

## **WIRELESS THERMO-HYGROMETER**

### **Instruction Manual**

**Cat. No. 30.3044.IT**

Thank you for choosing this wireless thermo-hygrometer from TFA.

#### **BEFORE YOU USE IT**

**Please be sure to read the instruction manual carefully.**

This information will help you to familiarise yourself with your new device, learn all of its functions and parts, find out important details about its first use and how to operate it, and get advice in the event of faults.

Following the instruction manual for use will prevent damage to the device and loss of your statutory rights arising from defects due to incorrect use.

**We shall not be liable for any damage occurring as a result of not following these instructions.**

**Please take particular note of the safety advice!**

**Please look after this manual for future reference.**

#### **SCOPE OF SUPPLY:**

- Thermo-Hygrometer (basic unit)
- Outdoor transmitter
- Instruction manual

**FIELD OF OPERATION AND ALL OF THE BENEFITS OF YOUR NEW THERMO-HYGROMETER AT A GLANCE**

- DCF Radio controlled time with manual setting option
- Time reception ON/OFF (user selectable)
- Time zone option  $\pm 12$  hours
- Calendar display (year only in setting mode)
- Display 8 moon phases
- Indoor and outdoor temperature display with MIN/MAX records
- Temperature display in  $^{\circ}\text{C}$
- Indoor and outdoor humidity display
- Humidity data display as RH%
- Low battery indicator
- Table standing or wall mounting

**FOR YOUR SAFETY:**

- The product is exclusively intended for the field of application described above. The product should only be used as described within these instructions.
- Unauthorised repairs, modifications or changes to the product are prohibited.
- The product is not to be used for medical purpose or for public information, but is intended solely for home use.



**Caution!  
Risk of injury:**

- Keep this instrument and the batteries out of reach of children.

- Batteries must not be thrown into the fire, short-circuited, taken apart or recharged. Risk of explosion!
- Batteries contain harmful acids. Low batteries should be changed as soon as possible to prevent damage caused by a leaking battery. Never use a combination of old and new batteries together or batteries of different types. Wear chemical-resistant protective gloves and glasses when handling leaked batteries.

**! Important information on product safety!**

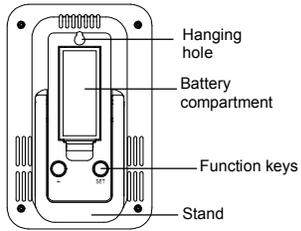
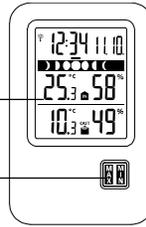
- Do not expose the instrument to extreme temperatures, vibration or shock.
- The outdoor transmitter is protected against splash water, but is not watertight. Choose a shady and dry position for the transmitter.

**ELEMENTS**

**Thermo-Hygrometer**

LCD  
Display

Function key



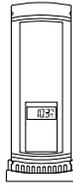
Hanging  
hole

Battery  
compartment

Function keys

Stand

**Thermo-Hygro Transmitter**

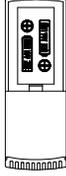


- Remote transmission of outdoor temperature and humidity to thermo-hygrometer by 868MHz
- Alternately display the outdoor temperature and humidity readings on LCD
- Wall mounting case

- Mounting at a sheltered place. Avoid direct rain and sunshine

**TO INSTALL AND REPLACE BATTERIES IN THE THERMO-HYGRO TRANSMITTER**

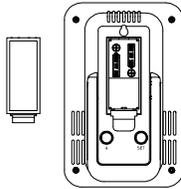
The outdoor thermo-hygro transmitter uses 2 x AAA, IEC LR3, 1.5 V batteries. To install and replace the batteries, please follow the steps below:



1. Remove the battery cover by pushing the battery cover upwards with your thumb.
2. Insert the batteries, observing the correct polarity (see battery compartment marking).
3. Replace the battery cover on the unit.

**TO INSTALL AND REPLACE BATTERIES IN THE THERMO-HYGROMETER**

The thermo-hygrometer uses 2 x AAA, IEC LR3, 1.5 V batteries. To install and replace the batteries, please follow the steps below:



1. Insert finger or other solid object in the space at the bottom center of the battery compartment and lift up to

- remove the cover.
2. Insert batteries observing the correct polarity (see marking).
  3. Replace compartment cover.

#### **Battery replacement**

- Replace the batteries when the battery symbol of the thermo-hygrometer appears on the upper display.
- When the batteries of the transmitter are used up, the low battery icon appears next to the outdoor temperature display.

#### **Note:**

In the event of changing batteries in any of the units, all units need to be reset by following the setting up procedures. This is due to a random security code assigned by the transmitter at start-up. This code must be received and stored by the thermo-hygrometer in the first 3 minutes of power being supplied to the transmitter.

#### **SETTING UP**

1. First, insert the batteries in the transmitter (see **"To install and replace batteries in the thermo-hygro transmitter"** above).
2. Within 2 minutes of powering up the transmitter, insert the batteries in the thermo-hygrometer (see **"To install and replace batteries in the thermo-hygrometer"** above). Once the batteries are in place, all segments of the LCD will light up briefly. Following the indoor temperature/humidity and the time as 00:00 will be displayed. If this information

is not displayed on the LCD after 60 seconds, remove the batteries and wait for at least 60 seconds before reinserting them. Once the indoor data is displayed user may proceed to the next step.

3. After the batteries are inserted, the thermo-hygrometer will start receiving data signal from the transmitter. The outdoor temperature and humidity data should then be displayed on the thermo-hygrometer. If this does not happen after 2 minutes, the batteries will need to be removed from both units and reset from step 1.
4. In order to ensure sufficient 868 MHz transmission however, the distance between the thermo-hygrometer and the transmitter should not be more than 100 meters (see notes on "**Positioning**" and "**868 MHz Reception**").

**Note:**

In the event of changing batteries of the units, ensure the batteries do not spring free from the contacts. Always wait at least 1 minute after removing the batteries before reinserting, otherwise start up and transmission problems may occur.

5. Once the outdoor data reception test period is completed, the DCF tower icon in the clock display will start flashing in the upper left corner. This indicates that the clock has detected that there is a radio signal present and is trying to receive it.

When the time code is received, the DCF tower becomes permanently lit and the time will be displayed.

#### **DCF RADIO CONTROLLED TIME**

The time base for the radio controlled time is a Cesium Atomic Clock operated by the Physikalisch Technische Bundesanstalt Braunschweig which has a time deviation of less than one second in one million years. The time is coded and transmitted from Mainflingen near Frankfurt via frequency signal DCF-77 (77.5 kHz) and has a transmitting range of approximately 1,500 km. Your radio-controlled thermo-hygrometer receives this signal and converts it to show the precise time in summer or wintertime.

The quality of the reception depends greatly on the geographic location. In normal cases, there should be no reception problems within a 1,500 km radius of Frankfurt.

DCF reception is done twice daily at 02:00 and 03:00 am. If the reception is not successful at 03:00 am, then the next reception takes place the next hour and so on until 06:00 am, or until the reception is successful. If the reception is not successful at 06:00 am, then the next attempt will take place the next day at 02:00 am.

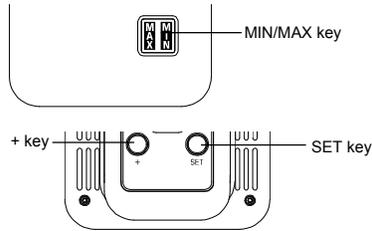
If the tower icon flashes, but does not set the time or the DCF tower does not appear at all, then please take note of the following:

- Recommended distance to any interfering sources like computer monitors or TV sets is a minimum of 1.5 - 2 meters.
- Within ferro-concrete rooms (basements, superstructures), the received signal is naturally weakened. In extreme cases, please place the unit close to a window and/ or point its front or back towards the Frankfurt transmitter.
- During nighttime, the atmospheric disturbances are usually less severe and reception is possible in most cases. A single daily reception is adequate to keep the accuracy deviation below 1 second.

**FUNCTION KEYS:**

**Thermo-hygrometer:**

The thermo-hygrometer has 3 easy to use function keys: 1 key on the front, and 2 keys on the back.



### SET key

- Press and hold the key to enter manual setting modes: time zone, manual time setting, calendar, time reception ON/OFF

### + key

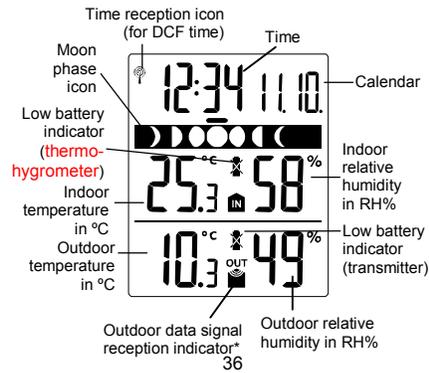
- Increase, change, toggle all values in manual set mode

### MIN/MAX key

- Press shortly to toggle between indoor and outdoor MAX/MIN temperature and current temperature

### LCD SCREEN

The LCD screen is split into 4 sections displaying the information for time/calendar, moon phase, indoor data, and outdoor data.



\* When the signal is successfully received by the thermo-hygrometer, the outdoor transmission icon will be switched on. (If not successful, the icon will not be shown on LCD). The user can then easily see whether the last reception was successful (icon on) or not (icon off).

#### **MANUAL SETTINGS:**

The following manual settings can be changed by pressing and holding the **SET** key:

- Time zone setting
- Manual time setting
- Calendar setting
- Time reception ON/OFF setting

#### **TIME ZONE SETTING:**



The time zone default of the thermo-hygrometer is "0". To set a different time zone:

1. The current time zone value starts flashing.
2. Use the **+** key to set the time zone. The range runs from 0 to -12 and then runs from +12 back to 0 in consecutive 1-hour intervals.
3. Confirm with the **SET** key and enter the **Manual Time Setting**.

#### **MANUAL TIME SETTING:**

In case the thermo-hygrometer cannot detect the DCF-signal (for example due to

disturbances, transmitting distance, etc.), the time can be manually set. The clock will then work as a normal quartz clock.



Hour flashing    Minutes flashing

1. The hour digit will start flashing.
2. Use the + key to set the hour.
3. Press again the **SET** key to set the minutes. The minute digits start flashing.
4. Use the + key to set the minutes.
5. Confirm with the **SET** key and enter the **Calendar setting**.

**Note:**

The unit will still try and receive the signal despite it being manually set. When it does receive the signal, it will change the manually set time into the received time. During reception attempts the DCF tower icon will flash. If reception has been unsuccessful, then the DCF tower icon will not appear but reception will still be attempted the following day.

**CALENDAR SETTING:**



Year

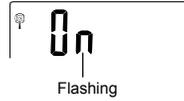


Date and month

The date default of the thermo-hygrometer is 1. 1. 2011. Once the radio-controlled time signals are received, the date is automatically updated. However, if the signals are not received, the date can also be set manually.

1. The year starts flashing.
2. Use the **+** key to set the year (between year 2011-2039).
3. Press the **SET** key again to confirm and to enter the month setting. The month starts flashing.
4. Use the **+** key to set the month.
5. Press the **SET** key again to confirm and to enter the date setting mode. The date starts flashing.
6. Use the **+** key to set the date.
7. Confirm all calendar settings with the **SET** key and enter the **Time reception ON/OFF setting**.

#### TIME RECEPTION ON/OFF SETTING:



In areas where reception of the DCF time is not possible, the DCF time reception function can be turned OFF. The clock will then work as a normal quartz clock. (Default setting is ON).

1. The digit "ON" will start flashing on the LCD.

2. Use the **+** key to turn OFF the time reception function.
3. Confirm with the **SET** key and exit the manual setting.

**Note:**

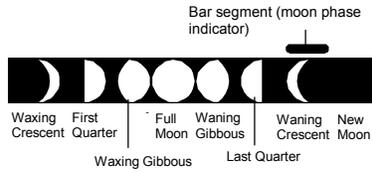
**If the Time Reception function is turned OFF manually, the clock will not attempt any reception of the DCF time as long as the Time Reception OFF function is activated. The time reception icon "Ⓜ" will not be displayed on the LCD.**

**TO EXIT THE MANUAL SETTING MODE**

To exit the manual setting mode anytime during the manual setting, wait for automatic timeout. The mode will return to normal time display.

**MOON PHASES SYMBOL**

The moon icon of the thermo-hygrometer will also display all 8 moon phases throughout the year according to the set calendar. A bar segment above the moon phase will indicate the current moon phase.



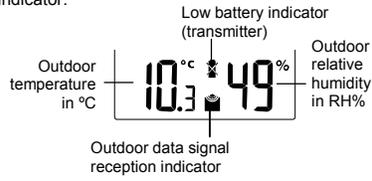
### INDOOR TEMPERATURE/HUMIDITY DATA

The indoor temperature and humidity data are automatically updated and displayed on the third section of the LCD.



### OUTDOOR TEMPERATURE/HUMIDITY DATA

The last LCD section shows the outdoor temperature and humidity, and the reception indicator.



### TOGGLING AND RESETTING THE MIN/MAX DATA

#### TO VIEW THE MIN/MAX DATA

Press the **MIN/MAX** key several times to view the MIN/MAX indoor temperature, and MIN/MAX outdoor temperature sequentially.

**TO RESET THE MIN/MAX DATA**

Press and hold **MIN/MAX** key for 3 seconds to reset all the indoor and outdoor temperature to current temperatures.

**ABOUT THE THERMO-HYGRO TRANSMITTER**

The range of the thermo-hygro transmitter may be affected by the temperature. At cold temperatures the transmitting distance may be decreased. Please bear this in mind when positioning the transmitters. Also the batteries may be reduced in power for the thermo-hygro transmitter.

**CHECKING FOR 868MHz RECEPTION**

If the outdoor temperature and humidity data are not being received within three minutes after setting up (or outdoor display always show "--") in the outdoor section of the thermo-hygrometer during normal operation), please check the following points:

1. The distance of the thermo-hygrometer or transmitters should be at least 2 meters away from any interfering sources such as computer monitors or TV sets.
2. Avoid placing the transmitters onto or in the immediate proximity of metal window frames.
3. Using other electrical products such as headphones or speakers operating on the 868MHz-signal frequency may prevent correct signal transmission or reception. Neighbors using electrical devices

operating on the 868MHz-signal frequency can also cause interference.

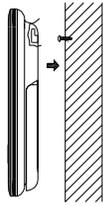
**Note:**

When the 868MHz signal is received correctly, do not re-open the battery cover of either the transmitter or thermo-hygrometer, as the batteries may spring free from the contacts and force a false reset. Should this happen accidentally then reset all units (see **"Setting up"** above) otherwise transmission problems may occur.

The transmission range is around 100 meters from the thermo-hygro transmitter to the thermo-hygrometer (in open space). However, this depends on the surrounding environment and interference levels. If no reception is possible despite the observation of these factors, all system units have to be reset (see **"Setting up"** above).

**POSITIONING THE THERMO-HYGROMETER**

The thermo-hygrometer provides the option of table standing or wall mounting the unit. Before wall mounting, please check that the outdoor data can be received from the desired locations.



**To wall mount:**

1. Fix a screw (not supplied) into the desired wall, leaving the head extended out by about 5mm.

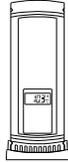
2. Place the thermo-hygrometer onto the screw, using the hanging hole on the backside. Gently pull the thermo-hygrometer down to lock the screw into place.



**Foldout table stand:**

The foldout table stand leg is located on the backside. Pull the stand out from the bottom center edge of the thermo-hygrometer, below the battery compartment. Once the foldout table stand is extended, place the thermo-hygrometer in an appropriate location.

**POSITIONING THE THERMO-HYGRO TRANSMITTER**



Mounting at a sheltered place.  
Avoid direct rain and sunshine.

The thermo-hygro transmitter can be placed onto any flat surface or wall mount using the bracket which doubles as a stand or wall mount base.



**To wall mount:**

1. Secure the bracket onto a desired wall using the screws and plastic anchors.
2. Clip the transmitter onto the bracket.

**Note:**

Before permanently fixing the thermo-hygro transmitter to the wall base, place all units in the desired locations to check that the outdoor temperature and humidity readings are receivable. In event that the signal is not received, relocate the thermo-hygro transmitter or the thermo-hygrometer slightly as this may help the signal reception.

**CARE AND MAINTENANCE**

- Clean the basic unit and the transmitter with a soft damp cloth. Do not use solvents or scouring agents. Protect from moisture.
- Remove the batteries if you do not use the product for a lengthy period.

**MALFUNCTION**

<b>Problems</b>	<b>Troubleshooting</b>
No indication on the thermo-hygrometer	<ul style="list-style-type: none"><li>• Ensure batteries polarity are correct</li><li>• Change batteries</li></ul>
No transmitter reception	<ul style="list-style-type: none"><li>• Check batteries of external transmitter</li></ul>

Display "---"	<p>(do not use rechargeable batteries!)</p> <ul style="list-style-type: none"> <li>• Restart the transmitter and thermo-hygrometer as per the manual</li> <li>• Choose another place for the transmitter and/or the thermo-hygrometer</li> <li>• Reduce the distance between the transmitter and the thermo-hygrometer</li> <li>• Check if there is any source of interference</li> </ul>
No DCF reception	<ul style="list-style-type: none"> <li>• Time reception setting "ON"</li> <li>• Choose another place for the thermo-hygrometer</li> <li>• Manual time setting</li> <li>• Wait for attempted reception during the night</li> </ul>
Incorrect display	<ul style="list-style-type: none"> <li>• Change batteries</li> </ul>

**WASTE DISPOSAL**

This product has been manufactured using high-grade materials and components which can be recycled and reused.



Never throw flat batteries and rechargeable batteries in household waste.

As a consumer, you are legally required to take them to your retail store or to appropriate collection sites according to national or local regulations in order to protect the environment. The symbols for the heavy metals contained are: Cd=cadmium, Hg=mercury, Pb=lead



This instrument is labelled in accordance with the EU Waste Electrical and Electronic Equipment Directive (WEEE). Please do not dispose of this product with other household waste. The user is obligated to

take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment, in order to ensure environmentally-compatible disposal.

#### **SPECIFICATIONS:**

##### **Temperature measuring range:**

Indoor: -9.9°C to +59.9°C with 0.1°C resolution  
("OF.L" displayed if outside this range)

Outdoor: -39.9°C to +59.9°C with 0.1°C resolution  
("OF.L" displayed if outside this range)

Indoor humidity range:  
20% to 95% with 1% resolution (Display "-" if temperature is OL.F; display "19%" if < 20% and "96%" if > 95%)

Outdoor humidity range :  
1% to 99% with 1% resolution (Display "--" if  
outside temperature is OF.L; display 1% if < 1%  
and 99% if > 99%)

**Data checking intervals**

Indoor temperature : every 16 seconds

Indoor humidity : every 64 seconds

Outdoor temperature and humidity:  
every 4 seconds

Transmission range :

up to 100 meters (open space)

**Power consumption**

(alkaline batteries recommended):

Thermo-hygrometer:

2 x AAA, IEC LR3, 1.5V

Thermo-hygro transmitter:

2 x AAA, IEC LR3, 1.5V

**Dimensions (L x W x H):**

Thermo-hygrometer : 81.8 x 20 x 127.1mm

Thermo-hygro transmitter: 36 x 16 x 102.6mm

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No part of this manual may be reproduced  
without written consent of TFA Dostmann. The  
technical data are correct at the time of going to  
print and may change without prior notice.

**DECLARATION OF CONFORMITY**

Herewith we declare, that this wireless  
transmission device does comply with the  
essentials requirements of R&TTE Directive  
1999/5/EC.

A copy of the signed and dated Declaration of  
Conformity is available on request via [info@tfa-  
dostmann.de](mailto:info@tfa-<br/>dostmann.de).  
[www.tfa-dostmann.de](http://www.tfa-dostmann.de)  
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