

# TF25+ BAT LRW

LoRaWAN® cable temperature sensor

**thermokon**<sup>®</sup>  
HOME OF SENSOR TECHNOLOGY

## Datasheet

Subject to technical alteration  
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### » APPLICATION

LoRaWAN® cable sensor for temperature measurement in gaseous media of heating, ventilation and air conditioning systems. In conjunction with an immersion sleeve, also suitable for measurement in liquid media (e.g. piping systems). Available with either one or two sensor elements.

### » TYPES AVAILABLE

- TF25+ BAT LRW T160 050.06 L1000
- TF25+ Dual BAT LRW T160 050.06 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



#### Declaration of conformity

The declaration of conformity of the products can be found on our website  
<https://www.thermokon.de/direct/en-gb/categories/tf25plus>

### » NOTES ON DISPOSAL



The crossed-out wheeled 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](http://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* <i>*max. permissible operating temperature</i>	<b>sensor pocket</b> -50..+160 °C	<b>electronic   enclosure</b> -20..+70 °C	<b>mounting base</b> -35..+90 °C
Enclosure	enclosure USE-M / cover, PC (UV resistant), pure white		
Protection	<b>enclosure</b> IP65 according to EN 60529	<b>sensor pocket</b> IP65 according to EN 60529, SI-Protection, 16-point pressed, optional, Rolled: IP67 according to EN 60529 with SI-Protection	
Pocket	stainless steel V4A, Ø=6 mm, mounting length: 50   100   150   200   250 mm, tension spring (optional)		
Ambient condition	max. 85% rH, short term condensation		
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

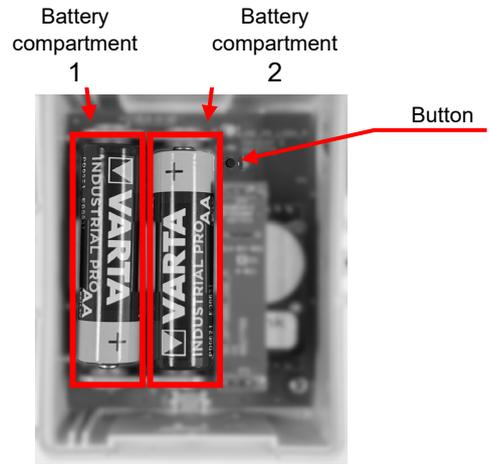
» **BATTERY INSTALLATION**

The TF25+ 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 COMMISSIONING:**



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
Configurations- software	PC/Notebook with uConfig software (LRW menu)	Smartphone/Tablet with LRWApp	LoRaWAN Infrastructure

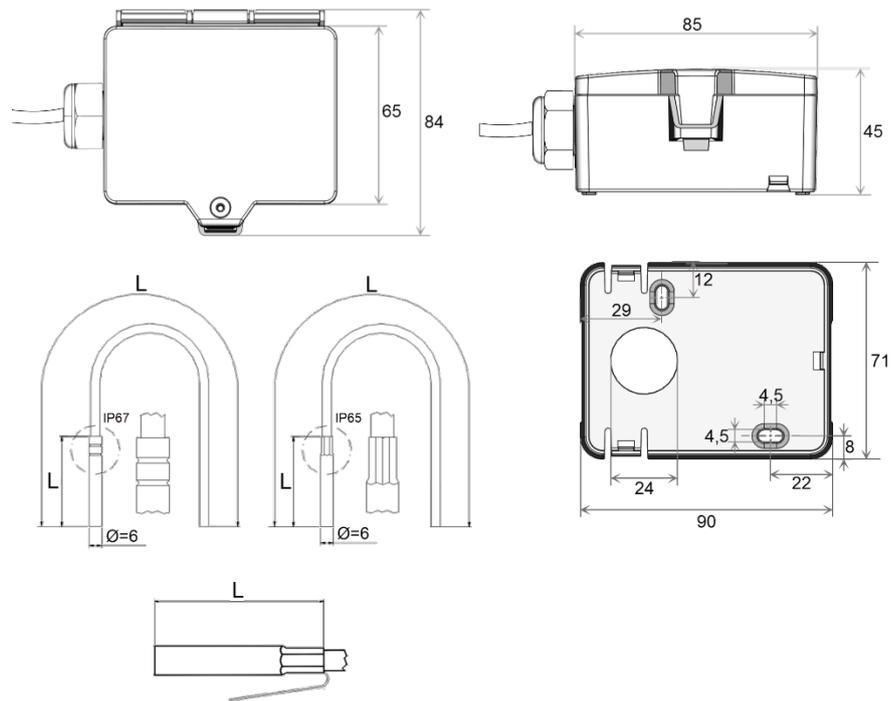
The configuration app with the corresponding instructions can be downloaded from the Google Play Store or the Apple App Store.

» **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)



## » ACCESSORIES (INCLUDED IN DELIVERY)

Mounting base USE M

Mounting kit universal

• Cover screw + screw cover • 2 Rawplugs • 2 Screws (countersunk head) • 2 Screws (rounded head)

Item No. 631228

Item No. 698511

## » ACCESSORIES (OPTIONAL)

Battery ER14505 (Lithium 3,6V AA)

VA-Compression fitting type KL6VA (for  $\varnothing=6$  mm)

Mounting flange MF6 flexible (for  $\varnothing=4$  | 6 | 7 mm)

Mounting flange MF6 (brass) (for  $\varnothing=6$  mm)

thermal contact fluid (syringe)

Item No. 759182

Item No. 103213

Item No. 399098

Item No. 003407

Item No. 102308

### Thermowell pockets stainless steel / brass for sensors with pocket $\varnothing=6$ mm

length	50 mm	100 mm	150 mm	200 mm	250 mm	300 mm	450 mm
THMSDS	610995	611008	611015	611022	611763	611039	611046
THVADS	611152	611817	611824	611848	611862	611879	611893

MS-thermowell pocket (brass, suitable up to 16 bar) type THMSDS <xx>

VA-thermowell pocket (stainless steel, suitable up to 40 bar) type THVADS <xx>.