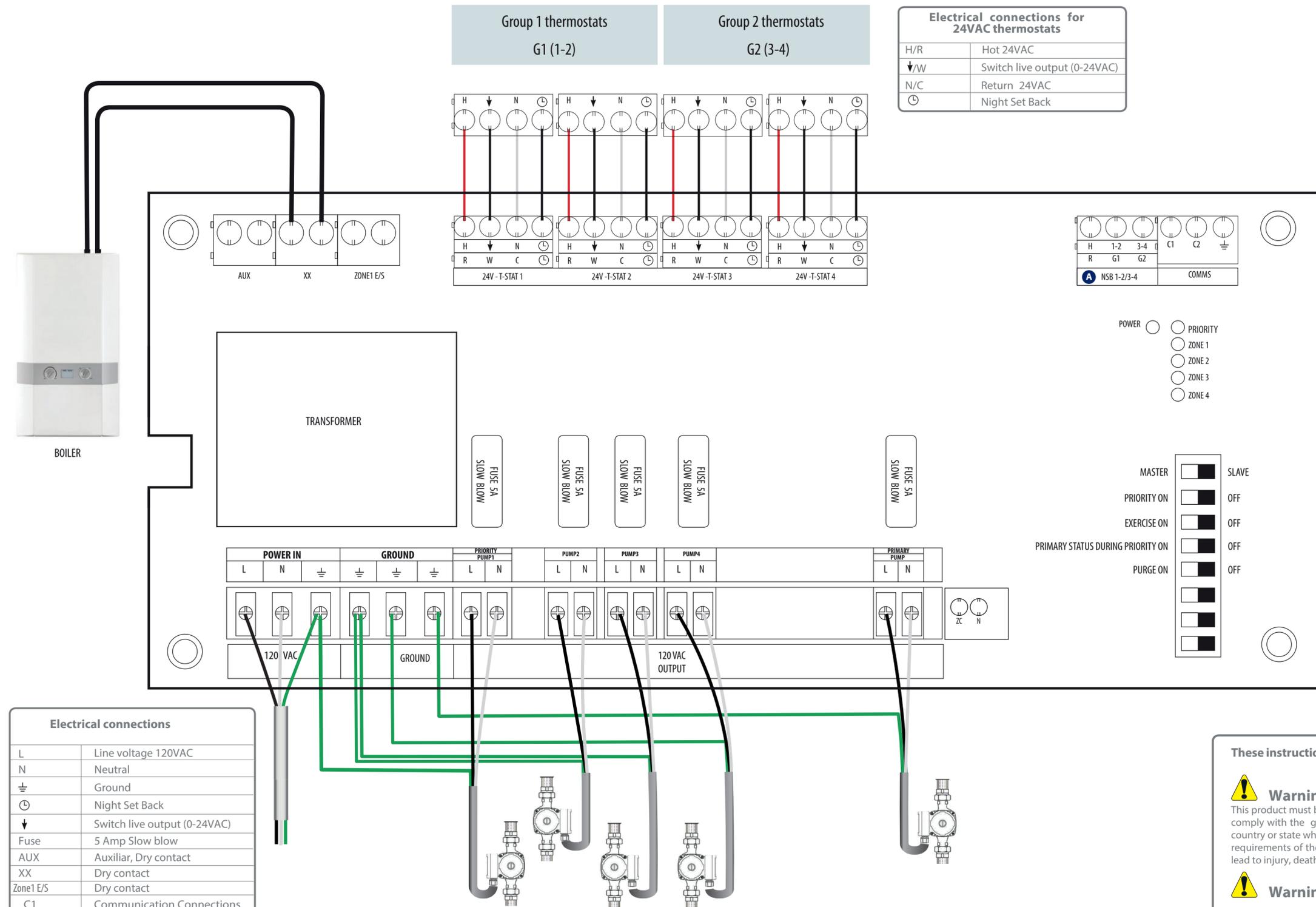


SALUS® AKL04P Zone Pump Wiring Center

Installation and Wiring Guide



Electrical connections	
L	Line voltage 120VAC
N	Neutral
⊥	Ground
⌚	Night Set Back
↓	Switch live output (0-24VAC)
Fuse	5 Amp Slow blow
AUX	Auxiliar, Dry contact
XX	Dry contact
Zone1 E/S	Dry contact
C1	Communication Connections
C2	Communication Connections

For PDF Installation guide go to www.salusinc.com

120VAC TO PUMP Cables will be supplied by the installer.

Electrical connections for 24VAC thermostats	
H/R	Hot 24VAC
↓/W	Switch live output (0-24VAC)
N/C	Return 24VAC
⌚	Night Set Back

- POWER
- PRIORITY
 - ZONE 1
 - ZONE 2
 - ZONE 3
 - ZONE 4

- MASTER SLAVE
- PRIORITY ON OFF
- EXERCISE ON OFF
- PRIMARY STATUS DURING PRIORITY ON OFF
- PURGE ON OFF

These instructions apply to the SALUS model stated above.

Warning
This product must be fitted by a competent person, and installation must comply with the guidance, standards and regulations applicable to the country or state where the product is installed. Failure to comply with the requirements of the relevant guidance, standards and regulations could lead to injury, death or prosecution.

Warning
Always isolate the AC main supply before installing or working on any components that require 120 V AC 60Hz supply.

The ground terminals on the AKL04P are for ground connections only. These terminals provide no earth protection.

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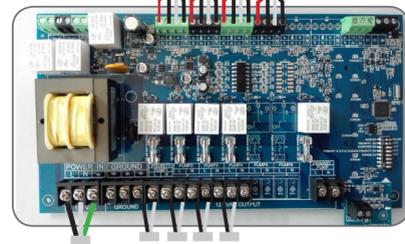
- 1** Remove the plastic cover by unscrewing the 4 screws.



Warning
Always make sure that the power to the wiring center is disconnected before opening the case.

- 4** Clip all wires and cables into their correct positions.
Make the connections for the thermostats at the top of the AKL04P and for the pumps at the bottom of the wiring center.

Cable clamps are required to be fitted to the case knock outs for ensuring that the cables are clamped.

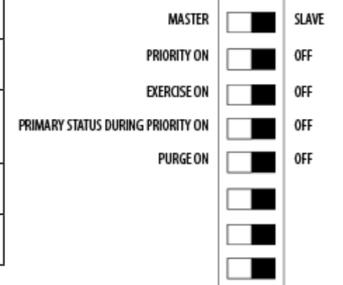


- 7** Re-attach the plastic cover and secure it with the 4 screws. Switch on the main power supply to the unit. The red LED comes on.



DIP Switches function

DIP Switch	Description
Master/Slave	Choose the desired status for your Pump Wiring Center
Priority ON/OFF	When the Priority is ON, Zone 1 will operate as the Priority zone
Exercise ON/OFF	When the Exercise is ON, each zone that has been inactive for more than 72 hours will be switched on for 30 sec.
Primary status during Priority ON/OFF	When ON, the Primary pump will be active during a Priority request.
Purge ON/OFF	When ON, Zone 1 will operate for 2 extra minutes after the Priority zone is switched off.



- 2** Attach the back of the AKL04P to the wall or in a suitable location.



- 5** Make sure that the fuses are each of 5 Amp, slow blow, and in the correct position.



Installing and Connecting the AKL04P

Use the AKL04P wiring center to simply and safely connect thermostats and corresponding pumps.

It can have two different physical configurations:

- One thermostat for each zone (4 thermostats in total)
- One group with one master SALUS thermostat and up to 3 slave thermostats. Link required on clock terminals 1-2 and 3-4 (see **A** on the wiring diagram, front page)

Note:

1. You can add one pump for each zone (4 in total), one primary pump and one priority pump.
2. You can use SALUS thermostats or any other thermostat that is compatible for your system.
3. Make sure that the thermostats are all 24VAC.

Our recommendation is to use Salus thermostats.
For more details please check our website www.salusna.com

Functioning Principles

1. Primary Pump

The primary pump is controlling the heating system and will be switched on when any zone is on.
Exception: If the DIP Switch for Priority is ON, and the DIP Switch for Primary status during priority OFF, then the primary pump will be Off during a priority call.

2. Priority Pump

The priority pump, if enabled, is for controlling the domestic hot water. This will enable the functions of Zone 1 on a master unit only. When the Zone 1 thermostat calls for heat, the Priority pump will be ON and will run for up to 1 hour, switching OFF all other zones. After 1 hour, all the zones will resume to their normal function. To enable the Priority pump there needs to be a Zone 1 thermostat connected to the domestic hot water control.

3. Zone Pumps

The Zone pumps will be activated when the thermostats are calling for heat, except when the priority zone is activated.

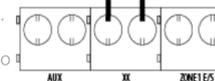
4. Auxiliar Outputs

There are 3 volt free auxiliar outputs.

AUX: It will be active when any pump is ON and the Priority pump is OFF.

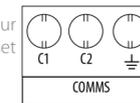
XX: It will be active when any zone is ON, including the Priority zone.

Zone 1 E/S: It will be active when there is a priority call for DHW, this is used to override the boiler weather compensation.



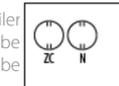
5. Communication connections

The terminals (C1, C2, $\frac{1}{2}$) can be used to connect up to 4 slave Pump Wiring Centers to your master Pump Wiring Center. The master wiring center needs to have the DIP switches set as Master and the slave pump wiring centers will have the DIP switches set as slaves.



6. ZC / N Connector

When the Master switch is set to ON and the Priority Switch is set to OFF, the ZC/N connector on the AKL04P can be used to enable or disable the unit based upon the output from the boiler ZR/ZC 120V contact. When 120VAC is applied across ZC/N on the AKL04P, the unit will be enabled; when 120VAC is not applied across the ZC/N contacts of the AKL04P, the unit will be disabled and all pumps will be switched off.



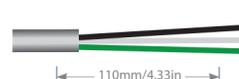
- 3** Use the proper wire connectors (purchased separately) for a 120 VAC power supply system.

After placing the wires through the wire connectors, secure them by tightening the screws.

Thermostat



Power 120V



Pump



Warning
Use the powercord connections that are suitable for your system.

- 6** External timer

If you use non programmable thermostats and you have the clock terminals connected on your slave thermostats, the external timer can communicate via NSB signal.

Note: You can set up your thermostats in Group 1, Group 2 or as Stand alone.



FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

LED indications

Name	Colour	Meaning
Power	●	AKL04P is supplied with 120VAC power
Priority	●	On when a Priority is active
Zone 1	●	Demand from zone 1 thermostat: pump active
Zone 2	●	Demand from zone 2 thermostat: pump active
Zone 3	●	Demand from zone 3 thermostat: pump active
Zone 4	●	Demand from zone 4 thermostat: pump active