VFG54+ BAT LRW

Contact temperature sensor

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
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LoRaWAN®

» APPLICATION

Contact sensor for measuring the temperature on pipes and curved surfaces with LoRaWAN® wireless interface. The measuring element is pressed onto the measuring surface by a spring mechanism to achieve direct contact and fast response times.

» TYPES AVAILABLE

- VFG54+ BAT LRW

» 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 are available on our website
https://www.thermokon.de/direct/en-gb/categories/vfg54plus

» DISPOSAL INFORMATION

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

»USE ENCLOSURE WITH UV AND WEATHER RESISTANCE

After some time, outdoor mounted plastics can lose their color and quality. Therefore, all USE housings are made of special white polycarbonate (PC). The light-stable colorants and additives are used to achieve optimum protection of the polymer while maintaining color stability. The titanium dioxide used is specially developed for polycarbonate and offers excellent UV protection through the reflection of the entire light spectrum including the UV component by 340 nm. This effectively counteracts the otherwise occurring photochemical polymer degradation. The colors stay full for a long time without fading. The material is also resistant to cold and frost.
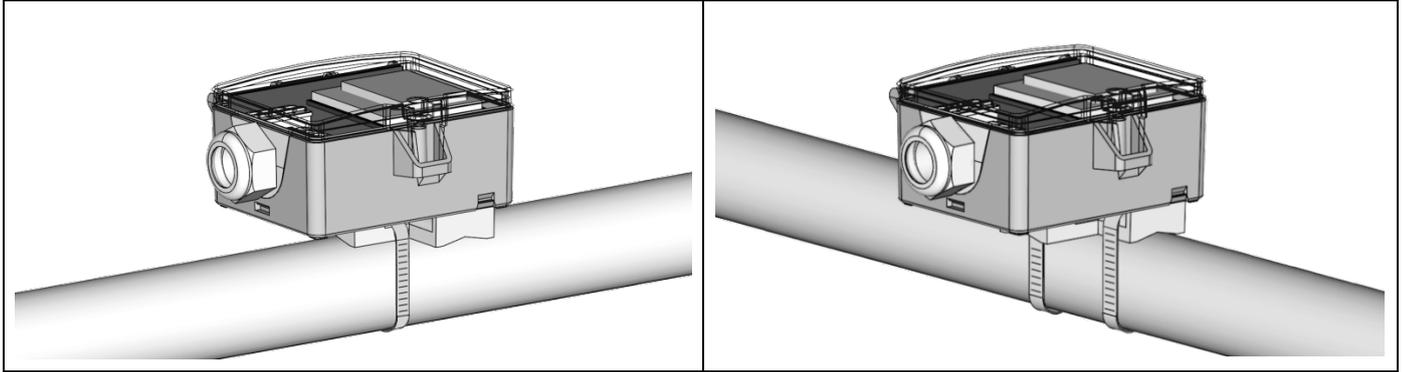
»TECHNICAL DATA

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 temperature	-20..+70 °C	
Accuracy temperature	±0,5 K (typ. at 21 °C)	
Operating temperature range *Max. permissible operating temperature*	**sensor pocket | holder** -35..+120 °C	**enclosure | electronic – TRV TRA** -20..+70 °C
Enclosure	enclosure USE-M / cover, PC (UV resistant), pure white	
Protection	IP65 according to EN 60529	
Ambient condition	-20..+70°C, max. 85% rH short term condensation	
Pocket	brass, spring loaded sensor	
Mounting	installation possible in or across the direction of the pipe	
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, external antenna available on request
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

The device is fixed using the tightening strap. Use contact fluid for better heat transfer between sensor and measuring medium. To avoid permeation of condensate, mount the sensor on top of the tube, if possible. The installation is possible in or across the direction of the pipe.
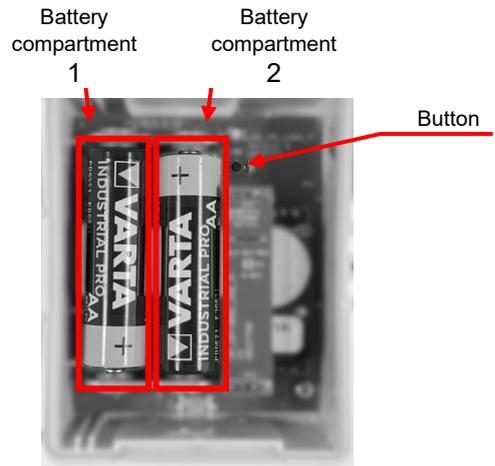

» BATTERY INSTALLATION

The VFG54+ 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.)

Battery compartment 1   Battery compartment 2   Button

» 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:

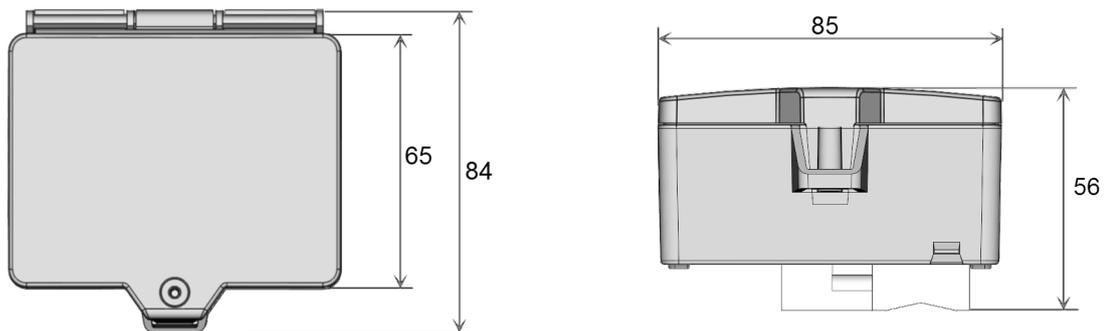| Device connection	Micro-USB cable	Bluetooth radio	LoRaWAN® downlink
Configurations-software	PC/Notebook with uConfig software (LRW menu)	Smartphone/Tablet with LRWapp	LoRaWAN Infrastructure

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 kit universal   Item No. 698511
• Cover screw + screw cover• 2 Rawlplugs • 2 Screws (countersunk head) • 2 Screws (rounded head)

»ACCESSORIES (OPTIONAL)

Battery ER14505 (Lithium Thionylchloride 3,6V AA)   Item No. 759182