



The **DC6** is a full featured AHU controller. The DC6 will operate "stand alone" or as an integral part of a building management system (BMS). The control parameters, such as temperature setpoint are stored in non volatile memory (EEPROM) to prevent them from being lost when the power is removed. All connections to the DC6 are by means of plug-in screw terminal connectors which provides for quick, convenient installation, commissioning and maintenance.

Features

Economy Damper

When cooling is required and the outside air temperature (enthalpy) is lower than the return air temperature (enthalpy), the damper will be opened as part of the cooling control loop.

When heating is required and the outside air temperature (enthalpy) is higher than the return air temperature (enthalpy), the damper will be opened as part of the heating control loop.

Where the fan speed falls below the fan speed low threshold, the damper will open to adjust for the reduced fresh air intake.

Compressor Control

The lead compressor is automatically cycled to the next compressor each time the cooling requirement falls to zero. This can occur when the temperature falls or when the UNIT RUN input is open circuited.

There are 2 anti-recycle timers fixed at 10 minutes. When the compressor step is on the COMP PROOF input is monitored. Once the proof input is made, the anti-recycle timer is activated. Should the proof input fail, once activated, the compressor step will be locked off for 10 minutes.

The anti-recycle timers can be used with any of the step digital output modes.

Temperature Sensors

The 4 temperature inputs can be individually configured for NTC thermistor or 0-10 Volt temperature sensors.

The outside air temperature (enthalpy) input, if left open circuit, can be set under BMS control. The BAS can then read the outside air temperature (enthalpy) and set all the individual points to the correct value. Hence only one outside air temperature (enthalpy) sensor is required.

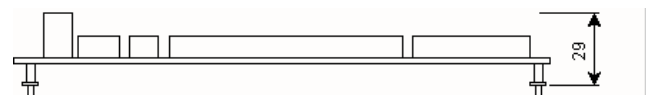
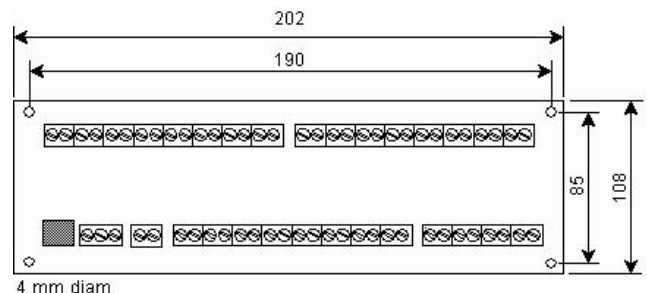
Time of day schedule (TOD)

The Time of day schedule is only used when the DC6 is NOT online to the BAS. The BAS will start and stop the DC6 while the DC6 is online. Where the BAS fails however, the DC6 will use its built in time of day schedule.

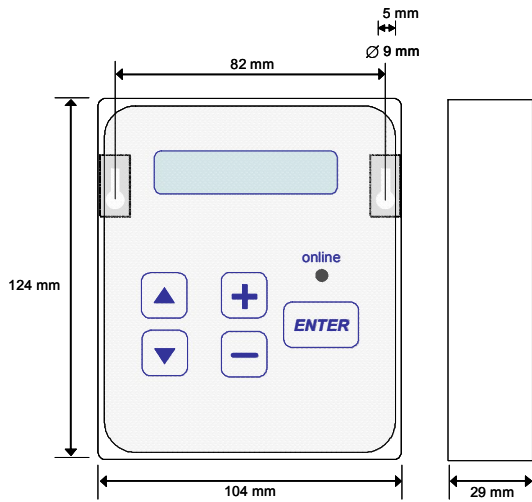
Technical Data

- Operating voltage 24 VAC, 2 VA
- Temperature sensors
- Sensing elements 10k, 47k or 100k NTC thermistors
- 1000 Ohm Ni sensor
- Temperature range -10 to 50° C, 0.25° C Resolution
- 0-10 Volt analog input 0 to 10 Volt, 0.04 Volt Resolution
- 0-10 Volt analog output 0 to 10 Volt, 0.05 Volt Resolution
- Source - sink current 1 mA max
- Digital outputs 220 VAC, 1 Amp running - 4 Amp max
- Digital inputs 24 VAC, 20 mA current

Dimensions

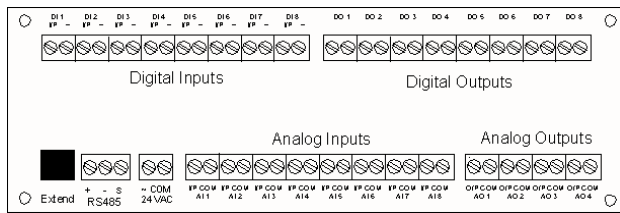


Dimms in mm



Connection	Description	Type
DI 1	Unit ON / OFF External Input (AUTO MAN OFF)	24 VAC Contact
DI 2	Fan Proof Input	24 VAC Contact
DI 3	Alarm input	24 VAC Contact
DI 4	Alarm input	4 VAC Contact
DI 5	Compressor 1 proof	24 VAC Contact
DI 6	Compressor 2 proof	24 VAC Contact
DI 7	Spare digital input	24 VAC Contact
DI 8	Spare digital input	24 VAC Contact
DO 1	Fan Run Output	Voltage Free Contact
DO 2	Alarm Output	Voltage Free Contact

Connections



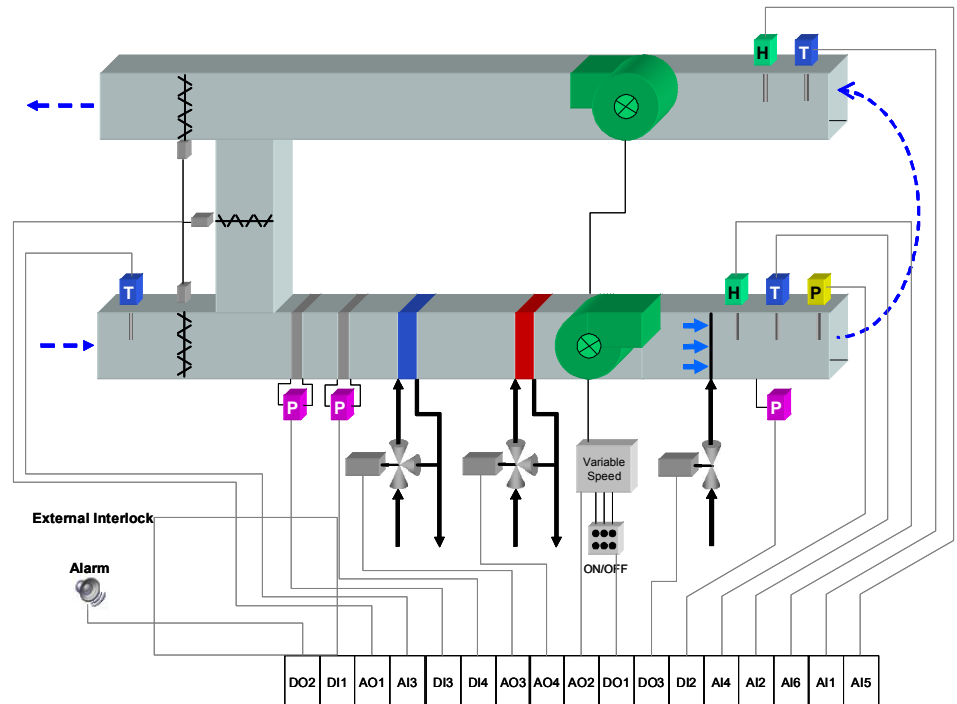
DC6 Fixed Connections

Connection	Description	Type
AI 1	Return Air Temperature Sensor	NTC Thermistor / 0 to 10 Volt
AI 2	Supply Air Temperature Sensor	NTC Thermistor / 0 to 10 Volt
AI 3	Outside Air Temperature Sensor	NTC Thermistor / 0 to 10 Volt
AI 4	Differential Pressure Sensor	0 to 10 Volt
AI 5	Humidity Sensor	0 to 10 Volt
AI 6	Humidity Sensor 2 (High limit)	0 to 10 Volt
AI 7	Loop Temperature Sensor	NTC Thermistor / 0 to 10 Volt
AI 8	Spare analog input	NTC Thermistor / 0 to 10 Volt

User Selectable Connections

Device Mode	Description	Connection	Output Type
0	No Output		
1	0 to 10 Volt output	AO 1	0 to 10 Volt
2	0 to 10 Volt output	AO 2	0 to 10 Volt
3	0 to 10 Volt output	AO 3	0 to 10 Volt
4	0 to 10 Volt output	AO 4	0 to 10 Volt
5	1 Step Output	DO 3	Voltage Free Contact
6	2 Step Output	DO 3 & 4	Voltage Free Contact
7	4 Step Binary Output	DO 3 & 4	Voltage Free Contact
8	Pulse Width Modulating Output	DO 3	Voltage Free Contact
9	3 Position Motor Output, 120 Seconds	DO 3 & 4	Voltage Free Contact
10	3 Position Motor Output, 150 Seconds	DO 3 & 4	Voltage Free Contact
11	1 Step Output	DO 5	Voltage Free Contact
12	2 Step Output	DO 5 & 6	Voltage Free Contact
13	3 Step Output	DO 5, 6 & 7	Voltage Free Contact
14	4 Step Output	DO 5, 6, 7 & 8	Voltage Free Contact
15	16 Step Binary Output	DO 5, 6, 7 & 8	Voltage Free Contact

Typical Installation



Note:

For more information, refer to the DC6 Controller Setup Guide.