

CONTROL ALTERNATIVES FOR INDEPENDANT STAND ALONE

CONTROL OF A ECONOMY CYCLE DAMPERS ONLY & OR CO2

Hevac offers these solutions to cater for the unfortunate increasing practice of A/C unit manufactures supplying units with pendant type thermostats that have no ability for 3rd party control, additional control of a motorised Economy Cycle Damper system & or CO2 air quality Control.

CONTROL ALTERNATIVES BY BEST TO LEAST

METHOD 1 \$770 + gst

ENDEAVOUR UNIVERSAL CONTROLLER / TSW. (mounted in A/C unit)
+ HE-FORN-6212-61DR RETURN AIR DUCT COMBO CO2 / TEMP. SENSOR
+ SOT-D OUTSIDE AIR WALL MOUNT TEMP. SENSOR.

*This system allows maximum flexibility for controlling an independent economy cycle set of motorised modulating dampers for free cooling when conditions are suitable, plus the controller (having lots of spare I/O) does have the capability of also controlling the A/C units compressors and fans, which if possible, is always the preferred option so everything can be tied to the one operating setpoint. This control system modulates the economy cycle dampers to the fresh air mode of operation if the Return air temperature is measured to be above the Endeavours setpoint ie 22c, + comparing that the fresh air temperature is measured to be cooler then the return air temperature (comparator method). Fresh air mode is also induced for CO2 control (mostly regardless of temperature, but its output affects can be limited in cases of extreme weather) if the CO2 is measured by the return air duct combo sensor to be above the CO2 setpoint (also set in the Endeavour) the dampers are then progressively modulated to the fresh air mode as CO2 increases from a typical setpoint of ~700ppm to a maximum output if CO2 reaches over ~900ppm. The Endeavour also incorporates a 365 day time switch so the economy cycle control can be set to be only operational during occupancy hours, plus if desired, the Endeavour can also be programmed to perform a night purge operation if conditions are met during the programmed night purge allow time. To further tie this system to what the A/C unit is doing, a low cost bullet type cable sensor **HET-30c** (\$25 + gst) can be attached to the evaporator coil to determine if the unit is running in R/C heat mode and interlocked with the Endeavour to also inhibit fresh air mode.*

All these settings are easily editable onsite using the Endeavour's menu system.

METHOD 2 \$720 + gst

Same control method above but using HMT-150 controller (No Time switch function)

HMT-150 UNIVERSAL CONTROLLER (mounted in A/C unit)
+ HE-FORN-6212-61DR RETURN AIR DUCT COMBO CO2/TEMP. SENSOR
+ SOT-D OUTSIDE AIR WALL MOUNT TEMP. SENSOR.

METHOD 3 \$530 + gst

Same control as method 1.) but no CO2 measurement or control

ENDEAVOUR UNIVERSAL CONTROLLER / TSW. (mounted in A/C unit)
+ SDT-D RETURN AIR DUCT TEMPERATURE SENSOR
+ SOT-D OUTSIDE AIR WALL MOUNT TEMP. SENSOR.

METHOD 4 \$480 + gst

Same control as method 1.) but no time switch or CO2 capability

HMT-150 UNIVERSAL CONTROLLER / TSW. (mounted in A/C unit)
+ SDT-D RETURN AIR DUCT TEMPERATURE SENSOR
+ SOT-D OUTSIDE AIR WALL MOUNT TEMP. SENSOR.

METHOD 5 \$562 + gst

Field mount sensors directly controlling modulating motorised economy cycle dampers only.
Based on Return air Temp. & CO2 + interlocked with an outside air wall mount limit thermostat.

HE-FORN-6212-61DR	RETURN AIR DUCT COMBO CO2/TEMP. SENSOR CONTROLLER
ECCO-YD-24v	OUTSIDE AIR HIGH / LOW LIMIT THERMOSTAT c/w DISPLAY

METHOD 6 \$337 + gst

Control system as per method 5 but R/A temperature only - no CO2 control.

DSC2	RETURN AIR DUCT TEMPERATURE. SENSOR / CONTROLLER
ECCO-YD-24v	OUTSIDE AIR HIGH / LOW LIMIT THERMOSTAT c/w DISPLAY.

2 POSITION OPEN / CLOSE TYPE DAMPER MOTORS

METHOD 7 \$292 + gst

2 Position control of open/close econ. cycle dampers based on Return air & Outside air thermostats

DTC10	RETURN AIR DUCT ELECTRONIC THERMOSTAT
ECCO-D	OUTSIDE AIR HIGH / LOW LIMIT THERMOSTAT c/w DISPLAY.

METHOD 8 \$155 + gst

Minimum basic control system based just on outside air high & low temperature limits but interlocked with A/C unit evaporator coil thermostat. Controlling open/close 2 position type damper motors

ECCO	OUTSIDE AIR HIGH / LOW LIMIT THERMOSTAT (no temperature display)
HET-30c	EVAPORATOR COIL STRAP ON THERMOSTAT TO LOCK OUT ECONOMY CYCLE FRESH AIR MODE IF A/C UNIT MEASURED TO BE ON R/C HEATING.

DAMPER MOTOR POWER & COSTS EACH.

GDB141.1E	5 NM (0.8 SQ M) 24V 2 POSITION DAMPER MOTOR	\$117 each + gst
GLB141.1E	10 NM (1.5 SQ M) 24V 2 POSITION DAMPER MOTOR	\$148 each + gst
GDB161.1E	5 NM (0.8 SQ M) 24V MODULATING DAMPER MOTOR	\$165 each + gst
GLB161.1E	10 NM (1.5 SQ M) 24v MODULATING DAMPER MOTOR	\$210 each + gst

EVAPORATOR STRAP ON THERMOSTAT

HET-30c	EVAPORATOR COIL STRAP ON BULLET TYPE FIXED 30c THERMOSTAT TO INHIBIT ECONOMY CYCLE FRESH AIR MODE WHEN A/C UNIT ON R/C HEAT. Comes with 2 meters of cable.	\$25 + gst
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