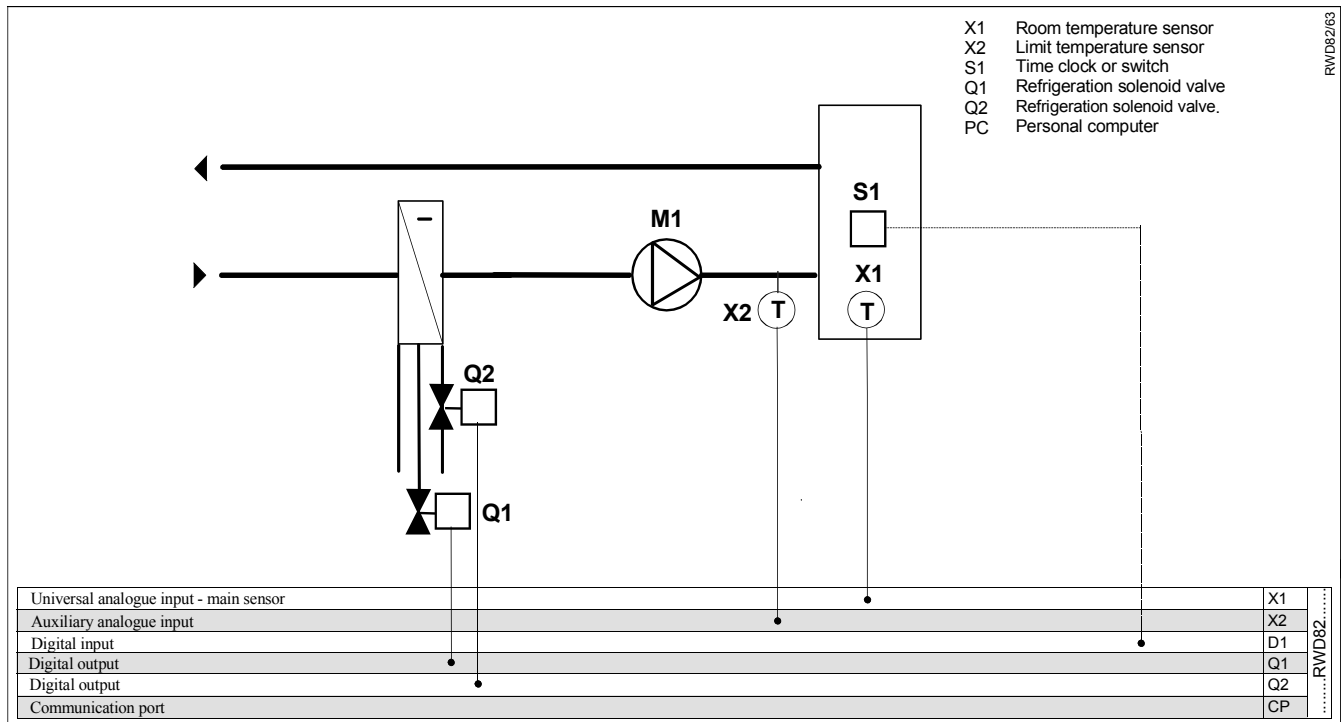


**RWD82 Universal Controller**

Room temperature control  
Refrigeration solenoid valves

**Application 63  
Relative limit control**

- Control 2 stage digital
- Room temperature control
- Two stage ON / OFF refrigeration cooling
- Relative maximum and / or minimum limit control of the supply air.
- Optional day / night set point adjustment .



**Supplemental features**

**Control**

- Room temperature sensor can be selected as Ni1000, Pt1000, or active sensor.
- Two stage on / off cooling
- Adjustable differential of digital output Q1.
- Adjustable set point of Q1.
- Adjustable differential of digital output Q2.
- Adjustable set point of Q2.
- 24Vac controller supply voltage
- Duct temperature sensor can be selected as Ni1000, Pt1000, or active sensor.
- Relative maximum and / or minimum supply air temperature control.

**Operating modes**

- Day / night set points can be selected via time clock or switch.
- Independent mode for the two cooling outputs.

**Description of operation**

The temperature sensor senses the room conditions and on a rise in temperature the RWD82 via Q1 digital output opens and closes the stage 1 refrigeration solenoid valve as determined by the cooling set point and differential setting.

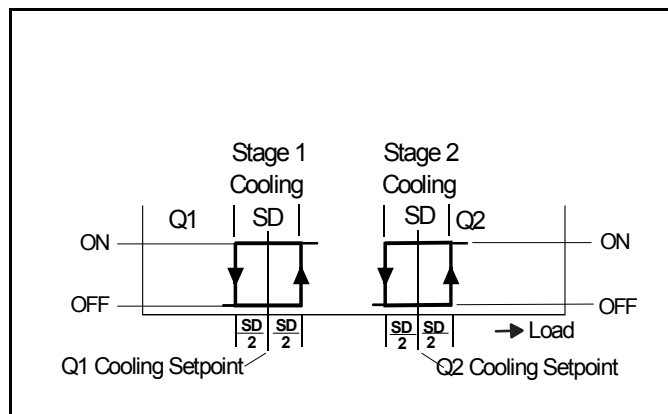
On a further rise in temperature the RWD82 via Q2 digital output opens and closes the stage 2 refrigeration solenoid valve as determined by the cooling set point and differential settings.

Relative supply air control is maintaining maximum and/or minimum difference between supply air and room temperature setpoint when the temperature difference drops below or exceeds the limiter setpoints.

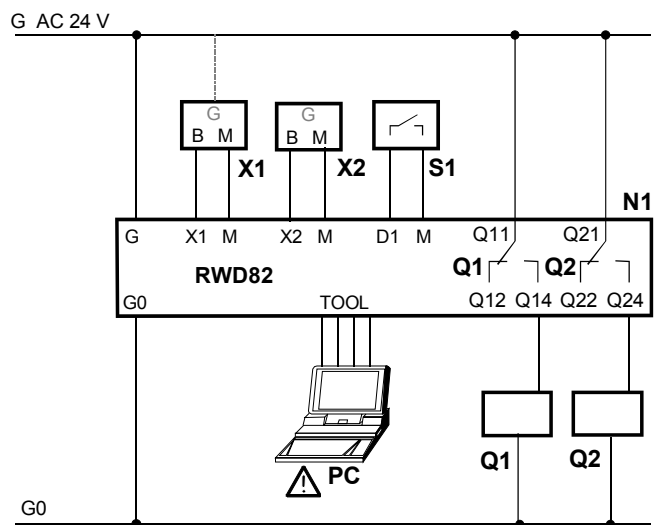
The limiter function overrides the standard control function to maintain the limiter setpoints.

**Function diagram**

Cooling sequences



**Connection diagram**



**RWD82**

- N1 RWD82 controller
- X1 Main temperature sensor
- X2 Limit temperature sensor
- S1 Time clock or switch
- Q1 24Vac refrigeration solenoid valve
- Q2 24Vac refrigeration solenoid 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 – c ☒ 25.0c	Q1 - cooling day set point.
▲	Push + button	Q1 SP – c ☒ 25.0c	Q2 SP – c ☒ 25.0c	Q2 - cooling day set point.
▲	Push + button	Q2 SP – c ☒ 25.0c	Q1 SP – c ☒ 16.0c	Q1 - cooling night set point.
▲	Push + button	Q1 SP – c ☒ 16.0c	Q2 SP – c ☒ 32.0c	Q2 - cooling night set point.
▲	Push + button	Q2 SP – c ☒ 32.0c	X1 21.0c	X1 - main temperature sensor reading
▲	Push + button	X1 21.0c	X2 21.0c	X2 - actual limit temperature sensor reading
▲	Push + button	X2 21.0c	Q1 ON	Q1 – cooling digital output, display on or off.
▲	Push + button	Q1 ON	Q2 OFF	Q2 – cooling digital output, display on or off.
▲	Push + button	Q2 OFF	LIM ☐ 63 ☐ REL	Control sequence diagram and application number display.
▲	Push + button	LIM ☐ 63 ☐ REL	Q1 Q2 ☒ X1	Back to main display

Values shown are either default values or nominated for information only