# polini motori
*Trasforma il meglio in 'massimo'*

# INSTRUCTION

- Thank you for purchasing EFi Multi-funciton LCD meter, before operating the unit, please read the instruction thoroughly and retain it for the future reference.

## ⚠ Notice

- This product only operated with DC12V, the button battery inside (CR2032) is only for clock using purpose.
- For installation, please follow the steps described in manual. Any damage caused by wrong installation shall be imputed to the users.
- To avoid the short circuit, please don't pull the wire when installing. Don't break or modify the wire terminal.
- Do not disassemble or change any parts excluding the manual description.
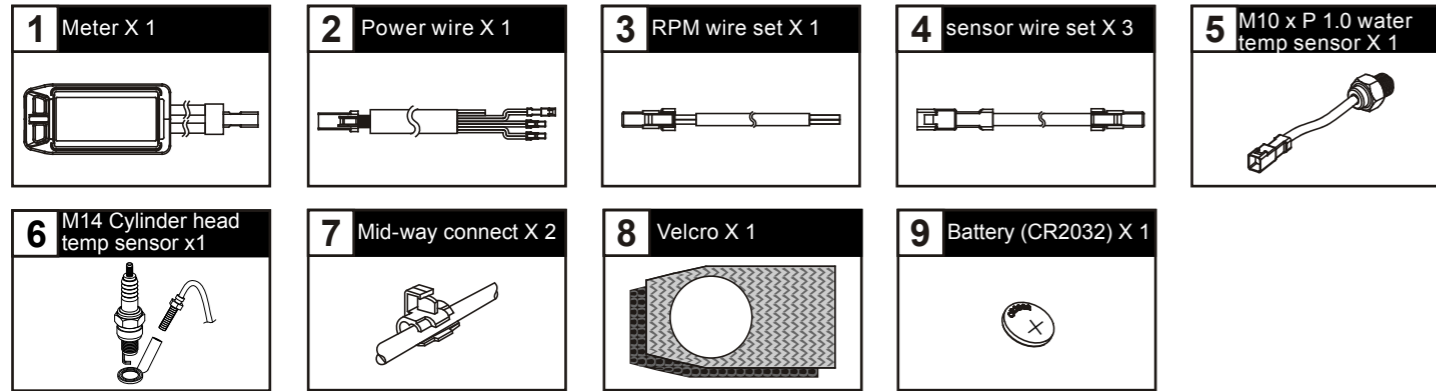- The interior examination or maintenance should be executed by our professionals.

| Flash | Light on |
|-------|----------|
| Press the button one time | Press the button 3 seconds |
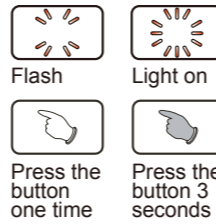
### ◎MARK MEANING:

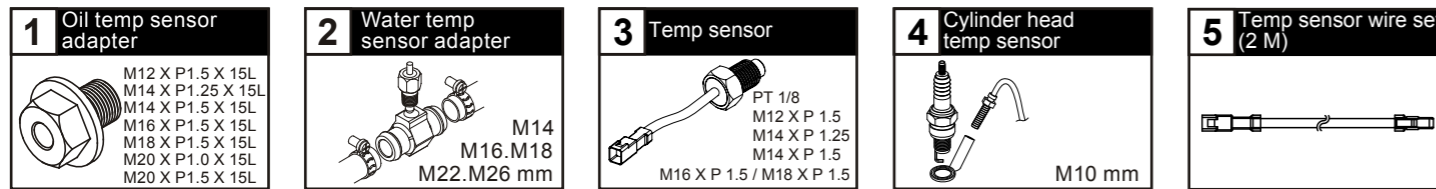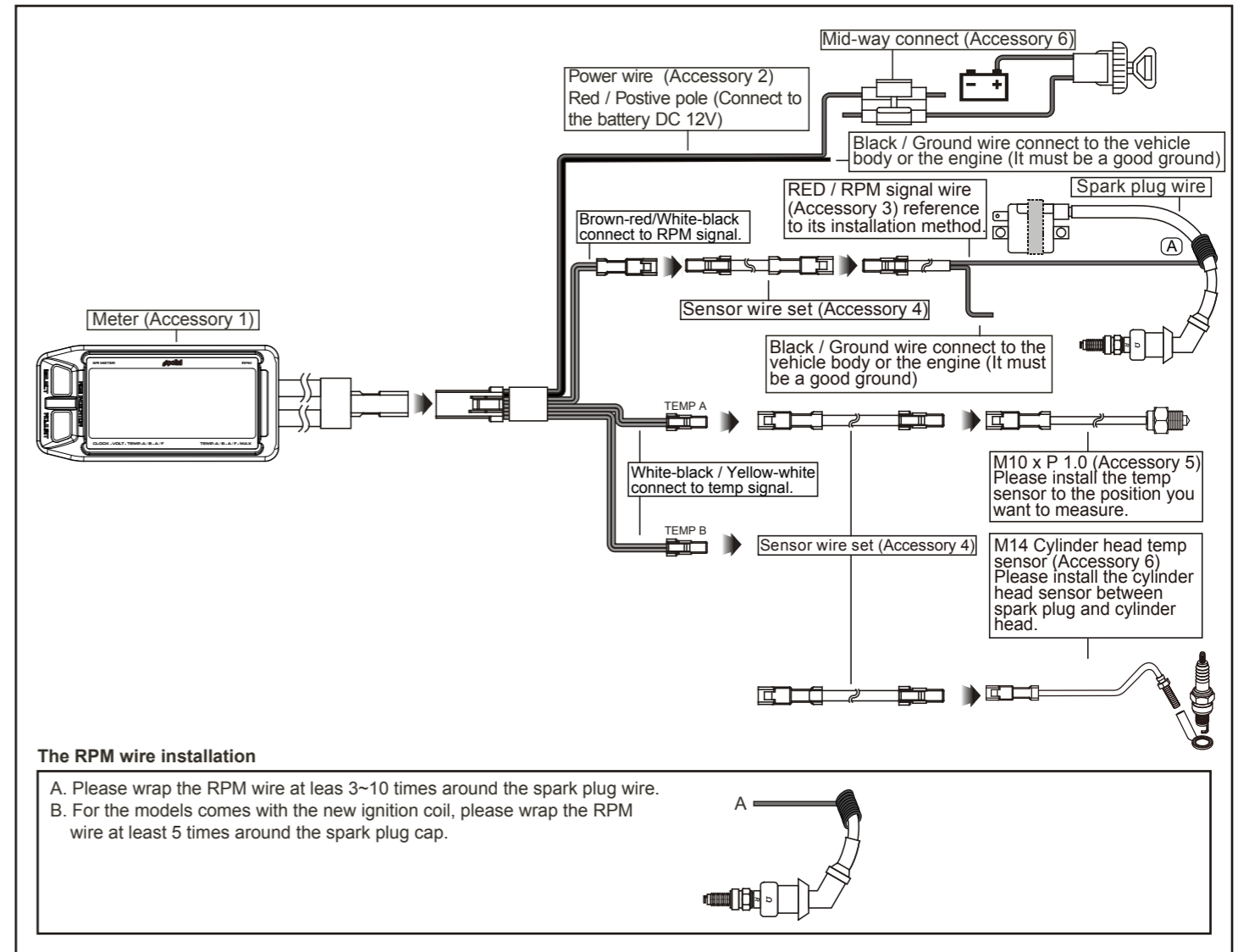| NOTE | You could get the installation details from the information behind the mark. |
|------|------|
| ⚠ | Some processes must be followed to avoid the affection caused by wrong installation. |
| ⚠ WARNING! | Some processes must be followed to avoid damages to yourself or the public. |
| ⚠ CAUTION! | Some processes must be followed to avoid the damage to the vehicle. |

## 1  Accessory

| 1 Meter X 1 | 2 Power wire X 1 | 3 RPM wire set X 1 | 4 sensor wire set X 3 | 5 M10 x P 1.0 water temp sensor X 1 |
|---|---|---|---|---|

| 6 M14 Cylinder head temp sensor x1 | 7 Mid-way connect X 2 | 8 Velcro X 1 | 9 Battery (CR2032) X 1 |
|---|---|---|---|

| NOTE | Please contact the local distributor if the items you open are not the same, with the above-listed one. |
|------|------|

## 1-2  Option accessory

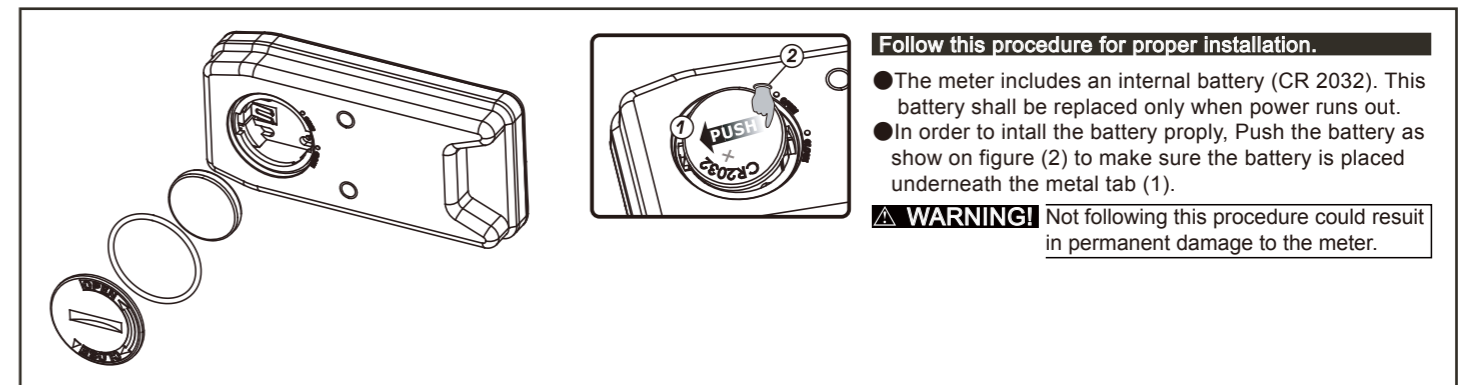| 1 Oil temp sensor adapter | 2 Water temp sensor adapter | 3 Temp sensor | 4 Cylinder head temp sensor | 5 Temp sensor wire set (2 M) |
|---|---|---|---|---|
| M12 X P1.5 X 15L<br>M14 X P1.25 X 15L<br>M14 X P1.5 X 15L<br>M16 X P1.5 X 15L<br>M18 X P1.5 X 15L<br>M20 X P1.0 X 15L<br>M20 X P1.5 X 15L | M14<br>M16.M18<br>M22.M26 mm | PT 1/8<br>M12 X P 1.5<br>M14 X P 1.25<br>M14 X P 1.5<br>M16 X P 1.5 / M18 X P 1.5 | M10 mm | |

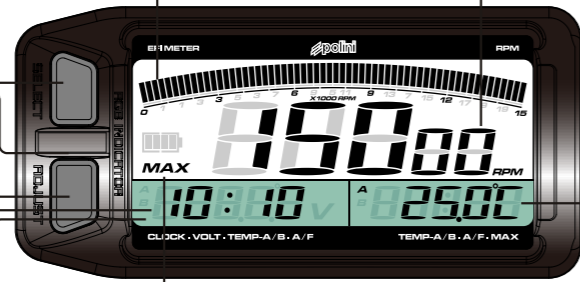| NOTE | Some of the option accessories may not sell. For the details, please contact the local distributor. |
|------|------|

## 2-1  Wiring installation instructions



Mid-way connect (Accessory 6)

Power wire  (Accessory 2)
Red / Postive pole (Connect to the battery DC 12V)

Black / Ground wire connect to the vehicle body or the engine (It must be a good ground)

RED / RPM signal wire (Accessory 3) reference to its installation method.

Spark plug wire

Brown-red/White-black connect to RPM signal.

Meter (Accessory 1)

Sensor wire set (Accessory 4)

Black / Ground wire connect to the vehicle body or the engine (It must be a good ground)

TEMP A

M10 x P 1.0 (Accessory 5) Please install the temp sensor to the position you want to measure.

White-black / Yellow-white connect to temp signal.

TEMP B

Sensor wire set (Accessory 4)

M14 Cylinder head temp sensor (Accessory 6) Please install the cylinder head sensor between spark plug and cylinder head.

### The RPM wire installation

A. Please wrap the RPM wire at leas 3~10 times around the spark plug wire.
B. For the models comes with the new ignition coil, please wrap the RPM wire at least 5 times around the spark plug cap.

A

## 2-2  Battery replacment



### Follow this procedure for proper installation.

- The meter includes an internal battery (CR 2032). This battery shall be replaced only when power runs out.
- In order to intall the battery proply, Push the battery as show on figure (2) to make sure the battery is placed underneath the metal tab (1).

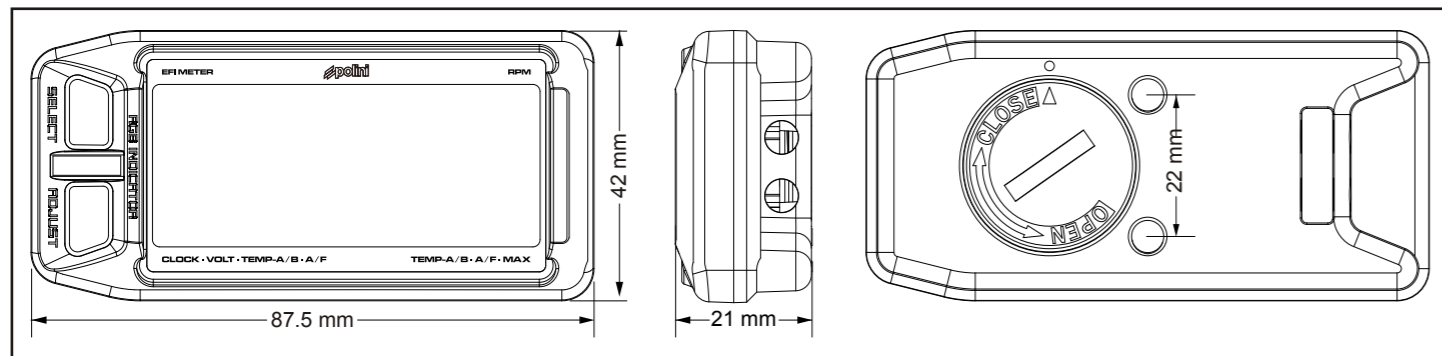⚠ WARNING! Not following this procedure could resuit in permanent damage to the meter.

## 3-1 Overview

●Select button

**Thermometer alarm light A/B**
●Setting range：60~250˚C(140~482˚F)
●Setting unit：1˚C (˚F)
**Shift light**
●Setting range：5,000~20,000 RPM
●Setting unit：100 RPM

●Adjust button

**Clock**
●24 H

`10:10`

**Volt meter**
(Input power needed, can't work with CR 2032)
●Display range：8.0~18.0 V
●Display unit：0.1 V

`13.5v`

**Level tachometer**
●Display range：OFF、10,000、15,000、20,000 RPM

**Digital tachometer**
●Display range：0~20,000 RPM
●Display unit：100 RPM

**MAX RPM / Temperature record**
●The meter will record the top RPM and temperature automatically.

**Sensor A、B**
Thermometer - When connect to Thermometer, and set 4-5 & 4-7 to temperature to display the temperature on the meter.
●Display range：0~250˚C (32.0~482.0˚F)
●Display unit：0.1˚C (˚F)

`30.0C` ➤ `86.0C`

## 3-2 Function, setting instruction

| | |
|---|---|
| ●Digital Tachometer | Display range：0~20,000 RPM / Display unit：100 RPM |
| ●Level Tachometer | Display range：OFF、0~10,000、15,000、20,000 RPM |
| ○Display internal | <0.5 second |
| ○Shift light | Setting range：5,000~20,000 RPM / Setting unit：100 RPM |
| ○MAX RPM record | Display range：0~20,000 RPM |
| ○Stroke / Piston | Setting range：2 Stroke:1.2.3.4.6 pistons / 4 Stroke:1.2.4.6.8.10.12 pistons |
| ●Thermometer | Display unit：˚C & ˚F for alternative |
| ●Thermometer A/B | Display range：0~250 °C (32~482 °F) / Display unit：0.1 °C (°F) |
| ○Display internal | <0.5 second |
| ○Thermometer alarm | Setting range：60~250 °C (140~482 °F) / Setting unit：1 °C (°F) |
| ○MAX temperature record | Display unit：0~250 °C (32~248 °F) |

| | |
|---|---|
| ○Volt meter (Input power needed, can't work with CR 2032) | Display range：DC 8.0~18.0 V / Display unit：DC 0.1 V |
| ●Clock | 24 H |
| ●Effective voltage | CR 2032 (Lifetime around 2 years) |
| ●External power | DC 12 V |
| ●Effective temperature range | -10~+60 °C |
| ●Meter standard | JIS D 0203 S2 |
| ●Meter size | 87.5 X 42 X 20.8 mm |
| ●Meter weight | Around 72.4 g |
| ●Indicator light color | 🔴 RPM shift light (Red) / 🔵 Temperature A alarm (Blue) / 🟢 Temperature B alarm (Green) |

NOTE Design and specifications are subject to change without notice.
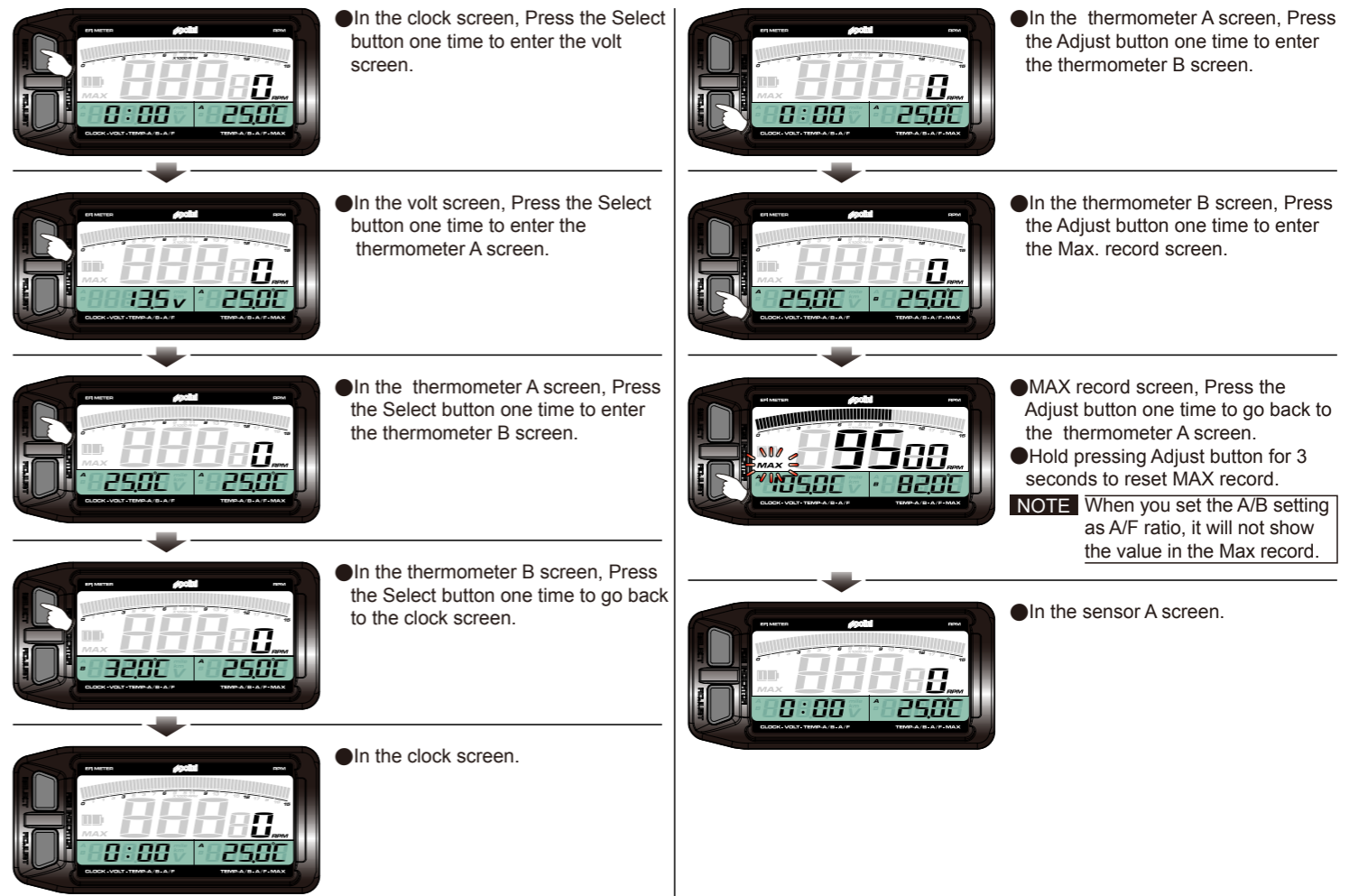
87.5 mm / 42 mm / 21 mm / 22 mm

## 3-3 Main function switch instruction

●Select button function instruction

●In the clock screen, Press the Select button one time to enter the volt screen.

●In the volt screen, Press the Select button one time to enter the thermometer A screen.

●In the thermometer A screen, Press the Select button one time to enter the thermometer B screen.

●In the thermometer B screen, Press the Select button one time to go back to the clock screen.

●In the clock screen.

●Adjust button function instruction

●In the thermometer A screen, Press the Adjust button one time to enter the 1 thermometer B screen.

●In the thermometer B screen, Press the Adjust button one time to enter the Max. record screen.

●MAX record screen, Press the Adjust button one time to go back to the thermometer A screen.
●Hold pressing Adjust button for 3 seconds to reset MAX record.

NOTE When you set the A/B setting as A/F ratio, it will not show the value in the Max record.
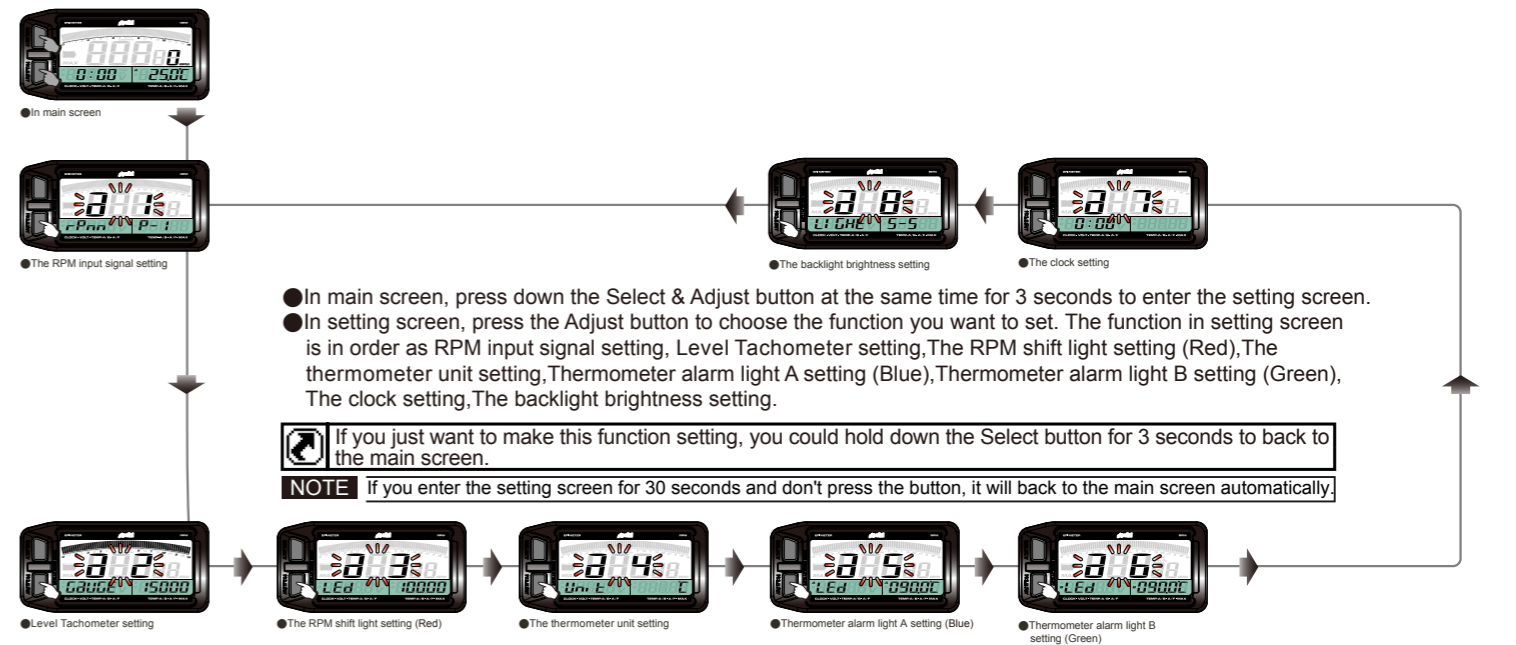
●In the sensor A screen.

## 3-4 Setting screen instruction

●In main screen

●The RPM input signal setting

●The backlight brightness setting

●The clock setting

●Level Tachometer setting

●The RPM shift light setting (Red)

●The thermometer unit setting

●Thermometer alarm light A setting (Blue)
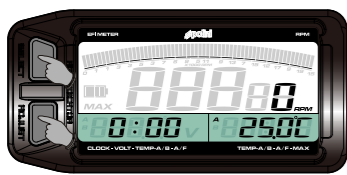
●Thermometer alarm light B setting (Green)

●In main screen, press down the Select & Adjust button at the same time for 3 seconds to enter the setting screen.
●In setting screen, press the Adjust button to choose the function you want to set. The function in setting screen is in order as RPM input signal setting, Level Tachometer setting,The RPM shift light setting (Red),The thermometer unit setting,Thermometer alarm light A setting (Blue),Thermometer alarm light B setting (Green), The clock setting,The backlight brightness setting.

If you just want to make this function setting, you could hold down the Select button for 3 seconds to back to the main screen.

NOTE If you enter the setting screen for 30 seconds and don't press the button, it will back to the main screen automatically.
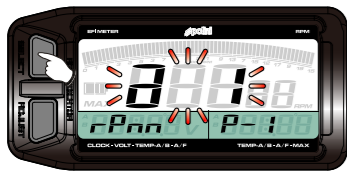
## 4 Entering setting screen

●In main screen, Press down the **Select + Adjust X 3** seconds to enter the setting screen.

### 4-1 RPM pulse setting

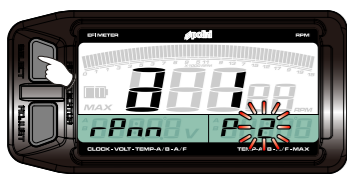●Press the **Select button** to enter the RPM pulse setting screen.

●EX. You want to change the current setting value from P-1 to P-2.
●Press the **Adjust button** to enter the corresponding value for the RPM signal number per ignition.(Please check the reference table below!)

⚠ Now the number is flashing!

NOTE Setting range：0.5、1、2、3、4、5、6.

| The setting value | The corresponding stroke and pistons number. | | The corresponding RPM signal number per ignition. |
|---|---|---|---|
| 0.5 | — | 4C-1P | 2 RPM signals per 1 ignition. |
| 1 | 2C-1P | 4C-2P | 1 RPM signal per 1 ignition. |
| 2 | 2C-2P | 4C-4P | 1 RPM signal per 2 ignition. |
| 3 | 2C-3P | 4C-6P | 1 RPM signal per 3 ignition. |
| 4 | 2C-4P | 4C-8P | 1 RPM signal per 4 ignition. |
| 5 | | 4C-10P | 1 RPM signal per 5 ignition. |
| 6 | 2C-6P | 4C-12P | 1 RPM signal per 6 ignition. |

⚠ **CAUTION!** Most of the 4-cycle bikes with one single piston are igniting every 360 degree once, so the setting should be the same as the bike with 2-cycle and one piston engine.

●Press the **Select button** to go back to the RPM pulse setting screen.
●EX. The ignition angle setting is changed from P-1 to P-2.
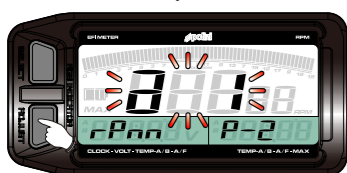
●Press the **Adjust button** to enter the level tachometer setting screen.

### 4-2 Level Digital tachometer setting
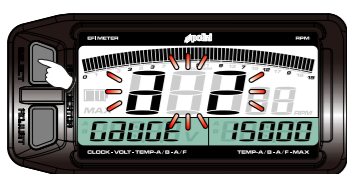
●Press the **Select button** to enter the level tachometer setting screen.

●EX .You want to set the level tachometer to 10,000 RPM.
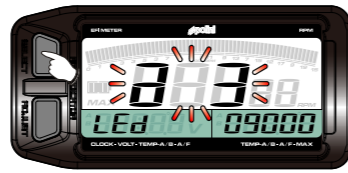●Press the **Adjust button** to choose the setting range.

NOTE Setting range:OFF、0~10,000、15,000、20,000 RPM

⚠ Now the number is flashing!

●Press the **Select button** to go back to the level screen.
●EX. Now the setting is changed from 15,000 RPM to 10,000 RPM.

●Press the **Adjust button** to enter the shift light (Red) setting screen.

### 4-3 The shift light (RED light) setting

●Press the **Select button** to enter the shift light (RED) setting screen.

●Press the **Select button** to move to the digit you want to set.
●EX: You want the shift light to light on at 9,000 RPM. Please change the shift light setting value to 9,500 RPM directly.
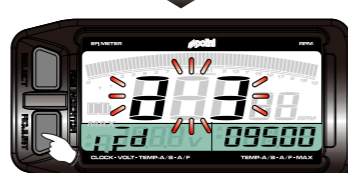
⚠ Now the number is flashing!

NOTE Setting range：5,000~20,000 RPM.

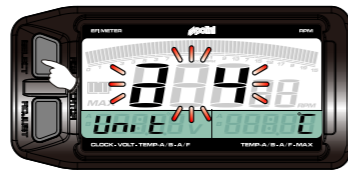●Press the **Adjust button** to choose the value you want to set.

●Press the **Select button** to go back to The shift light screen.
●EX: Now the shift light (RED) setting is changed from 9,000 RPM to 9,500 RPM.

●Press the **Adjust button** to enter the temperature unit setting screen.

### 4-4 Temperature unit settin

●Press the **Select button** to enter the temperature unit setting screen.

●EX .You want to set the temperature unit to ℉.
●Press the **Adjust button** to change the setting.

⚠ Now the number is flashing!

NOTE Setting range：℃、℉.

●Press the **Select button** to go back to the temperature unit setting screen.
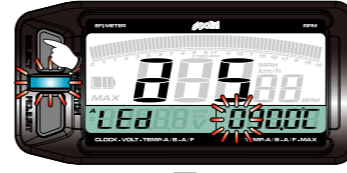●EX: Now the temperature unitsetting is changed from ℃ to ℉.

●Press the **Adjust button** to enter the Sensor A screen.

### 4-5 Temperature alarm light A (Blue) setting

●Press the **Select button** to enter the Temperature alarm light A (Blue) setting screen.

●EX: You want to set the temperature alarm light A(Blue) at 95℃.
●Press the **Select button** to move to the digit you want to set.
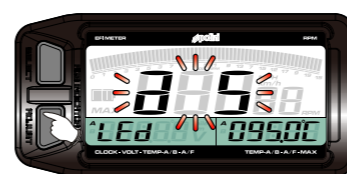
⚠ Now the number is flashing!

NOTE Setting range：60~250 ℃ (140~482 ℉).

●Press the **Adjust button** to choose the you want to set.

●Press the **Select button** to go back to the temperature alarm light A (Blue) setting screen.
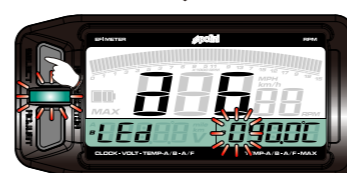●EX: The temperature alarm light A (Blue) setting is changed from 90℃ to 95℃.

●Press the **Adjust button** to enter the sensor B setting screen.

### 4-6 Temperature alarm light B (Green) setting

●Press the **Select button** to enter the Temperature alarm light B (Green) setting screen.

●EX: You want to set the temperature alarm light B (Green) at 95℃.
●Press the **Select button** to move to the digit you want to set.

⚠ Now the number is flashing!

NOTE Setting range:60~250 ℃ (140~482 ℉)。

●Press the **Adjust button** to choose the digit you want to set.

●Press the **Select button** to go back to the temperature alarm light B (Green) screen.
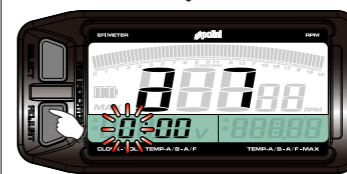●EX: The temperature alarm light B (Green) setting is changed from 90℃ to 95℃.

●Press the **Adjust button** to enter the clock (Hour / Minute) setting screen.

### 4-7 Clock setting (Hour / Minutes)

●Press the **Select button** to enter the clock (Hour) setting screen.

●EX: You want to change the hour to 10.
●Press the **Adjust button** to choose the hour you want to set.

⚠ Now the number is flashing!

NOTE Setting range: 0~23 H.

●EX. Now the setting is changed from 0:00 to 10:00.
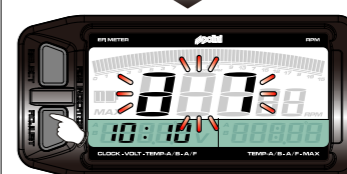●Then press the **Select button** to enter the minute setting screen.

●EX. To change the setting to 10:10.
●Press the **Select button** to move to the digit you want to set.
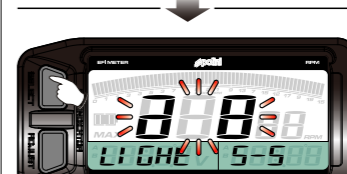
⚠ Now the number is flashing!

NOTE Setting range: 00~59.

●Press the **Adjust button** to choose the you want to set.

●Press the **Select button** to go back to the clock screen.
●EX. Now the setting is changed from 10:00 to 10:10.

●Press the **Adjust button** to enter the Backlight setting.

### 4-8 Backlight setting

●Press the **Select button** to enter the Backlight setting screen.

●EX. You want to set the brightness at **3-5 (60%)**.
●Press the **Adjust button** to choose the you want to set.

⚠ Now the number is flashing!

NOTE Setting range:1-5(Darkest)~5-5(Brightest),5 different levels available.
Setting unit:20% per level.
The backlight brightness will change immediately after you set the value.

●Press the **Select button** to go back to the Backlight screen.
●EX:The Backlight setting setting is changed from 5-5 (100%)  to 3-5 (60%).
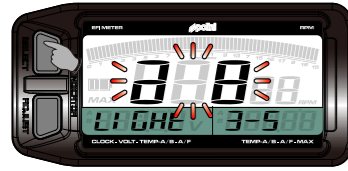
●Press the **Select button** for 3 seconds to go back to the main screen.
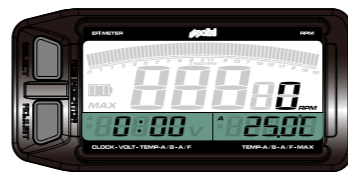
●The main screen.

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## 5 Trouble shooting

The following situation do not indicate malfunction of the meter.Please check the following before taking it in for repair.

| Trouble | Check item | Trouble | Check item |
|---|---|---|---|
| The meter doesn't work when the power is on. | ● The power doesn't supply to the meter.<br>→Please make sure the wiring is connected. The wiring and fuse are not broken.<br>→The battery is broken or the battery is too old to supply enough power (DC 12V) to make the meter work. | Tachometer does not appear or appear incorrectly. | ● Please check the RPM sensor wiring is connected correctly.<br>● Please check the spark plug is R type or not. If not, please replace the spark plug with the R type spark plug.<br>● Please check your setting.<br>→Please refer to the manual 4-1. |
| The meter shows wrong information | ● Maybe the problem is caused by the insufficient power<br>→Please change the inner battery. (CR 2032.)<br>● Maybe the problem is caused by wrong battery installation<br>→Please check is the battery direction is correct. | Temp does not appear or appear incorrectly | ● Please check the sensor.<br>→Does the wiring break or falling off.<br>● Mabe the problem is caused by the insufficient power<br>→Please change the inner battery (CR 2032). |

※If still can't solve the problems according to the steps above, please contact with distributors or us.

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