

# Operating instructions

## Data logger Klima 20 / 30



EN



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# Inhaltsverzeichnis

0.1	Publication statement .....	3
0.2	General notes .....	3
0.3	WEEE directive 2002/96/EC law on electrical and electronic equipment .....	4
<b>1</b>	<b>Introduction.....</b>	<b>5</b>
1.1	Description.....	5
1.2	Device Layout and button assignment - Klima 20.....	6
1.3	Display symbols - Klima 20 .....	9
1.4	Device layout and button assignment - Klima 30 .....	8
1.5	Display symbols - Klima 30 .....	9
<b>2</b>	<b>Basic functions.....</b>	<b>10</b>
2.1	Commissioning.....	10
2.2	USB-Port .....	10
2.3	Function & button-handling .....	11
2.3.1	Start-Stop-Button.....	11
2.3.2	Mode-Button .....	11
2.4	Max-, min und average values - Klima 20.....	12
2.5	Display elements (figure.1) .....	12
2.5.1	Further display information.....	12
2.6	LED-indicator .....	13
2.7	External temperature sensor – only Klima 30 .....	13
2.8	Changing the battery .....	13
2.9	Battery life time.....	14
<b>3</b>	<b>Specifications .....</b>	<b>15</b>
3.1	Technical Data – Klima 20 & Klima 30.....	15
3.2	Technical Data – external temperature sensor .....	15
3.3	Prohibited environmental conditions .....	15

3.4	Storage conditions.....	16
<b>4</b>	<b>Applications notes .....</b>	<b>16</b>
4.1	General notes.....	16
4.1.1	External temperature sensor NT 3 & NT 8.....	16
4.1.2	Wall mount.....	16
4.1.3	GANN Software Dialog D+ .....	17

## **0.1 Publication statement**

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GANN Mess- u. Regeltechnik GmbH, Gerlingen, Germany. 27/02/2014

## **0.2 General notes**

This measuring device fulfils the requirements of the applicable European and national directives (2004/108/EC) and standards (EN61010). Appropriate declarations and documentation are held by the manufacturer. To ensure trouble-free operation of the measuring device and operational reliability, the user must carefully read the operating instructions. The measuring device may only be operated under the climatic conditions specified. These conditions can be found in Chapter 3.1 "Technical data". This measuring device may likewise only be used under the conditions and for the purposes it was designed for. Operational reliability and functionality are no longer ensured if the device is modified or adapted. Gann Mess- u. Regeltechnik GmbH is not liable for any damage arising from such modifications or adaptations. The risk is borne by the user alone.

- Using appropriate means, make always sure that there are no electrical cables, water pipes, or other utility lines at the location, at which the measurement is to be carried out.
- The device must not be stored or operated in aggressive air or air containing solvents!
- Material that is frozen or has wet surfaces cannot be measured.
- The notes and tables in these instructions on permitted or normal humidity conditions in practice and the general definitions of terms have been taken from the specialist literature. No responsibility can therefore be taken by the manufacturer for the correctness of this information. The conclusions to be drawn from the measurement results are related to the individual conditions and the knowledge drawn from professional experience for each user.
- The measuring device may be operated in residential and commercial areas, as the stricter class B for emitted interference (EMC) has been adhered to.
- The device may not be operated in the immediate area of medical equipment (heart pacemakers, etc.).
- The measuring device may only be properly used as described in these instructions. Keep the device and accessories out of the reach of children!
- Measurements must not be carried out on metallic surfaces.

Gann Mess- u. Regeltechnik GmbH accepts no liability for damage resulting from non-adherence to the operating instructions or by not taking proper care during transport, storage or operation of the device, even if this requirement for care is not specifically addressed in the operating instructions.

### **0.3 WEEE directive 2002/96/EC law on electrical and electronic equipment**

Disposal of packaging, battery, and device must be undertaken in accordance with the legal requirements at a recycling centre.

The device was manufactured after 1 October, 2009

# 1 Introduction

## 1.1 Description

The data logger Klima 20 & Klima 30 enable the measurement of relative humidity and air temperature using the sensors, which are placed in the measuring head. It is also possible to measure the material temperature of materials by connecting a temperature sensor to the Klima 30.

The following equipment and temperature sensors are available for the data loggers:

### Wall mount

Facilitates the measurement in a room

### Software Dialog D+

Computer program for transferring stored measurements for evaluation, graphic display and print

### External temperature sensor NT 3 (only for Klima 30)

For air humidity measurement and air temperature measurement;  
Length: 3 m

### External temperature sensor NT 8 (only for Klima 30)

For air humidity measurement and air temperature measurement;  
Length: 8 m

The equipment and the temperature sensors mentioned are listed and described in detail in chapter 4.

## 1.2 Device layout and button assignment - Klima 20

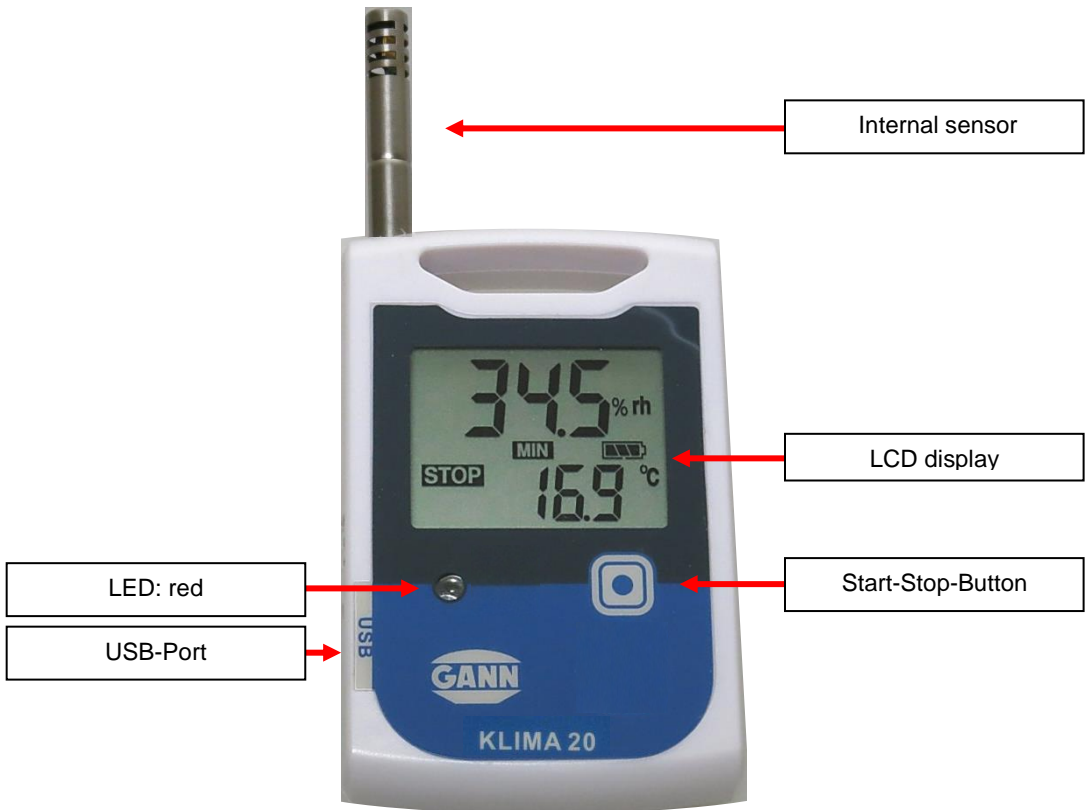


Figure 1-1 Device layout and button assignment - Klima 20

### 1.3 Display symbols - Klima 20

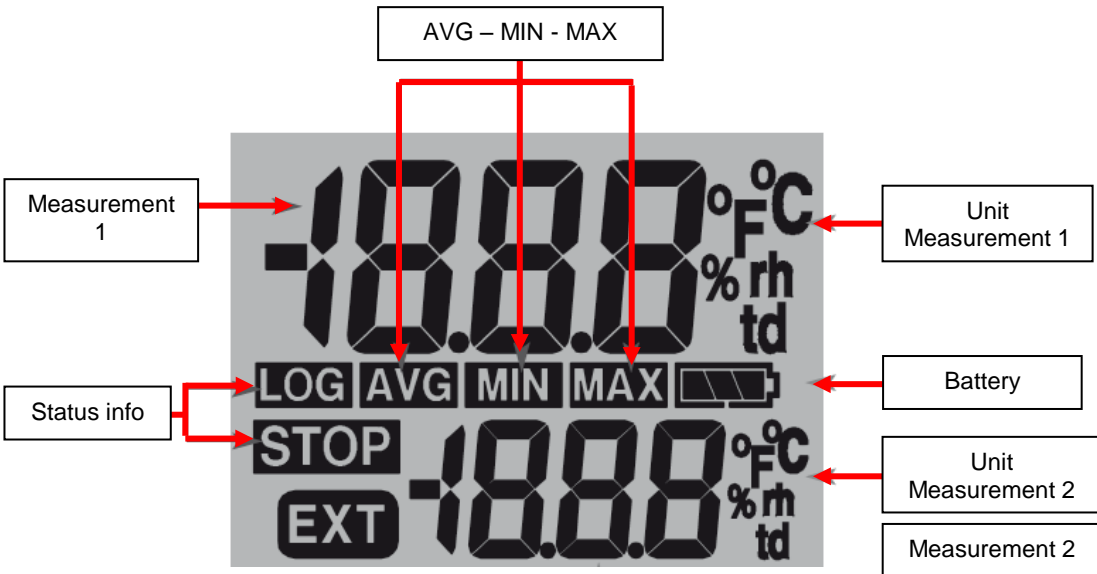


Figure 1-2 Display symbols Klima 20

Measurement 1	Shown in the upper part of the display; shows the actual temperature value measured by the internal sensor
Unit measurement 1	This sign informs about the currently selected measurement unit of reading 1  It is possible to switch between °C = Celsius, °F = Fahrenheit, %rh = relative humidity, td = dew point temperature
Measurement 2	Min-, max und average temperature change in a 10-second-clock
Unit measurement 2	This sign informs about the currently selected measurement unit of reading 2 (°C, °F, %rh or td possible)
MIN-MAX-AVG	Shows the min-, max- and average temperature
Status info	Mode „LOG“ or „STOP“ is displayed; „LOG“: data logger records; „STOP“: no measurement values are recorded
Battery indicator	Current state of the battery

## 1.4 Device layout and button assignment – Klima 30

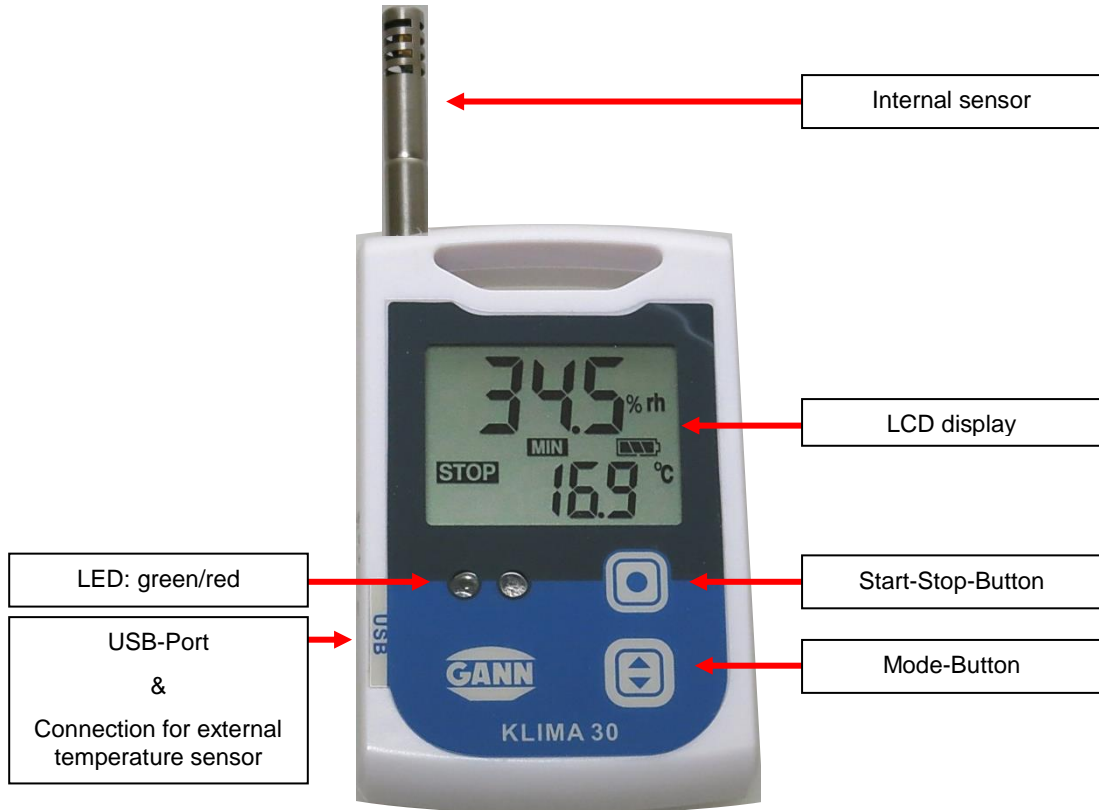


Figure 1-3 Device layout and button assignment - Klima 30



## 1.5 Display symbols - Klima 30

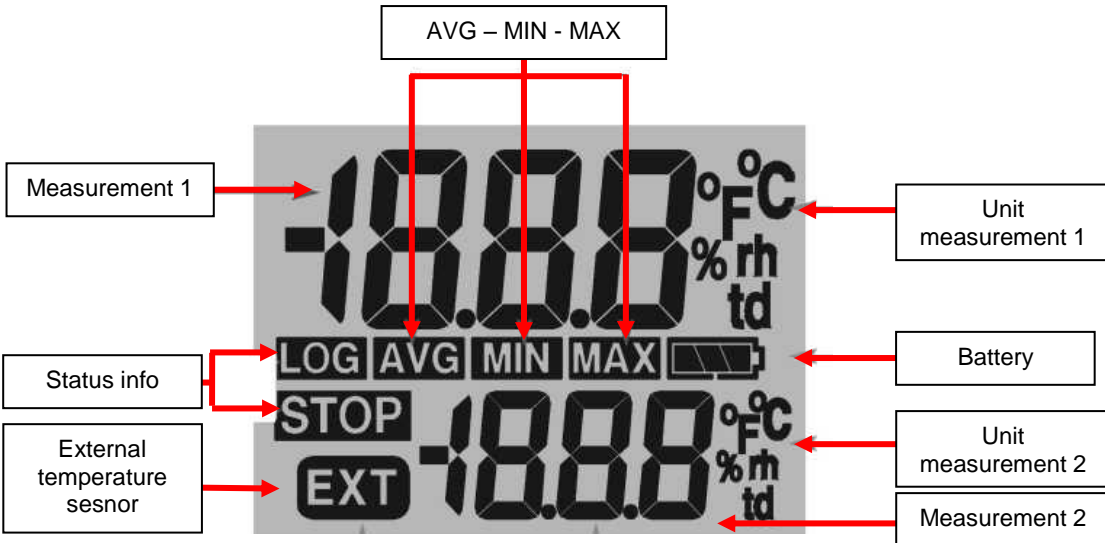


Figure 1-4 Display symbols Klima 30

Measurement 1	Shown in the upper part of the display ; shows the actual temperature value measured by the internal sensor
Unit measurement 1	This sign informs about the currently selected measurement unit of reading 1  It is possible to switch between °C = Celsius, °F = Fahrenheit, %rh = relative humidity, td = dew point temperature
Measurement 2	Values of the internal or external temperature sensor will be displayed; internal sensor: Maximum, minimum and average values
Unit measurement 2	This sign informs about the currently selected measurement unit of reading 2 (°C, °F, %rh or td possible)
MIN-MAX-AVG	Shows the min-, max- and average temperature
Status info	Mode „LOG“ or „STOP“ is displayed; „LOG“: data logger records; „STOP“: no measurement values are recorded
Battery indicator	Current state of the battery
External temperature sensor	EXT = external temperature sensor is adapted; value is shown at measurement 2

## 2 Basic functions

### 2.1 Commissioning

Before commissioning the data logger, take it out of the package, remove the screen protection film and check, whether a full CR2032 battery (3 volts) is insert.



Display indication



Display indication after pressing a button

After inserting the battery the device display the actual measurements for a few seconds. Afterwards the device shows "F5" for 30 seconds. Then, the device turns off. The same happens after pressing any button.

### 2.2 USB-Port

To configure the data logger Klima 20 / Klima 30, connect the computer with the data logger by using the USB-cable. Start the suitable GANN software dialog D+ and connect the data logger with the computer by using the USB cable MK 26. The detailed description can be found in the software dialog D+ package.

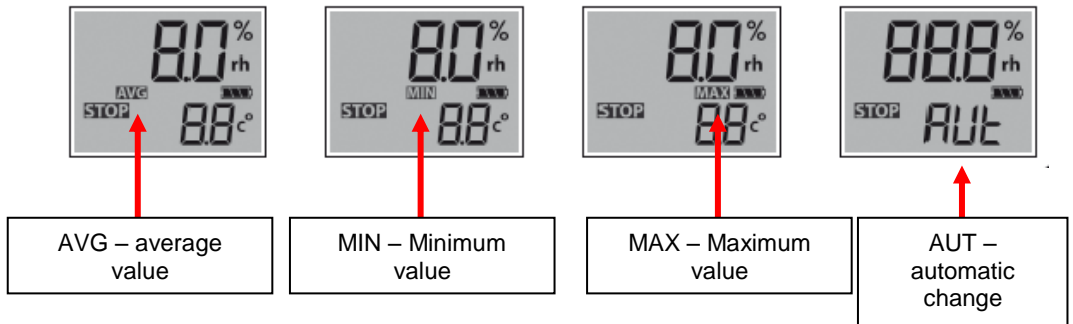
## 2.3 Function & button-handling

### 2.3.1 Start-Stop-Button (Klima 20 & Klima 30)

It is possible to start and stop the measurement by pressing the Start-Stop-Button (when the appropriate configuration is done). Therefore, the button has to be pressed for 3 seconds each. The LCD segment "STOP" expires and the LCD segment "LOG" appears. Now, the process of data recording starts. To stop it, press the Start-Stop-Button for 3 seconds.

### 2.3.2 Mode-Button (only Klima 30)

By pressing the Mode-Button, it is possible to switch between the max-, min- and average values. The values are shown in the lower measurement display (measurement 2).



The display switches in 2-second clock between the Avg-Min-Max values by using the AUT-Mode.

## 2.4 Max-, Min and average temperature values

**Klima 20:** The display switches in 10-seconds clock between the Max-, Min- and average temperature values. It is not possible to change manually between the values.

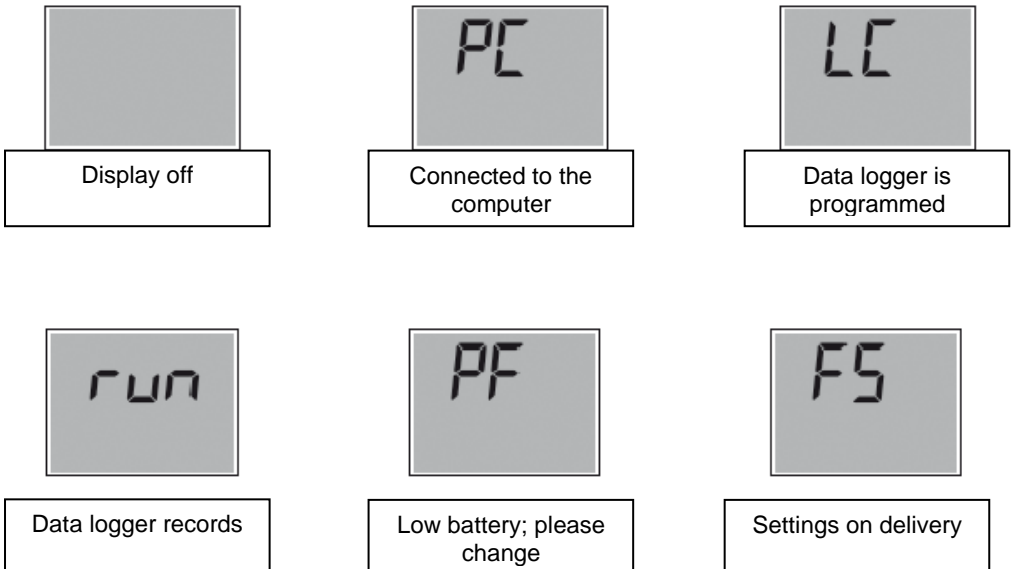
**Klima 30:** By pressing the Mode-Button, is it possible to display the Max-, Min- or average temperature value as long as desired. By choosing the AUT-Mode, the display switches in a 2-seconds clock between the values. Please note: the Max-, Min- and average temperature values only can be displayed if no external temperature sensor is connected to the data logger.

## 2.5 Display elements (figure 1-2 / figure 1-4)

The LCD-display informs about two measurement values and it also informs about some status information. It is possible to switch the display off by using the GANN software dialog D+. If the display is switched off, you can prevent that unwanted information is not shown.

### 2.5.1 Further display information

Using the GANN software dialog D+, it is possible to program the data logger to automatically switch off the display after some time. Furthermore, the display shows different states:



## 2.6 LED-Anzeige

The LED indicator blinks green during the measurement interval (during the data logger is recording) (Klima 30)

The LED indicator blinks red when a given limit is exceeded (Klima 20 & Klima 30)

## 2.7 External temperature sensor (only Klima 30)

It is possible to connect an external temperature sensor to the USB-port of the data logger Klima 30.

- Remove the white rubber cap (on the left side of the data logger)
- Connect the external temperature sensor to the USB-port of the data logger
- The data logger automatically adapt tot he temperature sensor; you don't have to set the data logger
- When you disconnect the temperature sensor from the data logger, please employ the white rubber cap into the USB-port to prevent any damage

## 2.8 Changing the battery

- To change the battery, open the battery compartment on the back of the data logger
- Turn the battery cover 90° tot he left to open it
- The battery can now be removed

### Proper battery change:

1. Insert a pointed object (eg a screwdriver) into the space between the battery and the bracket (A)
2. Now lift the battery carefully using the pointed object
3. Now you can remove the battery
4. To insert a new battery, press the battery against point B and then place it into A

### When should you change a battery?

- The symbol of an empty battery shows you, that the battery has to be changed shortly
- 
- Up to approximately 10 hours after the first indication of a low battery, you can perform more accurate measurements
- If the display shows "PF" display, the battery should be replaced immediately. In this case, the battery is no longer sufficient for further measurements

## 2.9 Battery life time

The battery indication has 3 bar segments when its fully loaded:

At temperatures  $> 0^\circ$ , the following values apply

Bar segment	Measuring interval	Remaining term
3	> 5 minutes	1 year
2	> 5 minutes	6 months
1	> 5 minutes	3 months

Please note:

When a temperature sensor is connected (Klima 30): the times given halving.

Using a measuring interval of 1 Minute: the times given halving.

Using a measuring interval of 1 second: the battery life time is about 2 weeks.

### 3 Specifications

#### 3.1 Technical Data - Klima 20 & Klima 30

	<b>Klima 20</b>	<b>Klima 30</b>
Internal temperatur:	-30 to +60°C	-30 to +70°C
External temperature sensor:	-----	-50 to +125°C
Relative humidity:	0 to 100% rH	0 till 100% rH
Memory:	approx.20.000 records	approx. 50.000 records
Interface:	USB-Port	USB-Port
Working temperature	-30 to +60°C	-10 to +70 °C
Storage temperature:	-30 to +70°C	-30 to +70°C
Abmessungen:	92 x 55 x 21 (L x W x H) mm	88 x 55 x 20 (L x W x H) mm
Gewicht:	95 g	95 g
Spannungsversorgung:	CR2032 - 3 Volt	CR2032 - 3 Volt

#### 3.2 Technical Data – external temperature sensor

Measuring range:	-50 to +125°C
Resolution:	0,1°C
Accuracy:	0 to +40°C: +/-0,5°C; other: +/-1°C

#### 3.3 Prohibited environmental conditions

- Permanent presence of dust and combustible gases, fumes or solutions
- Ambient temperatures continuously too high (> +70 °C)
- Ambient temperatures continuously too low (< -30 °C)

### 3.4 Storage conditions

Data loggers Klima 20 and Klima 30 may only be stored in the packaging that is supplied by us (also available as accessory). We will not assume any liability for damages, caused by non-compliance, to a device or the sensor system that is used in it. Fumigation from foam materials that have not been supplied by us may damage the sensor system and lead to falsified measuring values. Therefore it is particularly important that the device is not stored in such a material.

## 4 Application notes and equipment

### 4.1 General notes (Klima 30)

The data logger Klima 30 has an internal sensor. It is also possible to connect an external temperature sensor. The temperature NT 3 as well as the temperature sensor NT 8 are can be connected by using the USB port. By connecting one of these sensors it is possible to measure the temperature of materials of all kind.

#### 4.1.1 External temperatre sensor NT 3 & NT 8 (Klima 30)

The temperature sensor NT 3 or NT 8 can be cconnected tot he data logger Klima 30 through the USB port. The temperature sensor is automatically recognized by the data logger after connecting.

For the measurement, it is necessary to drill a hole into the material. The temperature sensor can be tucked in for the measurement of the temperature.

The cable of the NT 3 is 3 meters long; the cable of the NT 8 is 8 meters long.

#### 4.1.2 Wall mount

In order to make convenient measurements, there is a wall mount for the data logger Klima 20 and Klima 30.

Um bequeme Messungen vollziehen zu können, gibt es einen Wandhalter für den Datenlogger Klima 30. By mounting the data logger in a wall mount you can be sure that the data logger is always exposed to the same conditions for example the same air flow etc. The wall mount is magnetic at the backside or can be screwed or sticked into the wall.



### 4.1.3 GANN Dialog Software D+ (Klima 20 & Klima 30)

In the basic set of the data logger, the GANN software dialog D+ is contained, as well as the suitable cable MK 26.

technical change and errors excepted



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