



Tiny GPS Controller

Software, drivers and latest info can be downloaded at

www.Kperformance.be

Warning

- It takes roughly 30 seconds to have a good GPS satellite connection
- GPS refresh rate =>10Hz
- Place antenna preferably external on vehicle
- Never connect more than 5V on analog inputs

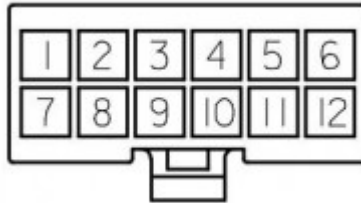
Package Contents

Tiny GPS should include the following items:

- 1x circuit board with soldered surface mount components
- 1x MicroMolex connector
- 1x Magnetic Active GPS antenna with 3m cable
- 12x MicroMolex receptacles
- 1x 3D printed case

Electrical connections

C1		Function
1	GND	Input Ground
2	12V	Input power (5-15V)
3	ADC6	Analog Input 6
4	ADC8	Analog Input 8
5	NA	NA
6	CANL	CanBus Low
7	GND	Input Ground
8	12V	Input power (5-15V)
9	ADC5	Analog Input 5
10	ADC7	Analog Input 7
11	NA	NA
12	CANH	CanBus HIGH



Operational led Status

LED	Status	Function
1	Blinking	GPS connection valid
	Off	No GPS Connection
2	Power	Controller Started
	Off	Unit No Power
3	Blinking/On	Canbus Activity/Connection OK
	Off	CAN-connection or settings NOK

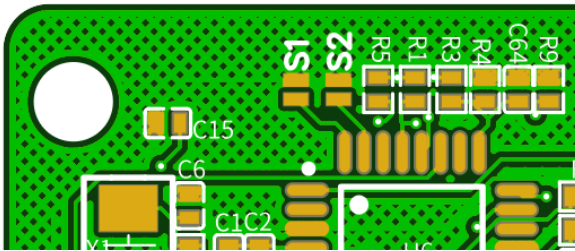


CAN-bus Setup

Custom CAN-ID addressing(Optional)

Usefull for users who already have multiple CAN-devices connected; resulting in duplicate ID conflicts.

Default ID = 5



Select custom ID via solder bridges S1&S2

CAN-ID	S1	S2
8	open	closed
7	closed	closed
6	closed	open
<u>5(default)</u>	<u>open</u>	<u>open</u>

The Tiny GPS CanBus data:

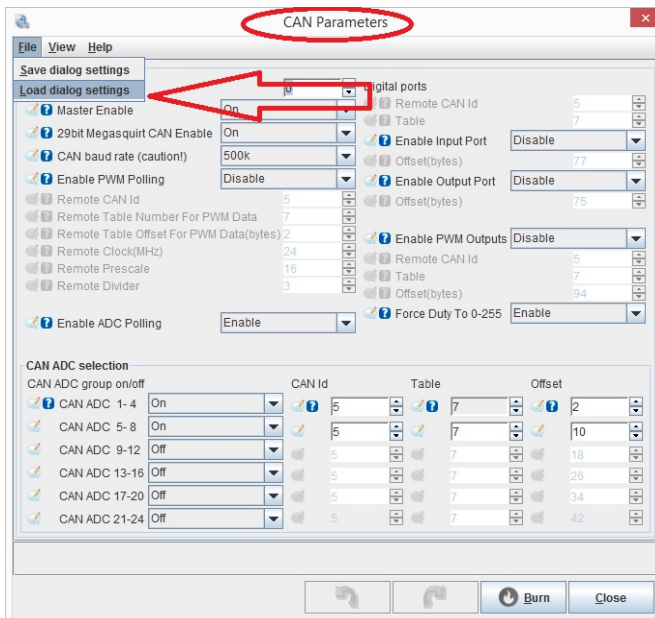
Item	Function	Detail
CAN Speed	500 Kbit	Default Speed
CAN ID	5/6/7/8	CAN-Bus ID

Tunerstudio Setup

Easy Setup:

First download files via the webshop : [Downloads](#)

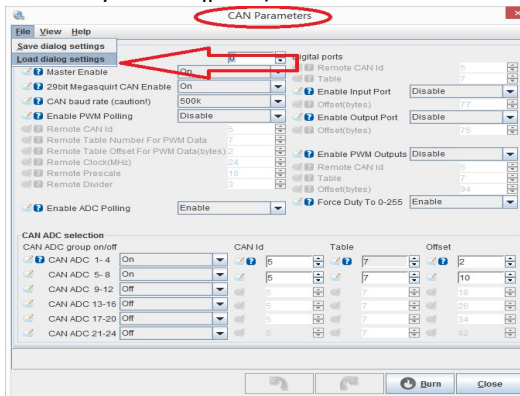
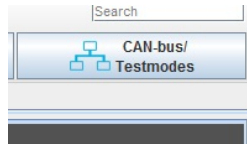
- The “TinyGPS.msqspart”
- The “TinyGps.dash”



Load our custom “TinyGPS.msqspart” file for all settings below:

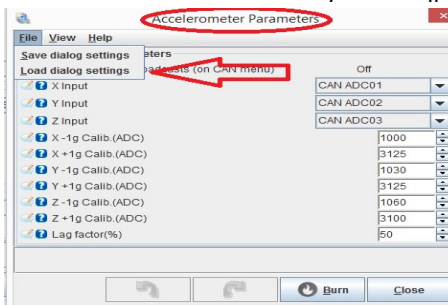
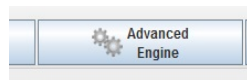
1: Tunerstudio Canbus/Testmodes Menu

- Can Parameters (view->load and select the “TinyGPS.msqspart”)
- Can VSS,Gear (view->load and select the “TinyGPS.msqspart”)
- Can EGO,GPS (view->load and select the “TinyGPS.msqspart”)



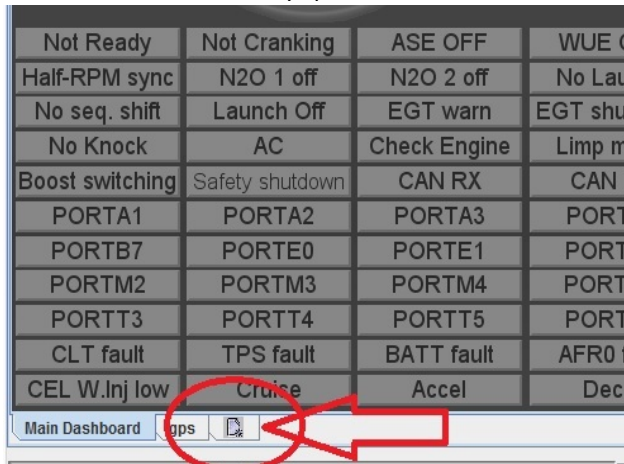
2:Tunerstudio Advanced Engine Menu

- Speed & Gear Sensors (view->load and select the “TinyGPS.msqspart”)
- Accelerometer Parameters (view->load and select the “TinyGPS.msqspart”)

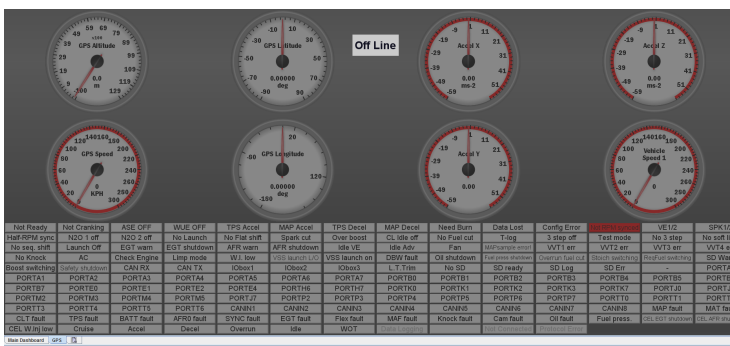


3: Tunerstudio GPS Gauge Cluster

- Click "New Icon" ->Add Name "GPS"> Click OK ->Select "Other" → Select "TinyGps.dash"



Your New dashboard should look like this :



GPS Gauge Cluster ready!

Manual Setup:

CanADC Inputs:

CAN ADC 1-4 are used for the Accelerometer:

Your selected CanBus ID, Table 7 with offset 2

CAN ADC 5-8 are the spare Analog Inputs:

Your selected CanBus ID, Table 7 with offset 10

CAN Parameters

View Help

CAN Parameters

My CAN ID: 0

Master Enable: On

Enable PWM Polling: Disable

Remote CAN Id: 5

Remote Table Number For PWM Data: 7

Remote Table Offset For PWM Data(bytes): 58

Remote Clock(MHz): 24

Remote Prescale: 16

Remote Divider: 3

Enable ADC Polling: Enable

Digital ports

Remote CAN Id: 5

Table: 7

Enable Input Port: Disable

Offset(bytes): 77

Enable Output Port: Disable

Offset(bytes): 75

Enable PWM Outputs: Disable

Remote CAN Id: 5

Table: 7

Offset(bytes): 94

Force Duty To 0-255: Disable

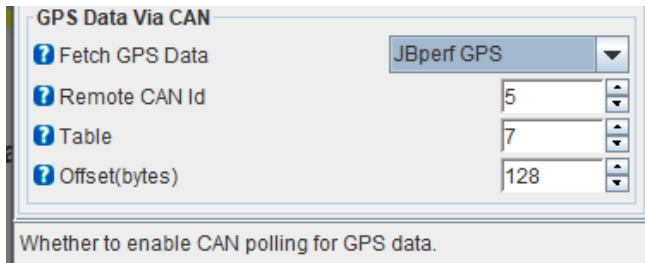
CAN ADC selection

CAN ADC group on/off	CAN Id	Table	Offset
CAN ADC 1-4: Off	5	7	2
CAN ADC 5-8: On	5	7	10
CAN ADC 9-12: Off	5	7	18
CAN ADC 13-16: Off	5	7	26
CAN ADC 17-20: Off	5	7	34
CAN ADC 21-24: Off	5	7	42

Buttons: Burn, Close

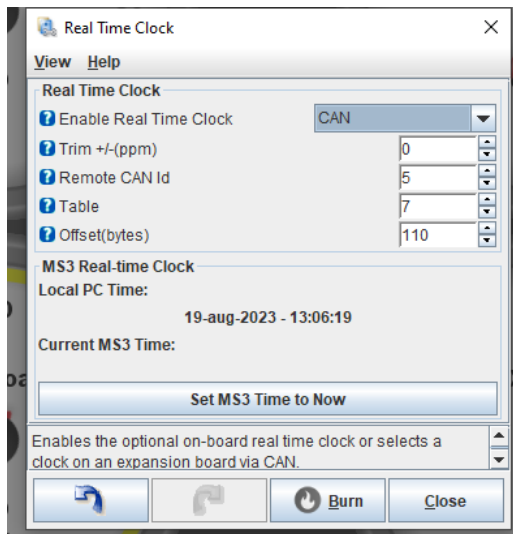
GPS:

Your selected CanBus ID, Table 7 with offset 128:

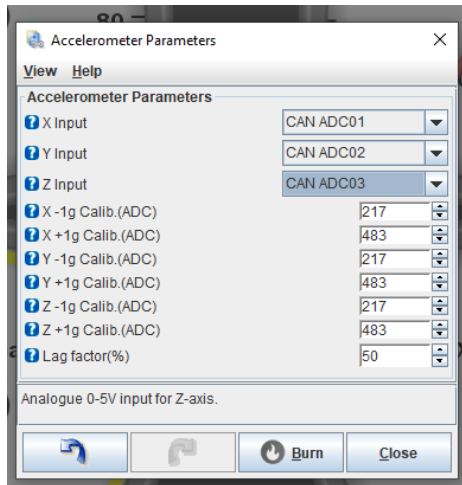


RTC:

Your selected CanBus ID, Table 7 with offset 110:



Digital Onboard Accelerometer:



Calibration values:

XYZ: -1G ~1000
 +1G ~3125

These calibration values should read ~9,8m/S in tunerstudio.

As 1G(gravity force) = 9.8 m/s^2

If to far off,please alter calibration:

- Position the accelerometer with the X-arrow pointing down for the first calibration point.
- Define this as -9.8 m/s^2 or -1 g . Rotate the accelerometer so the X-arrow points up and use the reading for the second calibration point.
- Define this as $+9.8 \text{ m/s}^2$ or $+1 \text{ g}$.

Do the same for all other axes.

Respect the mounting axis or adjust according your specific mounting.