AQUA24T/ AQUA230T are controllers in the AQUALINE series intended for controlling HVAC systems. The controllers are primarily intended for control of supply air temperature or for room temperature control.

- One three point floating control output, 24 V AC
- Supply voltage 24 or 230 V AC
- For heating or cooling applications
- For controlling damper actuators or valve actuators
- For wall mounting
- External sensor and/or setpoint input

**Function**

The AQUA24/230T controls three-point (floating control) actuators with a pulse-pause signal where the ratio between on-time and off-time is proportional to the temperature offset. Small offset will give short on-time pulses and longer off-time. Larger offset will give longer on-time and shorter off-time. A 20K offset will give continuous on-time. The total pulse-period is constant 4 seconds.

**Built-in or external sensor**
The controller has a built-in sensor which can be used as a main sensor for room temperature control. It also has an input for connecting an external sensor. Even external setpoint can be connected.

**Concealed setting**
The standard version is supplied with a sliding, transparent cover over the setpoint knob. A cover of the same colour as the controller can be supplied to conceal the setpoint knob if this is required.

**Single sensor control**
For supply air temperature control or room temperature control without limiting function. The main sensor can be either built-in or can be an external sensor.

**Cascade control of room temperature**
The controller can be set for cascade control. The built-in or external sensor is used as main sensor placed in the room or in the exhaust air duct. A second sensor is placed in the supply air duct to control the supply air temperature.

If the room temperature deviates from the setpoint value the supply air temperature setpoint is changed. The degree of compensation is set by the cascade factor CF. The cascade factor is defined as the shift in duct temperature setpoint for 1°C room temperature change.

It is possible to set a minimum limit for the temperature of the supply air.

**Typical applications**
Individual room control of valve or damper actuators in hotels, offices, conference rooms etc. For heating or cooling applications.
Models

AQUA24T  Room controller, supply voltage 24 V AC
AQUA230T  Room controller, supply voltage 230 V AC

Technical data

General
Supply voltage  
AQUA24T:  24 V AC +/-10% 50-60Hz.  
AQUA230T:  230 V AC +/-10% 50-60 Hz.
Power consumption  
Max 5 VA.
Fuses on PC board  
500 mA (AQUA24T only)
Ambient temperature  
0...50°C
Storage temperature  
-40...50°C
Ambient humidity  
Max 90%RH.
Dimension  
82x135x38 mm.
Form of protection  
IP20.
Mounting  
Two holes (c:c 60mm) to fit over wallbox

This product conforms with the requirements of European EMC standards  
CENELEC EN50081-1 and EN50082-1 and European LVD standard IEC669-1  
and IEC669-1 and carries the CE mark.

Inputs
Sensor inputs  
Two (2) inputs for main sensor and limiting sensor.
Setpoint input  
The setpoint can be set with an external setpoint potentiometer.
Night set-back  
3°C via external time switch.

Outputs
Control signal  
Three-point (floating control) output 24V AC (heating or cooling).
Maximum load AQUA24T: 7VA and AQUA230T: 3VA

Setting Options
Setpoint  
0...30°C
Cascade factor(CF)  
1...15  Must be set to 1 for single sensor control
Minimum limit (Min)  
0...30°C  Not active in single sensor control

Function switches
- Single sensor control  1
- N.B. CF must be set at 1.  2
- Cascade controlling by means of two sensors.  3

Built in main sensor and setpoint
- External main sensor, built in setpoint
- External main sensor and setpoint

Wiring

AQUA24T
1  24V AC in  Supply-voltage
2  Neutral
3  Output common
4  Signal neutral
5  Main sensor
6  Night set back
7  Limit sensor
8  Y2 output decrease
9  Y1 output increase

AQUA230T
1  230V AC in  Supply-voltage
2  Neutral
3  Output common
4  Signal neutral
5  Main sensor
6  Night set back
7  Limit sensor
8  Y2 output, Decrease
9  Y1 output, Increase

The actuator common pole wire must be connected to terminal 3 on the controller.
The output on terminal 8 is active on decreasing heat demand (increased cooling).
The output on terminal 9 is active on increasing heat demand (decreased cooling).