WIRELESS 868 MHz WEATHER STATION

Instructions manual Cat. No. 35.1068.IT

Thank you for choosing this instrument 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

Following the instruction manual for use will prevent damage to the device and loss of you 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. Likewise, we take no responsibility for any incorrect readings and for any consequences which may result from them. Please take particular note of the safety advice! Please look after this manual for future reference.

SCOPE OF SUPPLY:

- Weather station (basic unit)
- ٠ Outdoor transmitter
- Batteries (2 x AAA, 1.5 V and 2 x AA, 1.5 V) •
- Instruction manual

FIELD OF OPERATION AND ALL OF THE BENEFITS OF YOUR NEW WEATHER STATION AT A GLANCE:

- ION AT A GLANCE: DCF radio controlled time with manual setting option Time reception ON/OFF (user selectable) 12/24 hour time display Time zone option (±12 hours) Calendar display (day and month) Weather forecasting with weather tendency indicator Indoor comfort indicator •
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- Indoor comfort indicator Temperature display in °C/°F Indoor and outdoor temperature display with MIN/MAX records and time of reception Indoor humidity display as RH% with MIN/MAX records •
 - ٠
 - Weather icon sensitivity setting ٠ • LCD contrast selectable
- 42

- Can receive up to 3 channels •
- Low battery indicator Table standing or wall mounting • .

FOR YOUR SAFETY:

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- 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.



- 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



The outdoor temperature transmitter



- Remote transmission of outdoor temperature to weather station by 868 MHz signals
- Dual channel transmitter*: one internal channel and one probe channel Splash proof housing Wall mounting and table stand

This socket is only for the external probe. Do not apply power plug to it.

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Optional external probe

***DUAL CHANNEL TRANSMITTER** There is an internal sensor channel and an external probe channel in the transmitter.

Once the temperature transmitter is successfully recognized by the weather station, channel 1 of the weather station will display the temperature data measured by internal sensor and channel 2 will display the temperature measured by the probe. If the measuring probe is unplugged, the "probe channel" on weather station (channel 2) will show "---", yet the data from the internal sensor will still be shown on channel 1.



The probe can be connected to the remote temperature transmitter any time after initial setup. There is no need to reset the units, should the probe be unplugged or re-plugged again. The weather station will automatically detect the temperature probe data and will display the temperature data on channel 2 after the probe is plugged.

INSTALL AND REPLACE BATTERIES IN THE TEMPERATURE TRANSMITTER



2. 3.

The temperature transmitter uses 2 x AAA, IEC LR3, 1.5V batteries. To install and replace the batteries, please follow the steps below: 1. Remove the battery compartment cover. 2. Insert the batteries, observing the correct polarity (see marking).

Replace the battery compartment cover.

INSTALL AND REPLACE BATTERIES IN THE WEATHER STATION The weather station uses 2 x AA, IEC LR6, 1.5V batteries. To install and replace the batteries, please follow the steps below:





- Insert finger or other solid object in the space at the bottom center of the battery compartment and lift up to 1. remove the cover. Insert batteries observing the correct polarity (see
- - marking). Replace compartment cover.

Battery replacement

- Replace the batteries when the battery symbol of the weather station appears above the indoor humidity. When the batteries of the transmitter are used up, the low battery icon appears above
- the outdoor temperature display.

Note:

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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 because a security code is assigned by the temperature

transmitter at start-up and this code must be received and stored by the weather station in the first 3 minutes of power being supplied to it.

SETTING UP:

When one temperature transmitter is used:

- 1. First, insert the batteries into the temperature transmitter (see "Install and replace
- batteries in the temperature transmitter" above). Within 30 seconds of powering up the temperature transmitter, insert the batteries to the weather station (see "Install and replace batteries in the weather station" 2. above). Once the batteries are in place, all segments of the LCD will light up briefly. Then the indoor temperature and the time as 0:00 will be displayed. If they are not shown on LCD after 60 seconds, remove the batteries and wait for at least 60 seconds before reinserting them. Once the indoor data is displayed, proceed to the next step.
- After the batteries are inserted, the weather station will start receiving data signal from 3. the temperature transmitter.
- 4. If the optional probe has been plugged to the dual channel transmitter, the outdoor temperature should then be displayed on the weather station on channel 1 and 2. Also, the signal reception icon will be displayed. If this does not happen after 2 minutes, the batteries will need to be removed from both units and reset from step 1.

Note:

Channel 1 will show the reading from the internal sensor of the dual channel transmitter; channel 2 will show the reading sensed by the probe. If the probe is not plugged to the transmitter, " - -" will be shown on channel 2.

- 5. In order to ensure sufficient 868 MHz transmission, the final position between the weather station and the temperature transmitter should not be more than 100 meters (see notes on "Positioning" and "868 MHz reception").
- Once the remote temperature has been received and displayed on the weather station, the DCF time code reception is automatically started. This takes typically between 3-5 minutes in good conditions. If the DCF time not received within 10 6. minutes, press the SET button to adjust the time manually.

When two temperature transmitters are used

- Remove all the batteries from the weather station and temperature transmitters and 1. wait 60 seconds (if setting has been done with one temperature transmitter before).
- 2. 3.
- Nisert the batteries into the first temperature transmitter. Within 30 seconds of powering up the first temperature transmitter, insert the batteries into the weather station. Once the batteries are in place, all segments of the LCD will light up briefly. Then the indoor temperature and the time as 0:00 will be displayed. If

they are not shown on the LCD after 60 seconds, remove the batteries and wait for at least 60 seconds before reinserting them.

- 4. If the probe sensor has been installed to the first temperature transmitter, the outdoor temperature readings from the first temperature transmitter (channel 1 and 2) should then be displayed on the weather station. If this does not happen after 2 minutes, the batteries will need to be removed from both units and reset from step 1.
- Insert the batteries into the second temperature transmitter as soon as the outdoor temperatures from the first temperature transmitter are displayed on the weather station.

Note: Insert the batteries into the second transmitter within 20 seconds of reception of the first temperature transmitter.

6. After the weather station has received the second temperature transmitter successfully, channel 3 will only show the data, which will be measured by the internal sensor of the second dual channel transmitter. The measuring data of the external probe of the second temperature transmitter will not be shown on the display of the weather station. The outdoor temperature reading from the second temperature transmitter will be shown on the display of the second temperature be shown on the display of the weather station and the shown channel number will be shift back to "1", to indicate that all three channels are running successfully. If this does not happen within 2 minutes, the batteries will need to be

removed from all the units and reset from step 1.

 Once the external data has been received and displayed on the weather station, the DCF time code reception is automatically started. This takes typically between 3-5 minutes in good conditions.

NOTE FOR RADIO-CONTROLLED TIME DCF:

The time base for the radio-controlled time is a caesium atomic clock operated by the Physikalisch Technische Bundesanstalt Braunschweig. It 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 clock receives this signal and converts it to show the precise time. Changeover from summer time or winter time is automatic. The quality of the reception depends mainly on the geographic location. Normally there should be no reception problems within a 1,500 km radius around 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,

- 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. deviation below 1 second.

FUNCTION BUTTONS:

Weather station:

The weather station has 4 easy to use function buttons:



SET button

Press and hold the button to enter manual setting modes: LCD contrast, time zone, time reception ON/OFF, 12/24 hour display, manual time setting, calendar, temperature $^{\circ}C/^{\circ}F$ and weather icon sensitivity setting

- IN button (indoor)
 To adjust LCD contrast, time zone, time reception ON/OFF, 12/24 hour display, hour, , year, day (month in 12 hour display), °C/ °F and weather forecasting icon sensitivity in setting mode
- Press to toggle between MAX/MIN and current indoor temperature and indoor humidity data
- If the button is pressed longer than 3 seconds, all the stored minimum and maximum values of indoor temperature and indoor humidity will be deleted (all data will be reset to the actual data).

- OUT button (outdoor)
 To adjust minute and month (day in 12 hour display) in setting mode
- Press to toggle between MAX/MIN and current outdoor temperature data •
- If the button is pressed longer than 3 seconds, all the stored minimum and maximum values of outdoor temperature will be deleted (all data will be reset to the actual data). •

CH button (channel)
Exit the manual setting mode
Press and switch among display of channels (if more than 1 channel is used)



* When the outdoor signal is successfully received by the weather station, this icon will be switched on (if not successful, the icon will not be shown in LCD). So you can easily see whether the last reception was successful (icon on) or not (icon off).

 MANUAL SETTINGS:

 The following manual settings can be done in the setting mode. Press and hold the SET button for about 3 seconds to advance to the setting mode:

 LCD contrast setting

 Time zone setting

 Time reception ON/OFF setting (RCC)

 12/24 hour time format setting

- ٠ Manual time setting
- :
- Calendar setting (year, month, date) °C/ °F temperature unit setting Weather forecasting icon sensitivity setting

LCD CONTRAST SETTING



The LCD contrast can be set in 8 different levels (0 to 7) (default LCD contrast setting is

- Press and hold the SET button until the display is flashing.
 Use the IN button to select the desired level of contrast.
 Press the SET button to confirm and enter the "Time zone setting".

TIME ZONE SETTING:



- The time zone default of the weather station is "Oh". To change to another time zone:
 The actual value of the time zone is flashing.
 Use the IN button to set the desired time zone. The range runs in one-hour intervals from 0 to +12, then switch to -12 and runs back to 0.
 Press the SET button to confirm and enter the "Time reception On/Off setting".



TIME RECEPTION ON/OFF SETTING

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



In areas where reception of the DCF 77 time code is not possible, the DCF time reception function can be disabled. The clock will then work as normal quartz clock (default ON). 1.

The digit "ON" will start flashing on the LCD. Use the IN button to deactivate the time reception function. Press the SET button to confirm and enter the "12/24-Hour display setting". 2. 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 is activated again (ON). The time reception icon will not be displayed on the LCD.

12/24 HOUR TIME DISPLAY SETTING



The time display can be set either in 12 - or 24 - hour format (default 24 hour format) 1. Use the IN button to select the "12 h" or "24 h" display mode.

- 2.
 - Press the SET again to confirm and to enter the "Manual time setting".

Note:

When 24 h mode display is selected, the calendar format will be "date and month" display. When 12 h mode display is selected, the calendar format will be "month and date" display.

MANUAL TIME SETTING In case the weather station is not able to detect the atomic time (DCF) signal (disturbances, transmitting distance, etc.), the time can be manually set. The clock will then work as a normal quartz clock.



1. The hour and minute digits start flashing in the time display section.



- 2. Press the IN button to adjust the hours and press the OUT button to adjust the minutes.
- Press the SET button to confirm and enter the "Calendar Setting" or press the CH button to exit the setting mode. 3.

CALENDAR SETTING





"Date and month" (for 24h time display) "Month and date" (for 12h time display)

The date default of the weather station is 1. 1. of the year 2011 after initial set-up. Once the The year is flashing.
 Use the IN button to set the year required. The range runs from 2011 to 2039.
 Press the SET button to enter the month and day setting mode.

- 4. The month and day digit will be flashing. Press the IN button and the OUT button to
- adjust day and month. 5.
- Press the SET button to confirm. Then the digit "10" will be displayed and flashing. Press the SET button to enter the "°C/°F temperature unit setting" or press the CH 6. 7. button to exit the setting mode.

°C/°F TEMPERATURE UNIT SETTING



The temperature display can be set in ° C (degree Celsius) or ° F (degree Fahrenheit) (default temperature reading is °C).

Use the IN button to toggle between ° C or °F as the desired temperature unit. Press the SET button to confirm and enter the **"Weather forecasting icon sensitivity** ì. 2. setting".

WEATHER FORECASTING ICON SENSITIVITY SETTING:

For locations with rapid changes of weather conditions, the weather icons sensitivity can be set to a different level for faster display of weather conditions.





- 1. 2.
- The current sensitivity value will start flashing. Use the IN button to set the weather sensitivity level. There are 3 levels of setting: 1, 2 and 3. Level 1 is the most sensitive setting, level 3 is the slowest recording setting (default setting is "2"). Press the SET button to confirm and exit the manual settings.
- 3.

WEATHER FORECAST AND WEATHER TENDENCY: WEATHER FORECASTING ICONS: Weather icons in the third section of LCD can be displayed in any of the following combinations:



For every sudden or significant change in the atmospheric pressure, the weather icons will update accordingly to represent the change in weather. If the icons do not change, then it means either the atmospheric pressure has not changed or the change has been too slow for the weather station to register. However, if the icon displayed is a sun or raining cloud, there will be no change of icon if the weather gets any better (with sunny icon) or worse (with rainy icon) since the icons are already at their extremes. The icons displayed forecasts the weather in terms of getting better or worse and not

necessarily sunny or rainy as each icon indicates. For example, if the current weather is cloudy and the rainy icon is displayed, it does not mean that the product is faulty because it is not raining. It simply means that the atmospheric pressure has dropped and the weather is expected to get worse but not necessarily rainy.



Note:

After setting up the weather station the readings for weather forecasts should be disregarded for the next 12-24 hours. This will allow sufficient time for the weather station to collect atmospheric pressure data at a constant altitude and therefore result in a more accurate forecast.

Common to weather forecasting, absolute accuracy cannot be guaranteed. The weather forecasting feature is estimated to have an accuracy level of about 75% due to the varying areas the weather station has been designed for use. In areas that experience sudden changes in weather (for example from sunny to rain), the weather station will be more accurate compared to use in areas where the weather is stagnant most of the time (for example mostly sunny).

If the weather station is moved to another location significantly higher or lower than its initial standing point (for example from the ground floor to the upper floors of a house), discard the weather forecast for the next 12-24 hours. By doing this, the weather station will not mistake the new location as being a possible change in atmospheric pressure when really it is due to the slight change of altitude.

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WEATHER TENDENCY INDICATOR



Working together with the weather icons is the weather tendency indicators (located on the right sides of the weather icons). When the indicator points upwards, it means that the atmospheric pressure is increasing and the weather is expected to improve, but when indicator points downwards, the atmospheric pressure is dropping and the weather is expected to become worse.

Taking this into account, one can see how the weather has changed and is expected to change. For example, if the indicator is pointing downwards together with cloud and sun icons, then the last noticeable change in the weather was when it was sunny (the sun icon only). Therefore, the next change in the weather will be cloud with rain icons since the indicator is pointing downwards.

Note:

Once the weather tendency indicator has registered a change in atmospheric pressure, it will remain permanently visualized on the LCD.

THE COMFORT LEVEL INDICATOR:

Comfortable Uncomfortable

A happy face icon "©" indicating a temperature level between 20°C and 25.9°C and relative humidity reading between 45% and 65%. A sad face icon "S" indicating any value outside the comfortable range.

INDOOR RELATIVE HUMIDITY AND INDOOR TEMPERATURE: The indoor temperature and humidity data and the indoor comfort indicator are automatically updated and displayed on the fourth section of the LCD. M|N icon



TOGGLING AND RESETTING THE INDOOR READINGS:

Press the IN button to toggle between the current, lowest and highest indoor 1. temperature and humidity data as well as the time and dates of the recorded MIN/MAX indoor temperature.



<u>Press once:</u> The display shows the recorded MIN indoor temperature and humidity data with the recorded time and date. <u>Press twice:</u> The display shows the recorded MAX indoor temperature and humidity data with the recorded time and date; <u>Press three times</u>: The display returns to the current displayed values for time, date, indoor temperature and indoor humidity.





 Press and hold the IN button for 3 seconds to reset the MAX/MIN indoor temperature and indoor humidity values and the time of recording. All recorded MAX/MIN values will be reset to the actual value of time, date, indoor temperature and indoor humidity. The recorded MAX/MIN temperature and humidity values of the day match those of the current time and remain unaffected by the time zone setting.

OUTDOOR TEMPERATURE

The fifth LCD section shows the outdoor temperature, the reception indicator, the channel identification number and the MIN/MAX outdoor data.



TOGGLING AND RESETTING THE OUTDOOR DATA

 Press the OUT button to toggle between the current, lowest and highest outdoor temperature as well as the time and dates of the recorded MIN/MAX outdoor temperature.



Press the OUT button once to show the MIN outdoor temperature data with the recorded time and date. Press the OUT button twice to show the MAX outdoor temperature data with the recorded time and date. Press the OUT button three times to return to the current displayed values.



2. Press the OUT button while the maximum and minimum temperature is displayed to reset the values to the present temperature.

Note: The MIN/MAX data of different channels needs to be reset individually.

ABOUT THE OUTDOOR TRANSMITTER

The outdoor temperature is measured and transmitted every 4 seconds. The range of the temperature transmitter may be affected by the temperature. At cold temperatures the transmitting distance may be decreased. Please keep this in mind when placing the transmitter.

868 MHz RECEPTION

If the outdoor temperature data is not received 5 minutes after setting up (the outdoor display shows "- - -"), please check the following points:
The distance of the weather station or transmitter should be at least 1.5 to 2 meters

- away from any interfering sources such as computer monitors or TV sets.
- 2. Avoid positioning the weather station onto or in the immediate proximity of metal window frames.
- Using other electrical products such as headphones or speakers operating on the same signal frequency (868MHz) may prevent correct signal transmission and 3. reception.

4. Neighbours 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 temperature transmitter or weather station, 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 about 100 m from the temperature transmitter to the weather station (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).

POSITIONING THE WEATHER STATION: The weather station may be hung onto wall easily or free standing.

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To wall mount
Before wall mounting, please check that the outdoor temperature values can be received from the desired locations.
1. Fix a screw (not supplied) into the desired wall, leaving the head extended out the by about 5mm.
2. Hang the station onto the screw. Remember to ensure that it locks into place before releasing.



Free standing With the foldout stand, the weather station can be placed onto any flat surface.

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POSITIONING THE TEMPERATURE TRANSMITTER:



The temperature transmitter is supplied with a holder that may be attached to a wall with the two screws supplied. The temperature transmitter can also be position on a flat surface by securing the stand to the bottom of the temperature transmitter.

 To wall mount:

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

Clip the temperature transmitter onto the bracket.

Note:

Before permanently fixing the temperature transmitter wall base, place all units in the desired locations to check that the outdoor temperature reading is receivable. In event that the signal is not

received, relocate the temperature transmitters or move them slightly as this may help the signal reception.

- CARE AND MAINTENANCE
 Clean the instrument 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.

TROUBLESHOOTING

Problems	Solutions
No indication on the weather station	Ensure batteries polarity are correctChange batteries
No transmitter reception Display ""	 Check batteries of external transmitter (do not use rechargeable batteries!) Restart the transmitter and weather station as per the manual Choose another place for the transmitter and/or the weather station Reduce the distance between the transmitter and the weather station

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	 Check if there is any source of interference
No DCF reception	 Time reception setting "ON"
	 Choose another place for the weather station
	 Manual time setting
	 Wait for attempted reception during the night
Incorrect display	Change batteries

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).



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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: Recommended operating temperature range : +5°C to +40°C / +41°F to +104°F

- Temperature measuring range:

 Indoor
 9.9°C to +59.9°C with 0.1°C resolution / 14.1°F to +139.8°F with 0.2°F resolution ("OF.L" displayed if outside this range)

 Outdoor
 39.9°C to +59.9°C with 0.1°C resolution / -39.8°F to +139.8°F with 0.2°F resolution ("OF.L" displayed if outside this range)

 Outdoor
 39.9°C to +59.9°C with 0.1°C resolution / -39.8°F to +139.8°F with 0.2°F resolution ("OF.L" displayed if outside this range)

 Relative humidity measuring range:

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

:	every 16 seconds
:	every 16 seconds
:	every 4 seconds
:	2 x AA, IEC, LR6, 1.5V
:	2 x AAA, IEC, LR3, 1.5V
	:

Battery life cycle (Alkaline batteries recommended) Weather

Weather station	:	Approximately 24 months
Temperature transmitter	:	Approximately 12 months
Dimensions (L x W x H)		
Weather station	:	80.8 x 30.9 x 143.2 mm (3.18" x 1.22" x 5

: 80.8 x 30.9 x 143.2 mm (3.18" x 1.22" x 5.64") : 41 x 19 x 128 mm (1.61" x 0.75" x 5.04")

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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. www.tfa-dostmann.de 03/12

Temperature transmitter

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