



TURBO TIMING

Automatic lap timing for motocross

USER GUIDE

from A to Z — setup, registration, races, results

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Who is this guide for?

Club coaches and helpers who run trainings and races at the track. No programming or technical knowledge needed — if you can join a WiFi network and use a phone, you have everything it takes.

What Turbo Timing is and what's in the kit

Turbo Timing measures every rider's lap times automatically. The rider carries nothing but a small passive RFID sticker (a tag) — **no batteries, no maintenance**. Everything else is done by the antennas at the finish line and the system box.

You see the results on your phone instantly, and with a single tap they are also online — parents and fans can watch live from anywhere.

What's in the kit



System box

reader + computer + WiFi in one case



2 antennas

placed at the finish line



Antenna cables

3 m and 9 m, screw-on connectors



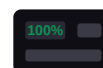
Desk reader

small USB — for tag registration



RFID tags

stickers for riders, no battery



Power station

EcoFlow — lasts the whole day

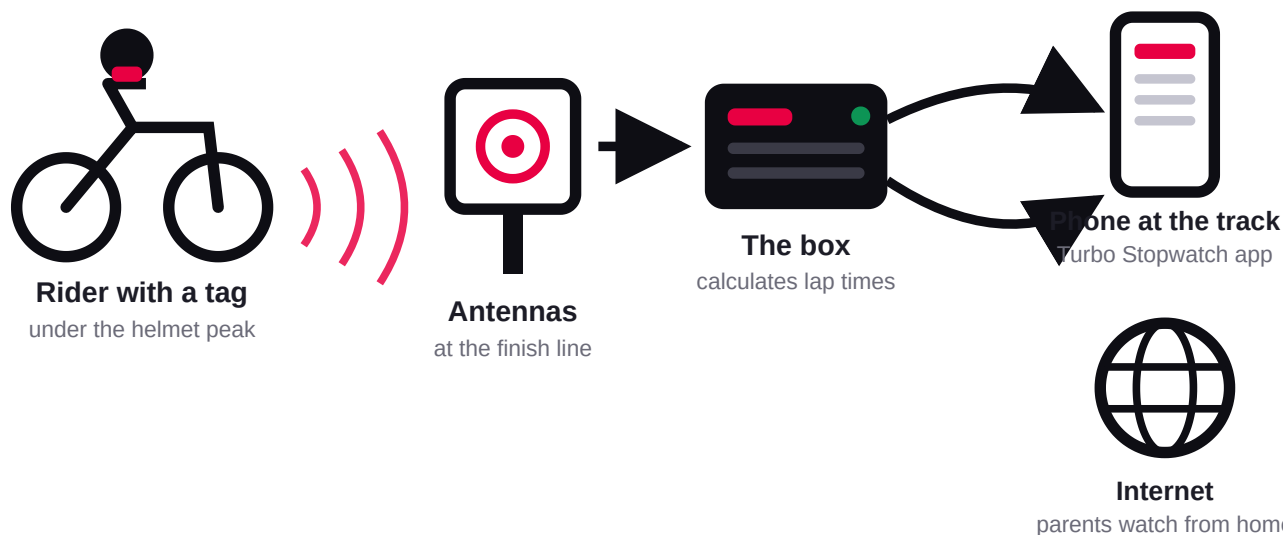


Why this kind of system?

It's the same principle used in big marathons and cycling races: all the smart electronics stay safely at the trackside, while the rider carries only a cheap passive sticker. Vibration, mud and crashes can't hurt it, and losing one costs next to nothing.

How the system works

Every time a bike with a tag passes the finish line, the antennas read it, the box calculates the lap time, and the result appears on your phone and online within a second.



From crossing to result — automatic, within a second

What you should know about tags

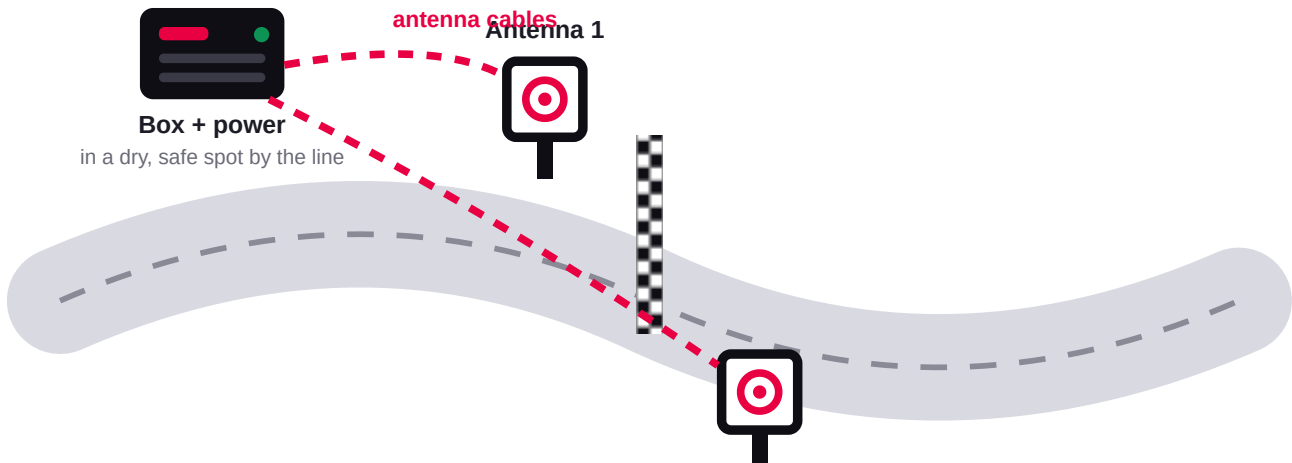
A tag is a thin sticker with no battery. The antenna "wakes it up" with radio waves only in the moment the rider is near the line — so the tag never needs charging and lasts for years. Every tag has a unique number, which the system links to the rider's name during registration.

The system works without internet.

The box does all the timing on its own, right at the track. Internet is only needed if you want to publish the results online.

Trackside setup

Setup takes about 10 minutes. The one rule that really matters — **always screw the antennas on BEFORE powering up the box.**



Two antennas facing each other across the finish line — a wide track is covered from both sides

- 1 **Choose the finish line spot.** Each antenna reliably "sees" 3–4 metres. If the track is wider, place the two antennas facing each other — each covers its own side.
- 2 **Set up the antennas** on stands at the sides of the line, about 1–1.5 m high, turned slightly (30–45°) towards the oncoming riders.
- 3 **Place the box and the power station** in a dry spot by the line (under a canopy or inside the open case, for example).
- 4 Connect the antenna cables to the box and **screw both ends on tightly**. The longer cable goes to the farther antenna.

⚠ Always: antennas first, power second!

Powering the box up without the antennas attached can damage the reader. If you need to move an antenna — switch the box off first.

Powering up and connecting your phone

- 1 **Make sure the antennas are screwed on** (Chapter 3).
- 2 **Switch on the power station** and plug in the box. The box beeps and is ready in about 20 seconds.
- 3 **Open WiFi settings on your phone** and join the box's network:
network **TURBO BOX** · password **turbosisters1** (unless your box is labelled otherwise).
- 4 **Open the Turbo Stopwatch app** (App Store) and choose **TURBO LIVE**. Sign in with your club account — your club administrator gives you the username and password.
- 5 **Check the status lights at the top of the app** — when all lamps are green, the system is ready. Wave any tag past an antenna and its lamp turns green.

System status lights in the app:

 SERVER
  BOX
  READER
  ANTENNAS

Green = working · grey = no tag read yet · red = see Chapter 10

The box network has no internet — on purpose.

The TURBO BOX network connects your phone to the box at the track; for internet your phone keeps using mobile data. You don't need to do anything — the app knows where to look for what.

💡 Watching doesn't require the box network.

If a race is published online, anyone can follow the results in the app (ONLINE RESULTS) or in a browser from anywhere in the world — only the phone that runs the race needs to be on the box network.

Registering riders and tags

Each rider is registered only **once** — after that the system knows them for the whole season.

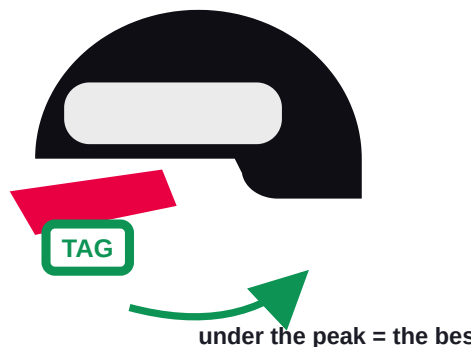
How to register a rider

- 1 In the app open **RIDERS & TAGS** → **ADD RIDER**.
- 2 Place the new tag **directly on top of the small desk reader** (USB). The tag number appears by itself.
- 3 Enter the rider's **name and start number** → **SAVE**.
- 4 **Write the start number on the tag straight away** with a marker — a month later you'll thank yourself.



Don't know whose tag it is?

Use **CHECK TAG** → place the tag on the reader → the app tells you the owner. Nothing is changed or deleted — completely safe.



Proven at 60 km/h: a tag under the helmet peak reads 16 times out of 16

Tag position	Does it work?
Under the helmet peak	✓ Best
Front number plate (plastic)	✓ Works
In a pocket or against the body	✗ No — the body blocks the signal
Directly on metal	✗ No — needs special on-metal tags

★ Golden rules for tags

- ★ **1 rider = 1 tag.** Two tags next to each other detune one another — neither gets read.
- ★ **Spare tags** — at least **10 m** away from the antennas or in a metal box. A pile of tags by the line = phantom laps.
- ★ Handing a tag over to another rider: press and hold the old name in the list → delete → register anew.

The system guards against mistakes by itself: it refuses to register a tag or a name that is already taken, and tells you clearly who the tag belongs to.

Training sessions

In a training session every rider goes out whenever they like — their clock starts from their **own first crossing of the finish line**.

- 1 **CREATE** → choose type **TRAINING** and a name (e.g. "Wednesday practice").
- 2 **Enter the riders** — from the registry or by scanning a tag. A registered rider who crosses the line is entered automatically as well.
- 3 Press **START** — and off they go! Each rider's laps count from their first crossing.
- 4 When done — **FINISH**. The results stay in the archive; open them any time.

Several runs in one session?

Press **RESET** — the laps clear, but the entered riders stay, and you can start the next run straight away. Handy when groups ride one after another.

What you see on screen during a run

Column	What it shows
POS	Position (ranked by lap count, then best lap)
# and name	Start number and rider name; a green dot = the antenna has just seen them
LAST	The current lap — the clock ticks live
BEST	The rider's best lap; the fastest lap of the track is highlighted
LAPS	Number of completed laps

When a rider crosses the line, their row flashes red for a moment — you can see at a glance that the crossing was counted.

Race day

In a race everyone starts together — the clock runs for all riders from the **start moment**, not from the first crossing.

- 1 **In the morning:** set the system up (Chapters 3–4) and wave a tag past an antenna — the status lights must be green.
- 2 **CREATE** → type **RACE**, name and date. The race begins as a draft — nothing starts yet.
- 3 **Registration desk:** enter the participants — register newcomers with the desk reader (Chapter 5), add returning riders from the registry with a couple of taps.
- 4 **If you want a live online feed** — switch publishing on (a single toggle) and share the link with the parents. You can also keep it private — then only club staff see the results.
- 5 **At the start moment press START.** From this moment every participant's clock is running. Each rider's first crossing completes lap 1.
- 6 **After the finish — FINISH.** The results are locked in and stay in the archive and (if published) online.

⚠ Check three things before the start

1) Status lights green. 2) All participants on the list. 3) No stray tags near the start/finish area (spare tags, registered helmets on the fence, etc.).

Two people — one race.

The system happily supports several people working at once: one at the registration desk entering riders, another at the track running the start, and both see the same live picture on their phones.

Results online — for parents and fans

Anyone can watch a published race live in an ordinary browser — **no account, no app, from anywhere in the world.**

timing.lemonpepper.lv/live

open on a phone or computer — works in any browser

The page shows the list of races (live ones on top); each has a live results table, and tapping a rider shows all their laps one by one. The table refreshes itself every few seconds.

Private by default.

The internet only ever sees the display name chosen by the club and the start number — no tag numbers, no contact details, no other personal data. Children's safety comes first here.

Accounts and roles

Accounts are created and managed by the club administrator. Every person has a role — it defines what they may do:

Role	May do	Suited for
Administrator	Everything: register, create and run races, delete	Coach, club manager
Viewer	Sees everything — riders, races, live results. Cannot delete or reset anything	Helpers, parents, guests

Tip:

For everyday use one administrator plus viewer accounts for everyone else is enough — that way nobody accidentally wipes the season's results. Keep the passwords somewhere safe and don't hand the administrator password to people who only need to watch.

When something doesn't work

Almost every "problem" at the track is one of these. Start with the table — 99 % of the time the answer is here.

Symptom	What to do
ANTENNAS lamp grey	No tag has been read yet. Wave a tag past an antenna — it turns green.
ANTENNAS lamp red	Check and firmly tighten the antenna cables at both ends. The only reliable test: wave a tag — does it read?
Tag is seen but no time appears	The rider isn't registered OR isn't entered in this race. Check the participant list.
Green dot on, though the rider is away	Their tag is lying near the antenna (helmet parked by the line?). Move the tag out of the field.
Phantom laps / strange times	Stray tags near the antennas — golden rule No. 2. Remove every tag that isn't riding.
Desk reader doesn't recognise a tag	The tag must lie directly on the reader. Check the USB cable. Still nothing — restart the box (below).
App shows "BOX NETWORK LOST" / old data	Your phone dropped the TURBO BOX WiFi. Open WiFi settings and rejoin.
App frozen, nothing happens	Press the yellow REPAIR button (restarts the reader remotely, ~15 s). If that doesn't help — restart the box.

Restarting the box — the safe way

- 1 Switch the power off (EcoFlow button).
- 2 Wait 10 seconds. Make sure the antennas are screwed on.
- 3 Switch the power on, wait ~20 s, join the TURBO BOX network again.

Completed laps **do not disappear** in a restart — the box keeps everything in its memory.

If none of this helps

— take a screenshot of the app with the status lights and write to support (bottom of page 12). Don't open the box and don't touch the wiring while powered.

Golden rules and quick reference

★ Five golden rules — if you remember only this page, you're fine

- ★ **Antennas on BEFORE power.** Always. No exceptions.
- ★ **1 rider = 1 tag.** Two tags on one helmet means zero reads.
- ★ **Spare tags — 10 m away from the antennas** or in a metal box.
- ★ **Tag under the helmet peak** — not in a pocket, not on metal.
- ★ **Write the number on the tag immediately** after registration.

Quick reference

What	Value
Box WiFi network	TURBO BOX · password turbosisters1
App	Turbo Stopwatch (App Store) → TURBO LIVE
Public results	timing.lemonpepper.lv/live
Box ready after power-on	~20 seconds
Antenna coverage	3–4 m each; wide track = 2 antennas facing each other
Registration	Tag on the desk reader → name + number → SAVE
Training	Clock from each rider's first crossing; RESET between runs
Race	Clock for everyone from START ; FINISH at the end

Race day checklist

- | | |
|---|---|
| ☐ Antennas set up and screwed on | ☐ Box on, status lights green |
| ☐ Tag waved past an antenna — it reads | ☐ Phone on the TURBO BOX network |
| ☐ Desk reader at the registration desk | ☐ Marker pen for labelling tags |
| ☐ Participants entered | ☐ Stray tags removed from the line |
| ☐ Publishing on (if wanted) | ☐ Power full for the day |

Support and questions

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Fast laps
and honest times!