



# TAGHeuer

PROFESSIONAL TIMING

**POCKET PRO  
HL400 - I  
INDUSTRY**

**User Manual**

Version 09/2015



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## 1. Concept

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**The Pocket Pro Industry App, Pocket Pro HL400- I** gives users access to timing, measurement and analysis features dedicated to industries and production lines to maximise production control and performance analysis . The innovative and bespoke application makes it possible to record and monitor processes, using industry standards of digital decimal calculations to an accuracy of 1/10,000th of a minute.

### **Mode A: Multiple Process Measurement**

This mode enables the digital decimal minute recording of up to 800 processes, each of which can be recalled and viewed on the LCD display or downloaded for analysis and archiving purposes. This mode also displays the maximum, minimum and average process times recorded.

### **Mode B: Treble Acoustic Count Down Timer / Pacer**

This mode provides up to 3 sequential process countdown timers / pacers with audible beep. Each of the three countdown timers / pacers can be individually configured to your desired length of time and giving acoustic notification of each timer ending. This mode also offers the possibility to continually loop through each of the countdown / pacer times for processes requiring repetitive actions.

### **Mode C: Process Calculator**

This mode allows the user to instantly calculate production time for a given number of products. The user selects the number of products which are required. Pocket Pro is used to measure the time taken to produce 1 part. Pocket Pro then displays the time taken for 1 part and for total time for the number of parts selected.

Together with its integrated USB connector; free **POCKET MANAGER** software application and Pocket-Pro 800 measurements internal memory, the device makes the downloading, analysis, printing and archiving of results extremely simple.

Data can be archived and assigned to individual processes, personnel and machinery to assist in monitoring and improving process and production developments. The three dedicated Industry modes include.

The USB connector (HL400-4) enables connection to a photocell, a manual switch or a wireless radio input (HL615, HL675). Pocket Pro Manager adjusts a Lock Time for the USB Input.

**Note:**

Pressing the hard reset (to the right of the USB connector) resets the Lock Time value to 0.01 sec (minium)

## 2. Standard Timing Mode

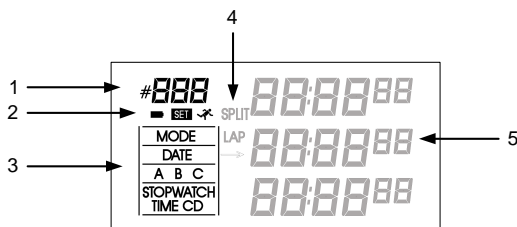
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Several timing modes are available :

**Date / Time / Count Down / Stopwatch.**

The Pocket Manager application allows the downloading, analysis, printing and archiving of results to your laptop or PC

### 2.1. LCD description



1. Number of competitor / Memory status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Information Split / Lap
5. Chronometers

### 2.2. General

#### 2.2.1. How to navigate the different modes

To navigate into a different mode :

- The Pocket Pro has to be stopped (**STOP**)
- Reset memory (**START/STOP + MEMORY**)
- Pressing the **MODE** button now allows you to change the Timing Mode

Sequence :

**DATE → STOPWATCH → TIME → CD → A → B → C**


### 2.2.2. Power

The Pocket Pro functions with an internal battery. It can be recharged when it is connected to a PC (USB cable) or by a (USB – 5VDC) power supply

When not used for 36hours, the Pocket Pro will switch OFF automatically (LCD OFF)  
To wake up the Pocket Pro, just press any button.

It is also possible to switch OFF manually the Pocket Pro by pressing simultaneously the **MODE** and **MEMORY** buttons for 5 seconds.

When the Pocket Pro is OFF, all the times are stored in memory.

The icon  will indicate the level of the battery

During charge: 75% ON / 25% OFF blinking

Fully charged: with USB Cable: icon ON

Without USB cable: icon OFF

Low level (<10% charge): blinking 50% ON & 50% OFF  
(you still have 2-3 days autonomy)

### 2.2.3. Time Memory

The Pocket Pro has a memory of 800 times.

The number of memorized times is shown on the 3 digits (Memory status)

When the memory reaches 90% capacity (720 times), the 3 digits will flash.

#### **Warning**

Once the memory is full (800 times), the next time recorded will be stored as 001

The previous time will be automatically deleted

The LCD will continue to flash

The memorised time can be recalled and displayed on the LCD at any time (even during a timing session).

By pressing the **MEMORY** button, the memorized time 001 will be displayed as the button is held down. The number of the memory shown is displayed on the top-left of the LCD

Press the **MEMORY** button again and the next stored time will be displayed.

### 2.2.4. Delete Memory

To delete the memory, press simultaneously **START/STOP** and **MEMORY** buttons.

#### Warning

You will not receive a request for you to “confirm Delete Memory”.  
Once this step is made, all times are irretrievably deleted.

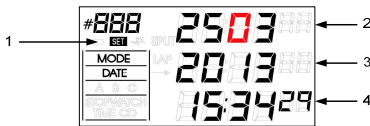
### 2.3. Date Mode

This mode allows you to update the date of the Pocket Pro.

To set the date:

- Press the **MEMORY** button: the first digit will flash and **SET** icon is ON
- Press the **SPLIT/LAP** button to change the value
- Press the **MEMORY** button to move to the next digit

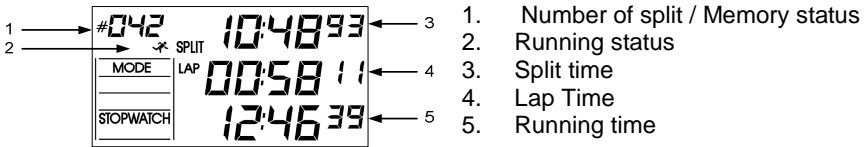
Validate your setting with the **MODE** button (**SET** icon is OFF)



1. Icon Set ON = Setting
2. Date setting (in red, digit blinking) (25.03)
3. Year setting (2013)
4. Time of the Pocket Pro (setting in menu TIME)

## 2.4. STOPWATCH mode

This timing mode allows the timekeeper to make a Start/Finish, with intermediate time (**SPLIT**) and lap time (**LAP**) with a 1/100th of a second precision



The time displayed is up to 59'59.99" (1 hour)

**SPLIT** : Intermediate time, or cumulated time taken at each time (**SPLIT/LAP** button)  
The SPLIT Time is to the top of the LCD (mm:ss.dc)

**LAP** : Lap time or time difference between time taken (**SPLIT/LAP** button)  
The LAP time display is in the middle of the LCD (mm: ss.dc)

**Running Time** : Running time between Start and Finish  
The running time is on the bottom of the LCD (mm:ss.dc)

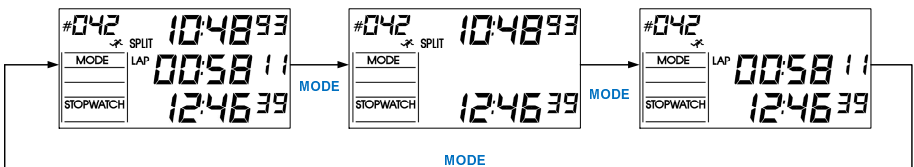
The running time always starts from **00:00:00**.

- To start, press the **START/STOP** button (⏻ icon is ON)
- Three times are running and displayed
- At Split / Lap, press **SPLIT/LAP** Button.

The **SPLIT** and **LAP** time is stopped. The running time (bottom) continues to run.

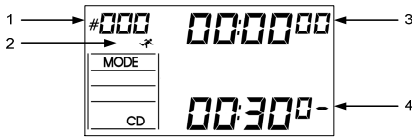
At each press of the **SPLIT/LAP** button, the counter store increments.  
It is possible to recall and view the running time (after **SPLIT/LAP** ) by pressing **MEMORY** button.

For simple viewing in this mode, it is possible to reduce the information, and display only **SPLIT** or **LAP**. For this, during the race, press the button **MODE**.



## 2.5. Count Down mode (CD)

This mode allows you to make a unit count down or loop count-down



1. Number of split / Memory status
2. Running status
3. Counter
4. Count Down (max 59:59.9)

### 2.5.1 Set Count Down

To change the Count-Down value, the memory has to be deleted.

To set the Count-Down value:

- Press the **MEMORY** button: the first digit will flash and **SET** icon is ON
- Press the **SPLIT/LAP** button to change the value
- Press again the **MEMORY** button to change to the next digit
- Validate your setting with the **MODE** button (**SET** icon is OFF)

### 2.5.2 Count Down timing .

- To start the count down, press **START/STOP** button (✓ icon is OFF)
- The count-down value decrements (on the bottom)
- A timer (on the top) is started (increments)

At any time it is possible to **PAUSE** and **RESTART** the count-down

A long single beep will sound at the end of the Count-Down

The count-down will stop automatically at 00:00.

To restart a new count-down, you have to reset the value by pressing **SPLIT/LAP** button.

During the count-down sequence, by pressing the **MODE** button, it is possible to change the Single Count-Down to Auto-Restart Count-down (loop mode).

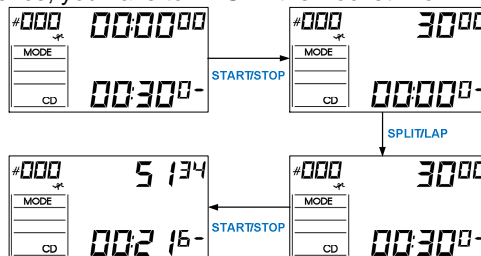
The **CD** icon on the LCD will switch.

In this Auto-Restart Count-Down, during the last 5 seconds, the Pocket Pro will sound a single short beep and a long beep at 00:00

The Pocket Pro will restart automatically from the pre-defined time of the count-down.

The timer will run and show the full time since the first Start.

To stop the sequence, you have to **RESET** the Pocket Pro.



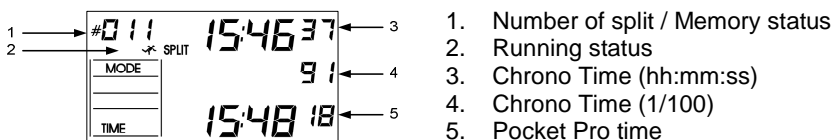


## 2.6. TIME Mode

This timing mode allows you to memorize the time of day at each split.

This mode is very useful as a back-up system during a timing session and functions similarly to other timing systems working at “time-of-day” such as Chrono Printer, Mini Timer or Start Clock.

In Time mode, you have on the top of the LCD the value 00:00.00 and on the bottom the time of the day of the Pocket Pro.



### 2.6.1. Internal Time of Day setting

To set the Internal Time of Day on Pocket Pro:

- The Pocket Pro memory has to be reset (**START/STOP + MEMORY**)
- Press and hold the **MEMORY** button for 5 sec: the first digit will flash and **SET** icon is ON
- Press the **SPLIT/LAP** button to change the value
- Press the **MEMORY** button to move to the next digit


### 2.6.2. Time of day synchronisation

- Press **SPLIT/LAP** and **START/STOP** buttons simultaneously.
- The time of day of the Pocket Pro will be displayed on the top of the LCD with 1 minute in advance.
- The synchro will be automatic at the end of the full minute

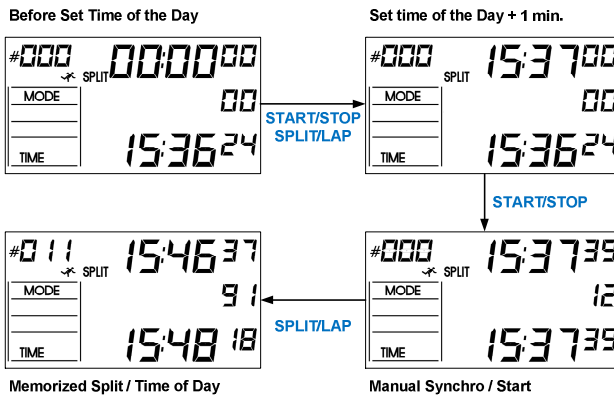
### 2.6.3. To Synchronise at Zero

- Press **START/STOP** button
- The Chrono automatically starts from zero.

## 2.6.4. Timing

Once the Synchronization is made, the  icon appear.

To memorize the time of day, press **SPLIT/LAP** button  
The time on the LCD will stay and the passing counter (top-left) is incremented.  
To see the time of the day running, press **MEMORY** button.



### 3. Specific Industry Modes

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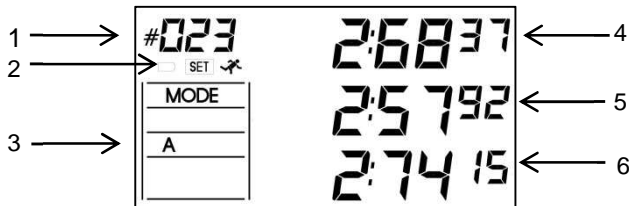
In the Pocket Pro Industry, 3 specific modes are available

- A:** Multiple Process Measurement calculated in digital decimal minutes  
Record up to 800 times and calculate maximum/minimum and average time of every process
- B:** Treble Acoustic countdown timer / pacer  
Allows up to 3 sequential countdown timers each with individual audible beep and the ability to continually loop
- C:** Process Calculator  
Calculate the rate of production in parts / min and parts / hours

#### 3.1. Multiple Process Measurement (mode A)

This mode enables the digital decimal minute recording of up to 800 processes, each of which can be recalled and viewed on the LCD display or downloaded for analysis and archiving purposes. This mode also displays the maximum, minimum and average process times recorded.

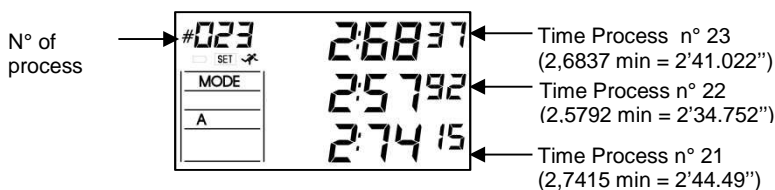
Time is displayed in 1/10'000 of Minutes



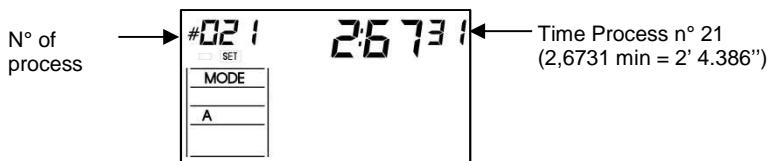
1. Number of processes measured / Memory status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Process time (1/10'000 min) (in the sample above = process n°23)
5. Previous Process time (in the sample above = process n°22)
6. Previous Process time (in the sample above = process n°21)

- Button **Start/Stop** : Start timing the process  
Stop timing the process
- Button **Split/Lap** : Increment the process number
- Button **Split/Lap** (hold for 5 sec) : Resets the current running time
- Button **Memory** : View each process time, press again to increment to next process time
- Bitton **Mode** : Allows you to display on 3 lines  
Line 1 : Slowest of all processes  
Line 2: Average of all processes  
Line 3: Fastest of all processes

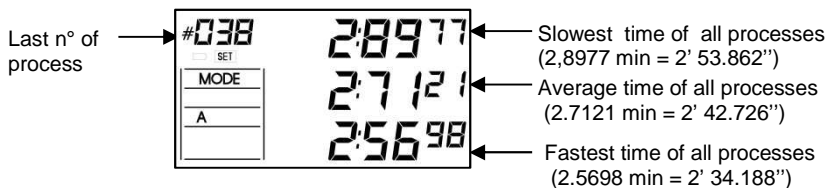
### Examples



### Example to display one process time (Button MEMORY)



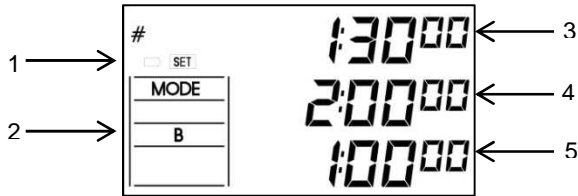
### Example of results calculated by the Pocket Pro (Button MODE)



### 3.2. Treble Acoustic countdown timer / pacer (Mode B)

Three countdowns / pacers are defined to sequence a process.  
Once the process is started, each count down will start one after the other  
At the end of each count down, a beep will sound.

Once the 3 counts downs are finished, the Pocket Pro will stop.  
To enable loop mode simply press the "MODE" button during countdown. The CD icon is displayed.  
If any of the timers are set at zero, the Pocket Pro will pass automatically the next one.



1. Battery / Mode Setting / Running status
2. Timing Mode
3. Count down n°1 (1/10'000 min)
4. Count down n°2 (1/10'000 min)
5. Count down n°3 (1/10'000 min)

Button **Start/Stop** : Start/Stop the count down

Button **Memory + Start/Stop** : Reset the values of each count down, and allows you to restart a new sequence

Button **Mode** : Allows you to activate the loop function « repeat » (Icon CD displayed)

To change / set the timer values.

Button **Memory** Select the digit

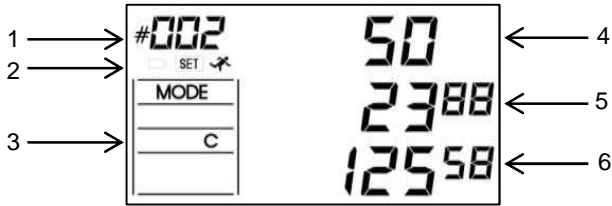
Button **Split/Lap** Change value of the digit

Button **Mode** Validate the setting

Warning : the value count down are in 1/100 of Minutes (100 = 1 min, 50 = 30 sec).

### 3.3. Process Calculator (mode C)

This mode allows you to measure the time required to produce a number of parts, and automatically calculates the rhythm in parts per minute and parts per hour



1. Number of Process/ Memory status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Number of parts to calculate total production time
5. Time measured (mm : ss.dc)
6. Total parts per /minute (or parts per hour)

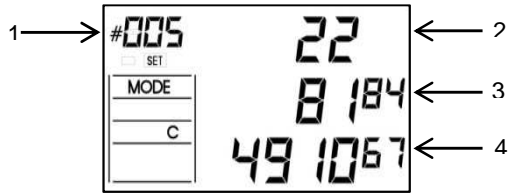
- Button **Start/Stop** : Start/Stop the timing for production measurement  
 Button **Split/Lap** : Continue to next process  
 Button **Memory** : View each process time, press again to increment to next process time  
 Button **Mode** : Display the production in parts/hours

Press the button **Split/Lap** allows you to activate the setting menu.  
 To change the quantity of parts measured, the Pocket Pro has to be incremented to the next process using “SPLIT/LAP” button or reset. The Number of parts (line 1) will be displayed

- Button **Split/Lap** Change digit value  
 Button **Memory** Change the digit  
 Button **Mode** Validate the setting

If the production value is higher than 9999 Pocket Pro will display « Err »  
 It is necessary to increase the number of parts to measure

## Visualisation



1. Number of process
2. Number parts for the overall calculation
3. Rhythm in parts/minute
4. Rhythm in parts/hour

## 4. Recommendations

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Although the Pocket Pro can be used indoors and outdoors, optimal viewing and protection is best when the display is in the shade or covered from direct sunlight and rain.

Never immerse the Pocket Pro in water.

The Pocket Pro is developed to endure light rain.

The USB socket is protected by the black rubber, and prevents any water ingress.

It is very important and recommended to keep the rubber in place at all times when not using the USB connection.

The optimal visibility of the LCD is when the Pocket Pro is protected from direct sunlight

The Pocket Pro can overheat in excessive direct sunlight.

The LCD plexiglas is fragile. It is not recommended to clean it with a solvent or alcohol

### **IMPORTANT**

A slightly damp cloth is recommended for cleaning the Pocket Pro

## 5. Download a new version of Firmware

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Program downloads and new releases of the TAG Heuer firmware “up loader” are available free of charge on our website [www.tagheuer-timing.com](http://www.tagheuer-timing.com).

For this operation, you need to have:

- Mini-USB cable HL545-3
- The software «TAGHeuerFirmmanager.exe » version minimum V10.0

### **Procedure**

- Copy the software «TAGHeuerFirmManager.exe » onto your hard disk drive
- Connect the Mini-USB cable (HL545-3) to the PC and to the Pocket Pro
- Run the software « TAGHeuerFirmManager.exe »
- Select the COM Port
- Select the file: Update (HL400\_xxx.dat)
- Press START on the software.
- Press reset on Pocket Pro
- As soon as the upgrade is downloaded into the HL400, validate the software with OK.
- The HL400 is ready to use.



## 6. Technical specification

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### 6.1. Pocket Pro characteristics

- Power 5 VDC (rechargeable with USB cable)
- Internal battery 600mAh / 3.7V
- Autonomy 35 days (in use) after full charge
- Shell Aluminium – PVD surface treatment
- Weight 160 g
- Precision +/- 2 sec / month  
Calibration available
- Display LCD 3 lines of 6 characters  
Battery level / Timing Mode
- Size of characters 7mm height
- Accuracy 1/100<sup>th</sup> second
- Memory 800 stored times
- Temperature range -20°C to +60°C

### 6.2. USB Connector

Pin	Description
1	5V
2	D-
3	D+
4	TAG Heuer Photocell
5	GND

## 7. Quick Guide

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### **Reset memory**

Buttons: Start/Stop + Memory

### **Change mode:**

Clear Memory (Start/Stop + Memory)

Button: Mode

### **Power off**

Buttons: Memory + Mode (hold down together for 5 seconds)

### **Recall recorded times**

Button: Memory

### **Setting (Date / Time / CD)**

Button: Memory to select the digit

Button: Split/Lap to change value

Button: Mode to validate the selection

### **Stopwatch**

Button: Start/Stop: start or stop counter

Button: Split/Lap: memorize Split/Lap

Button: Mode: select display Split or LAP or both

Button: Memory: recall split/lap memorized

### **Count Down**

Button: Start/Stop: Start or Stop counter

Button: Split/Lap: reset the preselected Count Down

Button: Memory: countdown setting

Button: Mode: Select single Count Down or Multi Count Down (CD blinking)

### **Time (function manual back-up with Time-of-Day)**

Button: Start/Stop + Split/Lap: Set Time-of-Day (+ 1 minutes)

Button: Start/Stop: Synchro + Start

Button: Split/Lap: Memorize Time-of-Day

Button: Memory: recall/view memorized time

### **Mode A - Multiple Process Measurement**

Button: Start/Stop: Start / Stop timing process

Button: Split/Lap: Increment process number

Button: Memory: recall / view process times

Button: Mode: recall / view slowest, average and fastest process times

### **Mode B - Treble Acoustic countdown timer / pacer**

Button: Start/Stop: Start / Stop countdown

Button: Split/Lap : Change countdown values

Button: Mode : Activate loop / repeat mode

Button: Memory: Modify countdown timers

### **Mode C - Process Calculator**

Button: Start/Stop: Start / Stop timing of production management

Button: Split/Lap : Continue to next process

Button: Memory: View process times

Button: Memory: Display production in parts / hour



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