Timekeeper3

The timekeeper3 is a product that allows the detection of the times in many sports. It was developed for the detection of time in speed slalom races on skates but it easily adapts to various disciplines which require the precise detection of the times by means of photocells.

The picture below shows: on the left a deployed **Timekeeper3 Dual**, on the right a deployed **Timekeeper3 Mono** connected to a smartphone, on the bottom a **Timekeeper3 Dual** compacted for transport.

In order to know the details about the accuracy of the system, refer to the following document: www.tr3ma.com/Dati/timekeeper3precision_english.pdf

For the detection of the times you need an Android smartphone version 2.2 or higher (not included in the product).

For the detection of acoustic signals coming from Timekeeper3 you need an external audio system, In example, a portable amplified speaker or a wireless headset (not included in the product).

The product is powered by two 9-volt batteries not included in the package. The duration of these batteries is greater than 24 hours (variable, depending on the quality of the used batteries).

Upon purchase, you must specify which **VERSION** and which **CONFIGURATION** you want to use.
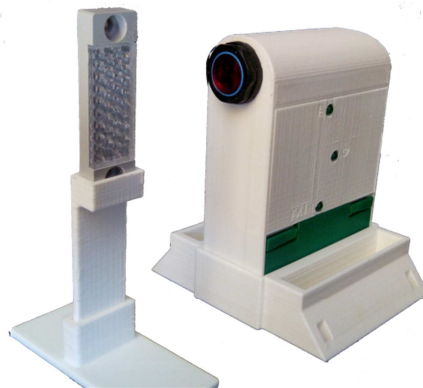
<div align="center">**VERSIONS**</div>

Dual version: It is a timekeeper equipped by 2 photocells that allows simultaneous time detection of 2 competing athletes.

Mono version: It is a timekeeper equipped by one photocell that allows time detection of one atlete, it is useful for qualifications or personal training purposes.
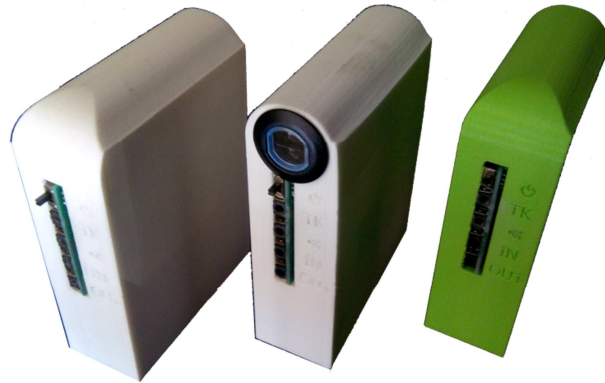
3 Timekeeper: two Mono on sides, and one Dual in the middle
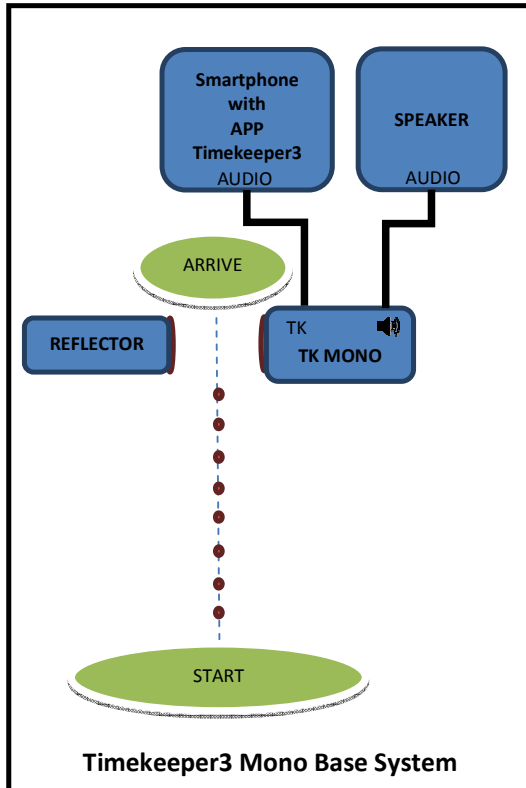

Timekeeper3 Mono

<div align="center">**CONFIGURATIONS**</div>

Base System configuration: It is the configuration you get with one **Timekeeper3**. The **Timekeeper3** detects the athlete's arrival and then it must be installed at the end of the path to clock.

Full System configuration: It is the configuration you get with two **Timekeeper3** (same **version**) connected together by means of a cable. The system reveals the departure of the athletes by means of a **Timekeeper3** installed at the beginning of the path and then it detects the arrival of the athletes by means of a **Timekeeper3** installed at the end of the path.

INTERCONNECTION DIAGRAMS FOR EACH POSSIBLE SYSTEM

Timekeeper3 Mono Base System

SYSTEM**Timekeeper3 Dual Base System**

Timekeeper3 Mono Full System

Timekeeper3 Dual Full System
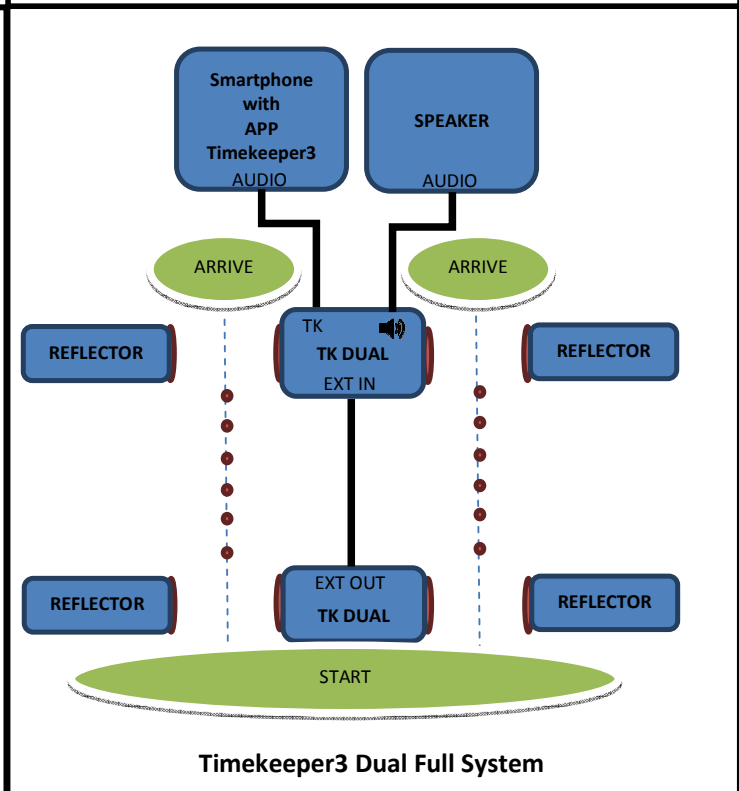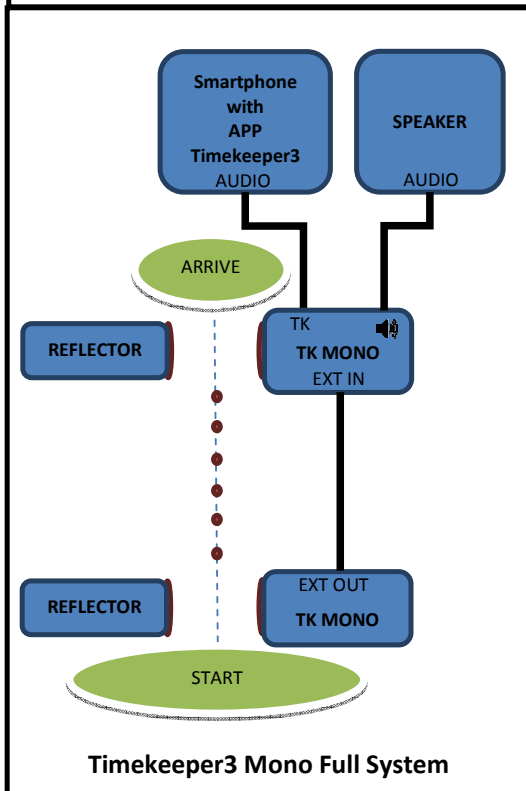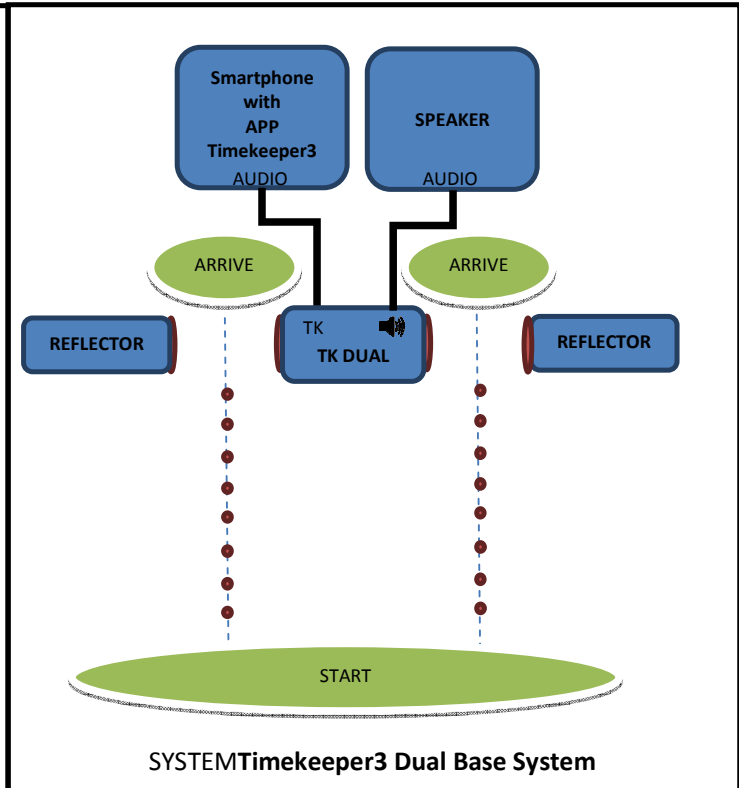
The **Timekeeper3 Base System** and **Full System** detect times by means of an APP installed on a smartphone. While using the system, the smartphone must be directly connected to the arrival photocells.

The APP allows the use of the system in 3 **Modes**:

- **MANUAL START**: in this mode the start is manually given by the user (with optional and selectable delay), a tone sound is made available on the **Timekeeper3** output audio connector in order to indicate the start. Upon arrival the clock stops, allowing the detection of the times. By pressing the RESET and START button on the APP, it will be able to start a new run. To use this mode you need to select the MANUAL START checkbox on the APP.

- **FULL**: this mode is available only for **full system** configurations. When you press the REARM button, the system waits for the passage of the athlete on the photocell located at the beginning of the path and then it starts the clock. Upon athlete's arrival, the photocell located at the end of the path will allow the stop of the clock. By pressing RESET and REARM buttons you can start a new run. To use this mode you need to deselect MANUAL START and AUTO REARM checkboxes.

- **FULL with AUTO REARM**: this mode is available only for **full system** configurations. Once this mode is enabled, the times are automatically measured when the athletes pass between start and arrival photocells. If the athlete pass again on the start photocell, the clock restarts from zero. By pressing RESET button the clock is resetted. To use this mode you need to select only the AUTO REARM checkbox.
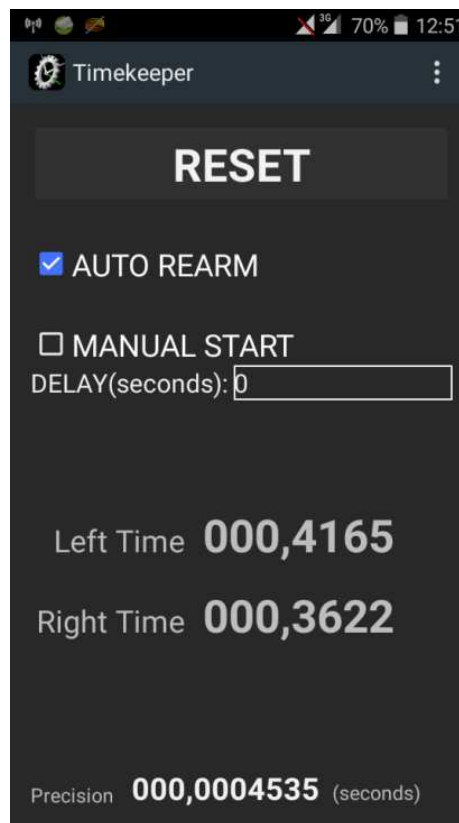
This APP is on the store with the name **Timekeeper3** on the following address: https://play.google.com/store/apps/details?id=com.tr3ma.timekeeper

It is recommended to enable the airplane mode on the smartphone before to start the **Timekeeper3** app, in order to avoid interferences due to facebook notifications, phone calls, text messages or other sounds events that it can interfere with the **Timekeeper3** performances.

The APP **Timekeeper3** has various options that also allow the following preliminary actions:

- **CALIBRATION**: It must be performed the first time and each time that you change **version** or **configuration** of the photocells.

- **SHOW PARAMETERS**: It shows parameters obtained with the calibration and it could be useful in case you want to report a problem to the Customer Support.

- **TEST PERFORMANCES**: It verifies the performances of your smartphone in the actual status. If the processor is overload due to other running processes, the system's work may be compromised. The performances test returns a positive feedback (green) if processing resources are free, or a negative feedback (red) if the processing resources are too much busy.

- **CHECK PHOTOCELLS STATUS**: It shows the status of the photocells. The led becomes green in order to indicate that the reflector was removed or that an athlete, or another obstacle, is between the photocell and the reflector.

- **SHOW TK IP ADDRESS**: It shows the IP address assigned to your smartphone. It is useful for the connection of the **Timekeeper3** APP with the **Timekeper3Client** APP.
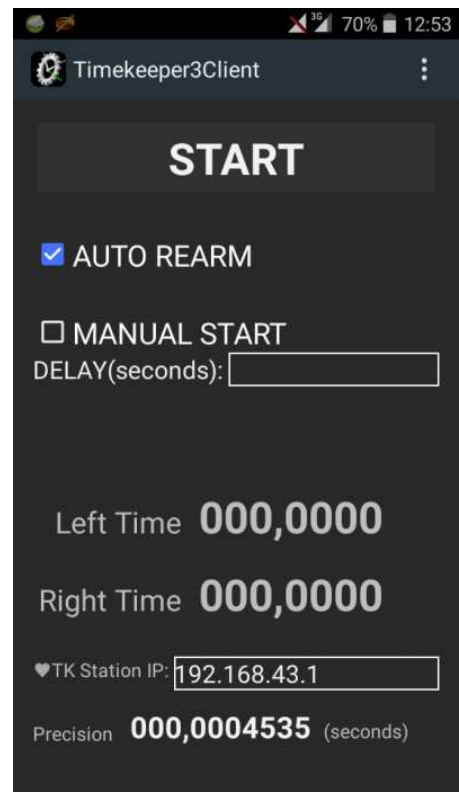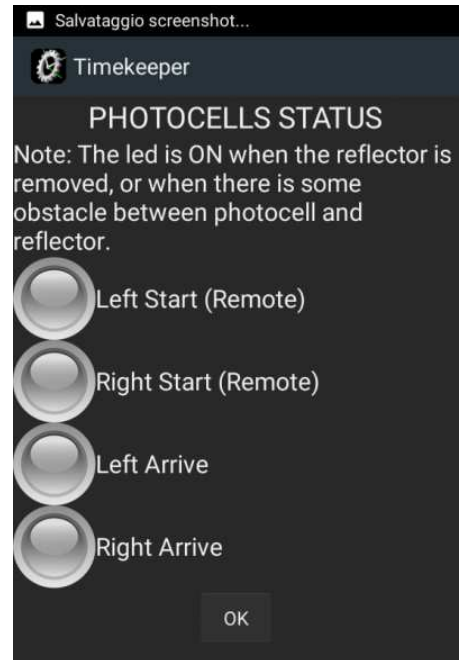
The **Timekeeper3** APP can be optionally controlled by remote through a second smartphone where you previously installed the **Timekeeper3Client** APP. This way the athlete can detect its times with a smartphone kept on the pocket or near the beginning of the path. The communication between the two apps is made via WIFI, this means that the 2 smartphones must be equipped with this technology in order for the data to be exchanged.

The **Timekeeper3Client** APP is available for Android, Apple IOS and Microsoft Windows (not Windows Phone) devices:

https://play.google.com/store/apps/details?id=com.tr3ma.timekeeper3client

https://itunes.apple.com/bf/app/timekeeper3client/id1026173780?mt=8

http://www.tr3ma.com/apps/timekeeper3client/timekeeper3client.zip

At startup, the **Timekeeper3** app enables the wifi hot spot and therefore it allows the connection of other devices with the **Timekeeper3Client** app. It is recommended to configure in advance, on your smartphone equipped with **Timekeeper3,** the wifi password and network name from android hot spot settings.

ORDER CODES

PRODUCT CODE	COMPOSITION
Timekeeper3 **Mono Base** System	box with 1 photocell, BOX SUPPORT to stabilize the photocell, 1 REFLECTOR, 1 REFLECTOR SUPPORT, 1 cable CAB-TK-1M0 for the connection of the smartphone to the photocell
Timekeeper3 **Mono Full** System	2 box with 1 photocell for each box, 2 BOX SUPPORT to stabilize the photocell, 2 REFLECTOR, 2 REFLECTOR SUPPORT, 1 cable CAB-TK-1M0 for the connection of the smartphone to the photocell, 1 cable CAB-EXT-30M0 for the connection between start photocell and arrive photocell.
Timekeeper3 **Dual Base** System	box with 2 photocells, BOX SUPPORT to stabilize photocells, 2 REFLECTOR, 2 REFLECTOR SUPPORT, 1 cable CAB-TK-1M0 for the connection between smartphone and photocell
Timekeeper3 **Dual Full** System	2 box with 2 photocells for each box, 2 BOX SUPPORT to stabilize the photocells, 4 REFLECTOR, 4 REFLECTOR SUPPORT, 1 cable CAB-TK-1M0 for the connection between smartphone and photocell, 1 cable CAB-EXT-30M0 for the connection between start photocells and arrive photocells.

Note: It is optionally possible to request one or more parts with custom color. This customization has an extracost.

REPLACEMENT PARTS

PRODUCT CODE	COMPOSITION
Timekeeper3 CAB-TK-1M0	Interconnection cable between photocell and smartphone, 1 meter length
Timekeeper3 CAB-EXT-30M0	Interconnection cable between start photocell and arrive photocell, 30 meter length. It is also available with custom length (30M0 means 30 meters, 20M5 means 20,5 meters, etc.etc.)
Timekeeper3 REFLECTOR	Reflector
Timekeeper3 REFLECTOR SUPPORT	Reflector plastic support
Timekeeper BOX SUPPORT	Plastic support to stabilize the box during operative configuration. When in transport configuration, it is used to host reflectors and their supports.

In the following picture, as an example, you can see: CAB-TK-1M0, BOX SUPPORT, 2 REFLECTOR SUPPORT and 2 REFLECTOR