



Introduction

The THB23031 / THB2431 is an auto balancing actuator that is used to provide automatic balancing of your underfloor heating circuits. It has two temperature sensors that are connected to the UFH flow & return pipes (inlet and outlet of the UFH manifold). It will continuously measure the temperatures and adjust the actuator position to maintain the correct temperature differential between the manifold flow and return pipes (ΔT). This product has an IP54 rating means that the product will be protected against contamination from limited amounts of dust and other particles. Additionally, it will be protected from water sprays from all directions. iTG Dresden have confirmed that the Salus THB actuator is equivalent to the hydraulic balancing. In co-operation with iTG Dresden, the Salus THB actuator has been tested and improved. During independent testing it was confirmed that the installation of the Salus THB system in existing underfloor heating systems will achieve the same results as a conventional hydraulic balancing. It achieves this, however, with minimum set-up time compared to lengthy conventional balancing.

Product Compliance

This product complies with the essential requirements and other relevant provisions of Directives: GPSR 2023/988/EU, EMC 2014/30/EU, LVD 2014/35/EU, RoHS 2015/863/EU amendment 2017/2102/EU, REACH SVHC 253. The full text of the declaration of conformity with EU regulations is available at the following web address: www.saluslegal.com.

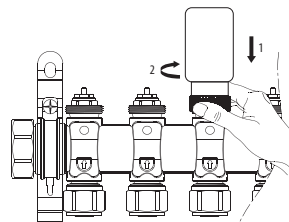
Safety Information

Use in accordance with the regulations. Designed to be used exclusively indoor. Keep your device completely dry. Disconnect your device before cleaning it with a dry towel. This accessory must be fitted by a competent person, and installation must comply with the guidance, standards and regulations applicable to the city, country or state where the product is installed. Failure to comply with the relevant standards could lead to prosecution.

Installation

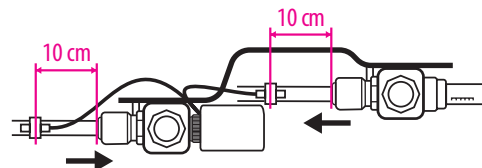
1

Attach the THB to underfloor heating manifold thermostatic valves, on the return bar. When installing the THB23031 / THB2431 ensure it is fully tightened onto the manifold. Actuator is in fully open position, out of the box, for easy installation.



2

Attach the two pipe temperature sensors, one on the flow pipe and the other to the return pipe. Ensure the actuator temperature pipe sensors are placed facing forward to the flow and return pipes 10 cm down from the manifold.

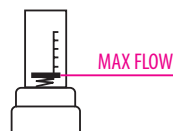


3

Connect the THB power cable to the control wiring centre or the thermostat. Please note, the THB23031 requires a 230V connection, and THB2431 requires a 24V power supply. Do not turn on the power just yet!

4

Fully open the flowmeters or shut-off valves on the supply manifold bar.



5

When connected to a thermostat set the demand to maximum in order to power the THB. This requires to be on for 10 min to fully charge the first Load of the capacitor.

The LED will flash green for about 3 minutes while an adaptation process is ongoing. The LED will turn solid green to indicate the adaptation was successful.

If failed, the LED will flash red.



LED flashing green.
Adaptation is ongoing.



LED flashing red.
Failed adaptation



LED solid green.
Adaptation successful

LED Indication



MCU firmware version when THB is powered ON
E.g: MCU 2.1
LED - Flashing green 2 times and red 1 time



Charging Capacitor (takes approx 2 minutes)
LED - Flashing green 1 Tick/s



Wrong mounting
LED - Flashing red 2 time then OFF for 3 seconds, and then the sequence is repeated



Adaptation failure or THB was removed during adaptation
LED - Flashing red 2 times then OFF for 3 seconds, and then the sequence is repeated



Manual reset
LED - Solid red



Manual reset finished
LED - Flashing red 3 times then OFF for 3 seconds, and then the sequence is repeated



To get into normal operation after the manual reset was finished, please turn off the power for 20 seconds and then turn the power back on.



Temperature sensor failure
LED - Flashing red 4 times then OFF for 3 seconds, and then the sequence is repeated



Normal operation (Balancing) or Calibration Phase
LED - Solid green



Actuator closed
LED - OFF

Manual FACTORY RESET



This process provides a way to factory reset the actuator. Please follow the below phases to factory reset the actuator:



If the actuator is OFF, please power ON for at least 2 min and then follow the steps below!

1

Turn OFF the power for 15s;

2

Turn ON the power for 15s;

3

Turn OFF the power for 15s;

4

Turn ON the power. The LED will turn solid RED to indicate enter the "Factory Reset Mode". The motor shaft it will completely open.

5

When the motor shaft will be completely opened, the LED will flash RED (3 times then OFF for 3 seconds) to indicate that the "Factory Reset" is complete.

6

To complete normal operation, turn OFF the power for 15s and then turn it ON. The LED will once again turn GREEN/RED to indicate the firmware version.

Manufacturer: SALUS Controls plc
Units 8-10, Northfield Business Park,
Forge Way, Parkgate Rotherham,
S60 1SD, United Kingdom

Importer: Salus Controls European
Distribution sp.z o.o.
ul. Szamocka 8, pietro 6., 01-748
Warszawa, Poland

UK: tech@salus-tech.com
DE / NL: info@salus-controls.de
PL: poland@saluscontrols.com
FR: technicalsupport@saluscontrols.fr
RO: tehnica@saluscontrols.ro
DK: Support@salus-controls.dk



www.saluscontrols.com

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