TENDO Sprint System
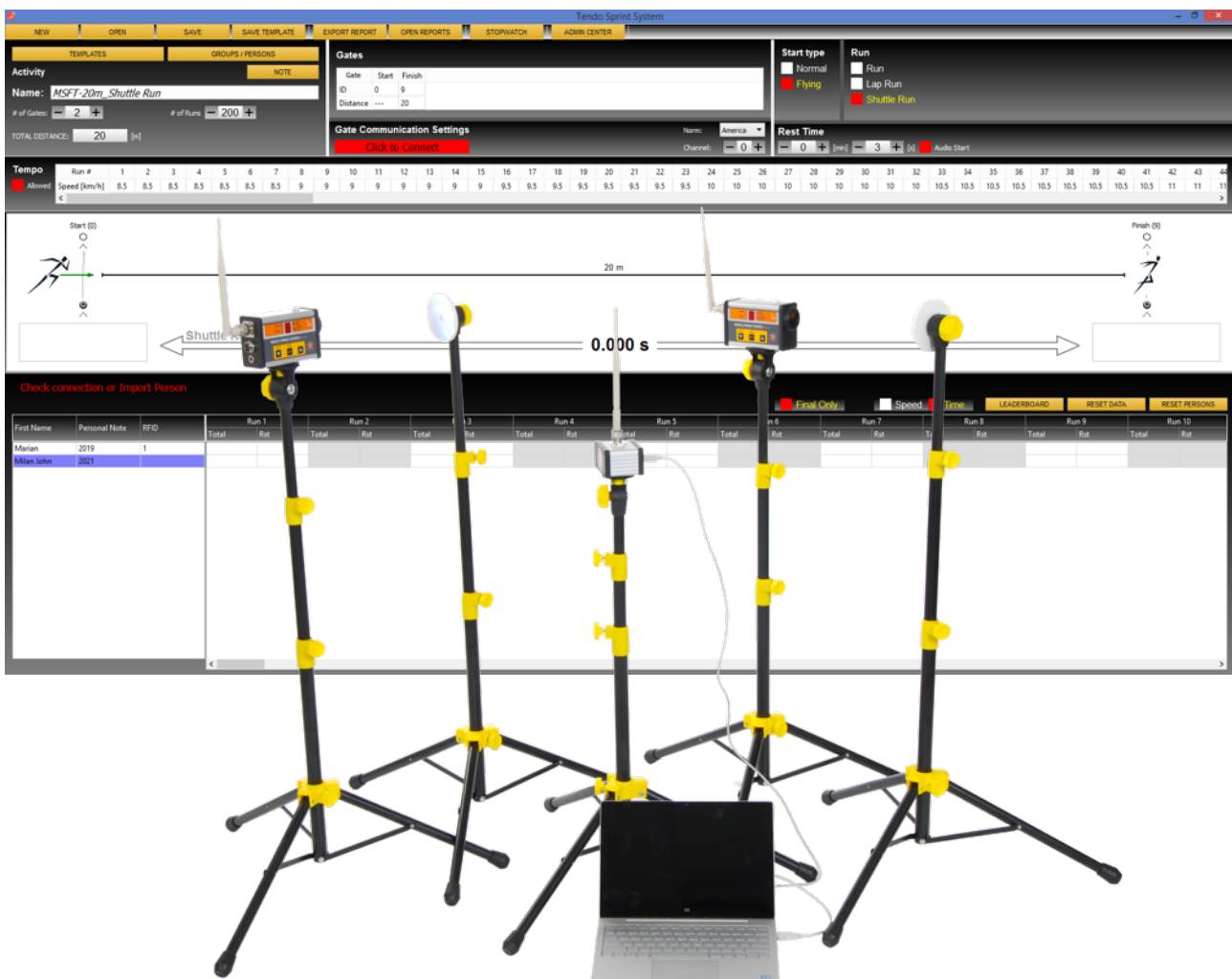
INTELLIGENT, WIRELESS TIMING SYSTEM

Computer Software

User Manual

model: TSS-217

CONTENT

QUICK SATART GUIDE

1. Install computer software
2. Install TSS signal receiver driver
3. Setup the hardware
4. Start using TSS

1 SYSTEM INTRODUCTION

In order to use TSS system you will need following devices:

Photocell/reflector pair   **TSS signal receiver**

Computer Software Installation CD (Software can be also downloaded from our website: https://www.tendosport.com/tendo-sprint-system-computer-software/)

Minimum computer requirements:
- Processor: 1.6 GHz, RAM 2 Gb
- Operating system: Windows 7, Windows 8, Windows 10, 32 bit or 64 bit.

** Tendo Sprint System computer software can now be run on Windows tables as well **

2 INSTALLATION

2.1. Installation of the new Tendo Sprint System

1. Insert the USB flash disc into the USB port on your computer
2. Select TSS Installation
3. Click the setup.exe file and follow the instructions displayed on the computer screen
4. After the installation, the new Tendo Sprint System computer software will be added to My computer and the icon for the new program will be displayed on the desktop

2.2 Installation of TSS signal receiver driver

✻Before the first use it is necessary to install TSS signal receiver driver

1. Insert the USB cable into the connector located on the signal receiver
2. Insert the other end of the USB cable to a USB port on your computer
3. Your computer will detect the new device and install the TSS signal receiver driver

✻ Once the driver is installed the system is ready for use

If your operating system does not install the driver automatically, you will need to install the driver manually:

1. Find new hardware (Found New Hardware Wizard)
2. Search for the new driver and click Next
3. Windows will find a new USB device
4. Click to finish
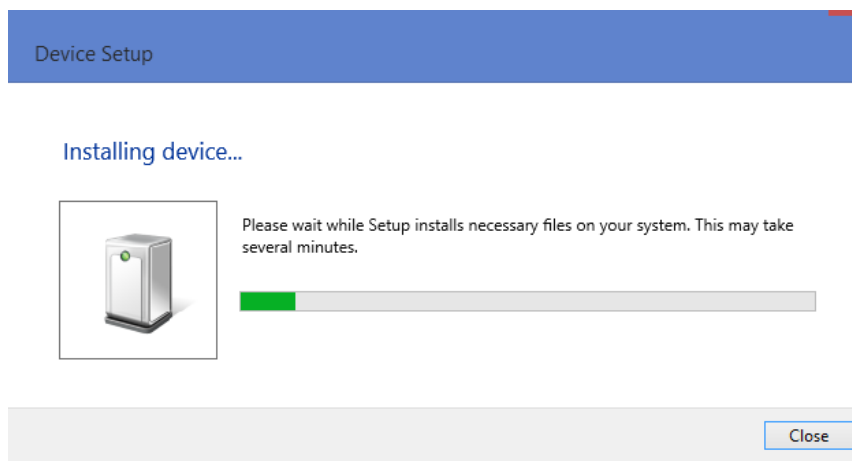
3 HOW TO RUN TENDO SPRINT SYSTEM PROGRAM

Double click on the Sprint System icon to open a program window.
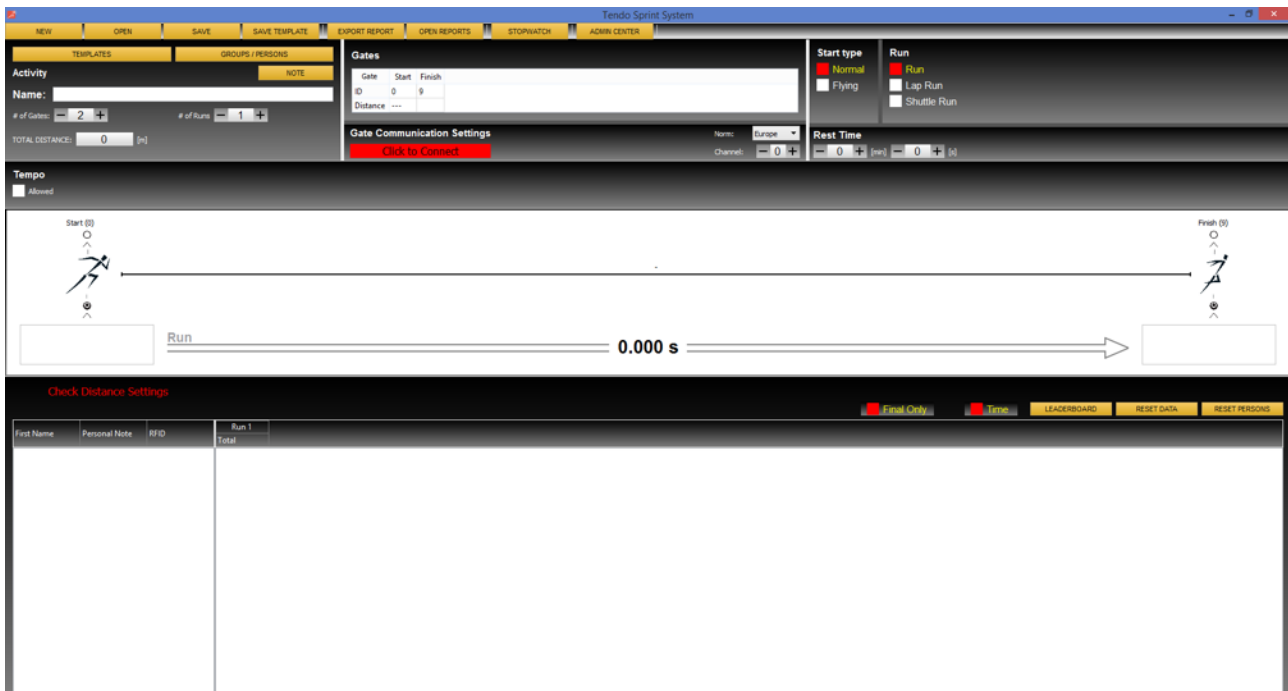
3.1 Admin center

Admin Center is used to set the system, add individual athletes to the system, create groups, and assign RFID chips to the athletes.


By clicking Admin Center, new window will open. Here you can add athletes' details and create groups. The added groups and individual athletes will be then possible to use throughout the program.
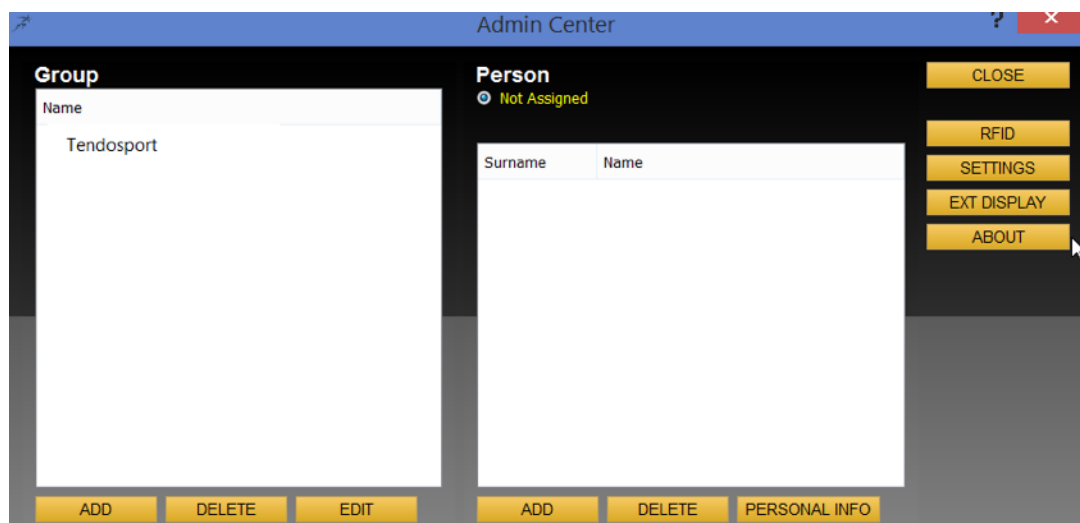
3.1.1 CREATE A NEW GROUP

To create a new group:

1. Click "**ADD**" located under the **Group section** on the left side
2. New window opens
3. Write down a name of the group
4. Click OK
5. New group is created
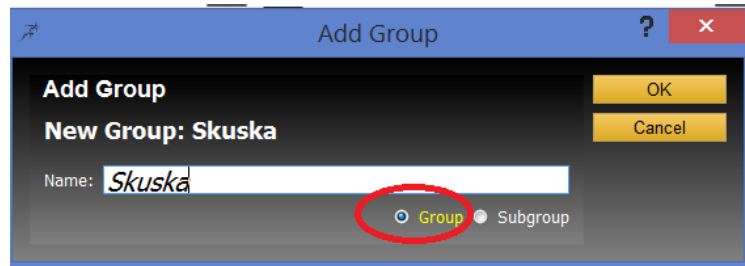
*Make sure "**Group**" is selected when creating another group*

3.1.1.1 CREATE A SUBGROUP IN AN EXISTING GROUP

You can create a subgroup in an existing group by selecting "**Subgroup**"
It is possible to add persons to subgroup only if the group does not contain persons.

To create a subgroup:

1. Choose a group for which you want to create a subgroup
2. Click on the group of your choice
3. Click "**ADD**"
4. New window opens
5. Select "**Subgroup**"
6. Write down a name of the subgroup
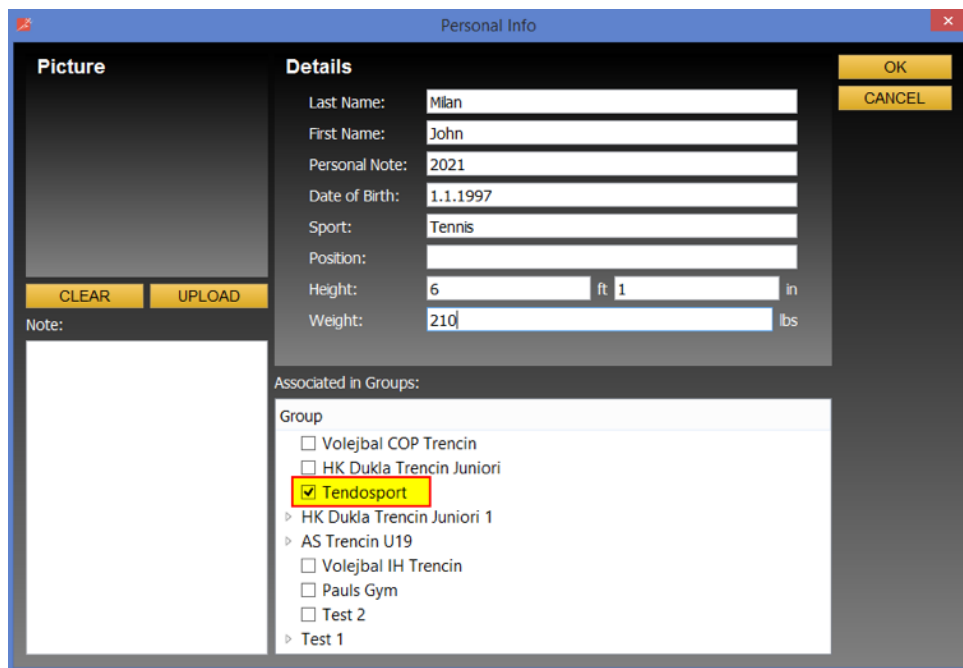7. Click OK to create a subgroup in the group
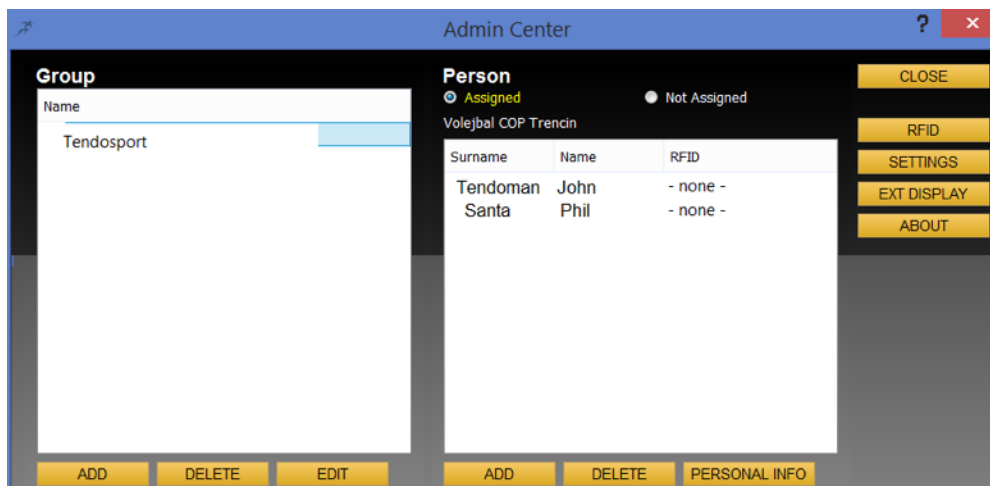
Groups can also be deleted ("**DELETE**") and names changed by clicking "**EDIT**"
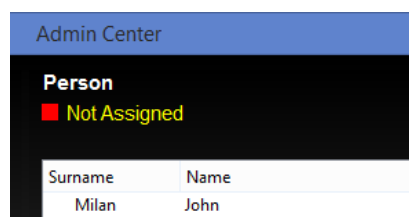
3.1.2 ADD NEW ATHLETES AND THEIR DETAILS TO DATABASE

If you click on a group and the group is associated with particular athletes, the athletes' details will appear on the right side of the window.

1. Click "**ADD**" located under the **Person section**
2. New window opens
3. Fill in the details in the **Details** table and **assign a group** to the athlete (located at the bottom right of the Personal Info window

*If you do not associate the athlete with a group, the newly created athlete will be added to the database as "**Not Assigned**"*

4. Click OK
5. New athlete is added

To edit athletes personal details:

1. Select an athlete whose details you want to edit by clicking on their name
2. Once the name is selected, click on "**PERSONAL INFO**" button
3. To save new data, click OK

Tip: *It is possible to add a Personal Note for each person. This Personal Note will be displayed in Result Table.*


3.1.3. System setup

Click "**SETTINGS**". A new window for setting measurement units opens. Here you can choose whether the program will use English system "**Imperial**" or metric system "**Metric**", meters or kilometres.

Select the chosen system, distance and speed units and click OK.

Error Correction Processing (ECP) = use algorithms to eliminate measurement errors and false signals due to swinging arms or legs.

Click on a square to turn ECP ON or OFF.

3.1.4 Loading RFID chips and identifying athletes
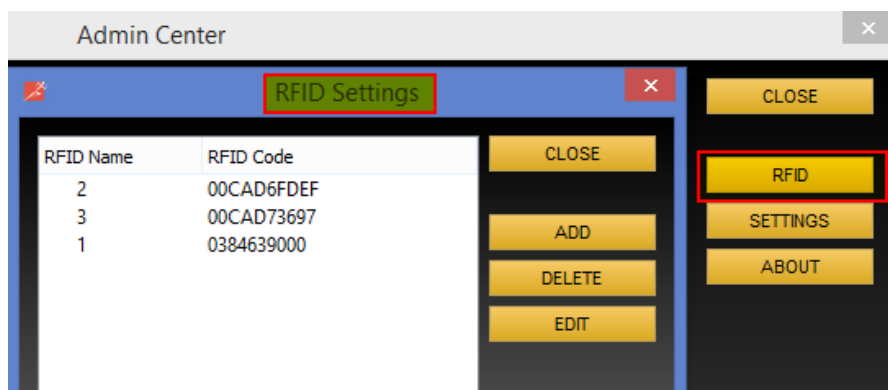
To load new RFID chips into the system, the entire Tendo Sprint System must be connected to a computer, and the RFID chip reader must be attached to a photocell.

Click "**RFID**". A new window opens. Here you can add new RFID chips ("**Add**"), delete previously added chips ("**Delete**") and change names of the chips ("**Edit**").

3.1.4.1 Add a new RFID chip
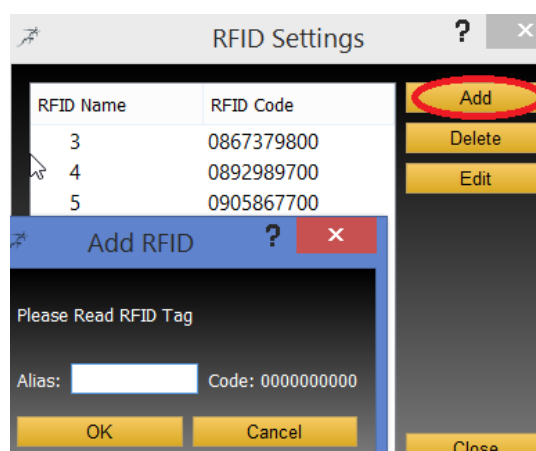
1. Click "**Add**". A new window opens
2. Touch the chip reader with a new chip (**RFID bracelet**). The chip code will appear
3. Create a name under which you want the chip to be stored. Any characters can be used (numbers, letters, signs, etc.)

*It is imperative that the "**RFID bracelets**" are visibly labeled with this name for its identification when assigning the chip to a particular athlete.*

4. Click Ok to save

To change an already stored name of the RFID chip, select the appropriate chip and click "**Edit**". Change Alias and click OK to confirm.

4 CREATE A TRAINING/TEST TEMPLATE

Before starting a training/test, create a database of templates of specific trainings (tests).
To create a training use "**Activity**" window (located in the middle of the top part of the program window)
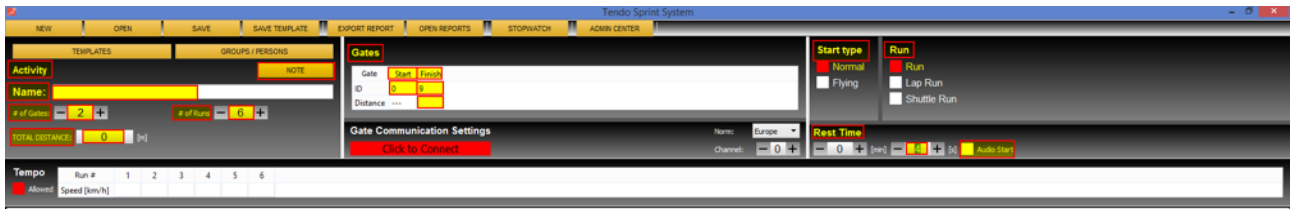

- Enter the **name** of the training/test. In order to be able to identify the template later.
- Enter **number of photocell/reflector pairs** used in the training/test "**# of Gates**"
- Enter **number of runs** used in the training/test "**# of runs**"
- If Lap Run (Start optogate = Finish optogate) is selected, it is possible to set the number of laps and lap distance.

- Select a **type of the photocell** (its function) - the type/function of the photocell MUST be the same as the photocell's setting. It is a number from 0 to 9 (see Hardware Manual for photocell's settings)

✽ *We recommend that you mark the start photocell with the number "0" and the finish photocell with the number "9". Numbers 1-8 can be assigned to split photocells.*

✽ *For a correct communication of the computer software with the photocells, it is essential that the numbers of the photocells that represent their function are identical with the settings in the computer (Gate ID)*
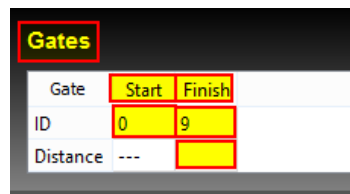
- Select the **distance between the photocells** (start, finish, split). Enter the values, press Enter or click anywhere in the program window to confirm.
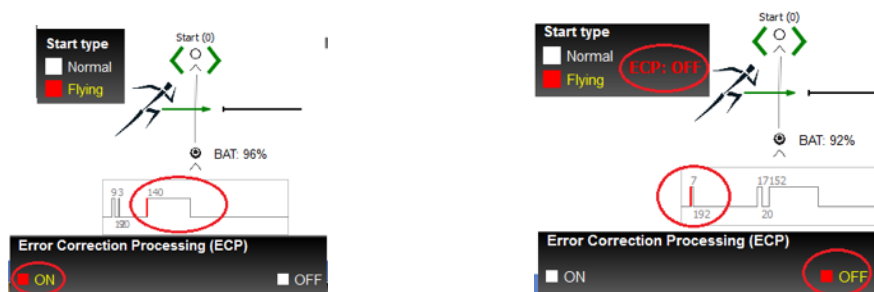
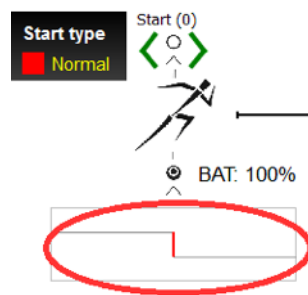- The program calculates "**Total distance**" automatically

∗ *Setting a correct distance is necessary for calculating the correct speed.*

Select "**Start type**":

- **Flying Start** - The system begins to measure when the first photocell is interrupted

- **Normal Start** (standing start) - The system begins to measure when the athlete leaves the first photocell

Select "**Run**" type:

- **Run** - The system uses start and finish photocells (eventually intermittent photocells if connected).
- **Lap Run** - Only one photocell is used (Start = finish)
- **Shuttle Run** - Run with start and finish photocells, where the finish photocell becomes the start photocell after the finish photocell was crossed. (running back and forth)

Note: *If Shuttle Run is selected, it is possible to use both optogates (Start and Finish) to start the run.*

Select "**Rest time**":

Choose the length of the rest time. The rest time between runs will be also shown in a table at the bottom of the program window.

- If the time is *longer than 1 second,* it is possible to select "**Audio Start**", which will signal the start of a new run after the rest time has elapsed.
- If the rest time is *within 2-3 seconds*, the audio start will consist of a single beep.
- If the rest time is *longer than 4 seconds*, the audio start will consist of two short beeps and one long beep each separated by one second.

∗ *Audio Start does not trigger the measurement. The measurement is only trigged by interruption the beam of the photocell*

Setting "**Tempo**":
If you allow tempo (select "**Allowed**") - the photocells will maintain the selected pace via an audio signal
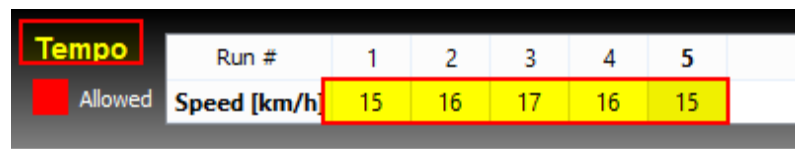
The rate of pace can be selected for each run separately. Speed units are based on unit settings in Admin Center.

- Enter the values, press Enter or click anywhere in the program window to confirm.

"**Self Reset System of the Measurement**":

for "RUN"

- If the system uses separate Start and Finish photocells, each interruption of the Start photocell resets measurement to new measurement until the finish photocell or first intermittent photocell (if connected) is activated.

for "LAP RUN"

- If a single photocell is used, which has a double function (start = finish), each interruption of the photocell by normal (standing) start, which is done for longer than 1 second, resets the measurement to a new measurement.

You can save the template of the training (test) by clicking "**Save Template**" located in a menu bar.

"**Note**" in activity window:

Click "**Note**" to open a window where you can write a note about the training template.
You can add an image to the note by clicking "**Upload**"
Click OK to save the new data

4.1 Menu bar

NEW - New training/test - clears previous settings and data in the table at the bottom of the program window

OPEN - Opens a saved training (test) from the Tendo Sprint System Database

SAVE - Stores all measured training data into the Tendo Sprint System/trainings database. If the training contains persons from more then one group, the TSS software saves training under MixGroup. If the training contains persons from one group only, the TSS software saves training under the group's name.
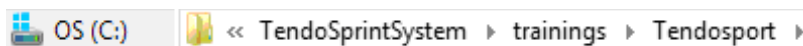
SAVE TEMPLATE - Saves a new training/test template to a Data/Templates database

EXPORT REPORT - Creates a report in Excel and saves it in the TendoSprintSystem/export database where all reports are stored

OPEN REPORT - Opens a saved report from a database

STOPWATCH - The program opens a display window for the measured values
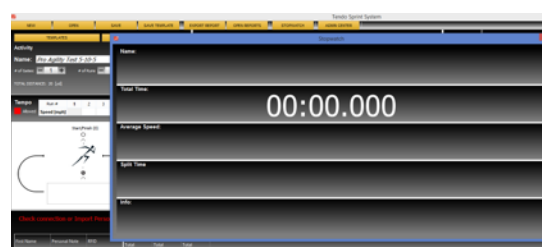
Each compartment of the display window can be zoomed in/out or stretched via your computer's mouse
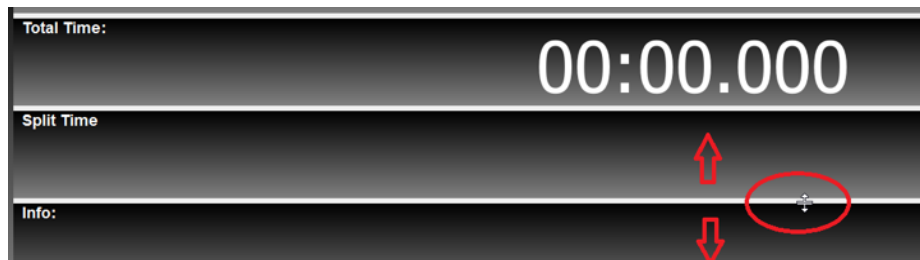
5 START THE MEASUREMENT

1. Setup the photocells according to the Hardware Manual instructions

2. Connect TSS receiver to your computer via a USB cable

3. Switch on the photocells and set the photocells (*see hardware manual*) according to their function.

∗ You can easily check the photocell's function by pressing any button on the photocell. The function number will be displayed on the LED display of the photocell for 5 seconds. E.g.
"**0**" - startup
"**1 - 8**" intermittent
"**9**" - finish

∗ Check the **communication channel** and **frequency range norms**. They must match the settings in the TSS program.

∗ If you want to create more than one track lane, each lane has to have a different communication channel

4. Click "Template" to select a training template in the "**Templates**" window and click "**LOAD**". The template will be uploaded to the program and shown in the "**Activity**" window.
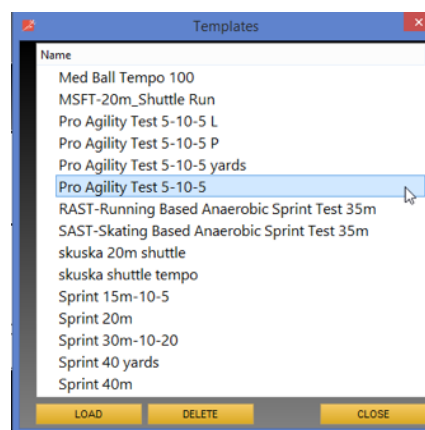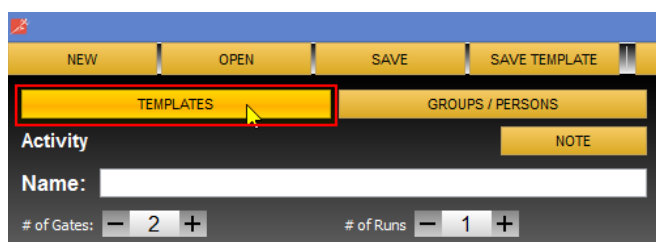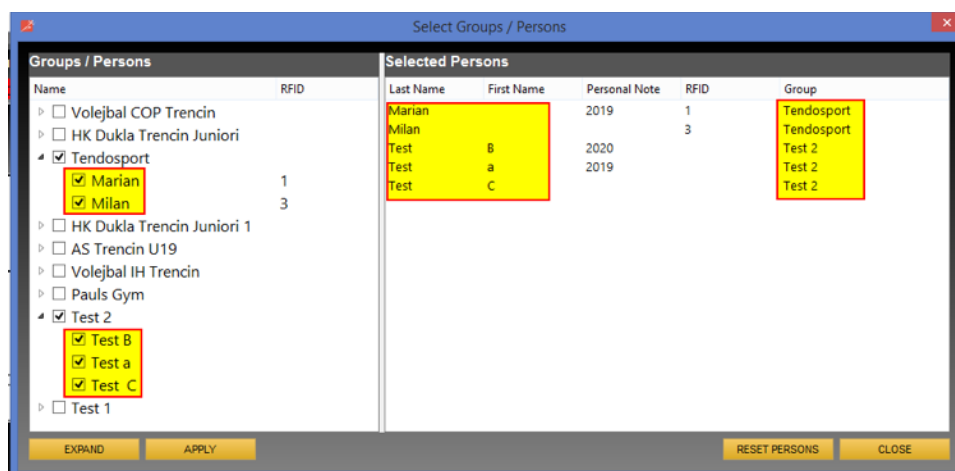

5. Click Group / Persons to select a **group** (or a specific **person**).
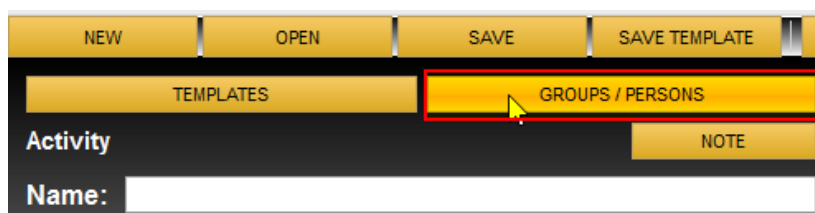
✳ It is possible to select persons from different groups.

The selected person will be displayed on the Selected Person panel of the window.

Click "**RESET PERSONS**" to delete all selected persons.

Click "**APPLY**" and persons will be imported in the result table at the bottom of the program window.

It is possible to add or remove any person from the list of persons by marking or unmarking persons from Groups / Persons window. After the new selection is made, click to "**APPLY**" for update persons.

6. Set the communication with photocells via "**Gate communication settings**"

✳ The photocells' settings and the program's setting **MUST** be the same for communication.

Norm: Choose a frequency norm based on your country:
- EUROPE - E - for Europe
- AMERICA - A - for USA, Canada, South America
- CHINA - C - for China
- INDIA - I - for India
- AU AS - U - for Australia, New Zealand, Indonesia, Hong Kong, Japan, Thailand, Taiwan, Singapore, Vietnam
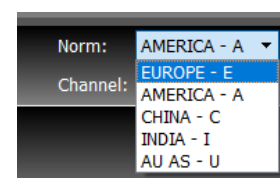
!! Use the selected Radio Frequency only in a country where the particular frequency is allowed !!
!! *Do not use the radio frequency not allowed in the country of the system location* !!

Channel: Choose a communication channel for your TSS set - "0", "1", "2", "3"

✳ Communication settings are independent of Template settings, and the TSS software remembers the previously set communication settings.

7. Click "**CONNECT**"
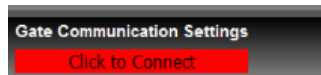
8. Connection is OK

program indication - START button above the result table flashes green and red.
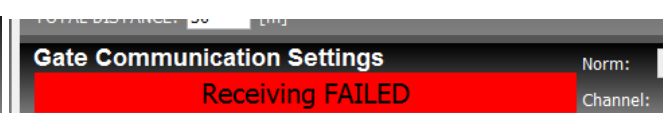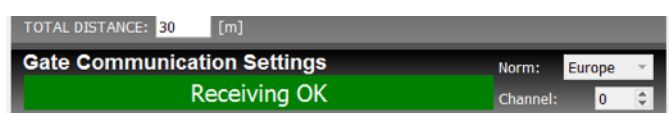

Photocell's indication that the connection is OK - the top LED bulb flashes red while the LED Power flashes green
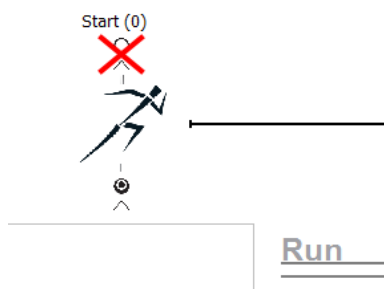

9. One of the photocells is not communicating
   program indication - START button above the result table turns green while the Gate Communication Settings panel is flashing green/red with words "**Receiving OK/FAILED**", respectively.

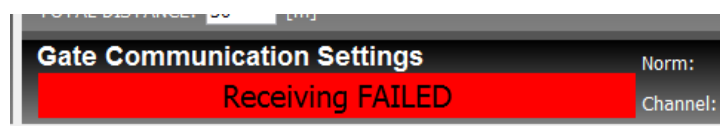Simultaneously a photocell without the connection is flashing.

Solution - Make sure the photocell is switched on and has the same setting as the program setting.

10. None of the photocells is communicating

program indication - START button above the result table turns green and red, and simultaneously a red box with words "**Receiving Failed**" appears in the Gate Communication Settings panel

START	Meassuring STOPPED

Lats Name	First Name	RFID
Frank		3
Marian		4
Milan		5

Gate Communication Settings   Norm:
Receiving FAILED   Channel:

Simultaneously all photocell are flashing.

Solution - Make sure the photocells are switched on and have the same settings as the program settings

6 THE MEASUREMENT

If the connection is OK, you have set a training/test and entered athletes, you can start the measurement.

1. **Select a person** by click on their name. If you have RFID chips, after touching the chip reader with a RFID chip bracelet, athletes will be switched automatically based on their assigned chip.

✳ *If you do not click the START button, the results will not be recorded in the result table*

2. Click "**START**" to start the measurement which will be written down to the results table
• After the "**START**" button is pressed, the "**START**" button changes into a "**PAUSE**" button via which the measurement can be stopped at any time.


• Re-click the "**PAUSE**" button to resume the measurement which will be written down to the result table
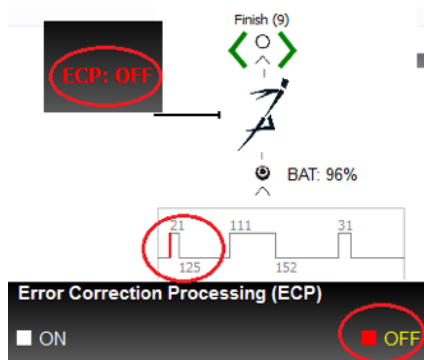
6.1 GRAPHIC PANEL

• If the program communicates with photocells, the information about the **battery charge** of individual photocells is also displayed in the graphic panel.
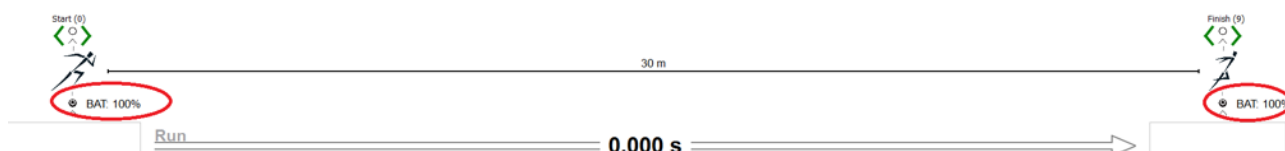
• The graphic panel also displays graphical information about **start and finish** of the measurement with an information about the Error Correction Processing.
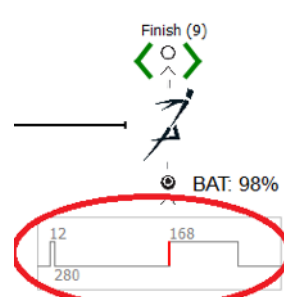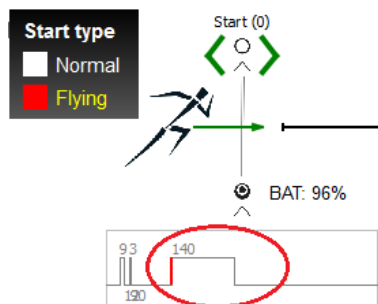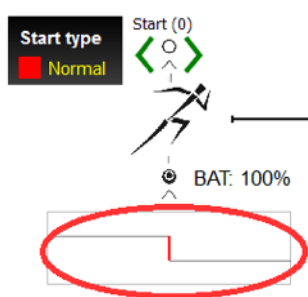
6.2 Result table

All measurements are recorded in the result table.

You can choose between "**speed**" and "**time**"

Split data are also available if the split photocells are connected.
- If split photocells have been used, you can choose the results individually in each section (**Individuals**) or as a resultant time of a single section from start (start of measurement) to finish (**Sums**).

The "**RESET DATA**" button deletes the data from the result table without deleting the athlete's data.

The "**RESET PERSONS**" button deletes persons from the result table only if they do not have measured data. If the person has the measured data remove data first.

To **delete data**, select the Run, right-click on the computer mouse and click Delete Run.

6.3 Leaderboard

"**LEADERBOARD**" button opens Leaderboard window, where it is possible to arrange persons from the best to the worst according to the best run, average from all runs or according to selected runs. It is possible to select time or average speed.

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