

Windigipet 2025 – BoosterMonitor – v5

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1. Summary

In Windigipet, you can view the real-time values for your boosters – that’s great – but it would also be nice if there were an easy way to see how these values develop over time.

It’s actually only recently, with Windigipet version 2025.0b, that it has become possible to transfer booster data from an Ecos to Windigipet.

Since I have an Ecos, I naturally had to try it right away, and with [Markus’s helpful guidance](#), it went smoothly.

Soon, the desire arose to be able to save the values and display the development graphically. Since Windigipet 2025 also has the option to connect to MQTT, and I’ve had good experiences with this technology, I got the idea to create a small program that displays booster data from MQTT as line graphs.

I’ve tried to make the program as flexible and configurable as possible, so hopefully it can be used by other Windigipet 2025 users. You can choose between Danish, German, or English language, and you can configure from 1 to 6 graphs showing the current consumption of your boosters.

2. Prerequisites

It is assumed that you are using Windigipet 2025 and that you have defined one or more boosters in the Booster Management section. In addition, you must have established a connection to an MQTT broker or be willing to try setting one up.

If you already have Windigipet 2025 installed (demo, small, or premium), you can create an MQTT broker locally on your PC for free, or you can set it up in the cloud.

Read more about MQTT and Windigipet 2025:

- [MQTT in Windigipet](#)
- [Windigipet 2025 – MQTT integration](#)

Read more about Booster data in Windigipet

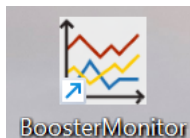
- [Booster in Glesibild](#)

3. Installation

The BoosterMonitor program can run on a Windows PC – typically the same one where Windigipet is running.

Download [BoosterMonitor – V5](#)

The program is installed like a regular Windows application. An icon is created on the desktop from which the program can be launched.

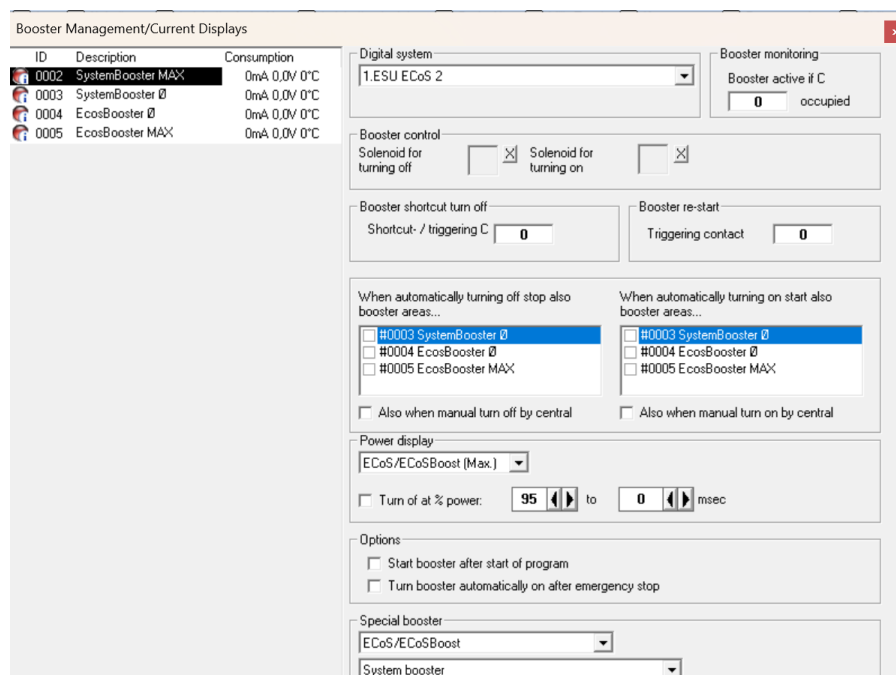


4. Prepare Windigipet 2025

4.1. Boosterdata in Windigipet

In this document, you can read in detail how to transfer booster data to Windigipet and how it is displayed in a suitable instrument on the screen. [Booster in Glesibild](#)

Step 1 – Define the boosters in Booster Management:



ID	Description	Consumption
0002	SystemBooster MAX	0mA 0.0V 0°C
0003	SystemBooster Ø	0mA 0.0V 0°C
0004	EcosBooster Ø	0mA 0.0V 0°C
0005	EcosBooster MAX	0mA 0.0V 0°C

Digital system: 1.ESU ECoS 2

Booster monitoring: Booster active if C: 0 occupied

Booster control: Solenoid for turning off: ☐ Solenoid for turning on: ☐

Booster shortcut turn off: Shortcut- / triggering C: 0

Booster re-start: Triggering contact: 0

When automatically turning off stop also booster areas...: ☐ #0003 SystemBooster Ø, ☐ #0004 EcosBooster Ø, ☐ #0005 EcosBooster MAX

When automatically turning on start also booster areas...: ☐ #0003 SystemBooster Ø, ☐ #0004 EcosBooster Ø, ☐ #0005 EcosBooster MAX

Also when manual turn off by central: ☐ Also when manual turn on by central: ☐

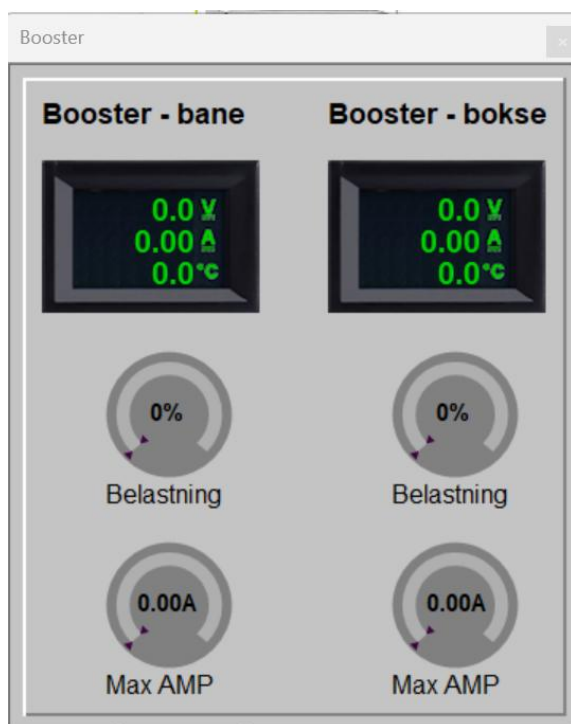
Power display: ECoS/ECoSBoost (Max.)

Turn of at % power: 95 to 0 msec

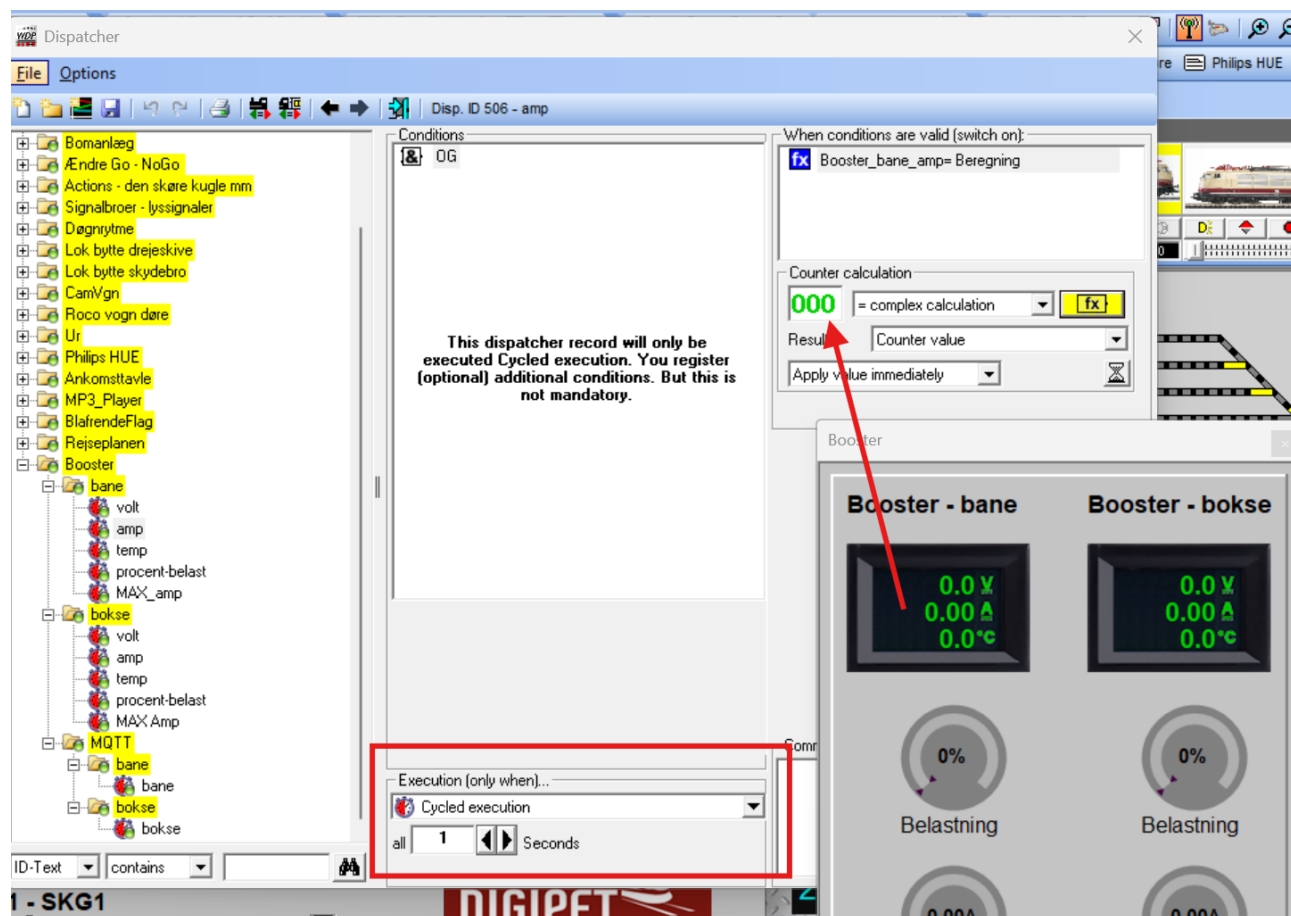
Options: ☐ Start booster after start of program, ☐ Turn booster automatically on after emergency stop

Special booster: ECoS/ECoSBoost, System booster

Step 2 – Draw instruments in the Track Diagram Editor:



Step 3 - Transfer values to the instruments:



4.2. Send Boosterdata to MQTT

The data must now be sent to MQTT. If you haven't already done so, you now need to create a connection to an MQTT broker. See the links earlier in this document for reference:

System settings

 **Digital systems**

 Network

1.ESU ECoS 2	IP 192.168.0.39	Port 15471
2.KPF-Zeller Speed-Cat PLUS	COM 4	9600 Baud
3.Philips Hue Bridge (Philips HUE)	IP 192.168.0.6	
4.MQTT (MQTT - Cloud)	IP 8137f76a474d41b2ac0924ec1c3fc188.s...	Port 8883
5. NONE		
6. NONE		
7. NONE		
8. NONE		
9. NONE		
10. NONE		
11. NONE		
12. NONE		

4.digital system

Description (optional): MQTT - Cloud

Digital system type: MQTT ☐ Stop individual shutdown

IP address: 8137f76a474d41b: Port 1: 8883 ☒ TLS

☒ Display of solenoid device position changes done via digital system/throttle

User name: jenskrogsgaard

Password:

MQTT topic: WDP

Digital system name appearance: Digital system type (individual name)

 **Hardware**

 Program settings

 External Software

Print

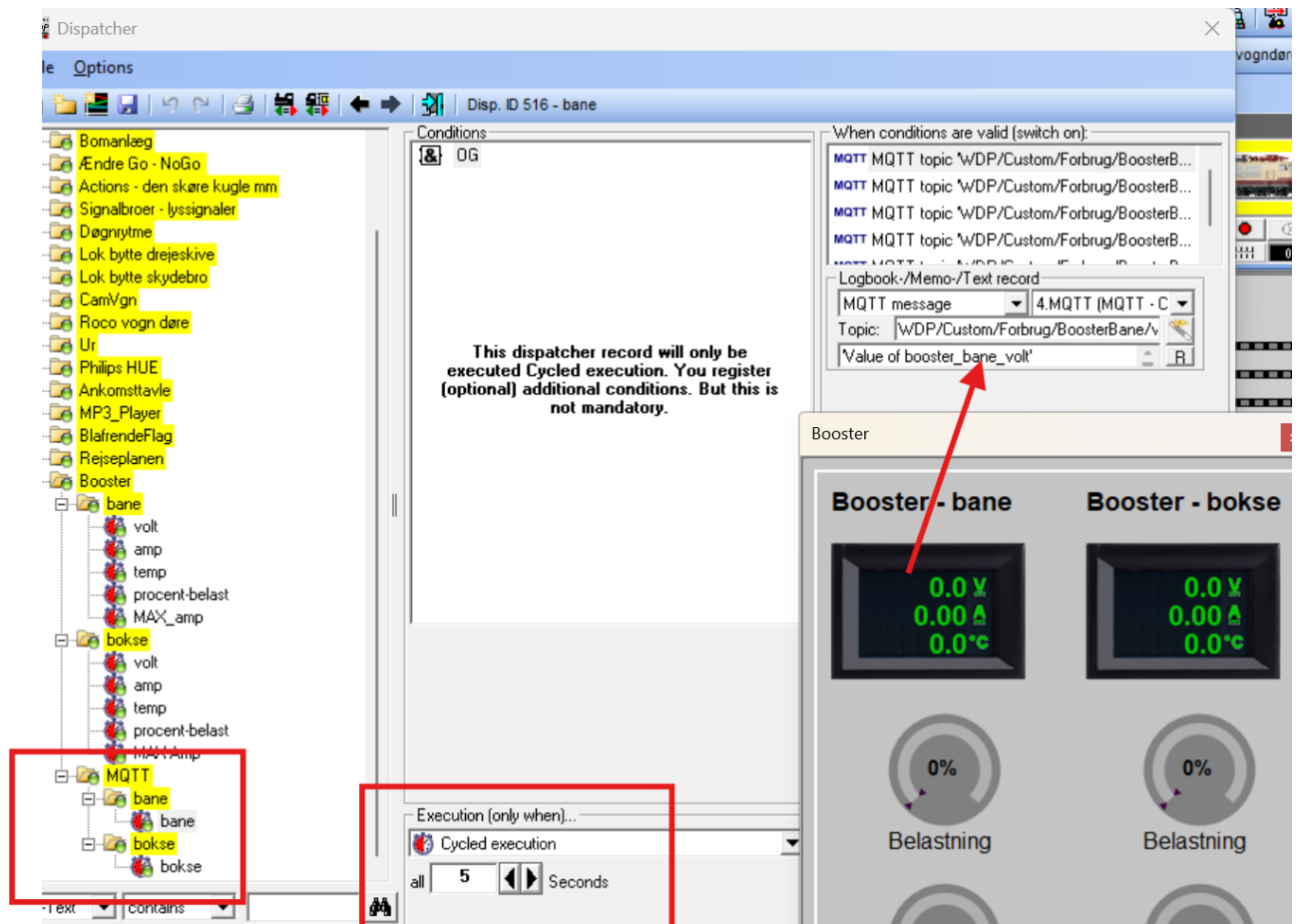
Save & Close

In Dispatcher, we already transfer the booster values from Booster Management to the instruments – the gauges – that we have drawn in the Track Diagram Editor. We now need to take these values and send them to our MQTT broker at a fixed interval – for example, every 5 seconds.

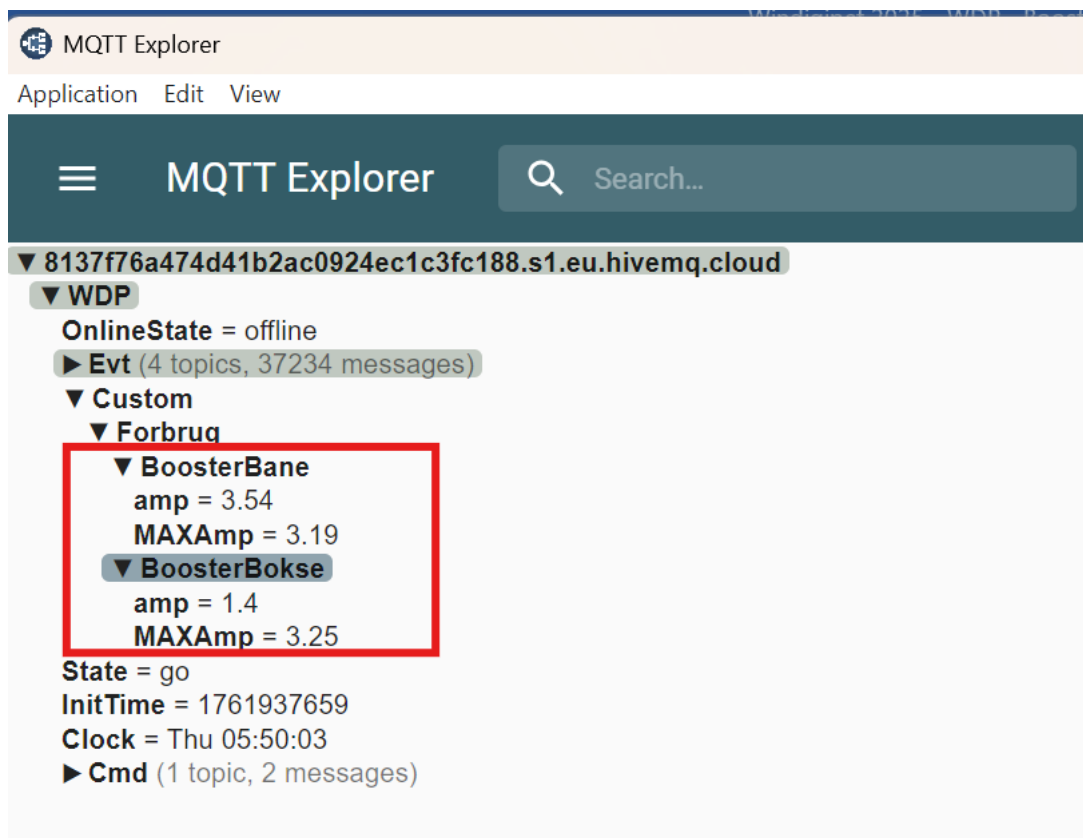
It is important here to specify a Topic (address) in MQTT where the data will be delivered.

Typically, the Topic starts with: WDP/Custom/ – followed by a unique identifier. Here's an example from my Danish setup :) :

WDP/Custom/Forbrug/BoosterBane/volt

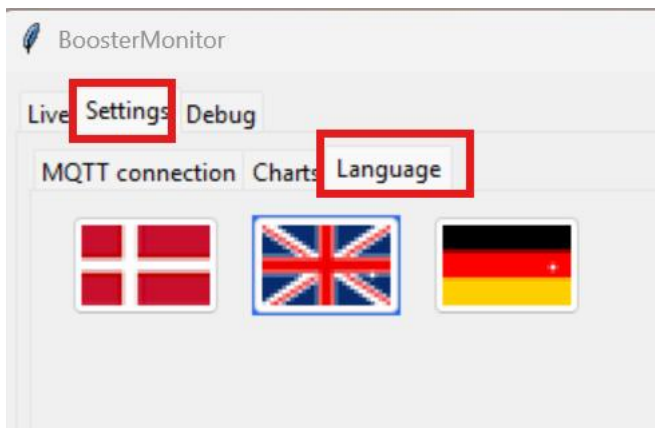


Once we have the above working, we should be able to see the booster values in an MQTT explorer – for example, like this:

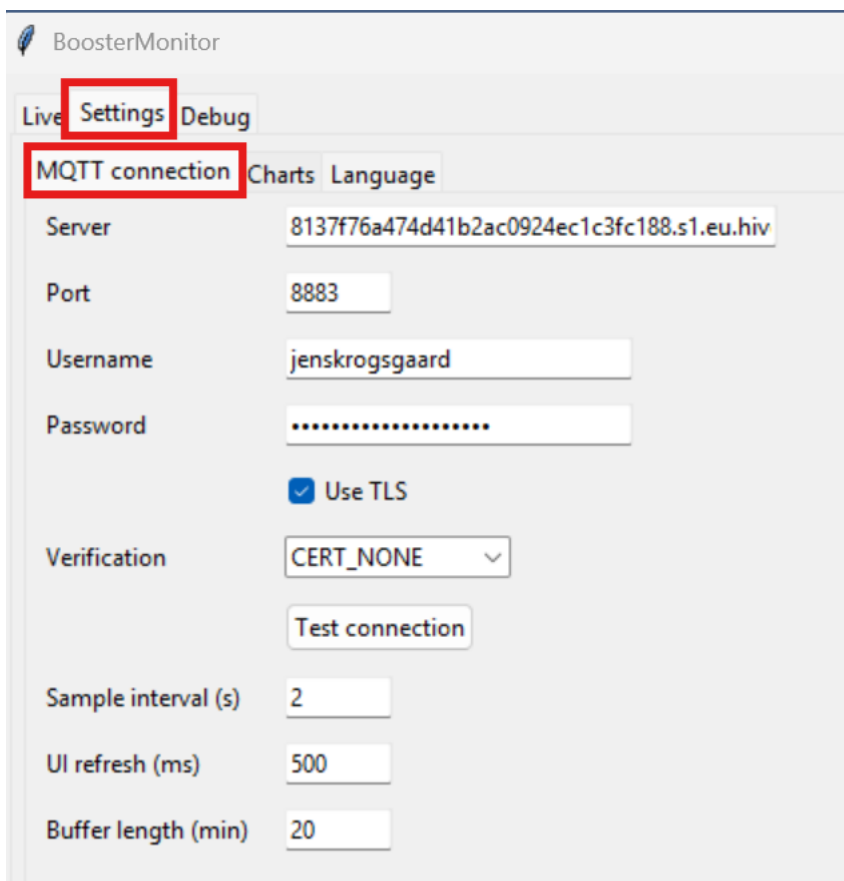


5. Configure BoosterMonitor

Start by selecting the language as follows:



Then select your MQTT connection – corresponding to the one you defined in Windigipet:



We now need to define up to 10-line graphs. The starting point is the Topics we have defined in the MQTT broker. We need to choose a color and a name for each graph:

BoosterMonitor

Live **Indstillinger** Debug

MQTT-forbindelse **Grafer** Sprog

Graf-overskrift: Power consumption boosters

X-akse tekst: Tid - time:minut

Y-akse tekst: AMP

Y min: 0,0

Y maks: 5,0

Farve	MQTT-topic	Navn	Aktiv
	WDP/Custom/Forbrug/BoosterBane/amp	Rail Booster	✓
	WDP/Custom/Forbrug/BoosterBokse/amp	Non-Rail Booster	✓

MQTT-topic: WDP/Custom/Forbrug/BoosterBane/amp

Navn: Rail Booster

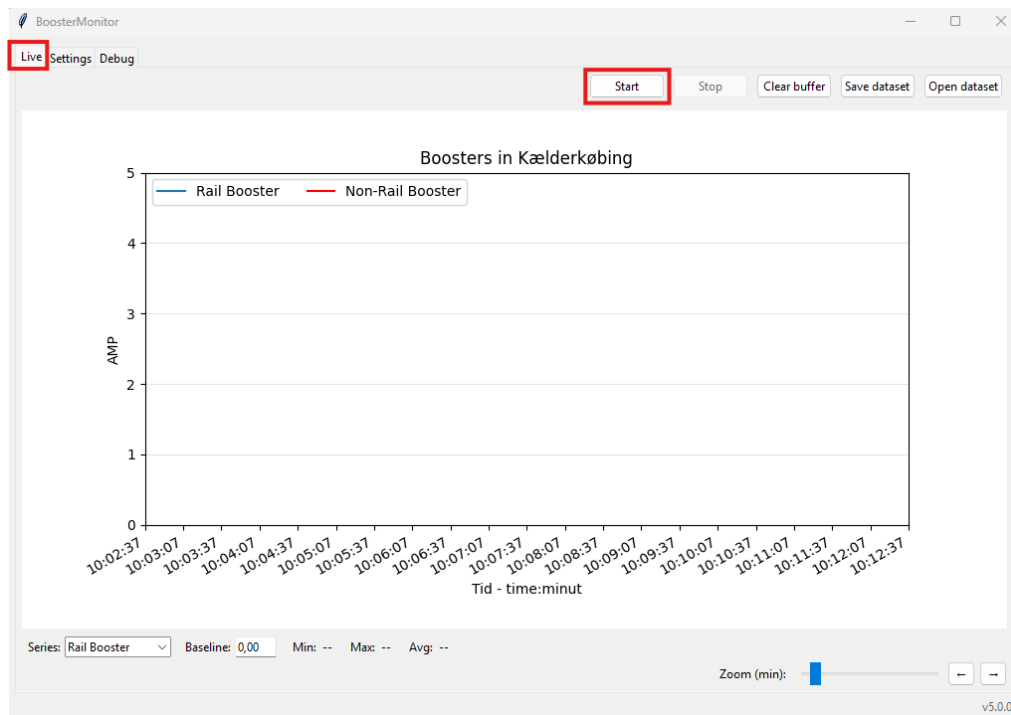
Farve: 

Aktiv: ☒

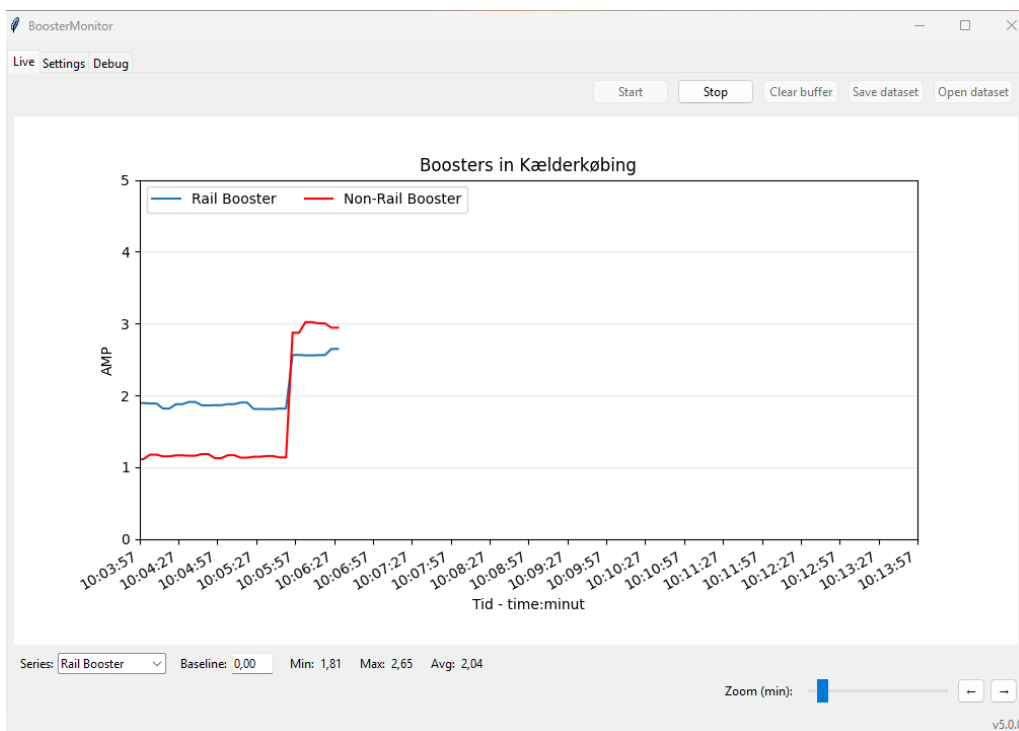
Slet Tilføj Opdatér

6. Start data collection

Press the Start button – and the data will now be transferred to the program:



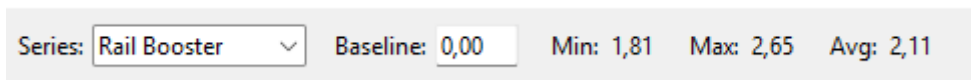
The data will now begin to appear from left to right – for example, like this:



You can stop the data transfer by pressing **Stop**. The data can be cleared from the display by pressing **Clear Buffer**. You can save a dataset for later analysis by pressing **Save Dataset**, and likewise, you can load a saved dataset by pressing **Open Dataset**. To activate these three buttons, you must first press Stop if it hasn't already been done.

This also applies to the **Settings** tab – it is disabled while data collection is in progress. Once you press **Stop**, it becomes active again.

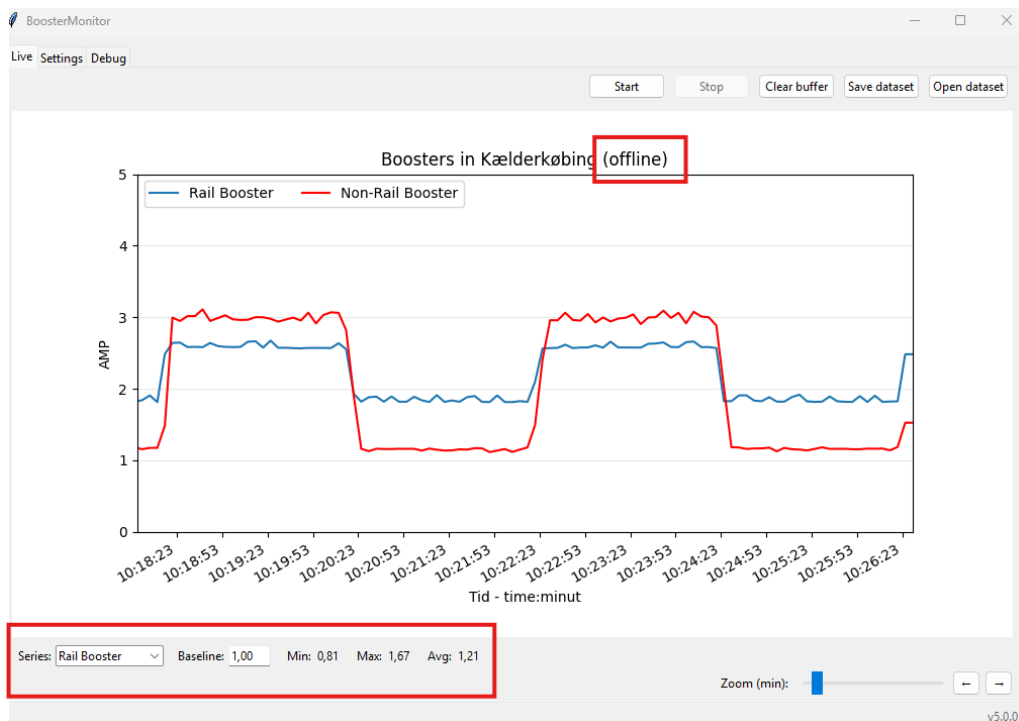
At the bottom of the image, you can see the Minimum (Min), Maximum (Max), and Average (Avg) values for the selected data series.



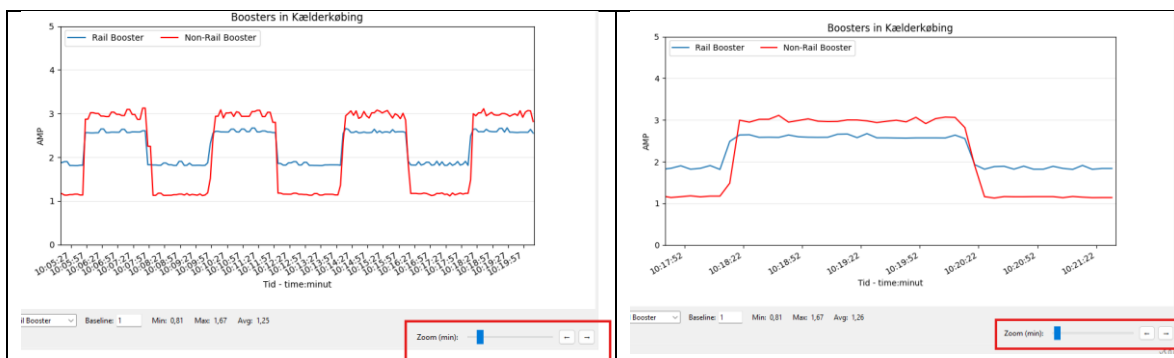
You can also specify a Baseline value. The three subsequent values — Min, Max, and Avg — are then calculated as usual, with the Baseline value subtracted. This can be useful, for example, if you want to measure the power consumption of a specific locomotive. You can start by measuring the consumption on the track when no trains are running and note the average consumption — for example, 1 Amp. Then you can perform a new measurement, start the train whose power consumption you want to measure, and set the Baseline value to, for instance, 1.0. This will give you a good estimate of the power consumption of the selected locomotive.



When you open an old dataset, you will see that it is marked as Offline. Note also that the Baseline, Min, Max, and Avg values are filled in with the values that were valid when the dataset was saved. It is possible to later select a different series or adjust the Baseline value; the Min, Max, and Avg values will then be recalculated accordingly.



With the Zoom slider, you can zoom in and out on the X-axis so that the displayed time period becomes longer or shorter. The arrow buttons to the right and left allow you to shift the graph to the right or left.



In the Debug window, you can view various log messages as well as any error messages. These can be copied and saved for later use.

