Android software WinjFtdi

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http://www.skynam.com

Skynam Machine management

Android software WinjFtdi

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IMPORTANT PRELIMINARY

This documentation has been specially updated for the WinjFtdi versions distributed from July 3rd 2024, notably WinjFtdi V1.00

The WinjFtdi software allows you to read and display data from Sybele ECUs on an Android device, mobile phone or tablet.
The ECUs that can be read with WinjFtdi are:
- the Challenger5, Challenger6, Challenger7, Challenger8 ECUs
- the Meteor86, Meteor87, Meteor44, Meteor12 ECUs

ECU CONNECTION TO ANDROID DEVICE:

To connect your Android device to the Sybele ECU, you need a USB-FTDI cable identical to the cable used to connect your Windows PC (Microsoft corporation) to the Sybele ECU and carry out the adjustment using our PC calibration software Winjall:

This cable is equipped with a USB type A connector (large USB), and as the USB output of your Android device may be a smaller USB connector, for example type C, in this case you will need an adapter that you easily found for example on Amazon. For example a Mepsies brand USB C adapter:

GETTING STARTED WITH WINJFTDI

I) DOWNLOAD :

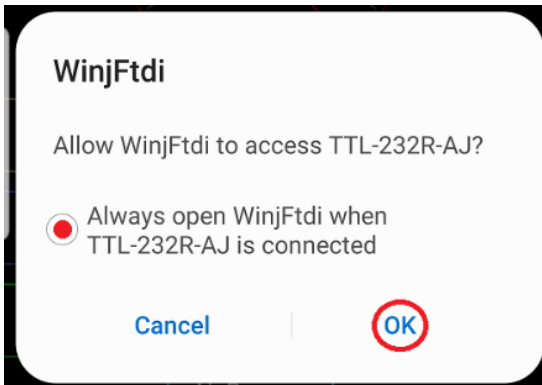Download and install the WinjFtdi software on your Android device from the Google Play website.

II) FIRST LAUNCH:

Connect the FTDI cable to your Android device without connecting it to the ECU.
Then launch the WinjFtdi software by tapping on its icon:

The software displays a dialog box:
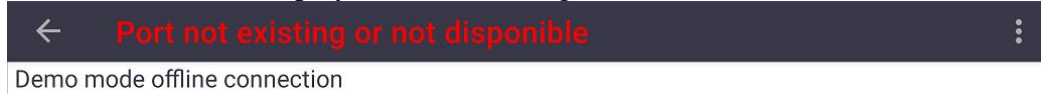- Select "Always open WinjFtdi"
- Tap "OK"

You can then connect the FTDI cable to your ECU and switch on the ECU.

USE OF WINJFTDI

I) LAUNCHING IN DEMO MODE:

If you launch the WinjFtdi software without the FTDI cable connected to your Android device, the software launches in demo mode:

The status bar then displays an error message

In this case, the software does all graph displays by generating demonstration changing values.

DEMO MODE ERROR

If the software launches in Demo mode while the FTDI cable is connected to the Android device, an error has occurred: the cable was not recognized.
In this case, close the WinjFtdi software, disconnect the FTDI cable from the USB port of the device and also from the ECU.
Reconnect the FTDI cable to the USB port on your device and restart the sofware if it does not restart automatically. You can then reconnect the FTDI cable to the ECU and start the ECU.

II) CONNECTION WITH THE ECU:

As soon as you connect the FTDI cable to your Android device, it launches the WinjFtdi software.
If it doesn't, tap the program icon:

It is better to launch the software before connecting the cable to the ECU, or if it is already connected, before turning on the ECU.

The status bar then displays a message waiting for connection with the ECU

Connect the cable to the ECU and switch it on
You see the ECU and the graph display appears with normally the message "Nominal working". If the state message is not "Nominal working" but a diagnostic message, see below paragraph 'Clearing system diagnostic'.
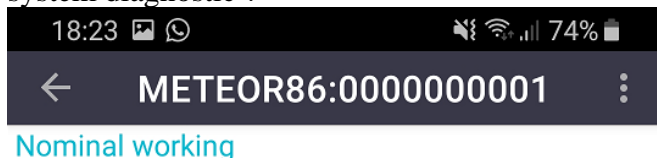
III) DISPLAY OF THE GRAPHS:
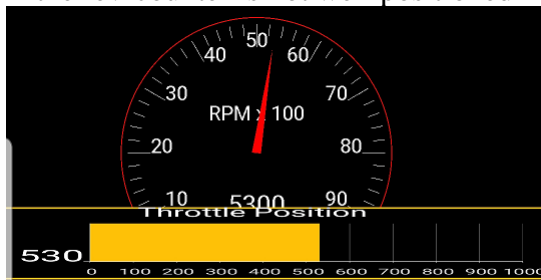
The graphs that can be displayed are
- engine speed
- throttle position from 0 to 1000
- engine temperature
- engine richness
- air pressure (intake pressure or atmospheric pressure)
- the engaged gear position
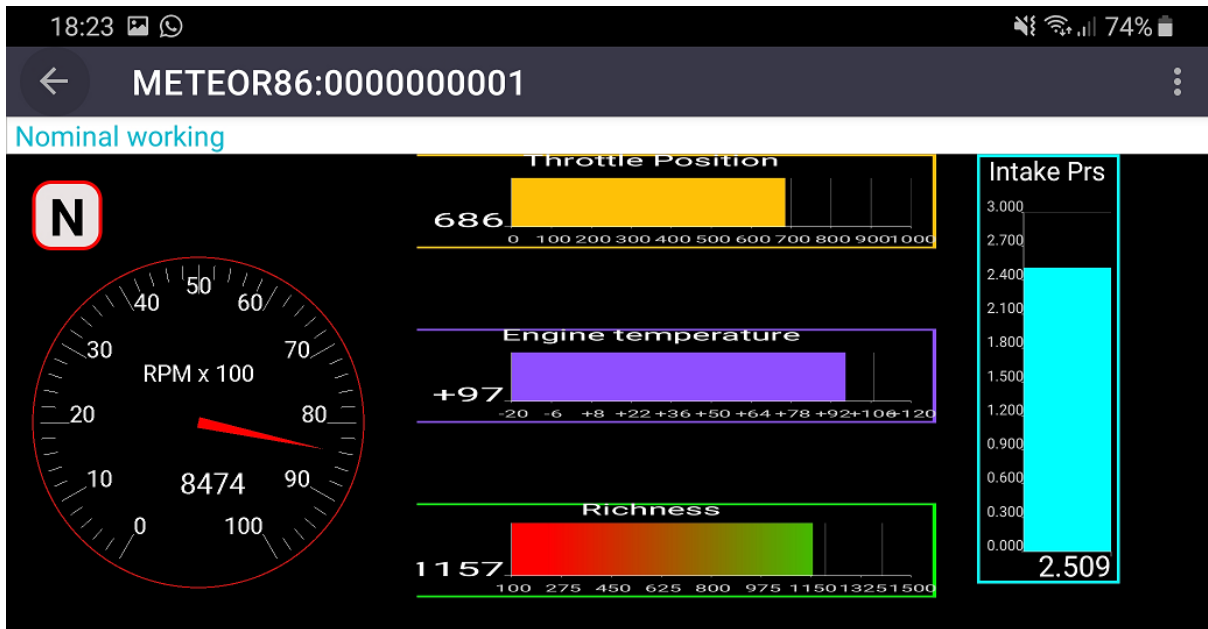
These graphs can be configured (see below chapter 'Configuration of graphs')

POSITION OF THE REV-COUNTER
If the rev-counter is not well positioned in the page

You can drag it with the finger to put it in a good position. This new position will be automatically memorized.

IV) DISPLAY OF THE MEASUREMENTS LIST:

By tapping the arrow on the status bar, you switch from displaying graphs to displaying the list of measurements, and vice versa:
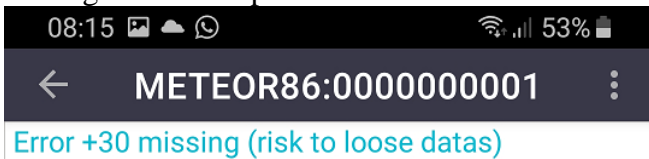
Nominal working		
Actual engine synchronization state	ON	ON-OFF state. 'ON' when engine
RPM limiter active	OFFLIM	RunLim-LaunchLim : limiter is
Actual engine running state	RUNNING	Stop-Start-Running. 'Start' as
Actual load state	LOAD	Load states :
Engine rpm (rpm)	881	Engine rpm measurement with
Throttle position angle	495	Throttle position value between 0
Accelerator pedal position angle	495	Accelerator pedal position value
Intake pressure (bars)	2.286	Engine intake pressure in bars
Actual bang-bang state	OFF	OVER-OFF-ON. Over : when inside
Engine richness	1005	Engine richness value (richness
Lambda looping state	HEAT	HEATING-LOOPWAIT-LOOPING
Engine temperature (°C)	+38	Engine temperature in °C
Air intake temperature (°C)	+38	Engine air intake temperature in

The page height of a phone is not tall enough to display all the measurements in the list.
Also, you can move the list up or down by sliding your finger on the screen.

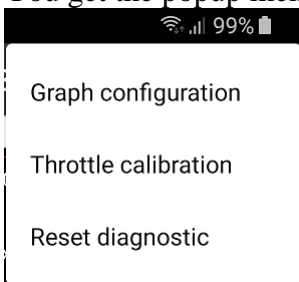## V) CLEARING SYSTEM DIAGNOSTIC:

If the state message is not "Nominal working" but a diagnostic message, we can clear this diagnostic message. For example:

To access the system diagnostic clearing, tap on the 3 dots to the right of the status bar
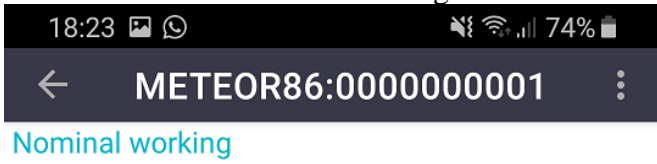

You get the popup menu. Then tap on "Reset diagnostic"

The diagnostic turns red to show that clearing is in progress.

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Then returns to "Nominal working"
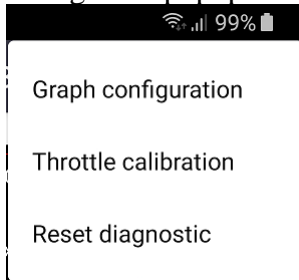

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CONFIGURATION OF THE GRAPHS

You can configure the graphs, their color, for some the minimum and maximum value displayed, and the type of unit used.
To access the graph configuration, tap on the 3 dots to the right of the status bar

You get the popup menu. Then tap on "Graph configuration"

You then obtain the graph configuration page with one tab for each graph

Tap on the tab of the graph you want to configure

I) ENGINE SPEED GRAPH:

1) You can choose the maximum speed displayed by the rev counter by dragging the cursor

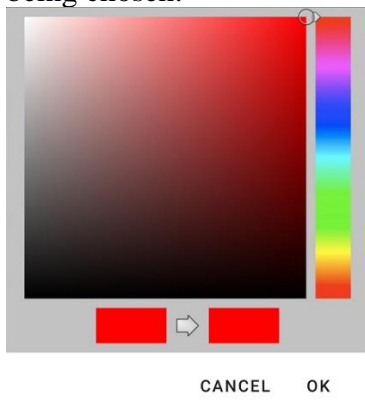| Select the maximum engine speed	10000

2) You can choose the color of the needle and the rev counter circle by tapping on the colored rectangle.

Select the needle color

This opens the color choice dialog which shows you the previously chosen color and the one currently being chosen:

3) You can choose the color of the RPM value by tapping on the color rectangle

| Select the engine speed value color |

This opens the color selection dialog.

4) if you want to return to the graphs page, tap on the "Return to graphs" button

RETURN TO GRAPHS

II) THROTTLE POSITION GRAPH:

1) You can choose the color of the bar by tapping on the color rectangle.

| Select the bar color |

This opens the color selection dialog.

2) You can choose the color of the throttle position value by tapping on the color rectangle

| Select the throttle position value color |

This opens the color selection dialog.

3) if you want to return to the graphs page, tap on the "Return to graphs" button

RETURN TO GRAPHS

III) AIR PRESSURE GRAPH:

The air pressure can be either the intake pressure if your ECU operates in pressure/RPM, or the atmospheric pressure if your ECU operates in throttle/RPM.

1) You can choose the minimum pressure and maximum pressure displayed by the bar by dragging the sliders

| Select the minimum pressure in Bars | 0.000 |
| Select the maximum pressure in Bars | 3.000 |
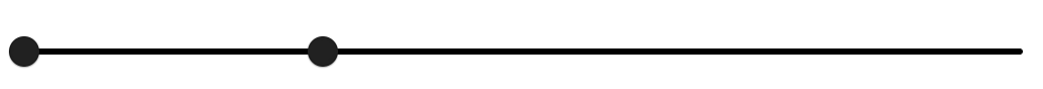
1) You can choose the color of the bar by tapping on the color rectangle.

| Select the bar color |

This opens the color selection dialog.

3) You can choose the color of the pressure value by tapping on the color rectangle

| Select the air pressure value color |

This opens the color selection dialog.

4) if you want to return to the graphs page, tap on the "Return to graphs" button

RETURN TO GRAPHS

IV) ENGINE TEMPERATURE GRAPH:

1) You can choose the minimum temperature and maximum temperature displayed by the bar by dragging the sliders

Select the minimum temperature in °C	-20
Select the maximum temperature in °C	120

2) You can choose the color of the bar by tapping on the color rectangle.

Select the bar color

This opens the color selection dialog.

3) You can choose the color of the temperature value by tapping on the color rectangle

Select the engine temperature value color

This opens the color selection dialog.

4) if you want to return to the graphs page, tap on the "Return to graphs" button

RETURN TO GRAPHS

V) ENGINE RICHNESS GRAPH:

1) Engine richness can be displayed either in richness thousandths (recommended) or in Lambda. You can choose the type of display you want

🔘 Display the value in richness

⚪ Display the value in lambda

2) You can choose the minimum richness and maximum richness displayed by the bar by dragging the sliders

Select the minimum richness	100
Select the maximum richness	1500

3) The richness graph bar is displayed in two graduated colors

- You can choose the lean color of the bar by tapping on the color rectangle.

Select the bar lean color

This opens the color selection dialog.

- You can choose the rich color of the bar by tapping on the color rectangle.

Select the bar rich color

This opens the color selection dialog.

4) if you want to return to the graphs page, tap on the "Return to graphs" button

RETURN TO GRAPHS

THROTTLE CALIBRATION

The throttle calibration is used to indicate to the ECU the potentiometer positions minimum and maximum.

It allows to have no maps indexed to tensions of the potentiometer, which can vary with the life of the potentiometer or change completely if we change or un-mount the potentiometer, but on angles (from 0 to 1000).

WARNING

If the input of the potentiometer to be calibrated has not enough definition, that is the range of the values of input is lower than the range of the values of output (0 - 1000), the throttle calibration will not be accepted.

It never happens with automotive potentiometers correctly installed, but can come from an inversion of the pins of the potentiometer.
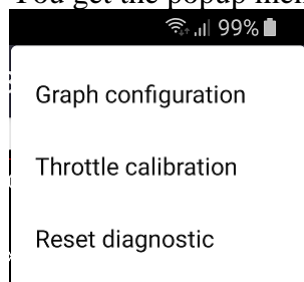
LAUNCH THE CALIBRATION

The throttle calibration only appears and can only be carried out if the Android device is connected to the ECU in operation.

To access the throttle calibration, tap on the 3 dots to the right of the status bar
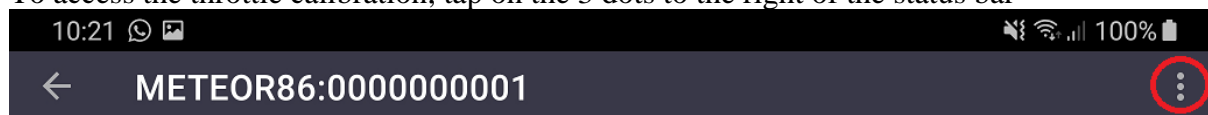
You get the popup menu. Then tap on "Throttle calibration"

PERFORM THE CALIBRATION

Throttle calibration	
Current throttle pot tension	4256
Closed throttle pot tension	
Opened throttle pot tension	

RECORD MINI

RECORD MAXI

VALIDATE AND EXIT

CANCEL

The throttle calibration is performed in 4 operations:

1) Verify that the current tension varies correctly when you open and close the throttle.

2) Verify that the pedal is released and the throttle closed, and tap on [RECORD MINI]: the potentiometer value of closed throttle is memorized.

3) Verify that the accelerator is pushed at most and the throttle is full opened, and tap on [RECORD MAXI]: the potentiometer value of opened throttle is memorized.

4) Tap on [VALIDATE AND EXIT]: the calibration is transmitted to the ECU which then records it.

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