# PPG Meter – An Instrument for Powered Paragliding

**Powered Paragliding Meter serves the telemetry basic parameters of your paramotor, to warrant a calm and satisfied flight for you**

PPG Meter is made in two versions:

- PPG Meter with external battery for Paramotor with electric starter
- PPG Meter witha standard 9V battery for pull start Paramotors

PPG Meter is equipable with five basic sensors :

- RPM sensors ( Always installed)
- Air temperature sensor ( Always installed)
- CHT temperature sensor
- EGT temperature sensor
- Fuel gauge

You can swap between CHT and EGT Sensors.

Function of PPG meter:

- RPM
- Fuel gauge
- Engine timers – 3 pcs
- Thermometers 3 pcs
- Max. temperatures
- Max. RPM
- Alarm for temperature CHT and EGT
- Alarm for fuel gauge
- Setting for time to service

The PPG Meter uses universal sensors, which are used in aircraft industry - **Thermocouple sensors – type K**

Part of  PPG Meter is the spark plug sensor – CHT and air sensor.

For twin – cylinder and four – stroke engines you can use two CHT sensors, water and oil sensors, etc.

After you switch on the PPG meter,it  says hello and informs you about time to service.

PPG Meter has two basic mode :

- mode with actual measured information
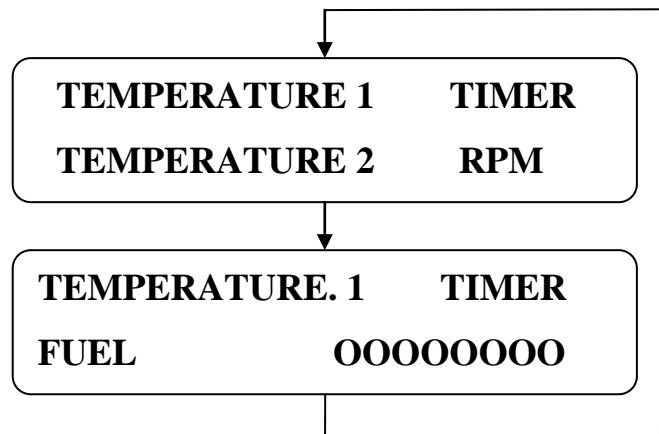- mode with saved information and also for basic settings

To control the  PPG Meter you use one control button, which serves to switch on PPG meter, switching between displays, enters to edit and saves settings.

When you don´t use the PPG Meter and  the engine is stopped, the PPG Meter switches off, press the button to turn back on.

## **Mode with actual information :**

Information about two temp.(CHT or EGT), engine timer which is automatically reset by switching-off and on again on PPG meter, and RPM.

| TEMPERATURE 1 | TIMER |
|---|---|
| TEMPERATURE 2 | RPM |

Information about one temp.(CHT or EGT), engine RPM and engine timer which is automatically reset by switchingyour PPG-off  and on again

| TEMPERATURE. 1 | TIMER |
|---|---|
| FUEL | OOOOOOOO |

You can switch between both displays by a short push on the control button. You can choose, which information you want.

## Mode with saved information, and also for basic setting

You enter this mode by a long push on the control button.(2-3 seconds)

Two flight engine timers which you can reset whenever you want..

**FLIGHT ENGINE TIMER**

Two max. temperatures which you can reset whenever you want.

**MAX.TEMPERATURES**

Settings of alarm temp. No.1, with fuel gauge. When  you set the value to 1480°F , the alarm will be alarm off.

**ALARM  TEMPERATURE 1**

Setting of alarm for temp. No.2,with RPM. When you set the value to 1480°F , the alarm will be alarm off.

**ALARM  TEMPERATURE 2**

Max. RPM which you can reset whenever you want.
Setting detection RPM ( one turn of engine = two ignition pulse ). Yes / No. ( Use for Simonini Engines)

**MAX . RPM
SETTING RPM DETECTION**

Setting of Fuel gauge
Set to 0%-50% and 100% according to fill level of your tank.

**FUEL GAUGE**

Setting of time to service, which you can change whenever you want.

**TIME TO SERVICE**
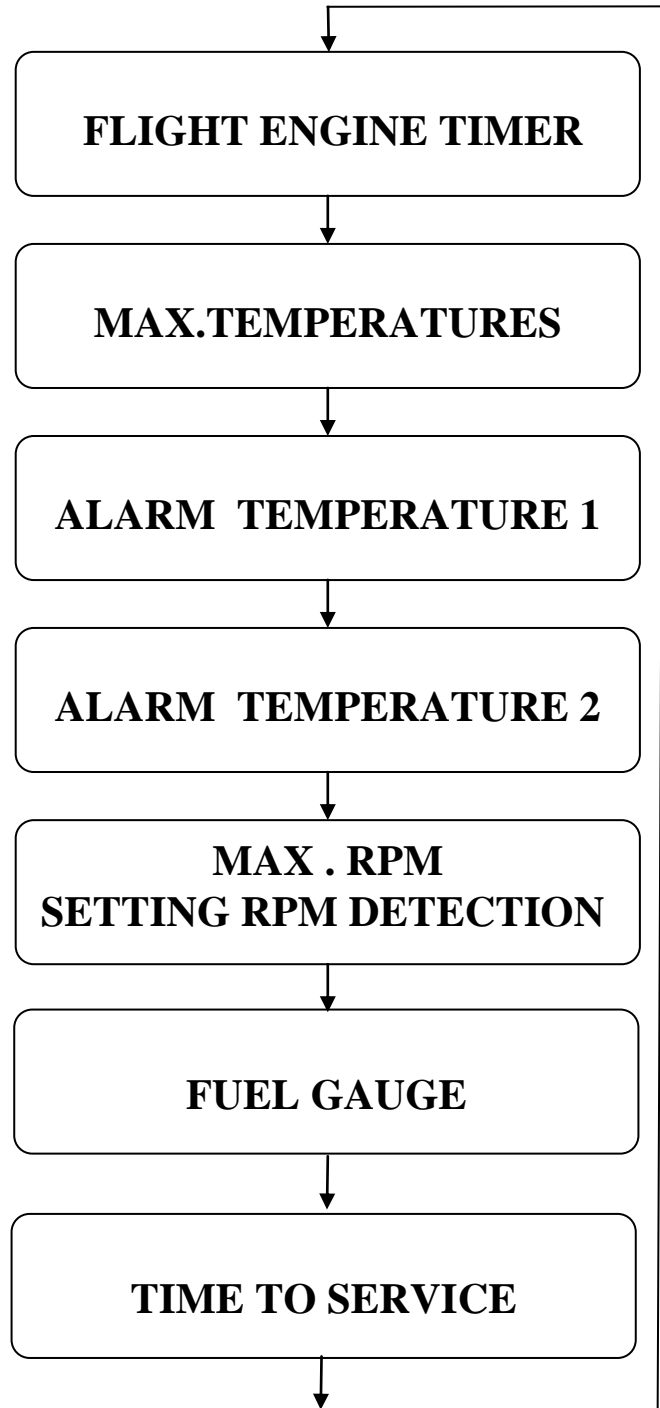
## Mode with actual information :

## Display No.1 – actual information

On the actual display you have an information about two temperatures(CHT or EGT),  engine timer which is automatically reset by switching-off  and on again the PPG Meter also it shows the RPM.
Range of temperature is from 0°F to plus 1480°F. If you have connected the temperature sensors, you can see the actual temperature on the display.  If you have not connected tempereture sensor, you will see the value the same as on the air sensor. This shows an unconnected temperature sensor.

RPM displays actual RPM of you engine.

There is an engine timer on the display that is recording the time of the engine that it ran.  When the engine is not running,the timer will stop. When you start the engine again, the timer resumes at timing. If you switch PPG Meter off, engine timer on display No.1 will reset.

## Display No. 2 – actual information

On actual display you have an information about one temperature ( CHT or EGT), engine RPM and engine timer which is automatically reset by switching-off  and on again the PPG Meter, also displays the Fuel gauge.

Range of temperature is from 0°F to plus 1480°F. If you have connected the temperature sensors, you can see the actual temperature on the display.  If you have not connected tempereture sensor, you will see the value the same as on the air sensor. This shows an unconnected temperature sensor.

You can switch between those two displays by a short push on the control button. You can choose, which information you want.

## Display No. 1 – flight engine timers

Two flight engine timers which you can reset whenever you want. These timers are recording the time of the engine running and stay saved after you switch off the PPG Meter. You can record the time on your paramotor for years, or months, a week, etc.

**Controling of PPG Meter:**
- **short push on control button : changes-over individual display and changes numerical value.**
- **long push of the control button ( 2-3 sec ) :Enters the edit menu and saves setting.**

Resetting of flight engine timer at display No. 2 :

- By a long push on the control button you enter in display No. 1 and blink first line.
- By a short push on the control button you can choose first or second line. Actual line will blink.
- By a long push on the control button you can delete actual datas and save this modification.

## Display No. 2 – max. temperatures

Two max. temperatures which you can reset whenever you want.

Resetting of max. temperatures at display No. 2 :

- By a short push on the control button you enter in display No. 2.
- By a long push on the control button, about 2-3 sec. you enter to the edit menu and first temp. will blink.
- By a short push on the control button you can choose first or second temp. The actual temp. will blink.
- By a long push on the control button you can delete the actual temp. and save this modification

## Display No. 3 – alarm temperature – 1

Setting of the alarm for temperature No-1. After overrun of set value the alarm will be activated for this temperature – the red indicator will blink and the display will inform you about the higher temp. of your set value. When you set the value to 1480°F ,the alarm will be off off.

Setting of alarm temperature 1 at display No. 3 :

- By a short push on the control button you enter in display No. 4.
- By a long push on the control button, about 2-3 sec. you enter the edit menu and the value of temperature No. 2will blink.
- By a short push on the control button you can change value of alarm temperature No. 1.
- By a long push on the control button you save this modification.

## Display No. 4 – alarm temperature – 2

Setting of the alarm for temperature No-1. After overrun of set value the alarm will be activated for this temperature – the red indicator will blink and the display will inform you about the higher temp. of your set value. When you set the value to 1480°F ,the alarm will be off off.

Setting of alarm temperature 2 at display no. 4 :

- By a short push on the control button you enter in display No. 4.
- By a long push on the control button, about 2-3 sec. you enter the edit menu and the value of temperature No. 2will blink.
- By a short push on the control button you can change value of alarm temperature No. 2.
- By a long push on the control button you save this modification.

# Display No. 5 – Max RPM and setup of high RPM warning

Max. RPM, which you can reset whenever you want  and setting detection rpm -one turn of engine = two ignition pulse ). Yes / No
Some engines have ignitions with two ignition pulse in one turn of the engine. When you use this type of engine, settings with one ignition pulse, the RPM meter will display a double value of rpm. Used in Simonini Engines)

Setting of Max. RPM and setup of high RPM warning at display No. 5 :

- By a short push on the control button you enter in display No. 5.
- By a long push on the control button, about 2-3 sec. you enter the edit menu and the value of the Max. RPM will blink.
- By a short push on the control button you can choose first or second line. Actual line will blink.
- By a long push on the control button you can delete the value of max. rpm or you can set detection of high rpm and save this modification.

## Display No .6 – Fuel gauge

- By a short push on the control button you enter display No. 6.

  YOU WILL NEED TO FOLLOW THIS SEQUENCE IN ORDER TO MAKE IT WORK.
- Have your Fuel Tank Empty and Enter the Edit Menu, Set Value to 0%
- Fill up your Tank to 50 % and set the value to 50 %
- Completely fill your tank now to 100 % and set the value in the Meter to 100 %.

  When your fuel level is low( 1 Bar left) , the red light will come on and the display will signal you, that you are low on fuel.

## **Display No. 7 – Time to service**

Setting of time to service,which you can change whenever you want. When you for example set a value of 50 hours, you will see this display at the time of your service. You will see the remaining time after you turn on the PPG Meter

Setting of time to service at display No. 7 :

- By a short push on the control button you enter display No. 7.
- By a long push on the control button, about 2-3 sec. you enter the edit menu and the value of time to service will blink.
- You can change the value with a short push on the button
- By a long push on the control button you save this modification.

## **Temperature sensors:**

**Temperature No 1 and 2 :** 0°F– 1480°F
Two black and blue connectors. Black goes to the outside and blue to the inside.

## **Detection tachometer :**
You must roll the long black wire(the 1 copper string one) about 2-3 turns around the high voltage cable. This wire is necessary for scanning for RPM Meter and  flight engine timers.