

### OVERVIEW

This device is a connection box for 4-way floor heating systems with 230 V $\sim$  or 24 V $\sim$  selectable power supply.

This device controls up to 4 outputs for actuators and thermostats; each output can drive one thermostat and its actuator.

An output for a pump is available, depending on the supply voltage, as well as an output for driving the burner, with voltage free contacts. Moreover the unit allows to connect an external time programmer for the activation of the actuators and thermostats connected (this output is depending on the supply voltage).

The wiring centre is equipped with an 4A time-delayed fuse (F1) which protects against short circuits the wiring centre itself as well as the loads connected to it.

There are two LEDS on the device front panel, shown in Fig. 1:

- Green 'power' LED, marked with the symbol '⏻'. It is lit when the device is fed.
- Red led for 'pump output and boiler active', marked with symbol '⏻'; when at least one actuator is energised by its thermostat both pump and boiler contacts close (red led on the front cover turned on), meanwhile when no actuator is active the contacts are open.

### OPERATION

When at least one thermostat connected to the wiring centre is calling for heat, the device immediately activates the boiler output, the relevant channel output and the pump output. These outputs are all immediately turned off when no thermostat is calling for heat.

Note: actual actuator's opening and closing time depends on the specific type of actuator installed.

### TIME PROGRAMMER INPUT

This input allows the installer to connect an external time programmer (optional). This time programmer will turn on and off the entire live wire (SWL) reaching the thermostats, thus turning them on and off according to the time program set by the user.

The NSB terminal allows, once connected to the relevant terminal of a proper thermostat, to set the Night Set Back mode on the thermostat, thus setting it into the 'economy' set-point, which is normally fixed, according to the manufacturer's choice. In case no time programmer is used a bridge must be applied between terminals L and SWL.

### INSTALLATION

In order to install the device proceed as follows:

- Remove the 4 screws labelled as ❶ in Fig. 1 then remove the front plastic cover.
- Fix the device base to the wall by using the two screw holes labelled ❷ in Fig. 2.

**When working with electric tools in close proximity to the electronic parts, double check that the device is completely disconnected from 230 V $\sim$  mains and take care to avoid damaging the circuits or components.**

- Make the electrical connections as shown in 'Electrical Wiring' below.
- The cables should be "bent" as shown in Fig. 3 and made to pass through the cable glands ❸.
- If you use a cable entry and its respective cable gland, you will have to remove the plastic tab ❹ in Fig. 3 with suitable pliers to open the passage for the cable.
- Then reposition the front panel on the enclosure and fasten in place with the four screws ❶ in Fig. 1.

### ELECTRICAL CONNECTIONS

The control unit can be fed with 230 V $\sim$  or 24 V $\sim$ .

The selection depends on the output voltage needed to feed the thermostats and actuators section.

#### 230 V $\sim$ POWER SUPPLY (Default setting)

#### ⚠ WARNING

**Please read the following carefully and also consult the wiring diagram, Fig. 5, which shows the connection of the power supply and external components to the wiring centre.**

When the control unit is to be powered with 24 V $\sim$ , place the jumper in J2, as in Fig. 4.

Terminals L and N are the inputs for the power supply: connect to 230 V $\sim$ , making sure that terminal N is wired to the Neutral. The electronic circuitry and loads are protected by the 4A time-delay fuse F1 (❶ Fig. 4).

Terminals L2 and N2 are the 230 V $\sim$  powered outputs for connecting the circulating pump.

Terminals NO and C are the outputs that control the boiler. These are voltage free contacts (i.e. unpowered) so that they can be used for boilers with different voltages.

Through terminals SWL NSB a 230 V $\sim$  external time programmer (optional) can be connected to the wiring centre.

External time programmer must be powered with 230 V $\sim$  voltage, through terminals L and N of the device.

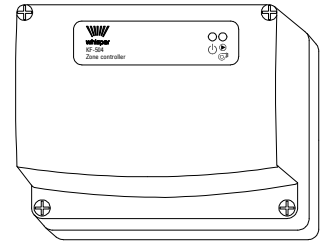
Terminals SWL and NSB are the lines provided for powering the actuators and thermostats section.

#### WARNING!

**In case no time programmer is used a wire bridge must be applied between terminals L1 and SWL.**

For a complete control of each of the available channels the user must connect a 230 V $\sim$  actuator to terminals L1 and N1 and a 230 V $\sim$  thermostat to terminals NSB SwL< SwL> TN TL.

All outputs of the actuators and thermostats section are 'powered' outputs, i.e.



they do provide the voltage for the device connected to them.

#### 24 V $\sim$ POWER SUPPLY

#### ⚠ WARNING

**Please read the following carefully and also consult the wiring diagram, Fig. 6, which shows the connection of the power supply and external components to the wiring centre.**

When the control unit is to be powered with 24 V $\sim$ , place the jumper in J1, as in Fig. 4.

Terminals L and N are the inputs for the power supply: connect to 24 V $\sim$ , making sure that terminal N is wired to the Neutral. The electronic circuitry and loads are protected by the 4A time-delay fuse F1 (❶ Fig. 4).

Terminals L2 and N2 are the 24 V $\sim$  powered outputs for connecting the circulating pump.

Terminals NO and C are the outputs that control the boiler. These are voltage free contacts (i.e. unpowered) so that they can be used for boilers with different voltages.

Through terminals SWL NSB a 24 V $\sim$  external time programmer (optional) can be connected to the wiring centre. External time programmer must be powered with 24 V $\sim$  voltage, through terminals L and N of the device.

Terminals SWL and NSB are the lines provided for powering the actuators and thermostats section.

#### WARNING!

**In case no time programmer is used a wire bridge must be applied between terminals L1 and SWL.**

For a complete control of each of the available channels the user must connect a 24 V $\sim$  actuator to terminals L1 and N1 and a 24 V $\sim$  thermostat to terminals NSB SwL< SwL> TN TL.

All outputs of the actuators and thermostats section are 'powered' outputs, i.e. they do provide the voltage for the device connected to them.

### TECHNICAL FEATURES

Power supply:	230 V $\sim$ $\pm$ 10% 50Hz or 24 V $\sim$ $\pm$ 10% 50Hz Depends on the loads connected.
Absorption:	4 A Time delayed
Fuse (F1):	4 A Time delayed
Pump output:	Depend on the supply voltage
Boiler output:	Voltage free contact
Therm./actuators outputs:	Depend on the supply voltage
Time prog. output (optional):	Depend on the supply voltage

#### Contacts rating:

- Pump:	3 A 250 V $\sim$ SPDT
- Boiler:	1 A 250 V $\sim$ SPDT
- Actuators and thermostats:	4 x 1 A 250 V $\sim$

#### Maximum applicable load:

- Actuators and thermostats:	3 A Total 1 A each channel
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#### Indicators:

- Voltage presence:	Green led
- Boiler and pump activation:	Red led

Protection index:	IP 30
Operating temp.:	0 .. 40 °C.
Storage temp.:	-10 .. 50 °C
Humidity limits:	20 % .. 80 % RH (non condensing)
Case:	Material: ABS UL-V0 self-extinguishing
	Colour: Signal white (RAL 9003)
	Dimensions: 130x100x60 mm (LxAxP)

#### ⚠ WARNING

- The appliance must be wired to the electric mains through a switch capable of disconnecting all poles in compliance with the current safety standards and with a contact separation of at least 3 mm in all poles.
- Installation and electrical wirings of this appliance must be made by qualified technicians and in compliance with the current standards.
- Before wiring the appliance be sure to turn the mains power off.

### WARRANTY

In the view of a constant development of their products, the manufacturer reserves the right for changing technical data and features without prior notice.

The consumer is guaranteed against any lack of conformity according to the European Directive 2019/771/EU as well as to the manufacturer's document about the warranty policy.

The full text of warranty is available on request from the seller.

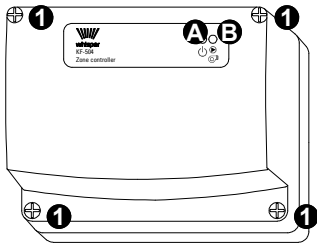


Fig. 1: External aspect

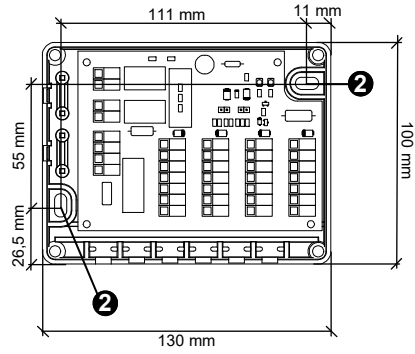


Fig. 2: Internal view and parts

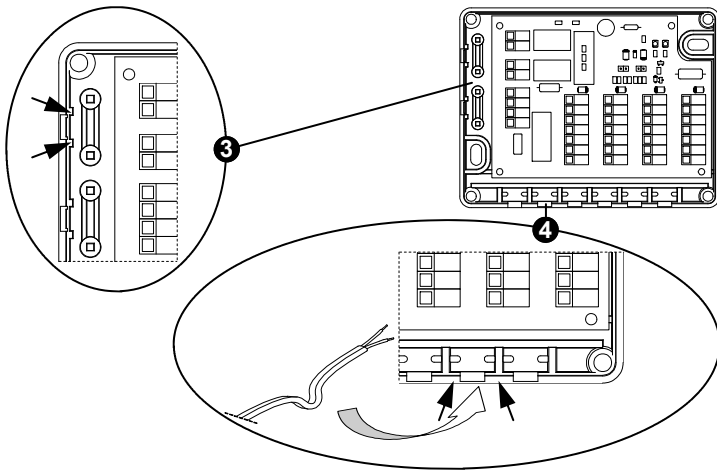
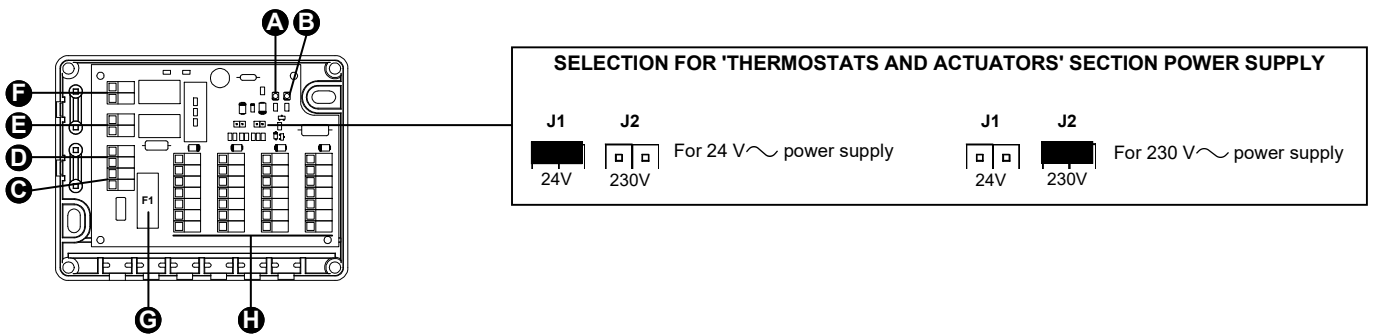


Fig. 3: Cable entry instructions



**LEGEND:**

- A On Led
- B Boiler/pump led
- C Power supply terminals
- D Terminals for connection of the external time programmer, optional (output voltage same as supply voltage)
- E Terminals for pump wiring (output depending on the supply voltage)
- F Terminals for burner wiring (output with voltage free contacts)
- G Fuse F1
- H 4 thermostats + actuators outputs (depends on the supply voltage)

Fig. 4: Internal view of components

# ELECTRICAL CONNECTIONS

## POWER SUPPLY 230 V~

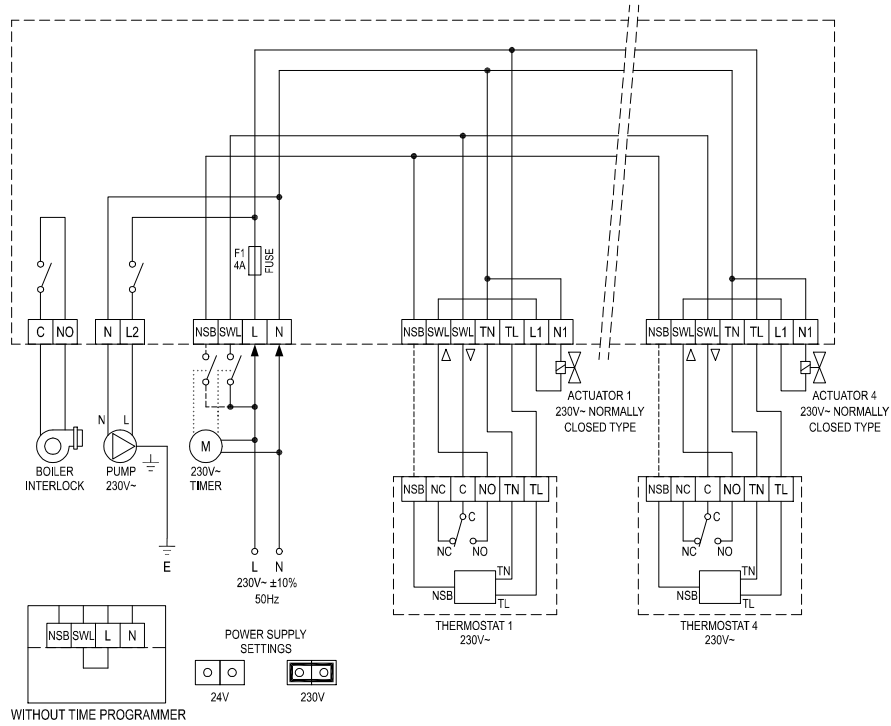


Fig. 5: Internal wiring diagram for 230 V~ power supply

## POWER SUPPLY 24 V~

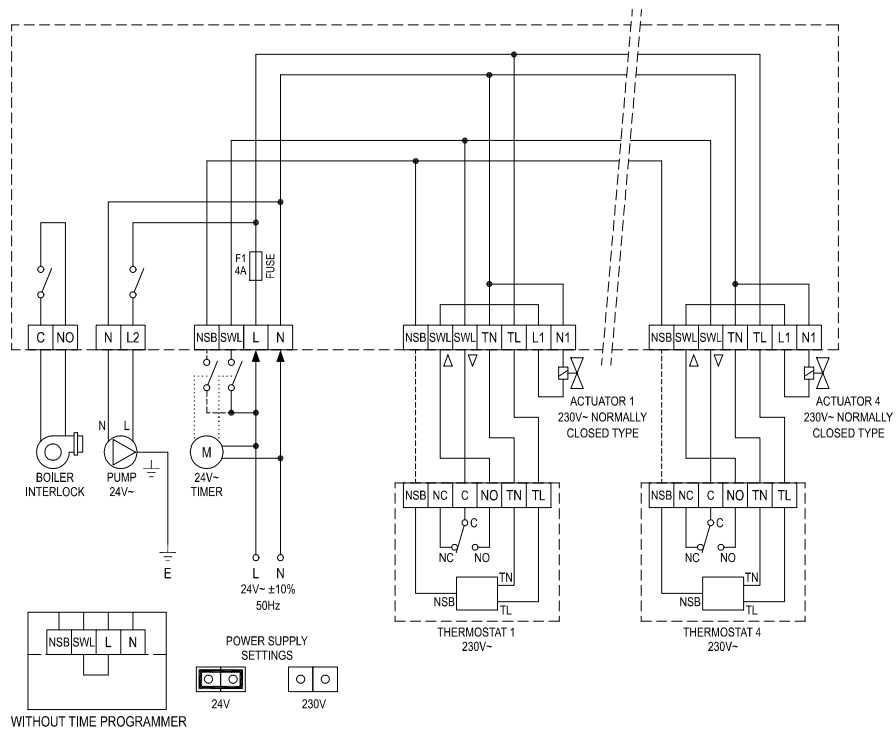


Fig. 6: Internal wiring diagram for 230 V~ power supply