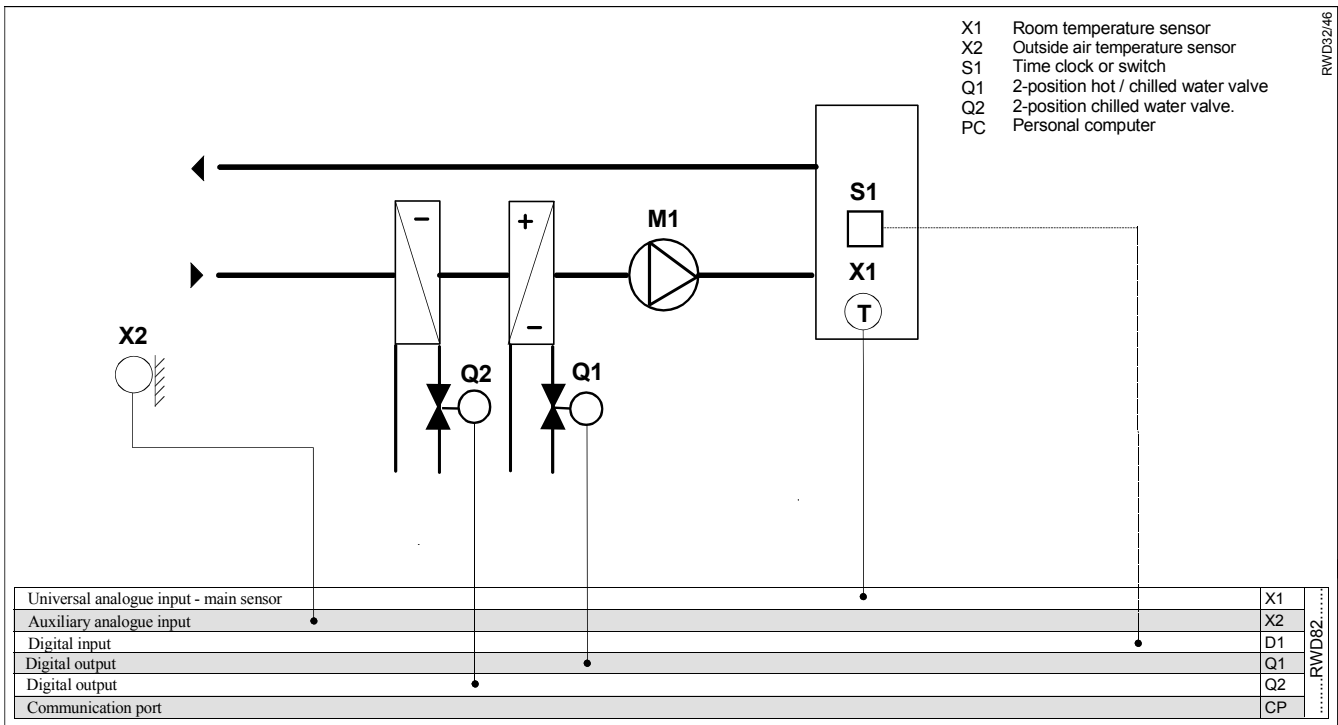


RWD82 Universal Controller
Application 47
W / S mode selection - analogue

Room temperature control
 Hot water control valve
 Chilled water control valve

- Control (2 position)**
- Room temperature control**
- 2 position control of the hot water control valve**
- 2 position control of the chilled water control valve**
- Winter / Summer selection of heating or cooling operation of Q1 output by X2**
- Optional day / night set point adjustment .**



Supplemental features

Control

- Room temperature sensor can be selected as Ni1000, Pt1000, or active sensor.
- Adjustable dead zone with separate heating and cooling set points.
- Adjustable differential of digital output Q1.
- Adjustable differential of digital output Q2.
- 24Vac controller supply voltage
- 24Vac two position control valves
- Outdoor air temperature sensor can be selected as Ni1000, Pt1000, or active sensor.(X2)
- Winter / summer selection of heating or cooling mode of the Q1 output as selected by analogue input into auxiliary input X2 sensing outside air temperature.

Operating modes

- Day / night set points can be selected via time clock or switch.

Description of operation

The temperature sensor senses the room conditions and on a fall in temperature the RWD82 via Q1 digital output opens and closes the two position heating valve as determined by the heating set point and differential settings.

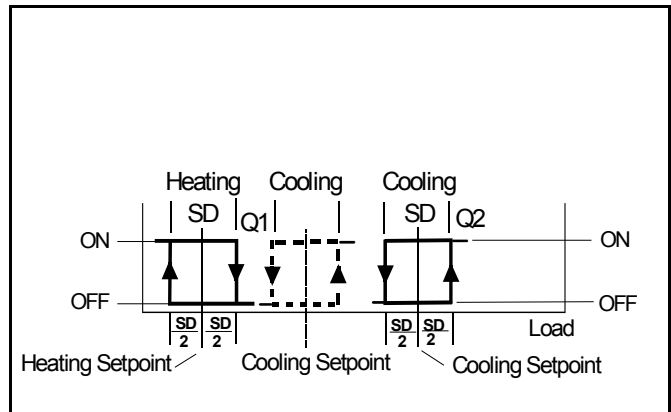
The temperature sensor senses the room conditions and on a rise in temperature the RWD82 via Q2 digital output opens and closes the two position chilled water valve as determined by the cooling set point and differential settings.

When the outside air temperature sensor senses the outside air temperature has exceeded summer set point, the controller Q1 set point is adjusted to the cooling set point, and the Q1 output reverses it's action from heating to cooling mode.

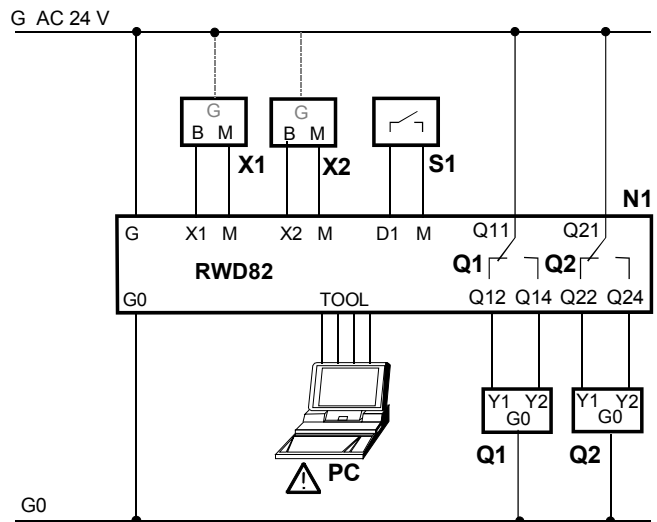
This provides extra cooling capacity during summer, and to operate, the water to the coil must be supplied with chilled water during summer operation.

Function diagram

Heating and cooling sequences



Connection diagram



RWD82

- N1 RWD82 controller
- X1 Main temperature sensor
- X2 Outside air temperature sensor
- S1 Time clock or switch
- Q1 24Vac two position control valve
- Q2 24Vac two position control valve
- PC Personal computer

Main Display

The main display shows ,

- a) Whether Q1 is On or Off (◻ = off, ◼ = on)
- b) Whether Q2 is On or Off (◻ = off, ◼ = on)
- c) Whether day or night set point is selected. (☉ = day, ☾ = night)
- d) X1 value (room temperature) in ° C.

Other displays are available by pressing the + button, and the various displays are listed below in sequence from the main display.

On entering any of the four set point displays, the setpoint on display can be adjusted by pushing the ● enter/save button, increase value by pressing the ▲ + button or decrease the value by pressing the ▼ - button, and when the required value is reached, press the ● enter/save button to save the new value.

The alternative displays return to the main display after 20 seconds duration.

Press buttons	Action	Current display	Selected display	Selected display comments
▲	Push + button	Q1 Q2 ☉ X1	Q1 SP – h ☉ 24.0c	Q1 heating day set point. (winter)
▲	Push + button	Q1 SP – h ☉ 24.0c	Q1 SP – c ☉ 21.0c	Q1 cooling day set point. (summer)
▲	Push + button	Q1 SP – c ☉ 21.0c	Q2 SP – c ☉ 28.0c	Q2 cooling day set point. (winter and summer)
▲	Push + button	Q2 SP – c ☉ 28.0c	Q1 SP – h ☾ 16.0c	Q1 heating night set point. (winter)
▲	Push + button	Q1 SP – h ☾ 16.0c	Q1 SP – c ☾ 13.0c	Q1 cooling night set point. (summer)
▲	Push + button	Q1 SP – c ☾ 13.0c	Q2 SP – c ☾ 32.0c	Q2 cooling night set point. (winter and summer)
▲	Push + button	Q2 SP – c ☾ 32.0c	X1 21.0c	X1 - main temperature sensor reading
▲	Push + button	X1 21.0c	Q1 OFF	Q1 – heating valve digital output
▲	Push + button	Q1 OFF	Q2 OFF	Q2 – cooling valve digital output
▲	Push + button	Q2 OFF	WIN/SUM 47 ☐☐ ANLG	Control sequence diagram and application number display.
▲	Push + button	WIN/SUM 47 ☐☐ ANLG	Q1 Q2 ☉ X1	Back to main display

Values shown are either default values or nominated for information only

Alternatives

- 1) One stage electric heating and one stage of refrigerated cooling.
- 2) One stage of electric heating and two position control of chilled water valve.