoor temperatures. Apart from this you have the mode switch position in relation to the electrical supply on the 4-way valve in "heating" mode as already explained in point A.

Every modification of the standard programmation of the potentiometers according to the descriptions above is under the complete responsibility of the installer, as well as all damage due to bad installation or bad use of the "ASPEN FAN SPEED CONTROLLERS".