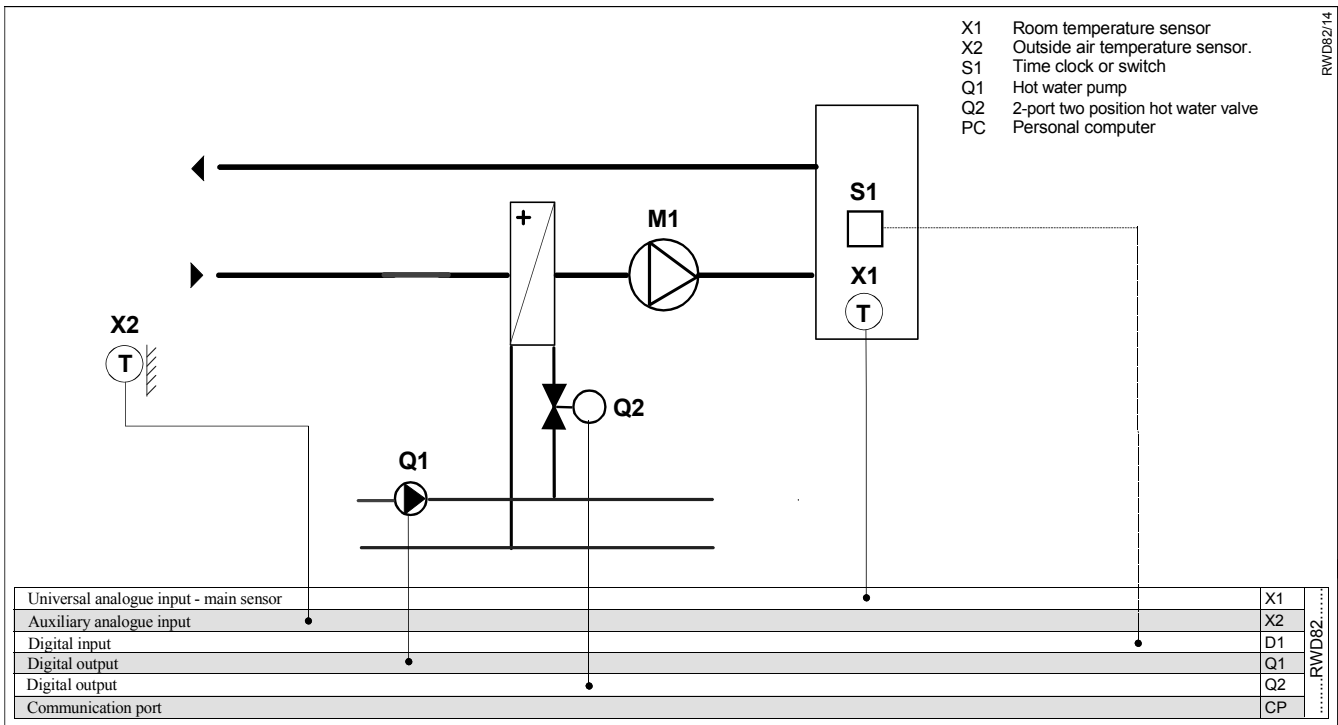


**RWD82 Universal Controller**  
**Application 14**  
**Compensation shift**

Room temperature control  
 Hot water control valve  
 Hot water pump output

- Control two stage( 2 position )
- Room temperature control
- 2 position control of the hot water control valve
- Digital output to energise hot 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.
- 24Vac controller supply voltage
- 24Vac two position control valve
- Outside air 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 heating 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 fall in temperature the RWD82 via Q1 digital output energises the hot water pump.

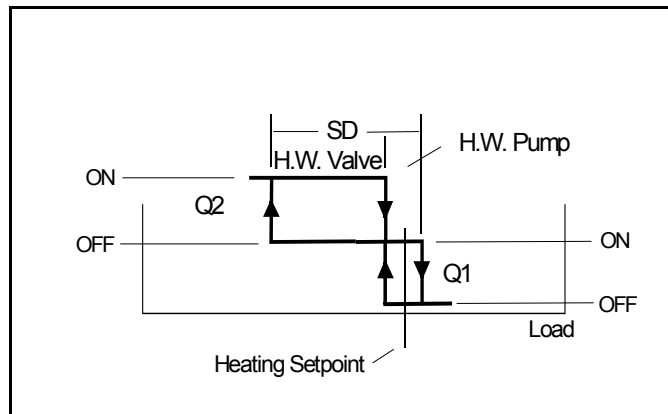
A further fall in temperature Q2 opens the two position hot water valve.

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

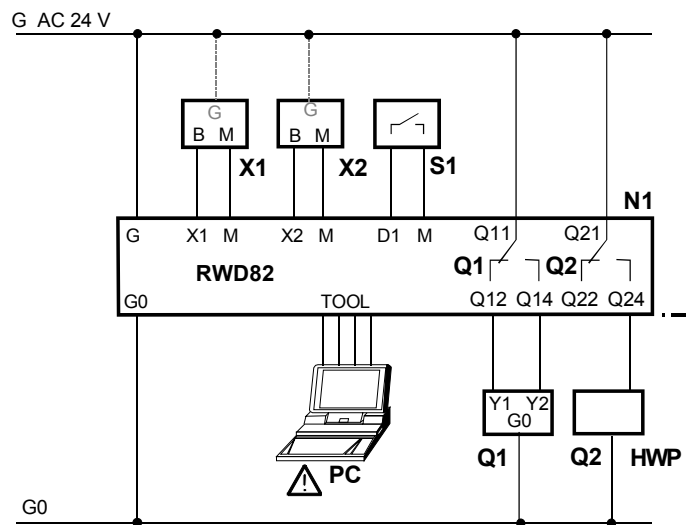
The auxiliary temperature sensor (X2) senses the outside air temperature, and adjusts the room temperature set point as per the temperature shift program set up in the controller.

**Function diagram**

Heating sequences



**Connection diagram**



**RWD82**

- N1 RWD82 controllers
- X1 Main temperature sensor
- X2 Outside air temperature sensor.
- S1 Time clock or switch
- Q1 Hot water pump output
- Q2 24Vac two position valve actuator
- HWP Hot 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 – h ▨ 25.0c	heating day set point.
▲	Push + button	<b>SP – h ▨ 25.0c</b>	SP – h ◻ 16.0c	heating night set point.
▲	Push + button	<b>SP – h ◻ 16.0c</b>	X1 18.0c	X1 - main temperature sensor reading
▲	Push + button	X1 18.0c	X2 25.0c	X2 - limit temperature sensor reading
▲	Push + button	X2 25.0c	Q1 ON	Q1 – hot water pump digital output, display on or off.
▲	Push + button	Q1 ON	Q2 ON	Q2 – heating valve digital output, display on or off.
▲	Push + button	Q2 ON	 COMP 14	Control sequence diagram and application number display.
▲	Push + button	 COMP 14	Q1 Q2 ▨ X1	Back to main display

Values shown are either default values or nominated for information only