SAB07

LoRaWAN® wireless radiator valve actuator for room temperature control

thermokon®
HOME OF SENSOR TECHNOLOGY

Data sheet

Subject to technical changes
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» APPLICATION

Valve actuator for commercially available radiator valves for controlling the temperature indoors. The SAB07 has a manual setpoint adjustment with display, a self-regulating mode and a LoRaWAN® radio interface.

» SECURITY ADVICE – CAUTION

The installation and assembly of electrical equipment should only be performed by authorized personnel.

The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

» PRODUCT TESTING AND CERTIFICATION

Declaration of conformity
The declaration of conformity of the products are available on our website:
https://www.thermokon.de/direct/en-gb/categories/sab07

» NOTES ON DISPOSAL

The crossed-out wheelie bin symbol indicates that the product or removable batteries must not be disposed of with household or commercial waste. Within the EU, you are legally obliged to dispose of the product separately and appropriately in accordance with the national laws of your country. Alternatively, please contact your supplier or Thermokon Sensortechnik GmbH. Further information can be found at: www.thermokon.com

»TECHNICAL DATA

Description	LoRaWAN® heating valve actuator		
Functions	Actuator operation, Manual temperature setpoint adjustment, Display, Self regulating operation, Radio interface, Child lock, frost protection		
Enclosure	ABS + PC, Anodised copper (metal ring)		
Display	Display		
Protection	IP30, according to DIN EN 60529		
Environmental conditions	0..+60 °C	max. 85 % rH at 31 °C max. 25 % rH at 50°C	(non-condensing)
Mounting	Screw-mounted, M30 x 1,5 (adapters for other valve types available on request)		

Radio technology	LoRaWAN®
LoRaWAN® version	1.0.3
Device class	Class A
Frequency range	EU868 (863-870 MHz)
Max. transmitting power	+14 dBm (25 mW)
Receiver sensitivity	-130 dBm
Antenna	Internal send/receive antenna
LoRaWAN® features	Over The Air Activation (OTAA), Adaptive Data Rate (ADR)
Data transmission *(configurable)*	Heartbeat interval (default: 10 min)

Configuration	LoRaWAN® Downlink
Power supply	2 x AA VDC lithium batteries 1,5 V (minimum total operating voltage 2.7 VDC)
Battery life	+/- 5 years (depending on device configuration, network setup, battery type and environmental conditions)

Measuring values	Temperature, humidity
Measuring range temperature	0..+40 °C
Accuracy temperature	±0,2 K (typ. at 21 °C)
Measuring range humidity	0..100 % rH
Accuracy humidity	±2 % at 10..80 % rH (typ. at 21 °C)

»POWER SUPPLY/BATTERY REPLACEMENT

1. Loosen the SAB07 housing and pull it apart.



2. Loosen the battery cover and fold it down.



3. Change batteries (note polarity).

4. Fold up and secure the battery cover.



»LORAWAN® COMISSIONING

1. Identification of the device via the serial number (label on the inside).
2. Assignment of LoRaWAN® credentials (DevEUI, AppEUI, AppKey) from the provided list.
3. Add the device to existing LoRaWAN® network.

Please **DO NOT** press this button!



Device not compatible with the LRWapp

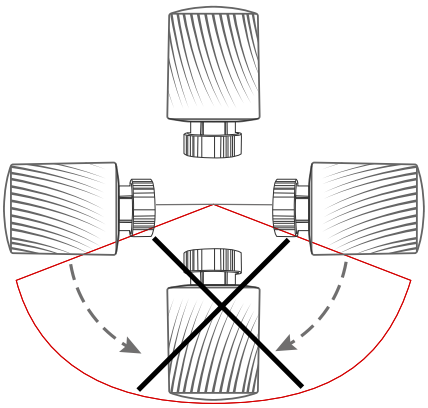
4. Remove battery separator strip (LoRaWAN® radio communication begins)
5. Mount the device on the valve correctly.
6. Calibration (valve detection) is performed automatically.
   (at least 1 x full opening and closing to determine the closing point)
7. Display shows calibration animation

»MOUNTING ADVICE

LoRaWAN® commissioning can be carried out before installation.

1. Note mounting position/alignment. (Protection class: IP30)

Do not mount facing downwards, see illustration on the right.



2. Clean radiator valve (M30 x 1.5) thread and fit metal adapter if required.

3. Place the SAB07 mounting plate on the radiator valve and hand-tighten the metal ring by turning it counterclockwise.



4. Place the SAB07 on the mounting plate, exert slight pressure on the display and engage it by turning it clockwise on the mounting plate.



5. The display shows Animation for calibration. During calibration, a valve detection is performed.
   (1 x full opening and closing to detect the closing point)



» DEVICE USAGE

Manual temperature setpoint adjustment



Low battery



Childlock
(manual temperature setpoint adjustment – deactivated)

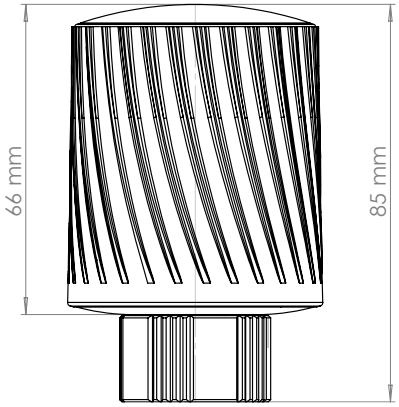


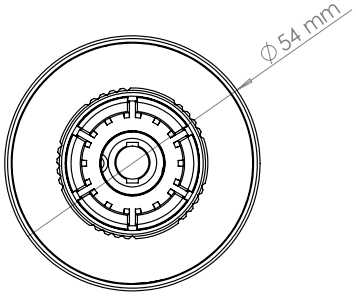
Device calibration indicator (valve detection) directly after mounting *(turns off after 1 – 2 sec.)*

Do not disassemble the device during calibration!
(duration: 20 – 30 sec.)



» DIMENSIONS (MM)





» ACCESSORIES (SCOPE OF DELIVERY)

2 x Battery AA 1,5 V Lithium	Item-Nº: 819640

» ACCESSORIES (OPTIONAL)

Battery AA 1,5V Lithium	Item-Nº: 819640
Plastic valve adapter for SAB05/07 RAVL-02	Item Nº: 836319
Plastic valve adapter for SAB05/07 RAV-02	Item Nº: 836326
Plastic valve adapter for SAB05/07 RA-02	Item Nº: 836333
Plastic valve adapter for SAB05/07 M28-15	Item Nº: 836302
Safety lock dismounting protection SAB	Item-Nº: 706148