

ULTRA THB23031

Auto Balancing Actuator

About this product...

The SALUS THB23031 auto-balancing actuator is designed to automatically balance your underfloor heating circuits. It features two temperature sensors connected to the flow and return pipes of the underfloor heating manifold, continuously measuring temperatures to adjust the actuator position and maintain the appropriate temperature differential between the manifold's flow and return pipes. With an IP54 rating, this product is protected against limited dust and particle contamination, as well as water sprays from all directions. Installing the SALUS THB system in existing underfloor heating setups delivers the same results as traditional hydraulic balancing but requires significantly less setup time compared to conventional methods.



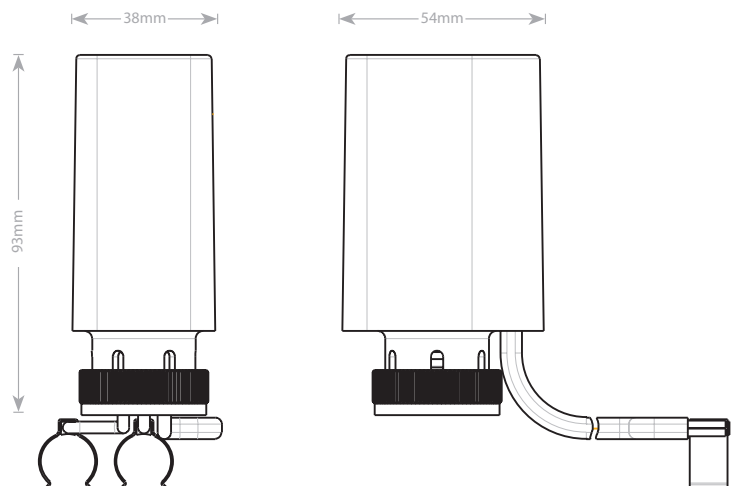
Features

- Automatic, dynamic, hydraulic balancing very easy, install and you're "done"
- Ready to use without calibration
- Two-colored LED lights (green/red) as status indicator
- Ideal for new buildings, renovations and retrofits
- High precision thanks to the electronic motor
- Fast valve opening and closing times
- Optimal for use with heating or cooling

Specification

Power Supply	230V AC 50/60Hz
Power consumption	0.5W
Valve Open Time:	Typically, 30 seconds
Valve Close Time	Typically, 30 seconds
Material (Housing)	White, Gloss Plastic
Temperature Sensor Resolution	0.1°C
Dimensions (H x W x D)	93mm x 38mm x 54mm
Guarantee	5 Years Warranty

Dimensions



Ultra THB23031 Auto Balancing Actuator - Technical Data

Firmware of Parameters

PARAMETER	VALUE	REMARK
Maximum stroke	5.0mm	Motor shaft from full open to close
Stall current	65mA	-
Current variation for 100-150N position	21%	The motor current variation to figure out the right position(100-150N)
Super cap low voltage	2.0V	To maintain the motor to move back to 100-150N position when the power off
Initial balancing point	CP-0.8mm	Initial to do the balancing position
Minimum valve opening	CP-0.3mm	The balancing point never below as long as power is on
Maximum valve opening	0.5mm	The max valve opening distance is motor shaft full open('Bottom') to this position
Maximum of running time	90s	Time for motor shaft move from full open to full close

LED Indication



MCU firmware version
E.g. MCU 2.1
LED flashing green 2 times and red 1



Charging Capacitor (takes approx 2 mins)
LED flashing green 1 Tick/s



Wrong mounting
LED flashing red 2 times then OFF for 3 seconds
and then the sequence is repeated



Adaptation failure or THB was removed during adaptation
LED flashing red 2 Tick/s 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



Temperature sensor failure
LED flashing red 4 Tick/s then OFF for 3 seconds and then
the sequence is repeated



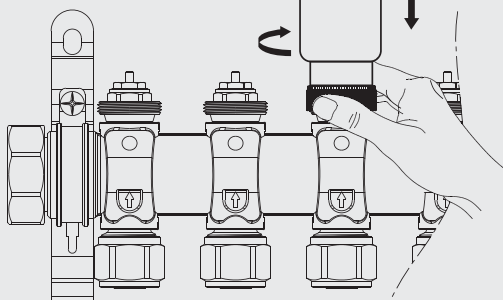
Normal operation (Balancing) or Calibration Phase
LED Solid green



Actuator closed
LED OFF

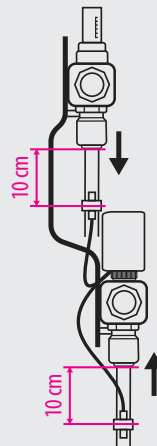
Fit & Forget in 3 easy steps...

1



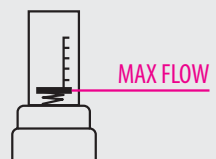
Attach the THB to the underfloor heating manifold thermostatic valves on the return bar. Ensure it is fully tightened to the manifold. Actuator is in fully open position out of the box for easy installation.

2



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

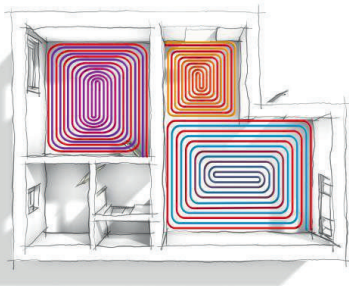
3



Connect the THB power cable to the control wiring centre or the thermostat.
Do not turn power on just yet!
Fully open the flowmeters or shut-off valves on the supply manifold bar.



Non-Balanced System

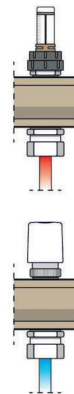


Manually regulated heating systems cannot maintain a constant surface temperature.

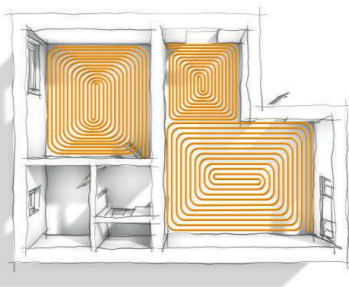


Systems Balanced Hydraulically by Hand:

- Time-intensive, calculations required for each heating circuit.
- Each flow limiter needs to be manually adjusted to the exact setting.



Fully Automated System with Dynamic Balancing



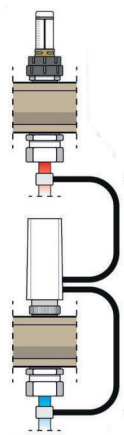
The Ultra THB23031 provides automatic balancing for uniform temperatures across all surfaces.



Automatic, Dynamic Hydraulic Balancing with the Ultra THB23031 Electronic Actuator:

- Open the flow limiter completely (if available).
- Mount the actuator on the return line with M30 x 1.5 mm thread.
- Attach the sensors (supply and return lines).

The system is now ready for commissioning.



Scan QR Code to View Product on Website