



# WORLDTIMER CHRONOGRAPH

Congratulations on purchasing the Worldtimer Chronograph.

The Worldtimer Chronograph – a perfect manager of time. With its innovative analogue time display, the digital LC display with FSTN technology offers you multivarious functions. The Junghans multi-frequency radio-controlled movement J615.96 permits automatic synchronisation with time signal transmitters. The Worldtimer Chronograph is equipped with a stainless steel case, convex and anti-reflection coating sapphire crystal, caseback with sapphire crystal, crocodile leather strap with stainless steel folding clasp and is water-resistant up to 5 atm.

Please read the following information on the general functions of radio-controlled watches and on how to use your Junghans Worldtimer Chronograph carefully so that you can benefit from all functions.

We hope you will get great pleasure from this very special timekeeping instrument.

Yours,  
Uhrenfabrik Junghans GmbH & Co. KG



| <b>Contents</b>   | <b>Page</b> |
|---|-------------|
| 1. Radio-controlled technology – state-of -the-art time measurement | 39          |
| 1.1 Usable time signal transmitters                                 | 40          |
| 2. Automatic time synchronisation                                   | 42          |
| 3. Functions  | 43          |
| 3.1 Base mode   | 44          |
| 3.2 Additional functions  | 45          |
| 4. Description of functions and their operating                     | 47          |
| 4.1 Display date / seconds  | 47          |
| 4.1.1 Setting time zone 1st time                                    | 46          |
| 4.2 Date / calendar week  | 48          |
| 4.2.1 Language selection (day of the week display)                  | 49          |
| 4.3 2nd time  | 50          |
| 4.4 Reception indicator   | 51          |
| 4.4.1 Manual synchronisation (transmitter call)                     | 52          |
| 4.4.2 RC on/off   | 53          |
| 4.4.3 Adjusting the contrast of digital display                     | 55          |
| 4.5 Chrono with LAP and SPLIT function                              | 56          |
| 4.6 10 hour countdown timer   | 58          |
| 4.7 Alarm   | 60          |
| 5. Restart / starting up procedure                                  | 62          |
| 5.1 Manual start  | 63          |
| 5.1.1 Manual setting of time  | 63          |
| 5.1.2 Manual setting of date  | 65          |
| 6. Readiness for use  | 66          |
| 7. General information  | 67          |
| 8. Technical information  | 69          |

## **1. Radio-controlled technology – state-of -the-art time measurementz**

5,000 years have passed since timekeeping began, first with sun dials, followed by water clocks, the mechanical clocks of the 13th century, quartz watches and now culminating in radio-controlled watches.

With good reception the watch never goes wrong or needs to be set. The Junghans radio-controlled watch is absolutely precise, as it is linked by radio frequency to the time control system of the most accurate clocks in the world.

For Europe this is the Caesium Time Base at the Physikalisch-Technische Bundesanstalt in Braunschweig (PTB, National Metrology Institute).

For North America it is the U.S. Commerce Department's Caesium Time Base at the National Institute of Standards and Technology (NIST) in Boulder, Colorado.

For Japan it is the National Institute of Information and Communications Technology (NICT) at the Ministry of Internal Affairs and Communications in Tokyo.

All these clocks are so accurate, that they are expected to deviate by no more than 1 second in a million years.

## 1.1 Usable time signal transmitters

Your Junghans multi-frequency radio-controlled watch is capable of fully automatic reception of time signals from the following transmitters

- DCF77 in Mainflingen (Frankfurt a. M.) for **Europe**
- WWVB in Fort Collins, Colorado (USA) for **North America**
- JJY40 on Mount Othakadoya (near Tokyo in the North East of the country) for **Japan**
- JJY60 on Mount Hagane (in south western Japan) for **Japan**, the **east coast of China** (Shanghai), **South Korea** and parts of **Taiwan**.



With good reception, the Junghans Worldtimer Chronograph will thus always show the absolutely correct time within any of these four transmission areas. The Junghans Worldtimer Chronograph automatically synchronises itself overnight with the DCF77, WWVB, JJY40 and JJY60 time signal transmitters.

If reception fails due to interference (e. g. thunderstorms, electrical appliances), the Junghans Worldtimer Chronograph will automatically retry signal reception in the following night.

It is also possible to use a "transmitter call" to synchronise the time manually, for example at a location where reception conditions are better.

The most recent time information received is stored internally in a time memory. This original time continues to be kept using a high-precision 32kHz quartz movement until the time is synchronised again. The radio-controlled time synchronisation of your Junghans Worldtimer Chronograph not only ensures an always precise display of the time. Given good reception, it also takes care of switching from winter to summer time, and vice versa, automatically (at night).

Please note, that this does not apply to the time signal transmitter WWVB (USA). (see chapter 2)

If you travel to a country with a different time zone, the time zone adjustment facility on your Junghans Worldtimer Chronograph makes it easy to switch to local time.

## 2. Automatic time synchronisation

The daily, fully automatic time synchronisation will be done at night. During this period the LC display is switched off (no display).

### The following special feature applies to the WWVB (USA) time signal transmitter:

After a successful transmitter call or change of battery (restart), your Junghans Worldtimer Chronograph always displays Pacific Standard Time. Due to the non-uniform changeover from summer to winter time and the differing time zones in individual US states, you can adjust winter time, summer time and the time zone settings manually (see 4.1.1 and 4.3 resp.). Any settings for differing time zones or summer/winter times, based on your location at the time, will be retained during a transmitter call or during automatic synchronisation.

After successful automatic time synchronisation, the original mode is displayed in the LC display. The date is always advanced automatically by the time signal and takes also the 29th February into account in leap years.

If all attempts at picking up a signal do not lead to clear synchronisation, the reception indicator is increased by 1 (see also description of mode reception indicator in chapter 4.4). Further subsequent days without synchronisation are added. During these days, your watch continues to run with the accuracy of a quartz watch using the internal time memory. The next successful pickup of a signal synchronises your watch and resets the reception indicator to "0".

**Recommendation:** To ensure the best possible conditions for overnight synchronisation, the watch should not be worn and, if possible, not left near to any electrical appliances, mobile or cordless phone.

### Important note:

When travelling into a different reception area (for example, from Germany to Japan), automatic time and transmitter synchronisation will be performed at the next attempt of the watch to pick up a signal. If the watch fails to pick up any transmitter signal, please perform a manual transmitter call (see chapter 4.4.1 Manual synchronisation).

## 3. Functions

The Junghans Worldtimer Chronograph features a variety of functions which are shown in the LC display. These are operated by buttons on the left and right of the watch case.



### 3.1 Base mode

In base mode the LC display shows the day of the week and the date as well as the seconds.

In this mode the watch can be adjusted via the following buttons:

- T1 MODE
- T2 SET
- T4 Light/pusher lock

To avoid any accidental changing of the settings, the pusher lock can be activated.

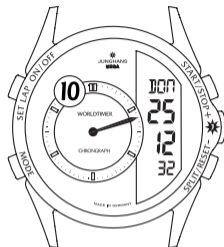
The pusher lock is activated by pressing the T4 light button > 3 seconds (display "LOC" in the LC display). To deactivate the pusher lock, press the T4 light button again for > 3 seconds (display UNL in LC display). The pusher lock cannot be activated during the chrono, timer or alarm functions.

### 3.2 Additional functions

In addition, the following functions can be called about the T1 "MODE" button successively:

#### Display mode 1:

Date / seconds



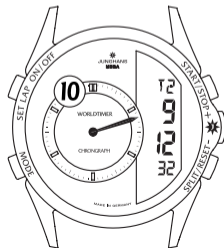
#### Display mode 2:

Date / calendar week



#### Display mode 3:

2nd time



**Display mode 4:**  
Reception



**Display mode 5:**  
Chrono



**Display mode 6:**  
Timer



**Display mode 7:**  
Alarm



The languages German, English and French are available for the display. Selecting the appropriate language is described in chapter 4.2.1. The set mode remains in the LC display until another mode is entered via the T1 "MODE" button.

**4. Description of functions and their operating**

*4.1 Display date / seconds*

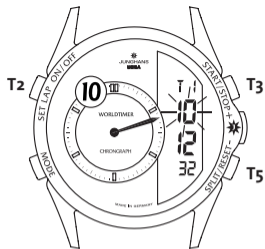
Displays actual date and seconds

*4.1.1 Setting time zone 1st time (analogue display)*



Press the T1 "MODE" button repeatedly until you reach the display for date and seconds.

By pressing the T2 "SET" button for > 3 seconds you reach the mode for setting time zone 1st time. The current hour starts to flash.

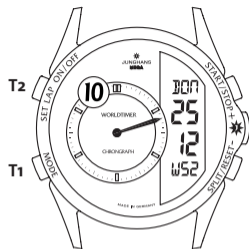


By pressing the T3 "+" or T5 "-" buttons respectively, the displayed digital time can be adjusted in steps of 1 hour. The analogue hour disc will follow the adjustment. The date will be displayed according to the set time zone. This function can prove useful during longer stays overseas. To confirm, please press the T2 "SET" button. If a button is not pressed within approx. 9 seconds the setting will be automatically confirmed.

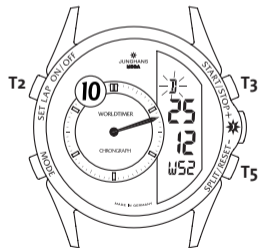
#### 4.2 Date / calendar week

Display of actual date, the calendar week is shown in place of the seconds. Press the T1 "MODE" button repeatedly until you reach the display for date and seconds. By the repeated press of the T1 "MODE" button the calendar week is indicated.

#### 4.2.1 Setting the language



On delivery, the day of the week display on your Junghans Worldtimer Chronograph is set to the German language. To change to English or French, press the T1 "MODE" button repeatedly until you reach the mode "Date / calendar week". By pressing the T2 "SET" button for > 3 seconds you enter the mode for setting the language. The "D" symbol will start to flash.



Using buttons T3 "+" or T5 "-" you can set the favoured language. To confirm, please press the T2 "SET" button, if a button is not pressed within approx. 9 seconds the setting will be automatically confirmed.



= German day of the week display



= English day of the week display



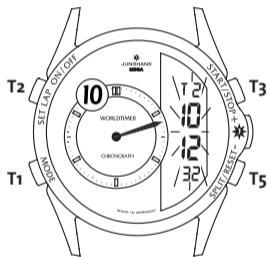
= French day of the week display

The calendar week is displayed in German and English by "WS2", in French by "SES2".

If the time zone has been adjusted by more than one hour, it is not possible to display the calendar week. Instead of the calendar week the last two digits of the year are displayed.

Following a restart, the watch automatically resets to the German language for reception in Europe (reception of DCF77), and to the English language for reception in USA or Japan.

#### 4.3 2nd time



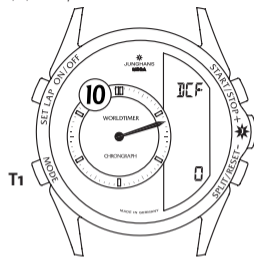
The 2nd time provides you display a further time in the LC display, which is independent from the analogue time (for example, if you are on holiday in another time zone and wish to see the time at home).

Press the T1 "MODE" button repeatedly until you reach the "2nd time = T2" mode. By pressing the T2 "SET" button > 3 seconds the function is released (hours and minutes in LC display start to flash).

Adjustment of the 2nd time is done in steps of 15 minutes via the buttons T3 "+" or T5 "-" respectively.

To confirm, please press button T2 "SET". If a button is not pressed within approx. 9 seconds the setting will be automatically confirmed.

#### 4.4 Reception indicator



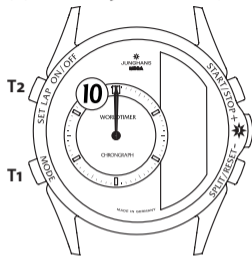
In the reception indicator mode you recognise whether your watch has been synchronised with the signals of a transmitter.

The following transmitter displays are possible:

-  DCF 77,5 kHz
-  WWVB 60 kHz
-  JJY 40/60 kHz

Press the T1 "MODE" button repeatedly until you reach the reception indicator mode. The code for the transmitter will appear in the upper part of the LC display, a number is displayed in the lower part, the reception indicator. If the reception indicator shows "0", the watch has picked up the signal properly during overnight synchronisation. The numbers "1-9" show for how many days the watch has been unable to synchronise automatically due to bad reception conditions. After the next successful synchronisation the indicator reverts back to "0".

#### 4.4.1 Manual synchronisation (transmitter call)



Your Junghans Worldtimer Chronograph can also be synchronised manually, via the so-called transmitter call.

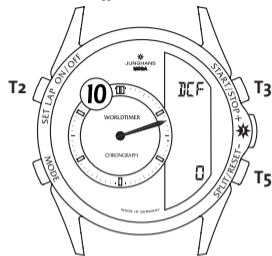
To do this, press the T2 "SET" button for > 3 seconds in the reception indicator mode.

The minute hand begins to move and stops at the 12.00 o'clock position. During this reception phase the LC display is switched off (no display). Please keep the watch still during reception or put it down.

After the watch has picked up the time signal (after approx. 3 minutes) the minute hand and the hour disc will automatically display the correct time. The LC display changes back to the previous display. You can abort manual synchronisation prematurely as soon as the minute hand has reached the 12.00 o'clock position. To do this, simply press one of the five buttons. The minute hand will then return to the original time.

If manual synchronisation was successful, the reception indicator reverts back to "0". If the transmitter call was not successful, the reception indicator does not change and the minute hand reverts to the time it displayed prior to the transmitter call.

#### 4.4.2 RC on/off



You can switch reception off in the reception indicator mode. This may prove useful during longer stays abroad outside the range of transmitters to save battery power. To do this, press buttons T2 "SET" and T3 "+" simultaneously for > 3 seconds.

Using buttons T3 "+" and T5 "-" you can now select between "RC/ON" and "RC/DF" respectively.

In the "RC/DF" mode your radio-controlled watch continues to function as a precise quartz watch. The last two digits of the year are displayed in place of the calendar week.

When returning to a region with time signal transmission, reception must be switched back on (RC/ON) so that synchronisation can be performed either automatically or manually.

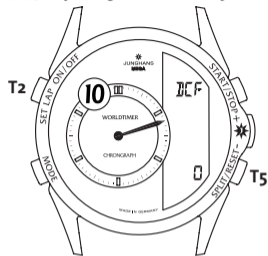
"RC/DF" is shown by "\_\_\_" in place of a transmitter code.

**Note:**

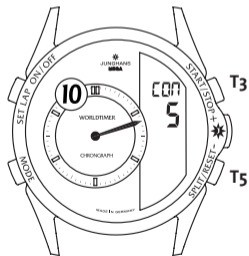
In the "RC/DF" mode you can perform the same functions as described under 5.1. manual start. The 1st time can then be changed manually to give the precise second, the 2nd time in steps of 15 minutes, also the date, including year and language. For this purpose it is not necessary for the minute hand and the hour disc to be at the 12.00 o'clock position.

ATTENTION: Manual corrections in the "RC/DF" mode will delete the stored time from the transmitter!

#### 4.4.3 Adjusting the contrast of the digital display



You can adjust the contrast setting of the LC display in the reception indicator mode. To do this, press the buttons T2 "SET" and T5 "-" simultaneously for > 3 seconds in the reception indicator mode.

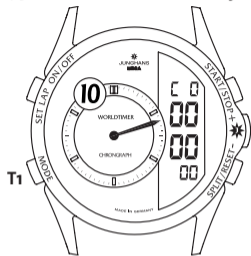


Using buttons T3 "+" and T5 "-" you can choose between the values "0" (lowest contrast) and "15" (strongest contrast).

**Note:**

Increased contrast increases power consumption.

#### 4.5 Chrono with LAP and SPLIT function



Press the T1 "MODE" button repeatedly until you reach mode "C". The display will give the hour, minute, second, 1/10 of a second and 1/100 of a second. The maximum stop time is 10 hours. After that the chronograph stops and the LC display reverts to "000000".



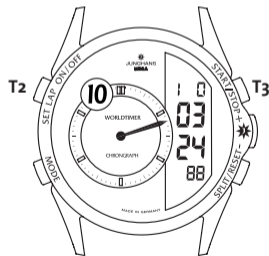
The chronograph is started and stopped with the T3 "start/stop" button. While the chronograph is running, the display "C" is replaced by the number "1".

By pressing the T5 "SPLIT/RESET" button the counter is reset to "000000". The reset function can only be achieved, if the chronograph has been stopped beforehand (display "C").



#### SPLIT function

While the chronograph is running, the current intermediate time can be displayed by pressing the T5 "SPLIT" button. The chronograph continues to run in the background. Press the T5 "SPLIT" button again to display the running chronograph.

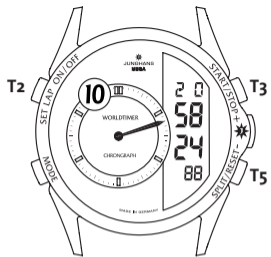


#### LAP function

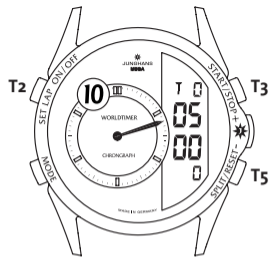
While the chronograph is running, the lap time can be displayed by pressing the T2 "SET-LAP" button.

The lap time is displayed for approx. 4 seconds and then reverts back to the running chronograph. The 2nd lap is displayed in the top left part of the LC display by the number "2". The last ten values can be stored.

By pressing the T3 "START/STOP" button the chronograph is arrested.



By pressing the T2 "SET-LAP" button the lap times are displayed in sequence. Press the T3 "START/STOP" button again and the chronograph will continue running from the last arrested time. By pressing the T5 "RESET" button when the chronograph is arrested, the counter is set to "000000" again.



Setting the timer is performed with buttons T3 "+" and T5 "-". When pressed briefly, the display advances in steps of a second, continued pressing of the button changes the display to fast mode.

#### 4.6 10 hour count-down timer

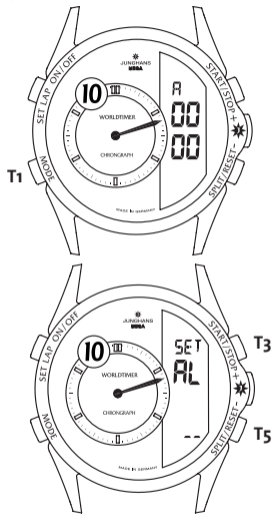


Press the T1 "MODE" button repeatedly until the "TIMER" mode is reached (display "T").

The timer is activated and deactivated by using the T2 "SET" button. When the timer reaches the reading "000000", an acoustic signal is sounded for approx. 10 seconds. The set time is kept.




In order to reset the timer from any optional value back to "000000", press the T3 "+" and T5 "-" buttons simultaneously for > 3 seconds in the deactivated timer mode.

## 4.7 Alarm

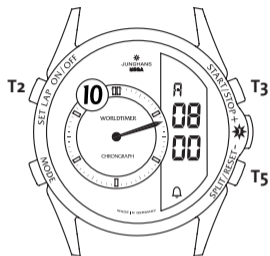


Press the T1 "MODE" button repeatedly until you reach the ALARM "A" mode.

Simultaneous pressing of the T3 "+" and T5 "-" buttons for > 3 seconds will give you a choice of 3 different alarm repeat functions:

-  a.) "SET AL --" for a single alarm (alarm is deactivated after alarm signal stops).
-  b.) "SET AL 24" for a repeated daily alarm (alarm remains activated after alarm signal stops).
-  c.) "SET AL Wd" for weekday alarm (alarm remains activated from Mo-Fri and is deactivated from Sat-Sun).

Selection is via the buttons T3 "+" and T5 "-" respectively. Using the T2 "SET" button, the alarm repeat is confirmed.



The alarm time is set using buttons T3 "+" and T5 "-". Brief pressing changes the time in one minute steps.

Keeping the button pressed longer, the alarm time moves to fast mode. Setting of the alarm time activates the alarm automatically.

The alarm is activated and deactivated by using the T2 "SET" button. If the alarm is activated, a bell appears in the LC display for all MODES. On reaching the alarm time, an acoustic signal is sounded for approx. 10 seconds.

## 5. Restart / set-up

After changing the battery, the watch is restarted automatically. After inserting the battery, the minute hand and the hour disc will move to the 12.00 o'clock position and the watch commences with reception of the signal. The LC display is switched off during this process. After a few minutes and following successful reception, the watch displays the correct time automatically.

- After successful reception of the DCF77 signal, German local time is displayed, the reception indicator for DCF77 is activated in the LC display and the date is given with the weekday in German.
- After successful reception of the WWVB signal, Pacific Standard Time is displayed, the reception indicator for WWVB is activated in the LC display and the date is given with the weekday in English.
- After successful reception of the JY40 or JY60 signals, Japanese local time is displayed, the reception indicator for JY40 or JY60 is activated in the LC display and the date is given with the weekday in English.

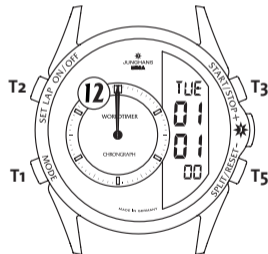
If the watch is not able to receive a signal because the distance to a transmitter is too great, the receiving process is aborted. However, every 6 hours your Junghans Worldtimer Chronograph will automatically check if reception is possible. A manual attempt at picking up a signal is possible at any time by using a transmitter call.

Should none of the attempts at picking up a signal be successful, the watch allows you to set the time to the precise second (so-called manual start). The watch then performs like a quartz watch.

### 5.1 Manual start

After an unsuccessful restart, during a restart or in the "RC/DF" mode during stays abroad, the manual start can be activated to set or correct time manually. If you are operating your Junghans Worldtimer Chronograph in the manual start mode, it will automatically attempt to pick up a signal every 6 hours, and, if successful, will cancel the programmed time and replace it with the transmitted time. Should you be in another time zone, this does however mean, that the time displayed will be that of the transmitted time zone. To avoid this, you can select the the "RC/DF" mode.

#### 5.1.1 Manual setting of time



After the minute hand and the hour disc have reached the 12.00 o'clock position following a restart, press the T1 "MODE" button repeatedly until you reach the display date/seconds.

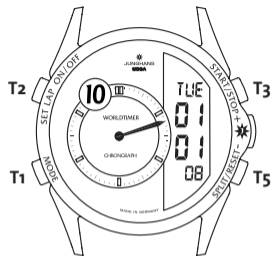
Now press the T2 "SET" button for > 3 seconds and the hour display starts to flash.

You can now set the hour by using the T3 "+" and T5 "-" buttons respectively. Press the T2 "SET" button briefly and the minutes begin to flash. These can be set using the T3 "+" and T5 "-" buttons respectively. To display the exact minute after setting the seconds, you need set these plus one minute of current time.

Press the T2 "SET" key again; the second starts flashing (max. 1 minute). Press the T3 "+" or T5 "-" key to zero the second and to confirm the entry. Please make sure to set the next minute so that the correct time is displayed after confirming.

After successfully confirming the time, the minute hand and the hour disc will automatically move to their correct position.

### 5.1.2 Manual setting of date



Having successfully entered the time date, please press the T1 "MODE" button to reach the date / calendar week display.

By pressing the T2 "SET" button for > 3 seconds, the display for the year will start to flash. You can then set the year using the T3 "+" and T5 "-" buttons respectively.

By briefly pressing the T2 "SET" button again, the display for the month will start to flash. This too, is set by using the T3 "+" and T5 "-" buttons respectively.

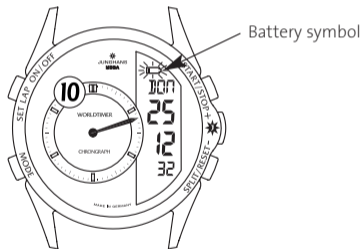
After renewed pressing of the T2 "SET" button, the display for the days will start to flash and you can set the day by using the T3 "+" and T5 "-" buttons respectively.

By pressing the T2 "SET" button again, the display for languages will start to flash, setting is done as before, by using the T3 "+" and T5 "-" buttons respectively.

Pressing the T2 "SET" button a last time will complete the process.

## 6. Readiness for use

So that your Junghans Worldtimer Chronograph is always ready for use, you should make sure it does not run low on power. The watch regularly checks if it has sufficient battery power. If it no longer has sufficient power (e.g. empty battery or ambient temperature too low, which impairs battery performance), a battery symbol appears in the LC display. If the battery does not recover (e.g. through increased ambient temperature), you should take the watch to your authorised specialist as soon as possible to have the battery changed or send it to the Junghans Service Centre.



Type of battery: CR 1620

Average life of battery: approx. 3.5 years

Please ensure that the battery is disposed of properly in accordance with legal requirements.

## 7. General information

External factors may cause damage to the seals, buttons and the watch glass, which could lead to condensation inside the watch. We therefore recommend having your watch inspected at regular intervals by your Junghans specialist.

Other service work, such as changing batteries or strap repairs, should also be carried out by your Junghans specialist. Your watch is provided with a quality strap which has been tested several times on our premises beforehand. Should you wish to change your strap, please use a strap of equal quality, preferably an original Junghans strap.

Use a dry or slightly moistened cloth to clean your watch and strap. Attention: Do not use chemical detergents (e.g. benzene, paint thinners). This could damage the surface.

## Water resistance

| Marking           | <br>Washing,<br>rain,<br>splashes | <br>Shower | <br>Bath | <br>Swimming | <br>Diving<br>without<br>equipment |
|-------------------|---|--|--|--|---|
| <b>No marking</b> | <b>No</b>   | <b>No</b>  | <b>No</b>  | <b>No</b>  | <b>No</b>   |
| <b>3 ATM</b>      | <b>Yes</b>  | <b>No</b>  | <b>No</b>  | <b>No</b>  | <b>No</b>   |
| <b>5 ATM</b>      | <b>Yes</b>  | <b>No</b>  | <b>Yes</b>   | <b>No</b>  | <b>No</b>   |
| <b>10 ATM</b>     | <b>Yes</b>  | <b>Yes</b>   | <b>Yes</b>   | <b>Yes</b>   | <b>No</b>   |

The rating "water resistant" only applies to brand new watches. External factors can however negatively affect water resistance. Please have your watch inspected at regular intervals.

## Declaration of Conformity

Uhrenfabrik Junghans GmbH & Co. KG herewith declares that this radio-controlled product conforms to the principle requirements and other relevant stipulations of Directive 1999/5/EC.

A corresponding declaration of conformity can be requested from [information@junghans.de](mailto:information@junghans.de)

## 8. Technical information

Time taken to self-set with good receptions (DCF) approx. 3 minutes

Time zone adjustment range + 12 hours  
- 12 hours

Switching from CET to CEST and vice versa Automatic

Synchronisation with time signal transmitters 02:00 and  
03:00 hours

Operating temperature 0°C to 50°C

No licence fee.

Approved by the FTZ (German Telecommunications Authority)

Subject to technical modifications

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