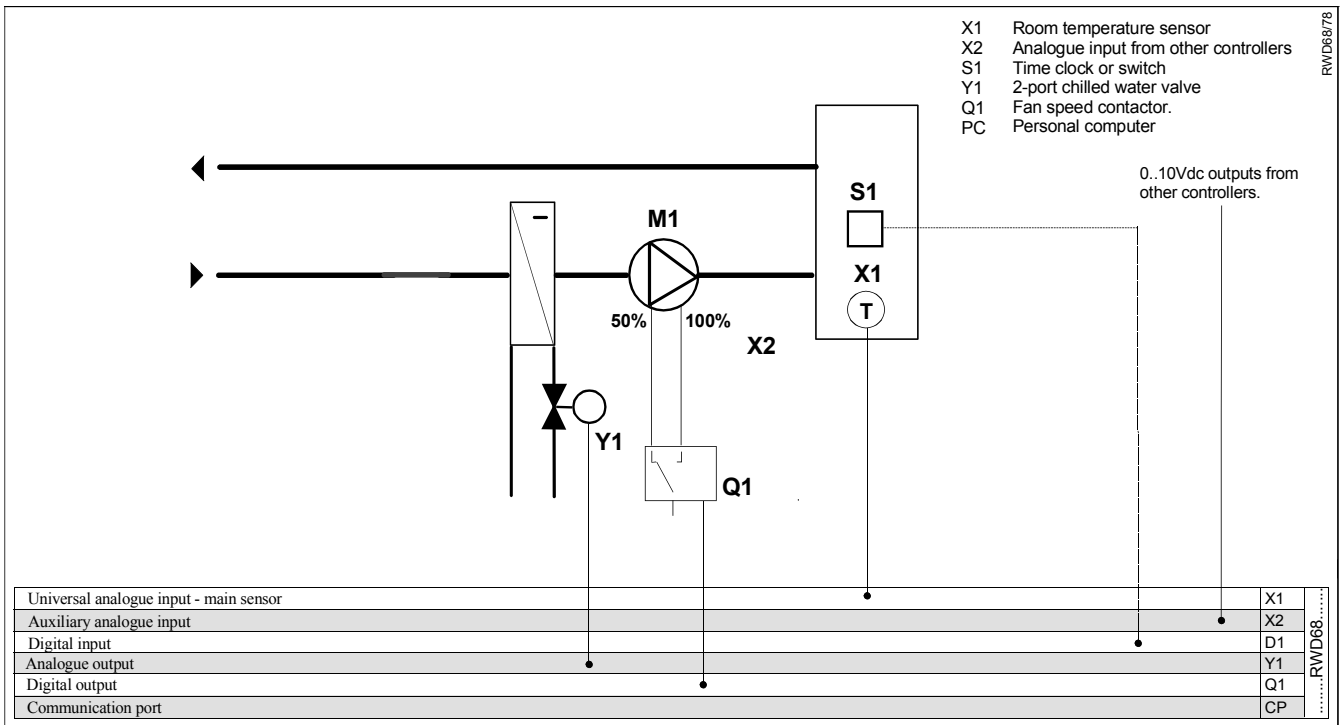


RWD68 Universal Controller

Room temperature control
 Chilled water control valve
 Chilled water pump output

Application 78
Maximum priority

- Control (P or PI)**
- Room temperature control**
- Proportional control (0..10Vdc) of the chilled water valve.**
- Digital output to energise chilled water pump (dependent)**
- Maximum priority function to control the cooling valve.**
- Optional day / night set point adjustment .**



Supplemental features

Control

- Room temperature sensor can be selected as Ni1000, Pt1000, or active sensor.
- Adjustable differential of digital output Q1.
- Adjustable proportional band of analogue output Y1.
- Integral action function selection and adjustment for output Y1.
- 24Vac controller supply voltage
- 0..10Vdc modulating control valve
- The cooling coil control valve is controlled by the highest call for cooling from other zones compared to the final temperature controller via the priority function in this temperature controller.

Operating modes

- Day / night set points can be selected via time clock or switch.
- Independent mode for the two cooling outputs, meaning that the digital output on and off settings are set outside the analogue output proportional band.

Description of operation

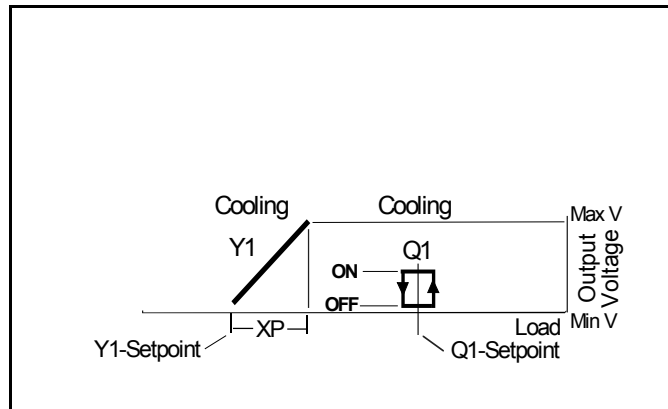
The temperature sensor senses the room conditions and on a rise in temperature the RWD68 via Y1 analogue output modulates the chilled water control valve as determined by the cooling set point and proportional band settings.

When the chilled water valve is fully open, on a further increase in temperature the Q1 digital output energises the fan speed contactor to switch the fan from 50% to 100% fan speed, as determined by the Q1 ON setting.

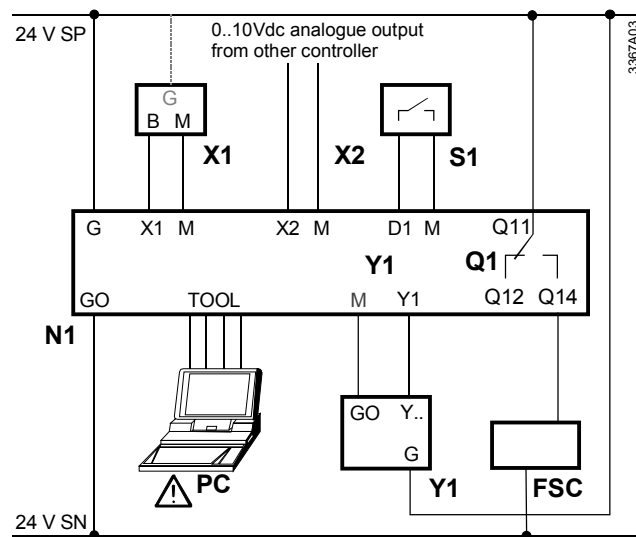
The maximum call for cooling from other zone controllers is fed to the X2 input of the final temperature controller and via the maximum priority function of Y1 the highest call for cooling controls the position of the cooling valve.

Function diagram

Cooling sequences



Connection diagram



RWD68

- N1 RWD68 controller
- X1 Main temperature sensor
- X2 0..10Vdc input from other controller.
- S1 Time clock or switch
- Q1 Potential-free relay contacts for on / off control
- Y1 Valve actuator with 0..10Vdc input
- CWP Chilled water pump contactor
- PC Personal computer

Main Display

The main display shows ,

- a) Whether Q1 is On or Off (= off, = on)
- b) Y1 output in Volts dc. (0..10V = 0..100% range)
- 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 Y1 ☐ X1	Y1 SP – c ☐ 28.0c	Y1 cooling day set point.
▲	Push + button	Y1 SP – c ☐ 28.0c	Q1 SP – c ☐ 32.0c	Q1 cooling day set point.
▲	Push + button	Q1 SP – c ☐ 32.0c	Y1 SP – c (32.0c	Y1 cooling night set point.
▲	Push + button	Y1 SP – c (32.0c	Q1 SP – c (36.0c	Q1 cooling night set point.
▲	Push + button	Y1 SP – c (36.0c	X1 25.0c	X1 - main temperature sensor reading
▲	Push + button	X1 5.0c	X2 5.0	X2 – cooling analogue input value in Vdc to one decimal point.
▲	Push + button	X2 5.0	Y1 5.0	Y1 – cooling analogue output value in Vdc to one decimal point
▲	Push + button	Y1 5.0	Q1 ON	Q1 – cooling digital output, display on or off.
▲	Push + button	Q1 ON	MaxPrior <input checked="" type="checkbox"/> 78	Control sequence diagram and application number display.
▲	Push + button	MaxPrior <input type="checkbox"/> 78	Q1 Y1 ☐ X1	Back to main display

Values shown are either default values or nominated for information only