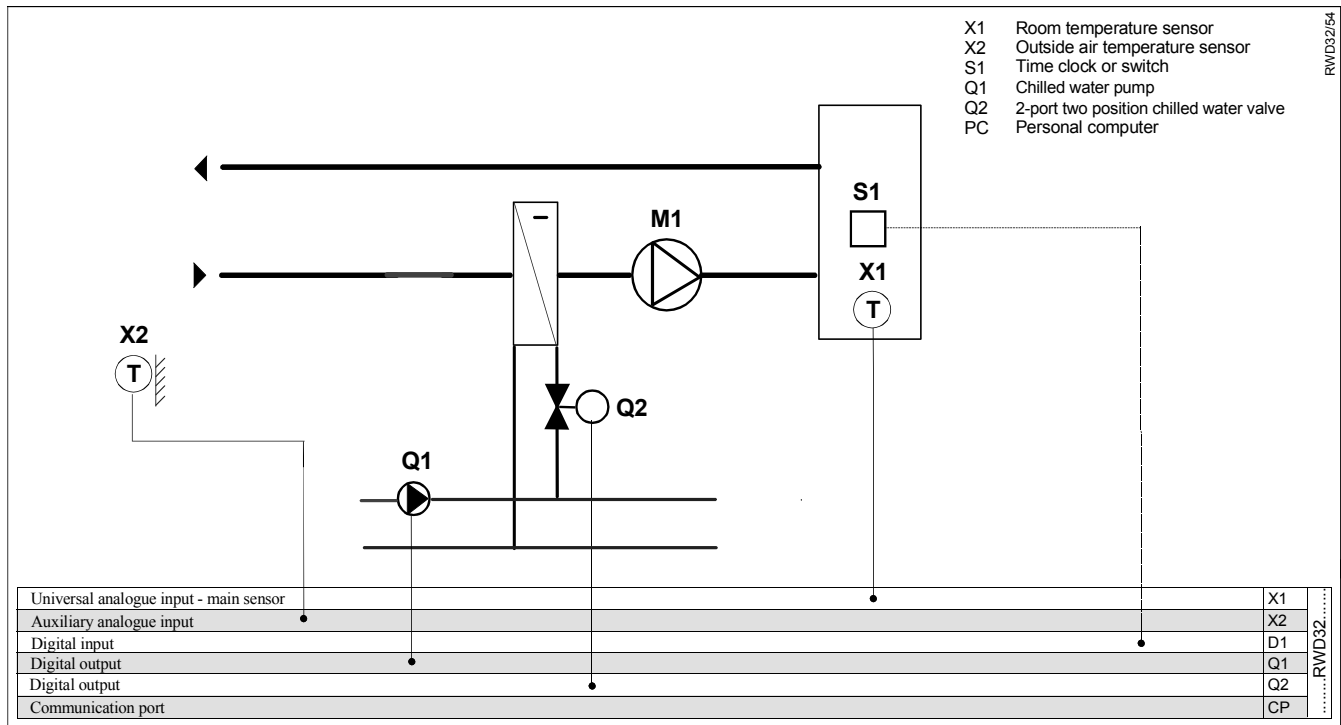


RWD32 Universal Controller

Room temperature control
 Chilled water control valve
 Chilled water pump output

**Application 54
 Compensation shift**

- Control two stage(2 position)
- Room temperature control
- 2 position control of the chilled water control valve
- Digital output to energise chilled water pump (dependent)
- Outside air compensation of the room temperature .
- Optional day / night set point adjustment .



Supplemental features

Control

- Room temperature sensor can be selected as Ni1000, Pt1000, or active sensor.
- Combined adjustable differential of digital outputs Q1 and Q2.
- Adjustable ON position of Q1.
- 230Vac controller supply voltage
- 230Vac two position control valve
- Duct temperature sensor can be selected as Ni1000, Pt1000, or active sensor.(X2)
- Outside air compensation of the room temperature set point.

Operating modes

- Day / night set points can be selected via time clock or switch.
- Dependent mode for the two cooling outputs, meaning that there is one set point only, one differential adjustment across combined Q1 and Q2, with the ON position of Q1adjustable.

Description of operation

The temperature sensor senses the room conditions and on a rise in temperature the RWD32 via Q1 digital output energises the chilled water pump.

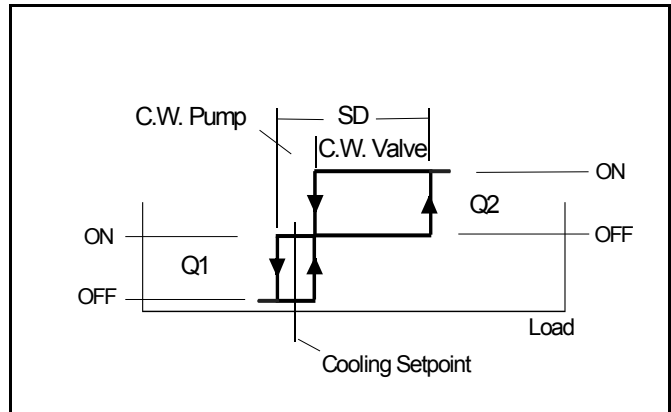
A further rise in temperature Q2 opens the two position chilled water valve.

In this application the Q1 – ON position should be set to 5 – 10% of the SD differential setting.

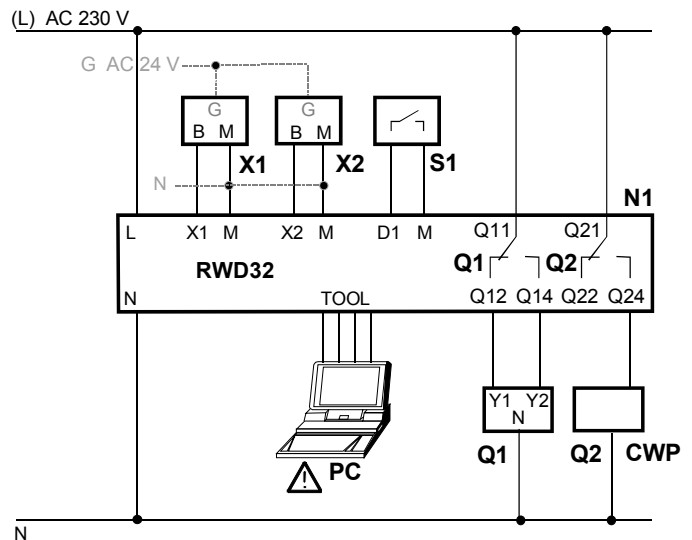
The auxiliary temperature sensor (X2) senses the outside air temperature, and adjusts the room temperature set point as per the temperature shift program set up in the controller.

Function diagram

Cooling sequences



Connection diagram



RWD32

- N1 RWD32 controllers
- X1 Main temperature sensor
- X2 Outside air temperature sensor
- S1 Time clock or switch
- Q1 Chilled water pump output
- Q2 230Vac two position valve actuator
- CWP Chilled water pump contactor
- PC Personal computer

Main Display

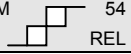
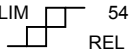
The main display shows ,

- 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 | SP – c (16.0c | cooling night set point. |
| ▲ | Push + button | SP – c (16.0c | X1 18.0c | X1 - main temperature sensor reading |
| ▲ | Push + button | X1 18.0c | X2 15.0c | X2 - outside air temperature sensor reading |
| ▲ | Push + button | X2 15.0c | Q1 ON | Q1 – chilled water pump digital output, display on or off. |
| ▲ | Push + button | Q1 ON | Q2 ON | Q2 – chilled water valve digital output, display on or off. |
| ▲ | Push + button | Q2 ON | LIM  54 REL | Control sequence diagram and application number display. |
| ▲ | Push + button | LIM  54 REL | Q1 Q2 ◻ X1 | Back to main display |

Values shown are either default values or nominated for information only