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**INSTRUCTIONS MANUAL for dashboard 'MOD7-RR2'**

Thank you for purchasing this instrumentation MOD7CE® for Racing car.  
 We hope you will be pleased to advise you about ...  
 You are eager to try it, so we did a compact instructions manual !



**Application :** The **MOD7-RR2** is only reserved for use in motorsport

**Safety Warnings** for installation and during wiring :

- Switch off the ignition and disconnect the ground terminal of the battery
- Keep the wiring harness far from hot spots of the engine (i.e. temperature)
- Install a fuse of 1A on the '+' power wire

**Warnings for reliability :**

- Use the mounting system supplied with dashboard ('silentbloc' x3 parts)
- Make sure that the positive power supply will stay below 16 volts
- Do not pull on wires or harness
- Do not spray the counter at high pressure
- Do not open the dashboard

**OPTIONS :**

- The **MOD7-RR** only offers the oil temperature function has an option.  
 In this case, a small 2 wires harness with a NTC sensor will be supplied.

**1 - FIXING the DASHBOARD :**

- Use the anti-vibration mountings :
- Drill 3 holes of 5 mm diameter on a bottom plate :



**2 - WIRING :**

- Please refer to the separate sheet with 4 diagrams

Wiring principal harness of the dashboard :

- **Black** = ground, • **Red** = 12v batt. supply after switch, • **Green** = Fuel Gauge
- **Blue** = tachometer negative input, • **Orange** = tachometer positive input

Wiring secondary harness of the dashboard :

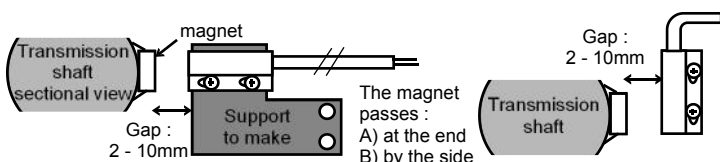
- **Brown** = Fuel injection default input, • **Yellow** = Headlights switch
- **Mauve** = Oil pressure switch input
- **White** = To be connected to the small harness (if oil temperature option)
- **Gray** = Speed sensor

**3 - INSTALLATION of the SPEED SENSOR :**

- **Paste** the cylindrical magnet on the half-transmission shaft near the gearbox output. Use a goog epoxy glue and even a clamp.
- **Install** the 'PLA' speed sensor (temporarily, pending to confirm its position during the test sensor in paragraph 5 Settings) on an aluminium bracket (don't use steel) attached at one end to the engine block.
- **Connect** one of the sensor wires to the gray wire of dashboard MOD7-RR2
- **Connect** the other wire to the black ground wire of the dashboard

**Warning :** Sensor is fragile. Avoid hitting the speed sensor during installing

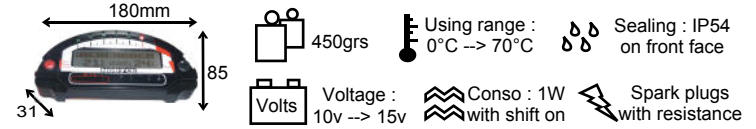
The 2 wires of the sensor are interchangeable.  
 You can extend the length of the speed sensor at your convenience.



**Package contents for dashboard MOD7-RR2 :**



**Technical specifications :**



**Tachometer :**

- Digital display : 9900 rpm max, Bargraph display : 9900 rpm max
- Stores the max engine speed. Accuracy : 100rpm (digital) & 250rpm (bargraph)

**Vehicule Speed (sensor + magnet supplied) :**

- Maxi 250 km/h. Accuracy : 1 km/h
- Stores the maximum speed.

**Distances :**

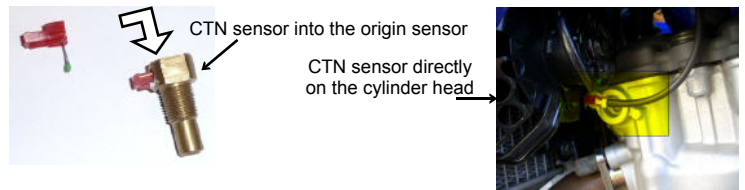
- Day Trip up to 999.9 km with manual reset to 0.0.
- **Engine water Temperature** (resistive 'NTC' sensor supplied) :  
 from 0 to +125°C with programmable alert from 70 to 120°C  
 Stores the maximum water temperature. Accuracy : +/- 2°C
- **Engine oil Temperature** as an option (resistive 'NTC' sensor supplied) :  
 from 0 to +140°C with +/- 2°C accuracy up to 115°C, and +/- 5°C above.  
 Stores the maximum oil temperature.
- **Digital fuel Gauge** (works on the resistive original tank gauge) :  
 To be programmed up to 60 liters in 15 steps of 4 liters
- **Battery voltage** : displays the voltage from 9v to 16v with 0.2v accuracy.

**Graphic LCD display 10 x 2.5 cm always backlit in white**

- **Selection / Control** : 1 push button on the left side of the screen
- **Shift light** :  
 Programmable from 4000 to 9900 rpm with 100 rpm steps  
 Sequential turn on in 3 colors. Each led has its own rpm for turning on  
 Adjustment of brightness by potentiometer at the right side of the screen
- **Led indicators** : Low oil pressure - 'STOP' (Red), Lights - (Blue), Injection Fi - (Orange).

**4A - INSTALLATION of the WATER TEMPERATURE SENSOR :**

- **Choose where you want to take the motor water temperature**  
 1 - either reusing the origin temperature sensor (make sure that this sensor is only used by the old temperature meter not by the ECU)...
- 2 - or by using a screw of the cylinder head of the engine with a minimum of 8 mm diameter
- **Drill** the screw or the origin sensor 15mm long with a diam. 4mm forest.
- **Fill** the drill hole with a silicone resin
- **Immerse** the NTC sensor into, until the connector flush
- **Make** a bead of resin to the base of the connector and allow to dry
- **Connect** the white connector of the dashboard harness to the NTC sensor



**4B - INSTALLATION of the OIL TEMPERATURE SENSOR (if option) :**

- **Choose where you want to take the motor oil temperature**  
 1 - Ideally the drain plug of engine oil...
- 2 - either by inserting a shim 'sandwich' between the oil filter and the engine block
- **Drill** the drain plug or the shim 'sandwich' 15mm long with a diam. 4mm forest.
- **Continue** the installation as explain in previous paragraph
- ...
- **Connect** the white wire of the small harness to the white wire of the dashboard
- **Connect** the black wire to the ground (like the black wire of the dashboard).
- **Connect** the white connector of the small harness to the red connector of the NTC sensor.

**5 - Fuel Gauge (notes for a perfect operation) :**

- **To display the amount of fuel in the tank**, the dashboard MOD7-RR2 must convert the resistance of the origin gauge according to a calibration. For this, the original gauge has to wires (most common case) or 3 wires (in this case, you have to cut the positive tied wire and to isolate it) :
- **Connect** the wire of the cursor to the GREEN wire of the dashboard
- **Connect** the ground wire of the gauge to the BLACK wire of the dashboard

## 6 - SETTINGS :

- **Enter** in the settings menu, when engine is off after power on.
- **Press** the button for **1 second**, the top line of the display shows the parameter to be modify followed by its value currently stored :

1 - '**Bargraph Maxi**' allows you to choose the last scale value of the bargraph. The bargraph will be displayed from 4000 rpm before this value up to 1000 rpm after this value. Bargraph displays a total of 5000 rpm !  
Thus, if you set **08** for 'Bargraph Maxi', the engine speed in bargraph will be displayed from 4000 rpm (= 8000 - 4000) to 9000 rpm (= 8000 + 1000).


To change the value for 'Bargraph Maxi' :

- **Press the button for 1 second**, an arrow should appear
- **Each pulse press on the button** increases the last scale value of 1 thousand of rpm (after 10 for 10000 rpm, it returns to 05 = 5000 rpm)
- **Press the button for 1 second** to exit this setting.
- **Briefly press the button** to move to the next setting.

2 - '**Rpm Led 1**' to '**Rpm Led 7**' allows you to program the engine speed for each of the 7 leds of the shift light. Each led is independent of the others, but we recommend to set the leds with a spacing engine speed growing from 200 to 500 rpm. A very good think is to use the orange leds for viewing the optimum operating range of the engine and the red leds to prevent the approach of the ignition breaker (The first red led 500 rpm before, and the second red led 200 rpm before the ignition breaker)

To change the value for 'Rpm Led x' (where x goes from 1 to 7)

- **Press the button for 1 second**, an arrow should appear
  - **Each pulse press on the button** increases the rpm value of the selected led of 100 rpm. (After 9900 rpm, it returns to 4000 rpm)
  - **Press the button for 1 second** to exit this setting.
  - **Briefly press the button** to move to the next setting.
- Note :* After 'Rpm Led 7', you will move to the next parameter

3 - '**Alerte Temp**' allows you to program the water alert temperature value that turns on the warning led : . To determinate this excessive temperature, let run the engine at slow motion until the fan comes. Read the temperature value displayed on the lcd screen of the dashboard and add 5 to 10°C to this value in order to program the parameter : 'Alerte Temp'.

To change the value for 'Alerte Temp' :

- **Press the button for 1 second**, an arrow should ppear
- **Each pulse press on the button** increases the alert temperature value of 2°C (After 120°C, it returns to 70°C)
- **Press the button for 1 second** to exit this setting.
- **Briefly press the button** to move to the next parameter.

## 7 USING

In order to display the **MAXIMUM VALUES PAGE**, previously stored in the dashboard (Rpm, Speed, Water (and Oil) temperature), you need to push and hold the button while switching ON the power supply to the dashboard.  
As soon as you release the button, the dashboard will display the normal screen.

Please note that these maximum values will be erased and replaced by the new ones as soon as you run the engine.

After power on, the screen of the dashboard MOD7-RR2 will display :

- The **Engine water Temperature** in °C
- The **Engine oil Temperature** in °C (if option selected and sensor installed) or
- The **Amount of Fuel** remaining in the tank in liters.

This screen (called 'presentation' with engine off) allows you to access to the settings if you want to (see paragraph 6).

**As the engine is running** or after a brief press on the button, the upper line will display the bargraph for the engine speed with the maximum calibration defined in the settings with parameter 'Bargraph Maxi'.

The lower line of the screen will always display the engine water temperature at the left side, and the engine oil temperature or amount of fuel at the right side.


This page is called : **RACE 1 PAGE**

After a brief press on the button, you will access to the **RACE 2 PAGE** :  
The engine speed in digital and the battery voltage are displayed in this page.

After a new brief press on the button, you will access to the **ROAD PAGE** :  
The top line presents the trip distance (press the button during 1 second to clear the trip distance), the instantaneous speed in km/h and the battery voltage.  
The bottom line displays the engine water temperature and the fuel gauge.

When you stop the engine while the power remains on the dashboard, the values for engine speed, engine water and oil temperature and vehicle speed are replaced by the **maximum reached values** for these 4 parameters

### Controlling the SHIFT LIGHT :

The Shift light can be enable (normal state after power on) or disable with a long press for 1 second on the button when you are on RACE pages.  
A little logo in the middle of the lcd screen '  ' indicates that the shift light is enable. If the shift light is disable, the logo will disappear.

When you power up the dashboard, the shift light is turned 'ON' automatically

4 - '**Wheel Circ**' allows you to choose the wheel circumference and to show the state of the speed sensor (for testing its position).

- The 1st number gives the value in cm of the circumference of the wheel
- The following symbol shows the state of the sensor : open ' / ' or close ' - ' .  
It must be closed if the magnet is in front of the sensor, and open in the other case
- The 2nd number indicates the number of switching of the sensor on a full wheel rotation. In order to have a correct speed value, this number must be 1 after a complete wheel rotation. If this number remains to 0, it means that the sensor don't work (Verify the following points : magnet is too far from sensor, or not in front of the sensor, or the sensor is broken or not connected to the dashboard). If the number reaches more than 1, it means that the sensor detects the magnet several times because of its position. Please return in paragraph 3 to modify its position.

To change the value for 'Wheel Circ' :

- **Press the button for 1 second**, an arrow should appear
- **Each pulse press on the button** increases the value of the circumference of 1cm. (After 228cm, it returns to 140cm)
- **Press the button for 1 second** to exit this setting.
- **Briefly press the button** to move to the next setting.

5 - '**Rpm Pulse Nb**' allows you to adapt the display to the engine speed.

This parameter allows to divide the engine speed value by 1 or 2.

*For example, if the engine speed value at slow motion seems to be the double, then program an 'Rpm Pulse Nb' with 02 in order to divide the displayed value by 2*

To change the value for 'Rpm Pulse Nb' :

- **Press the button for 1 second** to move the value from 01 to 02.
- **Press**, an other time, **the button for 1 second** to move the value back to 01
- **Briefly press the button** to move to the next setting.


6 - '**Fuel Prog**' allows you to calibrate the fuel gauge from 0 to 60 liters  
The 1st number indicates the gauge value read and convert by the dash controller.  
The 2nd number indicates the fuel quantity, in liters, you must have in the tank.

To program the value of each step of 4 liters :

- a) **Fill the tank with the quantity of fuel** displayed on the lcd screen,
- **Press the button for 1 second** to memorize this level  
(Note : the value of the 1st number must decrease while the fuel level increases)
- **Briefly press the button** to move to the next step of program and return to the point 'a)'. If your tank is already full for the next step, you must memorize all the steps until 60 liters with the same amount of fuel.

After 'Fuel Prog xxx 60L', a brief press on the button exits from the config menu **while saving all your parameters**. **Then**, you can switch off the contact key if you want to, or start the engine and run the car...

### NOTA 1 :

When the temperature indicates 199°, it means either the temperature is lower than 0°C, or the temperature is too high (higher than 140°C).  
This may arrived if no sensor is connected. Please check this point  
When the temperature reach the program alert value, the orange right end led is activate : 

### NOTA 2 :

When the engine oil temperature is not installed or not available on your dashboard, the total amount of fuel in the tank is always displayed on every pages

### Becareful when you clean your dashboard !

*Please use only a soft cloth, clean and dry to clean your dashboard and its screen and lexan. Note that a new lexan can be ordered for approx. 15€*

Example of the display of the MOD7-RR2

