



**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.
Fuse 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
<b>CE</b>	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. See section 6-100 for choice of 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
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### 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



1 Single sensor control  
2 N.B. CF must be set at 1.



1 Built in main sensor and setpoint



1 Cascade controlling by means of two sensors.



1 External main sensor, built in setpoint



1 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).

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