Fly Meter– The instrument for power paragliding and ULL

New model 2024

New Functions:

- Calculation of flight time based on fuel level
- Reset of all timers
- Option to set initial time of the main timer
- Option to lock reset and set of main timer with a 4-digit code
- Fuel flow alarm (fuel leakage)
- RPM alarm
- Oil and fuel pressure alarm - min. and max.
- Oil and water sensor – 2x preset, 1x programmable sensor
- New oil and fuel pressure sensor – 2 designs

Functions:

- 4x temperature 0-1000°C – CHT or EGT – switchable display between °C and °F
- 1x temperature 0-125°C - oil, water, etc., switchable between °C and °F
- 1x oil or fuel pressure measurement
- RPM meter
- 4x engine hours
- Service interval setting
- Fuel gauge – fuel level in the tank
- Fuel flow meter – actual and average consumption, total fuel consumed
- Calculation of flight time based on fuel quantity
- Measurement of on-board voltage
- Alarms - temperature, oil or fuel pressure min. and max., fuel level , on-board voltage min. and max., max RPM, max fuel flow
- Display contrast and backlight adjustment

The instrument is divided into two modules:

- Sensing module – placed near engine
- Display module – placed on the dashboard
These modules are connected by a thin data cable of standard length 280cm.

The length can be adjusted according to preference.

The instrument is operated with two buttons:

- **ESC – escape**
Short press - always one step back, exit menu.
Long press – approximately 2s deactivates display blinking for any alarm, the alarm remains highlighted only on the display by position highlighting.

- **ENT – enter**
Long press – used for basic entry into the menu, confirm entry into the selected position, or change the desired value.
Short press – used to navigate between rows

The control is intuitive, and the menu description on the display precisely guides you where you need to go.

Main Menu:

MAXIMUMS – **maximum values saved after the last reset**

- **Show maximum values** – display maximum values
- **Reset Maximums values** – reset maximum values

ALARMS – setting all alarms

- **Temperature alarms** – setting alarms 1 - 4

  Alarm temperature 1 – setting alarm 1
  Alarm temperature 2 – setting alarm 2
  Alarm temperature 3 – setting alarm 3
  Alarm temperature 4 – setting alarm 4

- **Water/oil temperature alarm** – setting water/oil temperature alarm
- **Revolution alarm** – setting max revolution alarm
- **Pressure alarms** – setting pressure alarm

  Minimum pressure alarm – setting minimum pressure alarm
  Maximum pressure alarm – setting maximum pressure alarm

- **Supply alarms** – setting minimum and maximum supply voltage alarms

  Minimum supply voltage – setting minimum supply voltage
  Maximum supply voltage – setting maximum supply voltage

- **Fuel level alarm** – setting reserve level in the tank
- **Fuel flow alarm** – setting max fuel flow – serves as a fault detection for fuel system leaks

When an alarm is activated, the corresponding exceeded input is highlighted on the display, and the display blinks.

The light alarm can be turned off at any time during the flight by pressing the ESC button for 1s. The next triggered alarm will be visually active again and can be turned off again.

FUEL INDICATION – fuel gauge setting – fuel level

- **Fuel Tank volume** – setting tank size for display
- **Fuel indicator calibration** – fuel sensor calibration - 0%, 50%, 100%

You must calibrate all 3 steps !!!!!!

FUEL CONSUMPTION – display of flow values – fuel consumption

- **Reset avg consumption** – reset average consumption, total consumption, and measurement time

TIMERS – display and reset of all engine hours

- **Total timer** – reset and possibility to set the initial state of the overall instrument time. The setting is done via an input code, which is set to 0000 from the factory.

  Upon the customer's request, it is possible to arrange programming of a customer input code, so that the user cannot change the value of this main timer.

- **Reset timer 2** – reset user timer 2
- **Reset timer 3** – reset user timer 3
- **Service timer** – user-set service interval – used, for example, to set the engine service interval.

  Reset service timer – reset service interval
  Set service interval – set service interval

SETTINGS – Fly meter settings

- **Display setting** – display settings

  Backlight – turn on or off the backlight
  Contrast – display contrast adjustment

- **RPM sensor constant** – synchronization setting of engine revolutions with displayed revolutions. Can be set to:
  1 pulse per rotation - one pulse for one revolution
  2 pulses per rotation - two pulses for one revolution
  0.5 pulses per rotation - one pulse for two revolutions

- **Consumption constant** – setting the type of flow sensor value, necessary for the proper function of the flow sensor

- **Temperature sensor** – setting temperature inputs 1 - 4. If you do not have a sensor connected, the temperature displayed is the temperature of the measuring module, i.e., the temperature of the space where the measuring module is located. If you do not want to display these temperatures for better clarity on the display, deactivate the corresponding temperature input – only dashes will be displayed instead of numbers.

  Sensor activation – activation of sensor 1 – 4,

  Temperature sensor 1 – activation of sensor 1
  Temperature sensor 2 – activation of sensor 2
  Temperature sensor 3 – activation of sensor 3
  Temperature sensor 4 – activation of sensor 4

  Sensor oil/water type – sensor type setting

  Old Fly Henry sensor – old Fly Henry sensor – 5 cm black wire
  New Fly Henry sensor – new Fly Henry sensor – 50 cm black wire
  Custom type sensor – setting a custom sensor type

  Custom type setting – setting resistance values of the sensor

  Sensor type NTC/PTC – setting NTC/PTC sensor type

  <u>NTC – with increasing temperature, resistance value decreases</u>
  <u>PTC – with increasing temperature, resistance value increases</u>

  Sensor resistances – setting resistance based on temperature

  <u>It is necessary to enter resistance values at all positions!!!!!!</u>

UNITS – switching units

- **Temperature units** – switching units - °C / °F
- **Fuel volume units** – switching units - liters / gallons
- **Pressure units** – switching units - BAR / PSI

Fly Meter Installation:

The display module is standardly placed on the dashboard of your aircraft.
The measurement module is attached in the engine compartment within reach of all sensors.

CAUTION! Do not attach the module to hot spots to avoid module overheating.

A data cable, included with the instrument, is used for connection between these modules.

Other connecting cables:

- Connect the negative battery to the motor frame as short as possible, connected to the battery's negative pole.

- You can connect the positive battery **to either the measuring or the display module.** It depends on the construction of your wiring. The instrument is connected behind the main switch, meaning that when the main switch is turned on, this measuring instrument will also be connected.

- Connect temperature and fuel sensors to their respective inputs

- Connect the RPM sensor to the corresponding input.

It is not necessary to connect power supply to both modules at the same time; usually, only power to the display module is used!!!

Pay great attention to attaching both data and connecting cables, as well as the wiring to the sensors, to prevent strain, disconnection, and damage due to vibrations!!!

We recommend using sensors from our company. If you use sensors from other manufacturers, pay close attention to the selection to avoid damaging the measuring instrument.

Give special attention to the installation of the flow sensor and especially its testing!!!!!!!!

Rules for installing the flow sensor:

- Choose a sensor with the appropriate range and flow for your engine, focusing on instant consumption during engine acceleration.
- If your engine has an electric fuel pump, the sensor must be connected to this pressure system, i.e., between the pump and the carburetor.
- If your engine is equipped with an additional diaphragm fuel pump, connect the sensor again between the pump and the carburetor.
- If your engine has a pump only in the carburetor, you must connect it between the tank and the carburetor, but there is an emphasis on a tight connection of the entire vacuum system to prevent air intake and foaming of the fuel.
- A fuel filter must always be used before the sensor.

A longer test of the engine's operation at full power should always be performed after installing this sensor to ensure that you have used a sensor with the required range – flow and there is no decrease in engine performance during the most critical phases of flight, such as takeoff and prolonged climb !!!!!!!!!

Technical specifications:

Power supply: 7 - 20VDC
Temperature 1 – 4: 0 - 1000°C
Oil/water temperature: 0 - 125°C
Oil/water pressure: 0 - 6.9 Bar (0 – 100 PSI)

RPM Detection: 2-5 turns around the high-voltage cable to the spark plug – depends on the ignition type

Display module:

Front panel dimensions: 98 x 64 mm
Panel hole dimensions: 93 x 59 mm
Weight: 150g

Measuring module:

Base dimensions: 124 x 40 x 20 mm
Weight: 100g

Contact:

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Fly Meter wiring - model 2024