

Instruction



AWC9/AWC5 Wiring Centre

Instruction

AWC9/AWC5 is a 9/5 zone wiring centre for controlling valves/actuators, pumps, and boilers in different zones. It should be used with proper thermostats to work normally and enjoy the warranty. AWC9/AWC5 can be used to control any actuator or valve which requires a 230v AC signal to open. For mid-position valves and those requiring a closing signal, a changeover relay is required. At the same time, AWC9/AWC5 offers the ability to operate a boiler or other heat source through a volt-free output.

AWC9/AWC5 is mainly used for underfloor heating applications. In addition to controlling the actuators of each zone, it can also control the pump, valves, and boilers of the underfloor heating system. When the thermostat in a certain zone calls for heat, the corresponding actuator is opened. Then the valve is opened, and finally, the pump and boiler are opened, so as to realize underfloor heating and hot water circulation.

In addition to underfloor heating, Zone 1 and Zone 2 can also be connected to radiators or hot water. When a zone calls for hot water or radiator heating, the corresponding actuator/valves are opened and send a contact signal to the boiler. When used for radiators or hot water, turn the corresponding switches to 'HW/RAD'. When used for underfloor heating, turn the corresponding switches to 'UFH'.

AWC9/AWC5 has a built-in 3-minute delay timer and a Delay switch. When your UFH Valve has auxiliary wires, turn this Switch to 'No'. When your UFH Valve has no auxiliary wires, connect 'Or' and 'Gr' and turn the Delay switch to 'Delay'. When there is a call for heat in a certain UFH zone, the corresponding actuator and the UFH valve will be turned on for 3 minutes before the pump and boiler are turned on. This is because actuators generally take 3-5 minutes to fully open. During this period, in order to protect the UFH valve and the underfloor heating system, the UFH pump cannot be started.

AWC9/AWC5 has built-in testing functions. After the system is installed, turn the switch of a certain zone to 'test' to simulate there is a call for heat in this zone. Then observe whether the actuator indicator lights, boilers, water pumps, and UFH valve operate appropriately.

AWC9 and AWC5 can be flexibly selected, or used in combination, according to the number of areas and the different conditions of radiators and hot water. If there are zones remaining, just left the ports empty.

Default Settings

Delay Switch:	Delay
Zone1:	UFH
Zone2:	UFH
Or-Gr Terminal:	Link
O-G Terminal:	Link

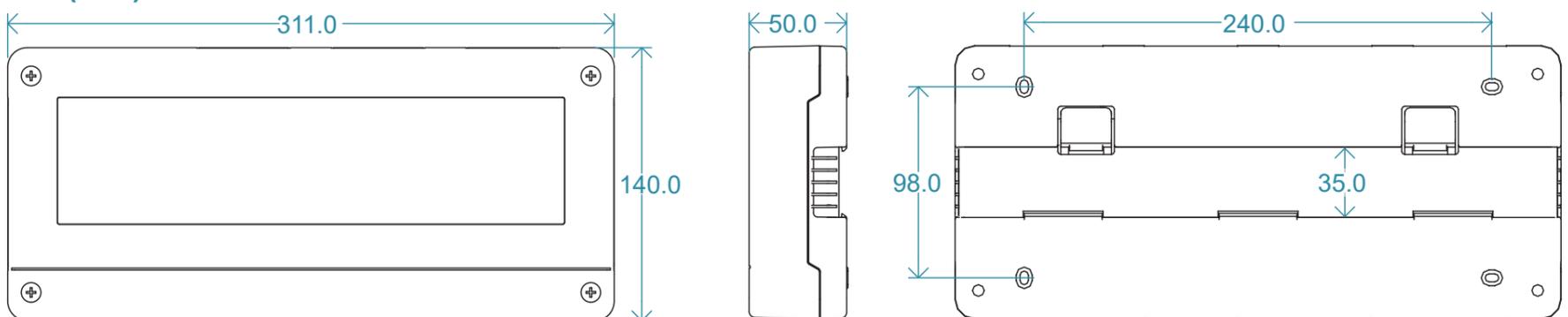
Note: If UFH Valve has auxiliary wires, disconnect 'Or' and 'Gr', and connect 'Or' and 'Gr' to corresponding UFH Valve Auxiliary Wires.

When Zone1/2 is used as the control port of the radiator or hot water, and comes with auxiliary wires, disconnect 'O' and 'G' and connect them to the auxiliary wires of the valve.

Technical Data

Voltage:	120/230V~ 50/60Hz	Terminal Wire Size:	Max. 2.5mm ²
Number Of Zones:	9(AWC9) / 5(AWC5)	Dimensions:	311*140*50mm
Power Supply Indication:	YES	DIN Rail Mounting:	YES
Boiler Indication:	YES	Boiler Contact Rating:	3A Resistive
UFH Pump Indication:	YES	UFH Pump Contact Rating:	3A Resistive
UFH Valve Indication:	YES	UFH Valve Contact Rating:	3A Resistive
Zone Indication:	YES	Max. Permissible Load:	5A Resistive
Ambient Temperature:	0-45°C	Max. No. Of Actuators Per Zone:	2
Weight:	787g(AWC9)/699g(AWC5)	IP Class:	IP20

Dimensions(mm)



Mounting Instruction

1. Use a screwdriver to separate the front and rear covers.
2. Install this wiring centre on the DIN rail: Align the groove on the back of the wiring center with the DIN rail; then press until it snaps into the rail.
Mounting this wiring centre on the Wall: Use the four included screws to fix it to the wall.
3. Disassemble this wiring centre from the DIN rail: Use your thumbs to break the two clips and lift to disassemble.

Terminals

Power Supply

The 5A fuse protects this wiring center and its components.

L	Live 120/230V~ 50/60Hz
E	Earth
N	Neutral

Or	Orange Live
Gr	Gray Live
L	Live 120/230V~ 50/60Hz
E	Earth
N	Neutral

Boiler

For connection to heat sources such as boilers. 'Ls' and 'Lr' makes a volt-free switch. When there is a call for heat, 'Ls' and 'Lr' are connected; when no heat is needed, 'Ls' and 'Lr' are disconnected.

Ls	Live Supply
E	Earth
Lr	Live Return

Zone1-Zone9/Zone5

For connection to the thermostats in each zone. When there is a call for heat, the thermostat connects the 'S/L' and 'L' terminals.

S/L	Switch Live from thermostat
L	Live 120/230V~ 50/60Hz
E	Earth
N	Neutral

UFH Pump

For connection to a UFH pump. When there is a call for heat, the UFH Pump is energized to drive the water flow in the pipeline.

Notes: It's recommended to concatenate a high-temperature-limit control between this terminal and the UFH pump to protect against mechanical failure of the manifold's temperature control.

L	Live 120/230V~ 50/60Hz
E	Earth
N	Neutral

Actuator1-Actuator2

For connection to Under Floor Heating actuators or Radiator/ hot water valves. When turned to UFH, connect 'L' and 'N' to the actuators in the corresponding area, and disconnect the 'O' and 'G'. When turned to HW/RAD, connect 'L' and 'N' to the corresponding valves. If the valve has auxiliary wires, connect 'O' and 'G' to the auxiliary wires; If the valve has no auxiliary wires, connect the 'O' and 'G'.

O	Orange Live
G	Gray Live
L	Live 120/230V~ 50/60Hz
E	Earth
N	Neutral

UFH Valve

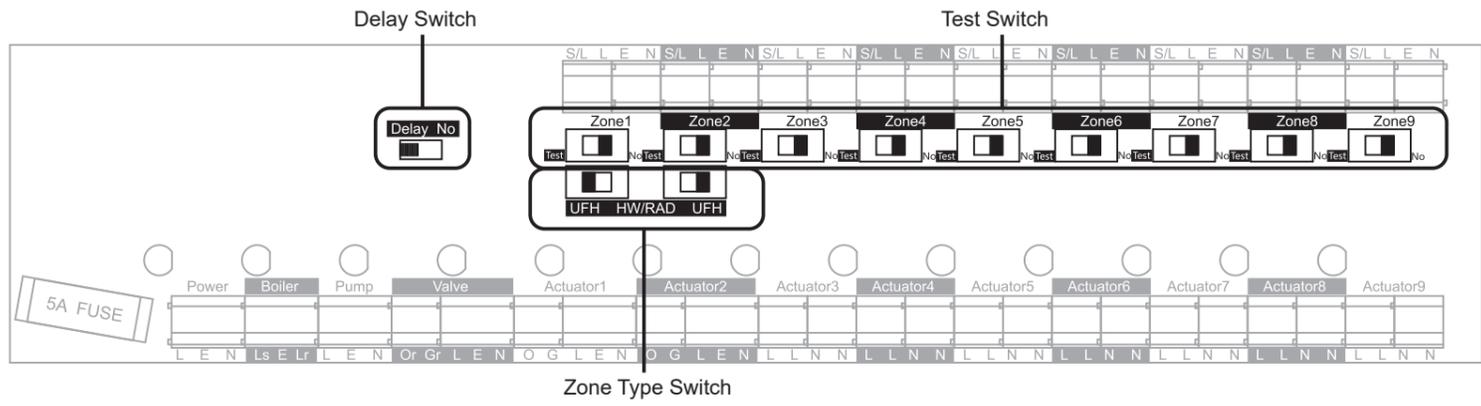
For connection to the UFH valve. When there is a call for heat, the UFH valve is energized and then opened. Usually, this UFH valve has auxiliary wires to indicate the status of the valve. They are usually gray and orange and are connected to the 'Gr' and 'Or' respectively. If the UFH valve has no auxiliary wires, be sure to connect the 'Or' and 'Gr' terminals, and turn the Delay switch to 'Delay'.

Actuator3-Actuator9/5

For connection to underfloor heating actuators. There are two 'L' and two 'N' that can be connected to two actuators at the same heating zone.

L	Live 120/230V~ 50/60Hz
N	Neutral

Switches



Delay Switch

If your UFH Valve has no auxiliary wires, connect 'Or' and 'Gr' and turn this Switch to 'Delay'.
 If your UFH Valve has auxiliary wires, connect 'Or' and 'Gr' to the UFH valve. And turn this Switch to 'No'.

Zone Type Switch

Zone1-Zone2 can be used for radiator/hot water or underfloor heating.
 When the switch is turned to 'UFH', the corresponding zone is used for underfloor heating. It's required to disconnect 'O' and 'G'.
 When the switch is turned to 'HW/RAD', the corresponding zone is used for hot water/radiator. It's required to connect 'O' and 'G' to the auxiliary wires of your valve.
 Note: The valves of the hot water and radiator must have auxiliary wires!

Test Switch

The 'Test Switch' is used to test whether each zone works appropriately.
 When turned to 'Test', it simulates there is a call for heat in this zone. The working status of the Actuator, Valve, Pump, and Boiler should be as follows:

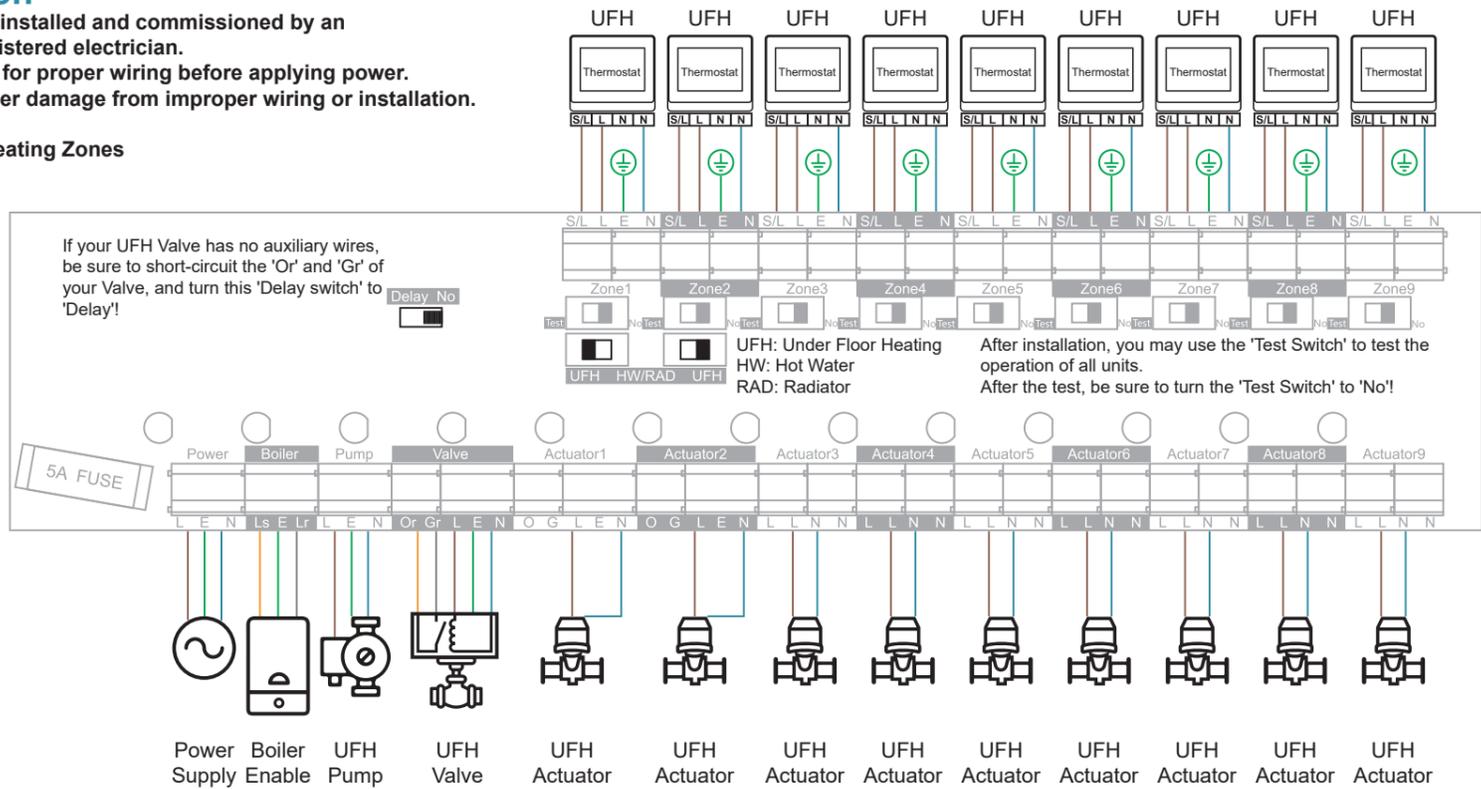
	Actuator	UFH Valve	UFH Pump	Boiler
UFH	On	On	On	On
HW/RAD	On	Off	Off	On

Note: When testing the UFH circuit, because the Delay switch turned to 'Delay' or the delay function auxiliary wire of the UFH Pump, the indicators of the UFH Pump and Boiler will not light up until three or four minutes after the indicator of the UFH Valve is on.

Wiring Instruction

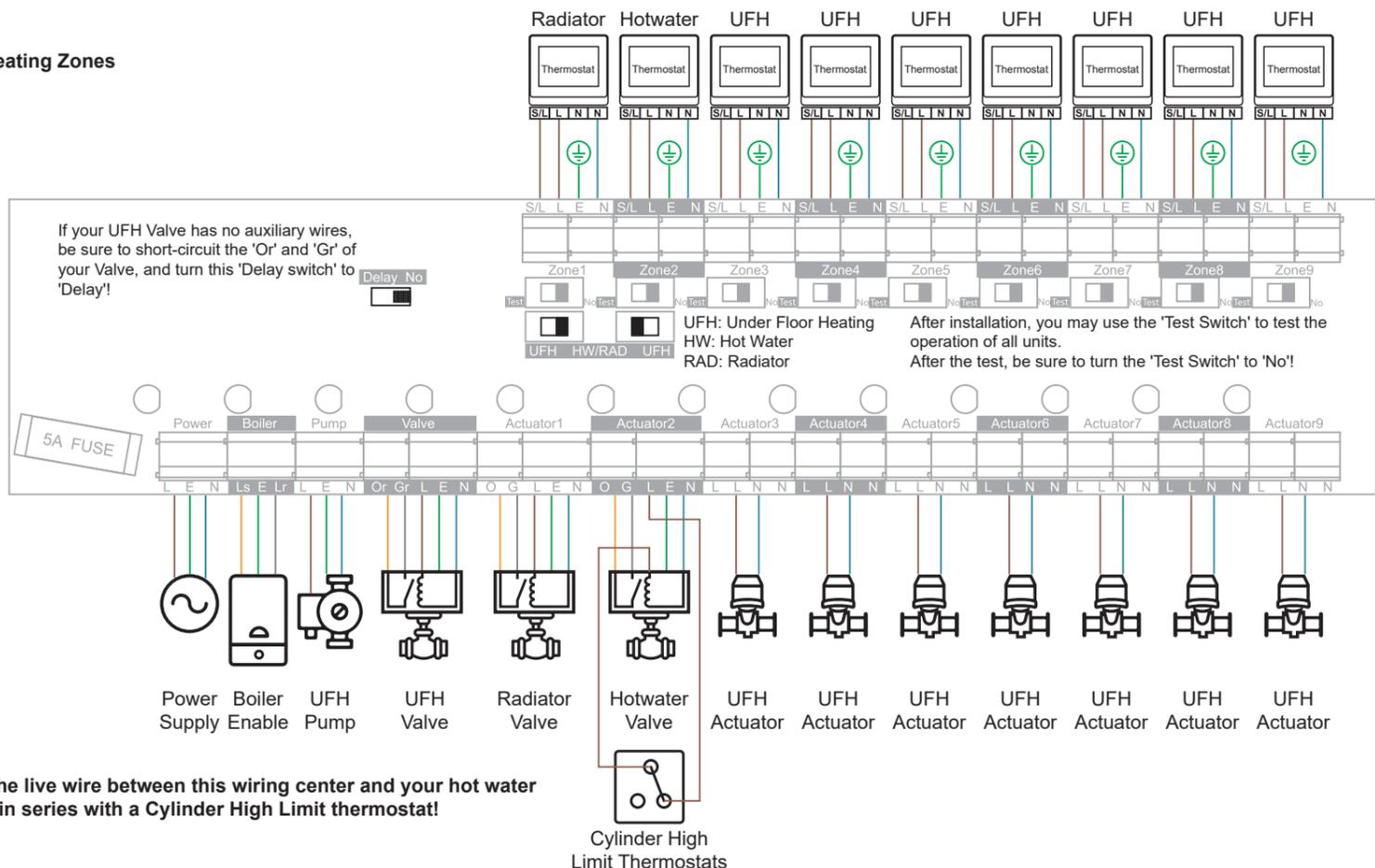
This equipment should be installed and commissioned by an appropriately qualified/registered electrician.
 Fully read the instructions for proper wiring before applying power.
 The warranty does not cover damage from improper wiring or installation.

AWC9 -9 × Underfloor Heating Zones



Attention: If your UFH Valve has no auxiliary wires, be sure to short-circuit the 'Or' and 'Gr' of your Valve, and turn this 'Delay switch' to 'Delay'!

AWC9 -7 × Underfloor Heating Zones -1 × Radiator -1 × Hotwater



Attention: As displayed, the live wire between this wiring center and your hot water valve must be connected in series with a Cylinder High Limit thermostat!

Cylinder High Limit Thermostats