Meteotime DUO
Instruction manual

Radio controlled weather station with professional weather forecast via DCF 77 signal and local measuring values via indoor sensors and wireless outdoor transmitters

Cat. no. 35.1100

METEOTIME DUO
Wireless Weather Station
Instruction manual
Art.No.: 35.1100

Thank you for choosing this instrument from TFA.
Before you use this product
Please make sure you read the instruction manual carefully.
This information will help you to familiarize yourself with your new device, to learn all of its functions and parts, to find out important details about its first use and how to operate it and to get advice in the event of a malfunction.
Following and respecting the instructions in your manual will prevent damage to your instrument 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 non-following of these instructions.
Likewise, we take no responsibility for any incorrect readings or for any consequences resulting from them.

Please take particular note of the safety advice!
Please keep this instruction manual safe for future reference.

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BY Lai H Z 17/11/2016 Rev.1

Delivery contents
• Wireless Weather Station
• Thermo-hygro transmitter (cat.-no. 30.3150)
• Anemometer (cat.-no. 30.3149)
• Rain transmitter (cat.-no. 30.3148)
• USB cable
• Instruction manual

Range of application and all the benefits of your new instrument at a glance

Characteristics and functions:
The METEOTIME DUO radio weather station unites the need for a forecasting station with professional, multi-day weather forecasts across the DCF signal and a classical radio weather station with its own local sensors and external transmitters.
With its own built-in memory, 3000 weather entries can be stored, which can be saved on a PC by using a USB gateway, and can be displayed in the software.

Professional weather forecast via DCF 77 Signal
• Professional weather forecast (day/night) with expected highest and lowest temperatures for 90 meteorological regions in Europe
• Daily transmission via DCF signal
• Text display for critical weather situations
• Rain probability
• Wind velocity and direction
• Time for sun rising and setting
• Radio controlled clock with date

Local measuring values via sensors
• Wireless transmission (433 MHz) of outdoor temperature and humidity (range up to 100 m in free field), quantity of rainfall, wind velocity and direction (up to 30 m in free field) from the exterior sensors to the display station
• Capable of taking up to 5 outdoor temperature/humidity transmitters, also for the climate control of remote rooms, e.g. children's room, wine-cellar, greenhouse
• Indoor temperature and humidity with comfort level indicator of indoor climate
• Absolute and relative atmospheric pressure with 24 hours history
• Bar graph indication of atmospheric pressure, temperature or humidity for the last 24 hours
• Indication of moon phase
• Windchill factor and dew point
• Programmable alarm functions for certain weather conditions, like temperature alarm, stormwarning
• Maximum and minimum values
• Data memory for 3000 weather records
• PC- interface with analysis software package
• LED Backlight with light sensor (in continuous operation with power adapter)
• For wall mounting or free standing

For your safety:
• This product is exclusively intended for the range of application described above. The product should only be used as described within these instructions.
• Unauthorized repairs, alterations or changes to the product are not permitted.

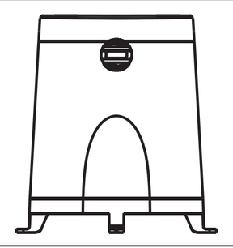
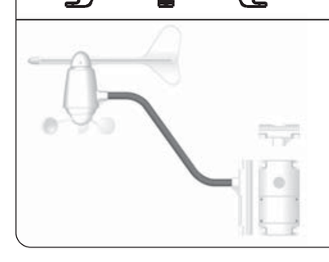
Caution!
Risk of electrocution!
• Plug the base station only into a mains socket installed within electrical safety regulations and with a 230V mains voltage!
• The mains socket must be installed near the equipment and it must be easily accessible.
• The base station and the power adapter must not come into contact with water or moisture. It should be operated in dry interiors.
• Do not use the device if the housing or the power adapter are damaged.
• Keep the device out of reach of persons (including children) who cannot fully appreciate the potential risks of handling electrical equipment.
• Unplug the device immediately if any fault occurs or if the device is not to be used for a long period of time.
• Please use only the supplied power adapter.
• Connect the lead to the base station first, then plug the power adapter into the mains socket.
• Do not pull the plug out of the mains socket by its lead.
• Route the power adapter lead so that it does not come into contact with sharp-edged or hot objects.

Caution!
Risk of injury:
• Keep these instruments and the batteries out of reach of children.
• Batteries must not be thrown into a 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 leaking.
• Never use a combination of old and new batteries together, nor batteries of different types. Wear chemical-resistant protective gloves and safety glasses when handling leaking batteries.

Important information on product safety!
• Do not expose your device to extreme temperatures, vibrations or shocks.
• Protect it from moisture.
• The Thermo-hygro transmitter are splashproof, but not watertight. Should you decide to use the transmitters in the outdoor area, choose a shady and dry place for them.

Index:

A: Setting up
1. Setting up the remote weather sensors
Before starting up the main console unit, setup all the remote sensors first.
When placing the sensors, make sure that they are within receiving range of the console unit. (thermo-hygro sensor: range up to 100 m in free field, rain and wind sensor: up to 30 m in free field). Ideally they should be within the line of sight of the console unit. Transmission range may be affected by trees, metal structures and electronic appliances. Test reception before permanently mounting your weather station.
Also make sure that the sensors are easily accessible for cleaning and maintenance.
The remote sensors should be cleaned on a weekly basis, since dirt and debris will affect sensor accuracy.

	Hardware Components	Fittings
	• Thermo-Hygro Sensor	
	Rain Sensor: • Funnel shaped Lid with Battery Hatch • Sensor Base • Bucket See-saw Mechanism • Protective Screen	4 screws for securing unit to ground
	Anemometer (Wind Sensor): • Wind Cup • Wind Vane • Anemometer arm • Anemometer base	4 screws for securing unit to vertical surface

1.1 Setting up the Thermo-Hygro Sensor(s)
1. Open the latch at the base of the thermo-hygro sensor.
2. Set the channel with a slide switch.
3. Insert 2 x "AA" size 1.5V batteries.
4. Replace the latch and mount unit at desired location.
Placement tips:
- The thermo-hygrometer sensor should be in an area with free air circulation and sheltered from direct sunlight and other extreme weather conditions. Place the unit in a shaded area, such as under a roof.
- Use the wall mount hole if mounting the unit on a vertical surface.
- Avoid placing the sensor near sources of heat such as chimneys.
- Avoid any areas which collect and radiate heat in the sun, such as metal, brick or concrete structures, paving, patios and decks.
- Ideally, place the sensor above natural surfaces such as a grassy lawn.
- The international standard height for measurements of air temperature is at 1.25m (4 ft) above ground level.

1.2 Setting up the Rain Sensor
1. Unlock the funnel-shaped top of the rain sensor by turning both knobs on the sides of the rain sensor in an anti-clockwise direction.
2. Lift the top off the base and insert 2 x "AA" size 1.5V batteries into the battery holder.
3. Remove the adhesive tape for transport lock.
4. Replace the lid and secure into place by turning the knobs clockwise.
5. Place the rain sensor in a location such that precipitation can fall directly into the sensor, ideally 2-3 ft above the ground.
It may be secured into place by using the four screws provided.
6. The sensor must be accurately level for optimum performance. To check if the sensor is level, remove the lid and check if the ball bearing inside is at the midpoint of the leveller. Additionally, a bubble level or carpenter's level may be used.
7. Attach the protective screen onto the top of the lid. The screen will prevent any debris entering the sensor.
Placement tips:
- The rain sensor should be placed in an open area away from walls, fences, trees and other coverings which may either reduce the amount of rainfall into the sensor, deflect the entry of wind-blown rain, or create extra precipitation runoff. Trees and rooftops may also be sources of pollen and debris.
- To avoid rain shadow effects, place the sensor at a horizontal distance corresponding to two to four times the height of any nearby obstruction.
- It is important that rain excess can flow freely away from the sensor. Make sure that water does not collect at the base of the unit.
- The rainfall measurement mechanism utilizes a magnet, hence do not place any magnetic objects around the proximity of the sensor.

1.3 Setting up the Anemometer (wind sensor-solar powered)
1. Plug the wind wheel on the pin at the bottom of the anemometer. Please note the shape of the pin. With the enclosed Allen wrench tool tighten the screw through the screw hole.
2. Insert 2 x 1.5 V AA batteries (optional, not included) into the battery compartment in the base, observing the correct polarity. The anemometer is solar-powered. The batteries will operate as a backup power source.
3. Insert the adapter into the jack. The rechargeable battery is already installed and now ready to use.
4. Mount the bracket by using the enclosed mounting material preferably at a mast or on a vertical surface.
5. To ensure that the main console unit can display the correct wind direction, the wind vane has to be oriented with its head to the north, while the complete wind vane is in line with the anemometer's arm (fin is in line with the anemometer's arm, tip shows to the other direction). Use a compass if necessary.
Note: If it is not possible to place the anemometer's arm to the north as provided by default, the wind direction has to be adjusted manually.
i. Insert the backup batteries (where required) and plug the adapter into the jack.
ii. Point the wind vane towards the north. Use a compass if necessary.
iii. Use a pin to press the "SET" key which is in the battery compartment of the wind sensor. Above procedure must be repeated for changing battery.

Placement tips:
- Check that wind can travel freely around the anemometer and is not distorted by nearby buildings, trees or other structures.
- The official mounting location for anemometers is 10m (33 ft) above ground level in a clear unobstructed location.

2. Setting up the main unit
The console unit measures indoor temperature, humidity, pressure and receives signals from all remote sensors and the DCF signal for radio controlled time and weather forecasts.
1. Open the latch at the back of the main console unit.
2. Insert 4 x AA size 1.5V batteries according to the polarities shown.
3. Reattach the latch.
4. You are highly recommended to connect the AC/DC adaptor. For the feature of the automatic backlight control function, the AC/DC adaptor must be used.
5. If placing the console unit on a table or horizontal surface, fold out the table stand and adjust to the optimal viewing angle.
6. If mounting the console unit on a wall or vertical surface, fold the table stand back into the unit and use the wall mount hole.

3. Reception of the outdoor transmitters by the main unit
Once the main unit is properly powered, the lower display will start showing some data and weather parameters. Wait for a few minutes for the console to finish self-calibration and for the sensor readings to show up.
If " --- " is still displayed for the sensor reading(s), check the wireless transmission path and the batteries for the corresponding sensor. You can try to orient the antenna for a better reception.

Placement tips:
Make sure that the console unit is within receiving range of all remote sensors. Ideally sensors should be within the line of sight of the console unit. Transmission range may be affected by trees, metal structures and electronic appliances. Test reception before permanently mounting your weather station.
Avoid placing the console unit in the following areas:
- Direct sunlight and surfaces which radiate and emit heat.
- Near heating and ventilation devices, such as heating ducts or air conditioners.
- Areas with interference from wireless devices (such as cordless phones, radio headsets, baby listening devices) and electronic appliances.

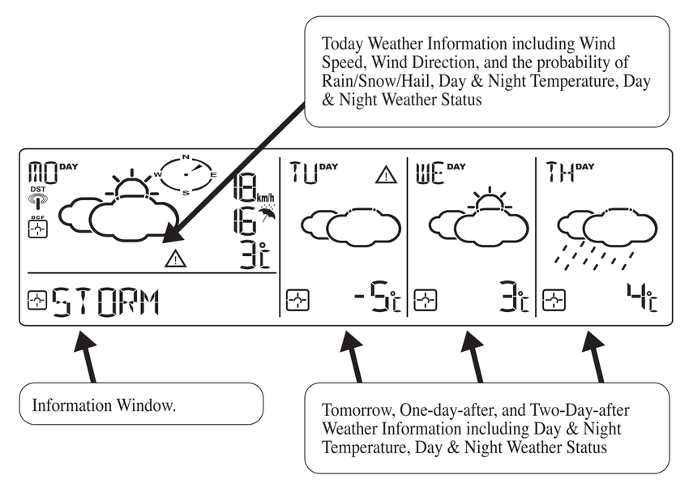
4. Setting pressure parameters
After batteries were inserted, the HPa/MBar flashes on the display.
In this period you can set the pressure parameters (see 2.5).

5. Reception of RC time and METEOTIME weather forecast information
• After installing the batteries the weather station is searching automatically for the time signal and Meteotime reception signal ("SUCHE SIG./SEARCH SIG"). If the Meteotime signal is received successfully, in the information window "LAND EINST. / COUNTRY is shown.
• You can make your settings now or later (see 1.3.4).

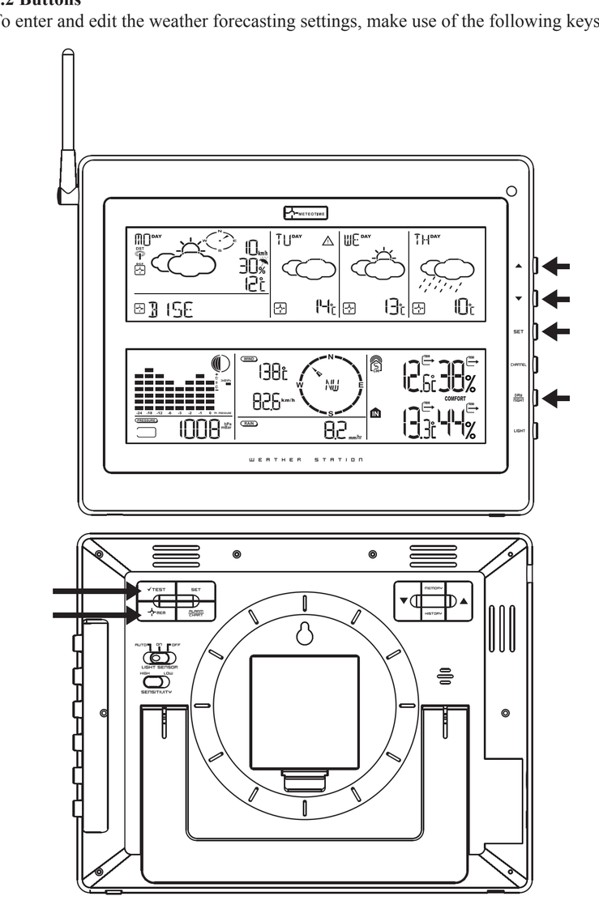
B. Operation
1. METEOTIME forecast information
1.0 Introduction
Meteotime DUO provides a professional weather forecast for the current and the next three days. The weather forecasts are made by professional meteorologists and are sent out with the radio-time signal generator DCF77 in Germany and HBG in Switzerland and can be received in almost all of Europe. The reception area for the radio-time signal generator is divided into a total of 90 meteorological regions (60 regions with 4 day forecast, 30 regions with 2 day forecast). The desired city is simply selected and the respectively current weather forecast for the region is shown on the display. This gives you a quick overview of the weather situation for the following days at any time. Updating the weather data is done every day.

This weather station allows the reception of weather data of the private provider Meteotime via DCF or HGB signal without time limit and additional costs.
Meteotime is responsible for the dispatch and the correctness of the transmitted data.
60 regions with 4 days forecast (390 cities)
30 regions with 2 days forecast (80 cities)

1.1 Display (upper window)
The Meteotime Weather Station LCD display shows:
• Today Weather Information Window
• Tomorrow, One-day-after, and Two-day-after Weather Information
• Information Window which shows Time & Date, Sunrise & Sunset, Cities, and Critical Weather Information Description.



1.2 Buttons
To enter and edit the weather forecasting settings, make use of the following keys:



SET
- Selected City ⟷ Time + Date ⟷ Sunrise + Sunset
- Press and HOLD [SET] for 3 second to select your <1> Country, <2> Time Zone, <3> Language, <4> Contrast of the LCD display

DAY/NIGHT
- Critical Weather Information ⟷ Day/Night Weather Status Change

▲
- Increase the value during setting
- Choose one of the pre-selected cities

▼
- Decrease the value during setting
- Choose one of the pre-selected cities

TEST √
- Find the place for the device which has a good reception
- Add the city to the list of your desired cities or remove the city from the list of desired cities
- Edit your home town

MEM
- Personalizing a city name

1.3. Reception of time and weather data
1.3.1 Reception of time
• The time and date appear within a few minutes after inserting batteries in the main station.
Reception indicator for radio-time signal generator:
• Symbol flashing →Initial reception of date and time
• Symbol on → Time and date are current
• Symbol off → Time and date have not been updated

1.3.2 Reception of weather data
• The transfer of larger quantities of data for the forecast takes much longer:
In order to receive all data, the station requires 24 hours after start-up.

Reception indicator for weather data
• Symbol → Weather data completely received
• Symbol → Weather data incomplete

1.3.3 Choosing the installation location
• Similar to a mobile telephone network or radio/TV reception, the reception of the radio-time receiver may not be perfect in all locations. Just a couple of notes to make sure that your device works with no problems.

1.3.3.1 Reception test
• The location of the weather station is very important. This is the reason for the new test function that allows the quality of reception to be checked in the surrounding area and to position the device in a location that has the best possible conditions.
• Switch on all potential sources of interference (e.g. television) in the area you want to install the station during the test!
• Position the device in the location, oriented as you prefer, but at least one meter from the possible source of interference.
• Press the <TEST> button for at least 3 seconds to activate the test for the reception of weather data. The text "SCAN" is shown on the display. The reception indicator for the weather data shows the quality of reception. The reception is good if the indicator is shown, otherwise a new location must be found for installing the weather station.
• The reception test is either ended after approx. 1 minute automatically or by actuating the <TEST> button.

1.3.3.2 Possible sources of interference
Interferences as with a radio transmitter can occur and could be caused by the following influences:
• In buildings with a lot of concrete, metal parts and electrical systems, reception problems can occur (e.g. malls).
• Electrical devices such as television, computer, house-hold devices, etc. or transformers, land lines, radio transmitters and railways are possible direct sources of interference.
• Atmospheric influences and geographical features (mountains, etc.) can affect the propagation of the radio waves.
• The distance from the transmitter does also influence the reception. Areas such as Southern Italy or Northern Scandinavia are also critical areas because of the great distances from the transmitter.
• In all regions, so-called "dead spots" can occur making reception impossible.
• Weak batteries in the device decrease the quality of reception.

1.3.4 Set time zone, language and contrast
- After installing the batteries the weather station is searching automatically for the time signal and Meteotime reception signal ("SUCHE SIG./SEARCH SIG"). If the Meteotime signal is received successfully, in the information window "LAND EINST. / COUNTRY is shown.
Remark: If you do not have any selection into the setup mode up to 60 seconds, it will automatically exit the setup mode.In this case press and hold [SET] for 3 seconds to enter the setup mode.
- Press [SET] again, then ZONE +00HR is shown in the Information window, press [▲] or [▼] key to adjust the time zone.
- Note!
- The time received from the radio-time signal generator DCF or HBG is Central European Time (CET, CEST). Setting the time zone is therefore only required for other time zones (e.g. in Portugal or Great Britain).
- Press [SET] again, then the language will be shown in the Information window, press [▲] or [▼] key to select your desired language. There are seven languages for selection, namely German, English, Spanish, French, Italian, Dutch, Swedish

- Press [SET] again, then CONTRAST, 3 is shown in the Information window, press [▲] or [▼] key to adjust the LCD contrast Level.
- Press [SET] again and EXIT will shown in the information window. After 4 seconds, it will go automatically to the City-Date-Time Mode

1.3.5 Select the country and city/cities
- Press and Hold [SET] for 3 seconds, COUNTRY is shown in the Information window.
- Press [▲] or [▼] key to select the country. For example, you have selected the country name D/GER (Germany).
- Press [SET] key to confirm the Country, and then the information window will show CITY.
- Press [▲] or [▼] key to select the city, and the city name will be shown in the information window, for example FRANKFURTM (Frankfort-on-Main).
- If the city 'Frankfurt am Main' is your selection, then press [TEST √] key to confirm. A √ will be shown on top of your selected city, and it will be FRANKFURTM and 'Frankfort-on-Main' will store into your personal memory list
- Then, you are able to press [▲] or [▼] key to select more cities, and then press [TEST √] key to confirm. You are able to select maximum 5 cities to display. If you want to add more cities, then MEMFULL will be shown in the information window.
- Press [TEST √] key to remove the √ , and this city is removed out of your list of preference cities you have selected.
- Press [SET] key to quit, and EXIT will be shown in the information window.

REMARK: If you haven't chosen a city in the first time you power up the unit, the product will default select Frankfurt am Main as your selected city.

1. 4 How to operate

1.4.1 Switch CITY ←→ SUNRISE & SUNSET TIME ←→ TIME & DATE
- Press [SET] to switch from the display of the City to Sunrise & Sunset time OR Time & Date for your selected city.
FRANKFURTM ⟵[SET]⟶ 6 19 19 38 ⟵[SET]⟶ 14 23 26 5

1.4.2 Switch DAY WEATHER INFORMATION ←→ NIGHT WEATHER INFORMATION
- The unit is preset to show DAY-WEATHER after sunrise time, and NIGHT-WEATHER after SUNSET time. If the NIGHT-WEATHER is currently shown, the user can press the [DAY/NIGHT] button to see the DAY-Weather (for 10 seconds), or vice verse.

1.4.3 Display of more cities
- If you have selected more than one city, for example Frankfurt am Main, Köln and Münster in your desired city list, then you are able to press [▲] or [▼] key when the Information window shows the CITY NAME (Press [SET] until it displays the city name).
FRANKFURTM ⟵[▲/▼]⟶ KÖLN ⟵[▲/▼]⟶ MUNSTER
- When you select another city, the sunrise and sunset time and the weather information will be shown of this city.

1.4.4 How to personalize a city name
- Press and Hold [SET] for 3 second. In the information window, COUNTRY is shown, and then press [▲] or [▼] key to select the country, for example D/GER for Germany.
- Press [SET] key to confirm the Country and the information window will show CITY.
- Then, press [▲] or [▼] key to select the city, and the city name will be shown in the information window such as FRANKFURTM, and you would like to enter a new city name which is near the region of Frankfort-on-Main.
- Press the 'MEM' key ; a *cursor flashes* on the first position of the Information window

Use the following key for data entry:

KEY	Function
'▲' or '▼'	Selection of a letter
SET	<1> Accept the selected letter and jumps to the next position. OR <2> If you have not entered any letter (in other words, if only the cursor is flashing at the last position), confirm the entry with this key and your place will also be included in the memory with immediate effect
TEST	One position back in the data entry process

** The place that you have selected to enter your own description will still exist under its own name.
- Press [SET] key to confirm and exit

1.4.5 Critical weather information
- The Meteotime weather signal contains critical weather information such as gust, frozen rain, heavy snow, thunder, strong UV, dense fog etc. for today and the coming three days.
- A critical weather alert signal ⚠ will be turned on in case that day has critical weather that the user must know.

- Sometimes there is more than one critical weather information in the 4-days. Press [DAY/NIGHT] key to read the critical weather information one by one. The special icon of the day will flash when you read the information.
- Press [SET] key to go back to the display of **CITY ←→ SUNRISE & SUNSET TIME ←→ TIME & DATE.**
- If no key is pressed, the critical weather information will toggle to make sure you are aware of the critical weather details

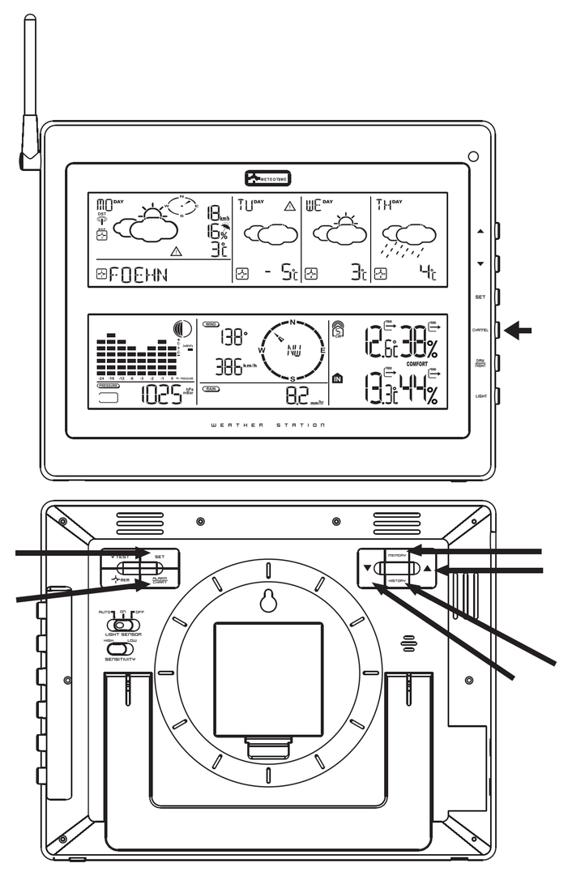
1.5 Exclusion of warranty for METEOTIME weather information
• This weather station is intended for private usage as an indicator for future weather. The forecasts of this device are to be used as orientation values and do not represent absolute, precise forecasts.
• The manufacturer or distributor of this weather station assumes no responsibility for incorrect values or any results that may occur because of these values.
• The weather station is not intended for medical purposes or for the information to the public.
• The manufacturer or distributor has no influence on the transferred weather data or forecasts.
• The capabilities of the weather station depend on the operational functionality of the transmission media, which the manufacturer or distributor has no influence on. Failures in the transmission media cannot be ruled out.

1.6 Weather symbols

Significance	Day	Night	Significance	Day	Night
Sunny (Clear at night)			Heavy Rain		
Light Cloudy			Frontal Storms		
Mostly Cloudy			Heat Storms		
Overcast			Sleet Showers		
Stratus Clouds			Snow Showers		
Fog			Sleet		
Showers			Snow		
Light Rain					

2. Local measuring values via indoor and outdoor sensors
2.1 Display (lower window)
Pressure
- Current or historical pressure (mBar/ hPa, mmHg or inHg)
- Altitude or sea level pressure
- Sea-level pressure history for the last 24 days
- Sea-level pressure history bar chart
Moon phase
- 12 steps of moon symbols
- Scans moon phase for year 2000 to 2099
- Moon phase history for the last or future 39 days
Remote temperate and relative humidity, with trend indication
- Indoor and outdoor temperature and relative humidity display (°C or °F)
- Temperature and relative humidity trend indication
- Dew point display
- Max and Min memory for temperature and relative humidity
Comfort level indicator
- Analyzes current environmental conditions (Comfort, Wet and Dry)
Rainfall measurement
- Records rainfall amount for the last hour, last 24 hours, last day, last week and last month (inch or mm)
- Daily rainfall alert if rainfall for the current day exceed pre-specified amount
Wind
- Temperature at place of anemometer
- Temperature adjusted to wind chill factor (°C or °F)
- Wind direction compass display. Wind direction angles available as compass points or bearings
- Average wind speed and gust speed (mph, m/s, knots, and km/h)
- Daily Maximum wind speed and gust speed memory
- Wind speed alert for average wind speed and wind gust speed

2.2 Buttons
To enter and edit the local interior and external sensors, make use of the following keys:



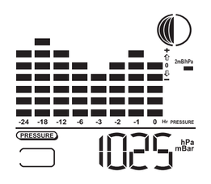
▲	• Switches to next mode in anti-clockwise direction • Increment for setting parameters
▼	• Switches to next mode in clockwise direction • Decrement for setting parameters
SET	• Rotates display for current mode • Press and hold to enter setup or change units • Confirmation for setting parameters
MEMORY	• Shows records for moon phase, UV, temperature, humidity, rain and wind
HISTORY	• Shows history for sea-level pressure
ALARM/CHART	• Shows alerts for temperature, rain and wind • Press and hold to enter alarm/alert setup • Press and hold in Pressure and Weather Forecast Mode to view different bar-charts
CHANNEL	• Changes temperature and humidity display to selected channel • Press and hold to enable cycling display of channel temperature and humidity

2.3 NAVIGATING BETWEEN DIFFERENT MODES

To navigate between the different modes from the main console unit, press [▲] or [▼] to cycle through the modes in a clockwise direction or anti-clockwise direction respectively.

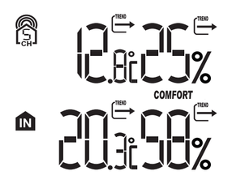
2.3.1 PRESSURE MODE

• Current pressure and history bar-chart
• Moon phase



2.3.2 TEMPERATURE AND HUMIDITY MODE

• Temperature and humidity trend and readings for indoor and selected channel
• Comfort level
• Dew point
• Temperature alerts



2.3.3 RAIN MODE

• Precipitation amount for last hour, last 24 hour, yesterday, last week and last month
• Rainfall alert

2.3.4 WIND MODE

• Wind Chill
• Temperature at place of anemometer
• Wind direction
• Wind speed
• Wind gust
• Alert for wind speed and wind gust speed

2.4 SETTING AND VIEWING PARAMETERS
CUSTOMIZING YOUR WEATHER STATION
To fully customize the weather station to your local settings and personal preferences, the following settings are required. Please refer to the appropriate sections for detailed instructions as below.

REQUIRED:
• Setting the sea level pressure.

OPTIONAL:
• Setting up the Temperature Alerts (Temperature and Humidity Mode)
• Setting up the Daily Rainfall Alerts (Rain Mode)
• Setting up the Wind Alerts (Winds Mode)

2.4.1 PRESSURE PARAMETERS AND MOON PHASE

This part of the display indicates the current pressure, sea level pressure, and moon phase. A number of historical statistics can also be viewed, such as the sea-level pressure values for the last 24 hours, moon phase for the previous and next 39 days, as well as a pressure/ temperature/ humidity history bar-chart.
Pressure values may be displayed inHg, hPa/mBar or mmHg, and altitude values may be displayed in meters or feet.

ACCESSING PRESSURE AND WEATHER FORECAST MODE
From the main console unit: [▲] or [▼]until the weather forecast icon starts flashing.

VIEWING PRESSURE AND ALTITUDE DATA
In Pressure Mode, each press of [SET] rotates display between:
• Sea level pressure • Local pressure • Local altitude
• Absolute pressure or local pressure is the actual atmospheric pressure measured by the main unit.
• Relative pressure is referred as sea level's pressure and has to be adjusted first to your local altitude.
• You can set the relative atmospheric pressure directly or via the local altitude. For the most exact adjustment we recommend to set the relative atmospheric pressure directly.

SETTING OF RELATIVE ATMOSPHERIC PRESSURE (RECOMMENDED)
• Ask for the present atmospheric pressure of your home area (local weather service, www, optician, calibrated instruments in public buildings, airport).
1. In Pressure Mode, press [SET] until the sea level pressure is displayed.
2. Press and hold [SET]. The Sea Level Pressure display should be flashing.
3. Set Sea Level Pressure:
[▲] or [▼] to adjust value. Press and hold either button for fast advance.
Press [SET] to confirm your selection.
4. Upon completion the display will be returned to Pressure Mode.

SETTING THE PRESSURE AND ALTITUDE UNITS
1. Set Local Pressure Units:
Press [SET] until local pressure is displayed
Press and hold [MEMORY]
[▲] or [▼] to adjust the unit (hPa/mBar, mmHg, inHg)
Press [MEMORY] to confirm your selection.
2. Set Altitude Units:
Press [SET] until Altitude is displayed
Press and hold [MEMORY]
[▲] or [▼] to adjust the unit (meter/feet)
Press [MEMORY] to confirm your selection.

3. Set Sea-Level Pressure Units:
press [SET] until Sea-Level pressure is displayed
Press and hold [MEMORY]
[▲] or [▼] to adjust the unit (hPa/mBar, mmHg, inHg)
Press [MEMORY] to confirm your selection.

SETTING PRESSURE PARAMETERS DURING INITIAL START-UP
During the initial start-up of the Main Unit, the pressure settings should be configured in following steps.
1. Choose Pressure Units:
The unit icon "inHg" or "mmHg" or "hPa/mBar" should be flashing. [▲] or [▼] to select pressure unit as inHg, hPa/mBar or mmHg
Press [SET] to confirm your selection.
2. Choose Altitude Units:
Press [▲] or [▼] to select altitude unit as feet or meters.
Press [SET] to confirm your selection.
3. Set Altitude:
[▲] or [▼]to adjust value. Press and hold either button for fast advance.
Press [SET] to confirm your selection.
4. Upon completion the display will be returned to Pressure and Weather Forecast Mode.

VIEWING THE SEA LEVEL PRESSURE HISTORY
1. In all modes, pressing [HISTORY] will toggle the sea level pressure display.
2. When sea level pressure is displayed, press [HISTORY] repeatedly to view sea level pressure data for each of the last 24 hours.
3. If no buttons are pressed for 5s, the display automatically show the current pressure.

VIEWING THE PRESSURE/ TEMPERATURE/ HUMIDITY BAR-CHARTS
The bar-chart on the display can be configured to display the history data for sea-level pressure, temperature or humidity for channel 1.
In Pressure Mode, press and hold [ALARM/CHART] to toggle the bar-chart between:
• Sea-level pressure ("PRESSURE" should be displayed)
• Temperature (Thermometer icon and "CH1" should be displayed)
• Humidity (RH icon and "CH1" should be displayed)

VIEWING MOON PHASE HISTORY AND FORECAST
1. In Pressure Mode, press [MEMORY].
2. "+ 0 days" should be flashing.
3. View Moon Phase History / Forecast:
[▲] or [▼] to choose number of days forward (+ days) or backward (- days) from current date. Press and hold either button for fast advance.
The corresponding moon phase will be shown.
4. To exit, press [MEMORY].
Otherwise, if no buttons are pressed for 5s the display automatically returns to Pressure and Weather Forecast Mode.

UNDERSTANDING THE MOON PHASE DIAGRAM


FULL LAST NEW FIRST

2.4.2 TEMPERATURE AND HUMIDITY PARAMETERS

The weather station supports up to 5 remote thermo-hygrometer sensors, each sensor corresponding to a separate channel for the temperature and relative humidity display. The temperature may be shown in degrees Celsius ºC or degrees Fahrenheit ºF. The trend (rising, steady or falling) of all values is also indicated on the display.
The Main Unit uses the indoor temperature and humidity data to compute a comfort level rating of Wet, Comfort or Dry.
A temperature alert function is available for all channels. It can be programmed to sound if one channel temperature exceeds or falls below the pre-configured upper and lower limit.

Note: The temperature alert has a 0.5 ºC hysteresis to prevent the alerts from sounding constantly due to small fluctuations near the alert value. This means that after the temperature reaches the alert value, it will have to fall below the alert value plus the hysteresis to deactivate the alert.

ACCESSING TEMPERATURE AND HUMIDITY MODE
From the Main Unit: Press [▲] or [▼] until the IN icon on the upper right of the display starts flashing.

VIEWING TEMPERATURE AND HUMIDITY DISPLAY FOR EACH CHANNEL
For Static Display:
In Temperature and Humidity Mode, each press of [CHANNEL] rotates display between different channels.

For Cycling Display:
To enable automatic rotating between different channel displays, press and hold [CHANNEL], until the icon is displayed. Each valid channel will now be alternately displayed for 5s.

ROTATING BETWEEN TEMPERATURE AND DEW POINT DISPLAY
Each press of [SET] rotates temperature display between:
• Temperature and Relative Humidity
• Dew Point Temperature and Relative Humidity

SETTING UNITS FOR TEMPERATURE DISPLAY (ºC OR ºF)
Press and hold [SET] to convert units between degrees Celsius ºC and degrees Fahrenheit ºF.

ACTIVATING/DEACTIVATING THE TEMPERATURE ALERTS
1. In Temperature and Humidity Mode, each press of [ALARM/CHART] rotates channel temperature display between:
• Current Temperature for corresponding channel
• Upper Temperature Alert (displays OFF if deactivated): icon displayed
• Lower Temperature Alert (displays OFF if deactivated): icon displayed
2. When the above alerts are displayed, Pressing [▲] or [▼] will activate/deactivate the corresponding alert.

SETTING UP THE TEMPERATURE ALERTS
1. In Temperature and Humidity Mode, press [ALARM/CHART] to select alarm which you wish to configure.
2. Press and hold [ALARM/CHART] until channel temperature, and [ ] or [ ] icon starts flashing in the display.
3. Set Value for Temperature Alert:
Press [▲] or [▼] to adjust value. Press and hold either button for fast advance.
Press [ALARM/CHART] to confirm your selection.
4. Upon completion the display will be returned to the temperature alert selection screen.

DISABLING WHEN TEMPERATURE ALARMS ARE ACTIVATED
To Disable Temperature Alarm(s):
Press [ALARM/CHART] to disable the alarm (s).

VIEWING THE MAX/MIN CHANNEL TEMPERATURE AND HUMIDITY
Each press of [MEMORY] rotates channel temperature and humidity display between:
• Current temperature and humidity at remote sensor
• Minimum temperature and humidity at remote sensor
• Maximum temperature and humidity at remote sensor

RESETTING THE MAX/MIN CHANNEL TEMPERATURE AND HUMIDITY MEMORY
Press and hold [MEMORY] to clear memory for all channels.

REMOTE SENSOR STATUS
The wave icon above the current channel display shows the connection status of the corresponding remote sensor:

ICON	STATUS
	Searching for remote sensor signals
	Corresponding remote sensor successfully linked
	No signals received for more than 15 minutes

ACTIVATING MAIN CONSOLE UNIT TO SEARCH FOR ALL REMOTE SENSOR SIGNALS
The main console unit may be manually activated to search for signals from all remote sensors. Press and hold [▼] to enforce a search.

2.4.3 RAIN PARAMETERS

The Main Unit records the total amount of rainfall for the last hour, last 24 hours, yesterday, last week and last month. The rainfall may be displayed in mm or inches.
A daily rainfall alert function is available which can be programmed to sound if the daily rainfall exceeds a pre-configured limit.

ACCESSING RAIN GAUGE READING
From the main console unit: Press [▲] or [▼] until the RAIN icon on the display starts flashing.

VIEWING RAIN STATISTICS
Each press of [SET] or [MEMORY] rotates display between different rain statistics:
• Last hour
• Last 24 hour
• Yesterday
• Last week
• Last month
Tip: For an estimation of the rain rate, the Last Hour rainfall value can be understood as "inch/hr" or "mm/hr".

RESETTING THE RAINFALL STATISTICS MEMORY
Press and hold [MEMORY] to reset all rainfall statistics.

SETTING UNITS FOR RAIN DISPLAY (INCH OR MM)
Press and hold [SET] to convert units between mm and inches.

ACTIVATING/DEACTIVATING THE DAILY RAINFALL ALERT
1. Each press of [ALARM/CHART] rotates display between the current rainfall statistics and the daily rainfall alert ("ALARM HI" will be displayed).
If the alert is deactivated, "OFF" will be shown, otherwise the rainfall alert value is shown.
2. When the rainfall alert is displayed, pressing [▲] or [▼] will activate/deactivate it.

SETTING UP THE DAILY RAINFALL ALERT
1. Press [ALARM/CHART] to display rainfall alert.
2. Press and hold [ALARM/CHART] until rainfall alert and "ALARM HI" starts flashing in the display.
3. Set Value for Rainfall Alert:
Press [▲] or [▼] to adjust value. Press and hold either button for fast advance.
Press [ALARM/CHART] to confirm your selection.
4. Upon completion the display will be returned to the rainfall alert display.

DISABLING WHEN DAILY RAINFALL ALERT IS ACTIVATED
To Disable Rainfall Alert:
Press [ALARM/CHART] to disable the alert.

2.4.4 WIND PARAMETERS

The wind direction is shown by an animated compass display. Its angle can be displayed as compass points (i.e. NW) or in bearings from the north (i.e. 22.5º).
The upper left of the wind display can be set to indicate the temperature at the anemometer or the temperature adjusted with a wind chill factor.
The lower left of the wind display indicates the average wind speed for the last 10 minutes, as well as gust, wind speed alert and gust alert information. It can also show records of the maximum values of wind speed and gust attained for the current day.

The wind speed and gust alert functions can be programmed to sound if the wind speed or gust exceeds a pre-configured limit. The wind speed may be displayed in km/h, mph, m/s or knots.

Note: The wind speed alert has a 5 mph hysteresis and the wind gust speed alert has a 7 mph hysteresis. The hysteresis is to prevent the alerts from sounding constantly due to small fluctuations near the alert value. This means that after the wind speed reaches the alert value, it will have to fall below the alert value plus the hysteresis to deactivate the alert.

ACCESSING WIND MODE
Press [▲] or [▼] until the WIND icon on the display starts flashing.

CONFIGURING WIND DISPLAY
Each press of [SET] rotates display between:
• Temperature with wind chill, wind direction in bearings
• Temperature with wind chill, wind direction in compass points
• Temperature at anemometer, wind direction in compass points
• Temperature at anemometer, wind direction in bearings

SETTING UNITS FOR WIND SPEED DISPLAY (KM/H , MPH, M/S OR KNOTS)
Press and hold [SET] to convert wind speed units between km/h, mph, m/s or knots.

VIEWING WIND STATISTICS
Each press of [MEMORY] rotates wind speed display between:
• Current wind speed
• Daily maximum wind speed ("DAILY MAX" is displayed)
• Gust speed ("GUST" is displayed)
• Daily maximum gust speed ("GUST DAILY MAX" is displayed)

RESETTING THE WIND STATISTICS MEMORY
Press and hold [MEMORY] to reset all wind statistics.

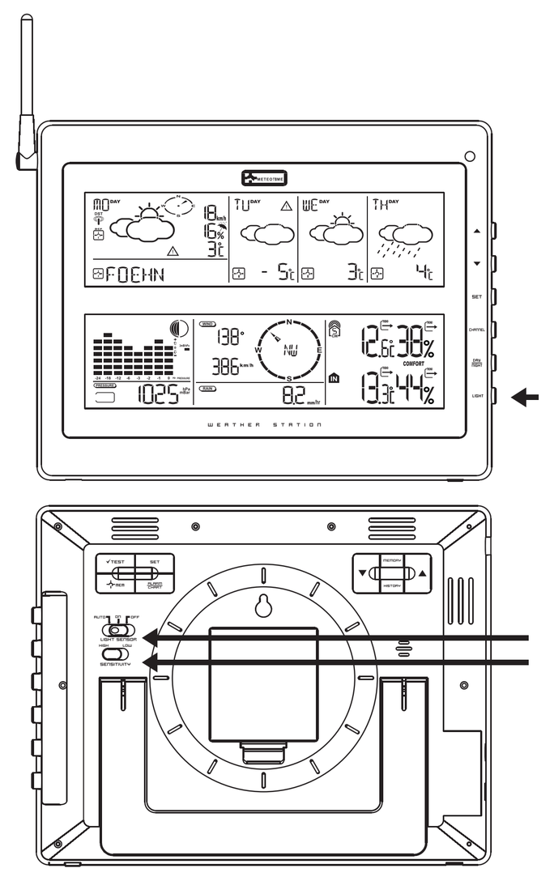
ACTIVATING/DEACTIVATING WIND ALERTS
1. Each press of [ALARM/CHART] rotates wind speed display between:
• Current wind speed
• Wind speed alert ("ALARM HI" displayed)
• Gust alert ("GUST ALARM HI" displayed)
If the alert is deactivated, "OFF" will be shown, otherwise the alert value is shown.
2. When a wind alert is displayed, pressing [▲] or [▼] will activate/deactivate it.

SETTING UP THE WIND ALERTS
1. Press [**ALARM/CHART**] to select alarm which you wish to configure.
2. Press and hold [ALARM/CHART] until alert and corresponding icon starts flashing in the display.
3. Set Value for Alert:
Press [▲] or [▼] to adjust value. Press and hold either button for fast advance.
Press [**ALARM/CHART**] to confirm your selection.
4. Upon completion the display will be returned to the wind alert selection screen.

DISABLING WHEN WIND ALERT IS ACTIVATED
To Disable Wind Alert:
Press [**ALARM/CHART**] to disable the alert.

3 LED BACKLIGHT

The backlight of the Main Unit can be turned permanently on/off or automatically toggled when environment lighting level is low. Use the light sensor switch at the back of the unit to select lighting preferences.



For the automatic backlight function, the sensitivity of the light sensor can be adjusted to high or low with the sensitivity switch also on the back of the Main Unit

Note: Main Unit must be powered with AC/DC adaptor for automatic backlight control function

4 LINKING THE WEATHER STATION TO A COMPUTER
Note:
The required PC software can be downloaded free from the download page of the TFA homepage (www.tfa-dostmann.de). The software's manual is included within the software.

Possible storage of 3000 sets of data, a set of data is a recording of information at that point in time from all sensors.
• Install the software with the weather station according to the instructions on the software manual. Connect the main console unit with the computer using the USB cable provided.
• Minimum system requirement: Windows 98 or above.

5 MAINTENANCE

Troubleshooting
The display will show "---" when the wireless link is lost with the remote sensor for the following periods:
Thermo-hygro Sensor – 15 minutes
Anemometer (Wind Sensor) – 15 minutes
Rain Sensor – 30 minutes
Check or replace the batteries for the corresponding sensor. Then press and hold the button [▼] to enforce a search for all remote signals.
If the above does not solve the problem, check the wireless transmission path from the corresponding sensor to the main console unit and change their locations if necessary.
Although wireless signals can pass through solid objects and walls, the sensor should ideally be within the line of sight of the console unit.

The following may be the cause of reception problems:
- Distance between remote sensor and main console unit too long.
- Signal shielding materials such as metal surfaces, concrete walls or dense vegetation in the path of transmission.
- Interferences from wireless devices (such as cordless phones, radio headsets, baby listening devices) and electronic appliances.

CHANGING BATTERIES
If the low battery indicators light up, replace the batteries for the corresponding unit immediately.

Battery Replacement
• Use alkaline batteries only. Observe correct polarity. Low batteries should be changed soon to avoid the damage resulting from a leaking battery. Batteries contain harmful acids. Wear protective glasses and gloves when handling damaged batteries.

CHANGING BATTERIES FOR THE REMOTE SENSORS
1. Replace the batteries following the setup instructions for the corresponding sensor.
2. When the batteries are properly installed, the sensor will resume sending signals to the main console unit.
To enforce a search immediately for all remote signals, press and hold [▼] located at the back of the Main Unit.

CLEANING
The Main Unit and outer casings for the remote sensors can be cleaned with a damp cloth. Small parts can be cleaned with a cotton tip or pipe-cleaner.
Never use any abrasive cleaning agents and solvents. Do not immerse any units with electronic parts in water or under running water.

ANEMOMETER
• Check that the wind vane and wind cups can spin freely and are free from dirt, debris or spider webs.

RAIN GAUGE
Like all rain gauges, the rain sensor is prone to blockages due to its funnel shape. Checking and cleaning the rain sensor from time to time will maintain the accuracy of rain measurements.
• Detach the protective screen and lid. Remove any dirt, leaves or debris by cleaning the items with soapy water and a damp cloth. Clean small holes and parts with a cotton tips or pipe-cleaner.
• Look out for spiders or insects that might have crawled into the funnel.

6 TECHNICAL SPECIFICATIONS

Receiver (Batt. Supply=6.0V, Ta=23°C)	and Sensor unit (Supply=3.0V, Ta=23°C)
RF Transmission Frequency	433 MHz
Maximum radio-frequency power:	< 10mW
RF Reception Range	
Thermo-hygro Sensor	100 meters Maximum (Line of Sight)
Wind Sensor, Rain Sensor	30 meters Maximum (Line of Sight)
Barometric Pressure Range (At sea level)	500 hpa to 1100hpa (14.75 inHg to 32.44 inHg), (374.5 mmHg to 823.8 mmHg)
Altitude Compensation Range	-200m to +5000 m (-657 ft to 16404 ft)
Barometric Pressure resolution	0.1 hpa (0.003 inHg, 0.08 mmHg)
Barometric Pressure accuracy	+/- 5 hpa (0.015 inHg, 0.38 mmHg)
Outdoor Temperature Display Range	-40°C to 60°C (-40°F to 140°F)
Indoor Temperature Display Range	-9.9°C to 60°C (14.2°F to 140°F)
Operating Temperature	-5°C to 50°C (23°F to 122°F)
Temperature accuracy	+/- 1°C or +/- 2°F
Temperature resolution	0.1°C or 0.2°F
Humidity Display Range	0% to 99%
Humidity accuracy	+/-5% (within 25% - 80%)
Humidity resolution	1%
Receiving Cycle	
Remote Thermo./Hygro.	around 47s
Rain gauge	183s
Wind sensor	33s
Wind Direction Range	16 positions
Wind Direction Accuracy	+/-11.25°
Wind Direction Resolution	22.5°
Wind Direction Starting Threshold	3mph
Wind Speed Range	0 to 199.9mph (199.9 Km/h, 173.7 Knots, 89.3 m/s)
Wind Speed Accuracy	+/- (2mph + 5%)
Wind Speed Starting Threshold	3mph
Wind/Gust Speed Disply Update Interval	33 seconds
Wind/Gust Sampling Interval	11 seconds
1h/24h/yesterday Rainfall Range	0.0 to 1999.9 mm (78.73 inch)
Last week/ last month Rainfall Range	0 to 19999 mm (787.3 inch)
Temperature Sensing Cycle (indoor)	10s
Humidity Sensing Cycle (indoor)	10s
Data Stored	3,000

Power

Main unit	: use 4 pcs UM-3 or "AA" 1.5V battery : AC/DC adaptor 7.5V 200mA (centre +)
Remote Thermo.-Hygro unit	: use 2 pcs UM-3 or "AA" 1.5V battery
Remote Anemometer unit	: use 2 pcs UM-3 or "AA" 1.5V battery(back - up)
Remote Rain gauge unit	: use 2 pcs UM-3 or "AA" 1.5V battery

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


Never dispose of empty 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 depending on 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 labeled in accordance with the EU Waste Electrical and Electronic Equipment Directive (WEEE).
Please do not dispose of this instrument in 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.

EU declaration of conformity
Hereby, TFA Dostmann declares that the radio equipment type 35.1100 is in compliance with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address: www.tfa-dostmann.de
E-Mail: info@tfa-dostmann.de
TFA Dostmann GmbH & Co.KG, Zum Ottersberg 12, D-97877 Wertheim, Germany
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