

# HPLAC-2/1

## Low-Ambient Controller

For

## Condensing Units

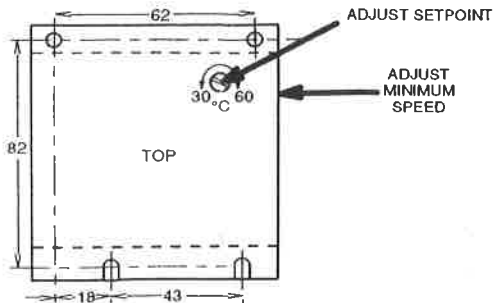
For Air Conditioners, Heat Pumps and Refrigeration Units



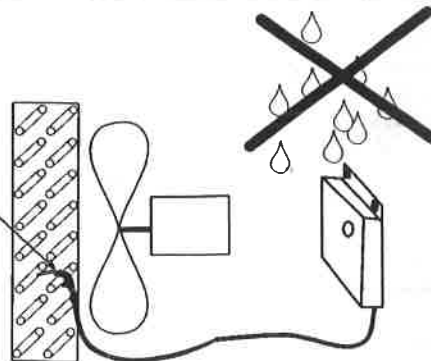
Controller Product Code : HPC.0070.0

### Specification

Supply Voltage	: 230V 50Hz
Condensing Temperature Control Range	: +30°C » +60°C
Initial Hard Start Period at Full Speed	: 10 seconds
Proportional Band around Set Point	: -2/+4 °C
Factory-Set Minimum Speed Voltage	: 100V
Input Voltage Range of Reversing Valve (when used with Heat Pump)	: 24Vac » 230Vac
Ambient Temperature - Module	: -30°C » +50°C
Ambient Temperature - Sensor	: -30°C » +70°C
Module Protection Index	: IP10
Fan Motor Normal Run Current	: 2 amps (max)
Fan Motor Starting Current	: 8 amps (max)



Sensor strapped to return bend



Set Control Temperature

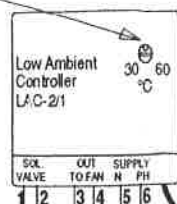
Adjust Fan Motor Minimum Speed (If Necessary)

Original Fan Motor Supply

L1 or Phase

L2 or Neutral

24V-240V AC from Heat Pump Reversing (Changeover) Valve (Heat Pump Only)



Condenser Fan Motor Run Current 2A (max)

Sensor strapped to return bend

**Standard Diagram For Wiring LAC-2/1 To Air Conditioner/Heat Pump Fan**  
For Heat Pumps, add wiring to the Reversing (Changeover) Valve

### Installation

**Disconnect** ALL power supplies before starting installation or maintenance work.

**The Controller and Sensor** are to be safely enclosed within the housing of the condensing unit, in a dry location where water cannot fall upon it or be blown on to it by the fan.

**All electrical work** must be carried out by a competent person, and must comply with all National and Local Electrical Codes. If the Controller enclosure or the Sensor or its cable are damaged then they should not be used.

### Fitting the Controller and Sensor

The Controller should be sited near the electrical terminals for the fan motor to prevent long runs of cable. It can usually be screwed inside the electrical compartment next to the fan capacitor and terminal block.

Feed the Sensor cable to the condenser return bends, and pass the end of the Ty-rap once or twice around a bend halfway down the condenser circuit. Using RTV silicone or silicone grease under the Sensor, tighten the Ty-rap to provide good thermal conduction.

Ensure that this Sensor cable is routed away from sharp edges and the compressor and its potentially hot discharge tubes.

### Notes:

1. If the Sensor needs to be moved after fitting, it can be released by gently inserting a small screwdriver blade into the clip.
2. It can be advantageous to insulate the Sensor by wrapping it with Armourflex foam insulation.

### Wiring

Disconnect the fan motor supply wires from the terminal block, fit ¼" female Faston terminals, and connect to Controller terminals 3 and 4.

Wire from the original fan connections to Controller terminals 5 and 6.

If this is a Heatpump condensing unit, wire from the reversing solenoid valve connections to Controller terminals 1 and 2.

[If Cooling-Only, then terminals 1 and 2 should be left unconnected.]

Check all wiring is safe and protected from sharp edges and hot surfaces. If necessary, clip wiring into a safe condition.

### Setting-Up and Testing

Adjust the Control Temperature Setpoint to its midpoint. This is the normal position for achieving a condensing temperature of 45°C, producing normal condensing pressures. (It can be adjusted later if necessary, and pressures can be checked using gauges.)

With the installation in a safe condition, switch the condensing unit power to ON. The fan will start up and run at full speed for 10 seconds, and then in low ambients will slow down to the correct speed to give the desired condensing pressure. If necessary the Minimum Speed can also be adjusted through the hole in the side of the enclosure by using a small screwdriver.

If this is a Heatpump, switch to Heating Mode and check that the fan runs at full speed.



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