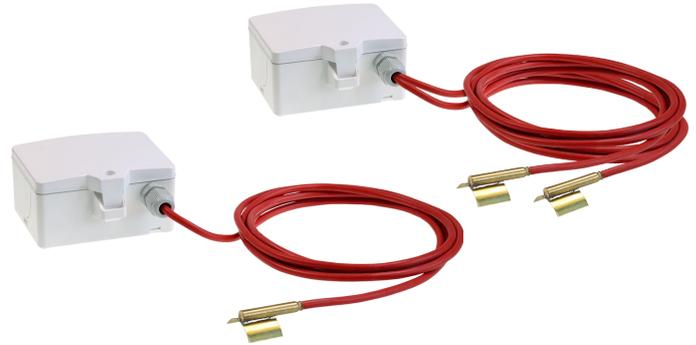# AF25+ BAT LRW

LoRaWAN® contact temperature sensor

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
Issue date: 05.11.2025 • A143

LoRaWAN®

» APPLICATION

Contact sensor with connection cable and brass bracket for measuring surface temperature on pipes (cold or hot water) and other contact surfaces indoors with LoRaWAN® wireless interface.

» TYPES AVAILABLE

- AF25+ BAT LRW T135 L1000
- AF25+ Dual BAT LRW T135 L1000

» 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

CE

Declaration of conformity
The declaration of conformity of the products can be found on our website
https://www.thermokon.de/direct/en-gb/categories/af25plus

» 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

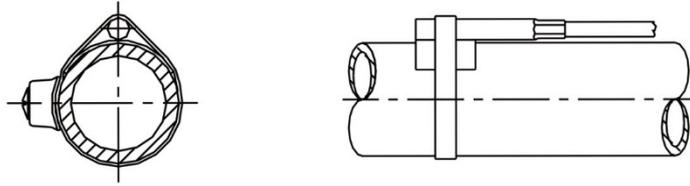| Measuring values	Temperature		
Power supply	(1-) 2x AA 3.6V lithium batteries LS14500 or ER14505 Temporary operation/ commissioning possible with 2x 1.5V AA (LR06) batteries (reduced battery life)		
Measuring range temp.	-40..+120 °C		
Accuracy temperature	±0,5 K (typ. at 21 °C)		
Operating temperature range* *max. permissible operating temperature*	**sensor pocket** -50..+135 °C	**electronic | enclosure** -20..+70 °C	**mounting base** -35..+90 °C
Enclosure	enclosure USE-M / cover, PC (UV resistant), pure white		
Protection	IP65 according to EN 60529		
Pocket	stainless steel V4A, Ø=6 mm, mounting length: 50 | 100 | 150 | 200 | 250 mm, tension spring (optional)		
Ambient condition	-20..+70°C, max. 85% rH, short term condensation		
Pocket	brass, Ø=6 mm, mounting length 35 mm, standard cable length 1000 mm, additional cable lengths on request		
Configuration	Thermokon LRWapp, uConfig Software, LoRaWAN® Downlink		
Battery life	+/- 5 years (depending on device configuration, network setup, battery-type and ambient conditions)		

» LoRaWAN®

Radio technology	LoRaWAN®
LoRaWAN version	1.0.4
Device class	Class A
Frequency	EU868 (863-870 MHz)
Max. transmission power	+14 dBm (25 mW)
Receiver sensitivity	-137 dBm
Antenna	Internal send- / receiver antenna
LoRaWAN Features	Over the Air Activation (OTAA), Adaptive Data Rate (ADR)
Data transmission	Heartbeat interval (default: 1440 min), Measurement-interval (default: 1 min), hysteresis transmission behavior

» MOUNTING ADVICES

Fixing is done by tightening strap. Use contact fluid for a better heat transfer between the sensor and measuring medium.

To avoid permeation of condensate, mount sensor on top of the tube, if possible.
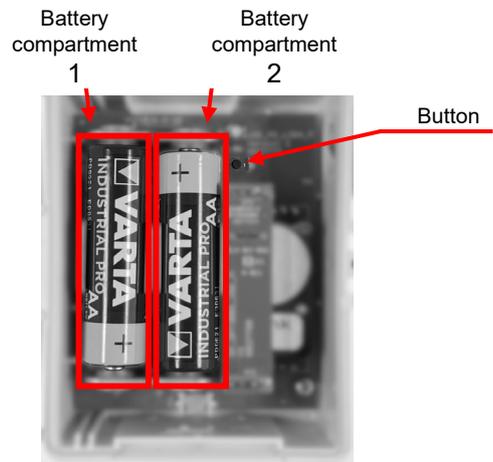

» BATTERY INSTALLATION

The AF25+ BAT LRW is designed to be powered by 2x 3.6V lithium batteries (LS14500 or ER14505).

If using only 1 single battery, insert it into battery compartment 1.
(Caution: 1 battery = reduction in battery life by more than half)

Insert the batteries as shown. Observe polarity/orientation.

For commissioning and as a temporary measure if lithium batteries are not available, the sensor can also be operated for several months with 2 alkaline manganese batteries (LR06).

(Lithium batteries are subject to dangerous goods regulations for shipping and are therefore not included in the scope of delivery.)

» ADVICE FOR COMISSIONING:

The LoRaWAN credentials required for commissioning can be read out via the uConfig software or the LRWapp. On request, the LoRaWAN credentials can also be provided in digital form. For this purpose, please contact your respective contact person.

» INFORMATION ABOUT LORAWAN SPECIFICATION

The Thermokon LoRaWAN specification can be downloaded from our website.

»CONFIGURATION

The configuration is performed in powered state. The following options are available for configuring the device:

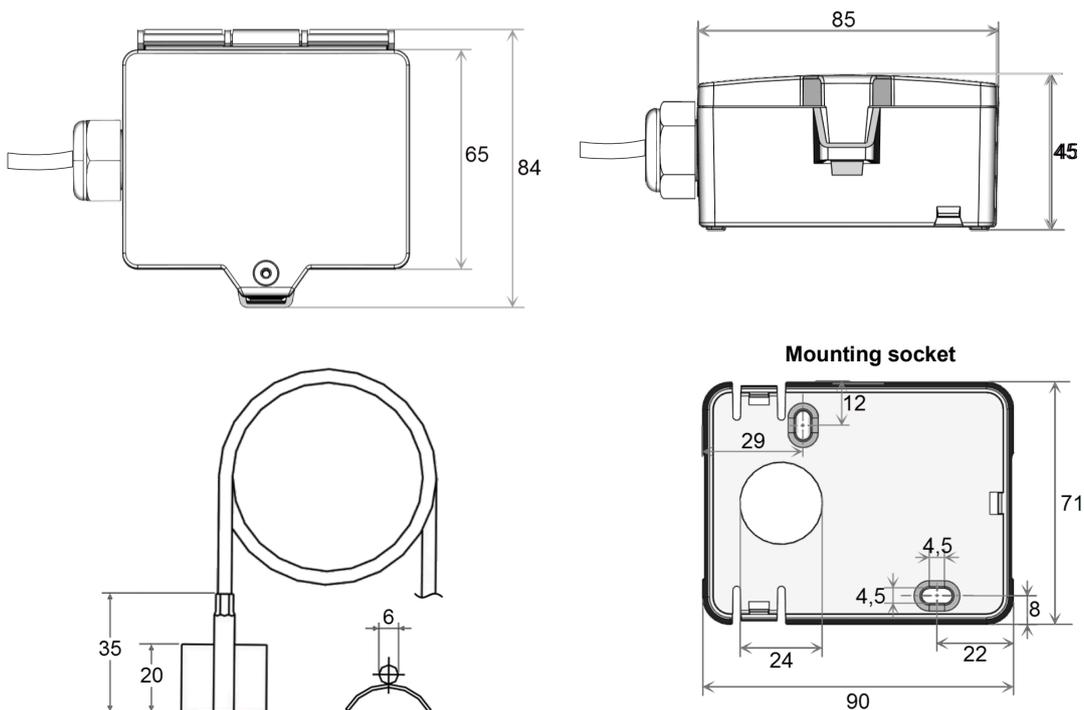| Device connection	Micro-USB cable	Bluetooth radio	LoRaWAN® downlink
		GET IT ON Google Play / Download on the App Store	LoRaWAN® DOWNLINK
Configurations-software	PC/Notebook with uConfig software	Smartphone/Tablet with LRWApp	LoRaWAN Infrastructure

The configuration app with the corresponding instructions can be downloaded from the Google Play Store or the Apple App Store.

»ADVICE FOR BLUETOOTH CONFIGURATION

Press the button to start Bluetooth communication. After pressing the button, a connection can be established via the app within approx. 20 seconds. This is indicated by a flashing LED.

»DIMENSIONS (MM)

Mounting socket

»ACCESSORIES (INCLUDED IN DELIVERY)

Mounting base USE M — Item No. 631228
Mounting kit universal — Item No. 698511
• *Cover screw + screw cover• 2 Rawlplugs • 2 Screws (countersunk head) • 2 Screws (rounded head)*

»ACCESSORIES (OPTIONAL)

Battery ER14505 (Lithium Thionyl chloride 3,6V AA) — Item No. 759182