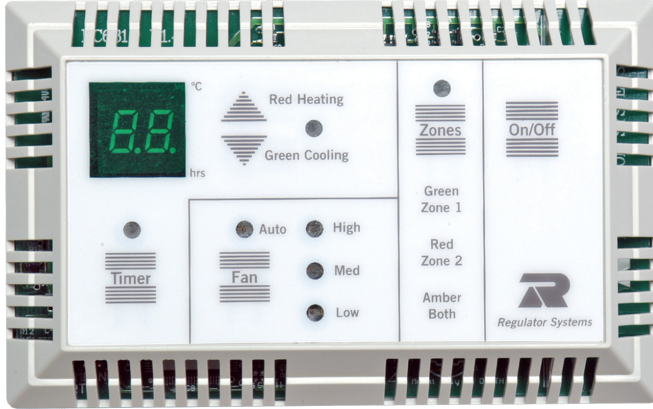




Regulator Systems

MANUFACTURER OF AIR CONDITIONING CONTROLS AND INSTRUMENTATION

DC6314 / RB6982 FAN COIL UNIT/ DOMESTIC CONTROLLER



DIGITAL DISPLAY

This is a two-digit display with two decimal points. The right hand decimal point is used to indicate 0.5°C increments. So when raising or lowering the setpoint, the display will read 23, which is 23.0°C or 23, which is 23.5°C. The left hand decimal point, which is located between the two digits, indicates that a function is active. This is covered under functions. When the controller is first turned on, the display will indicate the setpoint for five seconds. After which it will display the sensor temperature, either internal or external. If it is set to display only the setpoint, then it will continue to display the setpoint only. The setpoint range is 16 – 30°C. The setpoint can also be set to a range of 20 – 26°C or a numeric range of 1–15, corresponding to 19 – 26°C. The display also indicates hours whenever the timer is set.

FEATURES

- 30 pre-programmed functions
- Zone control
- Auto or continuous fan
- Timer control

The DC6314 FCU / Domestic Temperature Controller is a smart controller that has 30 preprogrammed functions. These functions enable the controller to be configured for many different applications. Some examples are internal or external sensors, zone control and/or averaging. Auto or continuous fan. Reverse cycle operation or electric reheat with fan run timer. Proportional control of zone valves for hot water and/or chilled water operation. Two heat / two cool. Condenser water pump control for water cooled units, etc. Plus many other options. In the event of a power failure, the controller will power up in the last operating state. The RB6982 is the associated Relay Board for the DC6314. It has eight output relays. Three power relays for Lo-Med-Hi speed fan operation and five pilot duty relays for heat / cool operation and/or zone dampers. The zone damper relays operate as the second stage of heat and cool when the controller is configured as a fourstage controller. The relay board is 240vac powered and supplies 12vdc to the DC6314 controller. There is also a two wire RS485 comms connection. Provision is available for a temperature sensor to connect directly to the relay board. A 12 / 24v ac/dc relay board is also available. Its part no. is RB6980.

ON / OFF PUSH BUTTON

This is located in the top right hand corner of the controller. Pushing it once will turn the controller on. Pushing it again will turn the controller off. An audible beep will be heard whenever a button is pushed.

ZONE CONTROLLER

The zone control button enables either Zone 1 or Zone 2 or both to be selected. If zone sensors are being utilised, then they will be selected with their respective zone. If both zones are selected, then the zone sensors will be averaged. For zone sensors to be utilised, they will have to be activated via the function menu. If the selection of both zones is not required, then this can be de-activated via the function menu.

FAN SPEED SELECTION

The fan select pushbutton is located in the centre of the controller touchpad, towards the bottom. When the controller is on, then the fan speed can be set manually to Low, Medium or High, or set to automatic where it will cycle with the temperature. If the controller is off, then by activating the fan pushbutton, the fan can be set to run in ventilation mode. The fan can also be set to run continuously via the function menu. It can also be set to operate on single speed only.

HEAT / COOL INDICATOR

The LED indicator at the top centre of the touchpad indicates whenever the controller is calling for cooling or heating. Green indicates cooling and red indicates heating. If neither is displayed then there is no call for cooling or heating.



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TIMER FUNCTION

The Timer pushbutton is located in the bottom left hand corner of the controller touchpad and the Timer Function operates in two modes. It can be set while the system is running, so that the air conditioning will turn off in "x" hours. To set with the system running, push the button once for every hour you wish the system to run for. For example, if set for 2 hours, then the system will continue running for two hours and then turn off. The second mode is to start in "x" hours. For example, if retiring to bed at 10.00pm and rising at 6.00am, then turn off the controller and push the timer button eight times and the system will start in 8 hours. The LED above the timer button is lit whenever the timer is activated.

OVER-RIDE FUNCTION

The Over-Ride terminal on the DC6314 Controller can be activated via the function menu and used for the external operation of the controller. A set of voltage free contacts is required. Typical examples are, time clocks, balcony door interlock switches on hotel rooms, etc. When the contact is closed, the controller will operate normally. When the contact is open, the controller will not operate.

FUNCTION MENU

The Timer pushbutton is located in the bottom left hand corner of the controller touchpad and the Timer Function operates in two modes. It can be set while the system is running, so that the air conditioning will turn off in "x" hours. To set with the system running, push the button once for every hour you wish the system to run for. For example, if set for 2 hours, then the system will continue running for two hours and then turn off. The second mode is to start in "x" hours. For example, if retiring to bed at 10.00pm and rising at 6.00am, then turn off the controller and push the timer button eight times and the system will start in 8 hours. The LED above the timer button is lit whenever the timer is activated.

FUNCTION DEFAULT

DECIMAL POINT OFF ACTIVE

DECIMAL POINT FLASHING

1	Sensor 0 (Internal)	Sensor 1 (External)
2	Sensor 0 (Internal)	Sensor 0 (Internal) Z1 & Sensor 1 (External) Z2
3	Sensor 0 (Internal)	Sensor 1 (External) Z1 & Sensor 2 (External) Z2
4	Sensor 0 (Internal)	Sensor 3 (Relay Board)
7	Zone Control Enabled	Zone Control Disabled – Function 1 & 4 only
8	Zone 1 or Zone 2 or Both	Zone 1 or Zone 2 Only (F7 Enabled)
10	Override Input Disabled	Override Input Enabled
11	Room Temp & Setpoint	16 – 30°C Display Setpoint Only 16 – 30°C
12	Room Temp & Setpoint	16 – 30°C Room Temp & Setpoint 20 – 26°C
13	Room Temp & Setpoint	16 – 30°C Display Setpoint Only 1 – 15 (19-26°C)
17	Fan – Auto (Cycles with Temp)	Fan – Continuous
18	Fan – 3 Speed	Fan – 1 Speed
22	Reverse Cycle – 1H/1C	On/Off Cool & On/Off Heat
23	Reverse Cycle – 1H/1C	On/Off Cool & Electric Reheat
24	Reverse Cycle – 1H/1C	On/Off Cool & Time Prop Electric Reheat
25	Reverse Cycle – 1H/1C	Thermal Valve Cool (Prop) & Electric Reheat
26	Reverse Cycle – 1H/1C	Thermal Valve Cool & Time Prop Electric Reheat
27	Reverse Cycle – 1H/1C	Thermal Valve Cool & Thermal Valve Heat (Prop)
28	Reverse Cycle – 1H/1C	Two Cool / Two Heat (4 Stage)
29	Reverse Cycle – 1H/1C	Two Cool / Two Heat (4 Stage) Reverse Cycle
30	Auto C/O for 2 Pipe Systems Disabled	Auto C/O for 2 Pipe Systems – Sensor 3 & Cool 1
31	Thermal Valve Non-Linear PWM	Rate Thermal Valve Linear PWM Rate
34	Reversing Valve – Heat	Reversing Valve – Cool
35	Auto Changeover – Heat/Cool	Cooling Only
36	Auto Changeover – Heat/Cool	Heating Only
40	Filter Timer 200 Hrs – Disabled	Filter Timer 200 Hrs – Enabled
41	Ventilation Timer – Disabled	Ventilation Timer – Enabled (12Hrs / 30Mins)
42	Cond Water Pump – Disabled	Cond Water Pump Relay & Interlock Enabled
43	C W Pump Interlock Timeout-10sec	Cond Water Pump Interlock Timeout – 0 secs
46	Lo Limit Control Disabled Lo Limit	Cooling – Sensor 3 On 9C/Off 4C F22 only
48	Start to Start Comp Delay – 6 mins	Stop to Start Compressor Delay – 30 secs



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ERROR CODES

E0 Sensor 0 (Open Circuit)
 E1 Sensor 0 (Short Circuit)
 E2 Sensor 1 (Open Circuit)
 E3 Sensor 1 (Short Circuit)
 E4 Sensor 2 (Open Circuit)

DC (Internal) E5 Sensor 2 (Short Circuit)
 E6 Sensor 3 (Open Circuit) RB (External 1)
 DC (External 1) E7 Sensor 3 (Short Circuit)
 EA No Condenser Pump Interlock (RB Input 1)
 DC (External 2) EF DC/RB Communication Fault

TECHNICAL DATA

Board

Supply Voltage
 Frequency
 Power Consumption
 Ambient Temp Operation
 Ambient Humidity
 Dimensions
 Weight
 Temperature Sensor
 Setpoint Range
 Relay Outputs

Heat 1 Differential
 Cool 1 Differential

DC6314 Controller

12VDC
 N/A
 1w
 0 -50°C
 Max 90% RH
 L120 x H75 x D30mm
 0.14kg
 Thermistor 10K @ 25°C
 16 – 30°C
 N/A

- 0.5°C from Setpoint
 + 1.0°C from Setpoint

RB6972 Relay

190 - 265 VAC
 50 / 60 Hz
 2w Total both units - 3w
 0 – 50°C
 Max 90%rh
 L105 x H105 x D60mm
 0.40kg
 Thermistor 10K @ 25°C
 N/A
 Fan – 250vac 10A Resistive
 Other – 250vac 3A Resistive
 N/A
 N/A

CONNECTIONS DIAGRAM

