Contents

■ Installation Tips & Warnings

- This product is meant to be installed by professionals, if you attempt installation without the necessary qualifications you do so at your own risk to you and your vehicle.
- Before installation of this product, please remove the negative (-) terminal from your cars battery.
- The ignition switched +12v (IGN) wire on the power cable needs to be connected to a source which has a fuse which does not exceed 30A, failure to do so and if there is any kind of electrical short may damage the unit before the fuse has a chance to blow.
- If soldering wires, always make sure to heat shrink the connections, do not just use electrical tape as it may come off over time and cause a short.
- If you find the 2m supplied handset cable & gauge to control unit cables are not long enough, we sell 2m extension cables, please contact us. These extensions are better than extending the cables yourself.
- Do not install the control unit in the engine bay, the control unit is not water proof or dust proof.
- Make sure the sensor cables do not run past or close to any excessive heat sources, the EGT sensor is heat shielded, but other sensor wires are not. Use common sense when running the cables in your engine bay around your motor.
- Make sure any cables running past moving pullies or belts are secured and out of the way.
- Remember engines move under normal driving, when securing cables on the engine and then again on the body of the vehicle, allow some cable free for engine movement.

■ Installation Tips & Warnings - Continued

- When securing the cables so they don't fall loose or move around, make sure the method used will not lead to the cables being damaged over time from vibration. Zip ties are fine, but don't make them excessively tight as they may cut into the cables over time.

- Before connecting the Tacho & Speed wires to your vehicles ECU, please test that the system is functioning correctly and power wires have been installed correctly. You will want to see the gauge gets power and no fuses blow when first testing the gauge. Then you may connect the Tacho & Speed to your ECU.

- If you are unsure of which wires on your ECU to connect the Tacho and Speed, please do not just guess, contact us and we can try and assist with finding the correct pins on your ECU.

- Use thread sealant on all sensors with 1/8NPT & 3/8NPT threads to make sure there are no leaks. Check for any leaks after installation, failure to do so could lead to a damaging coolant, oil or fuel leak.

- We recommend with the oil pressure sensor if using a sandwich plate, that you have a 1/8NPT line made up and mount the oil pressure sensor away from the plate and run the line off to it. While many connect the oil pressure sensors directly into the sandwich plates, we think it's better practice to run a line off to them.

- We DO NOT recommend installing the EGT sensors before the turbo, we always recommend they are installed after the turbo, usually on the dump pipe or as close to the turbo as possible.

- DO NOT connect the pressure sensors up to any water sources, the pressure sensors are not designed to be used in the coolant system they are also not designed to be used in the exhaust systems either.

② Product Features

- The display screen used in this product is a high brightness OLED panel
- Fourteen different sensor & input readouts are selectable to display
- The unit can support daisy chaining of up to 7 gauges at once, a mix of OLED multi gauges or also add 52mm stepper gauges.
- Time of 0-100km/h(60MPH) and 0-200km/h(100MPH) can be measured.
- Warm-up mode is equipped to guard engine.
- Opening and ending mode can be selected from 2 variations.
- Self-diagnosis system detects a disconnection of wire, short circuit and communication error, and indicates the error condition.
- Warning value can be set. The display is highlighted and buzzer sounds during warning. (The buzzer can be set ON/OFF.)
- Data obtained during driving (including peak value and warning value) can be stored up to 5 minutes, and the data can be replayed after driving.
- When both the fuel pressure sensor & boost sensor are installed, it will enable differential pressure readout on the gauge.
- Display pattern can be selected from 4 display modes. (Maximum 6 items can be displayed all together on one GAUGE display.)

STREET display

TIME ATTACK display

GAUGE1 display

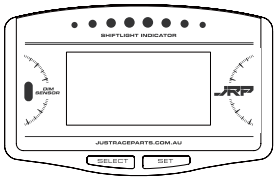
GAUGE2 display

- The display items and the layout can be changed.
- Equipped with Shiftlight indicator with 8 LEDs.
- Equipped with clock and alarm functions.
- Mounting angles are more flexible than conventional products
- Equipped with odometer and trip meter
- Oil, water, and exhaust temperatures can be displayed from 0℃ (32°F).
- Graphic animation plays during idling (Special mode).

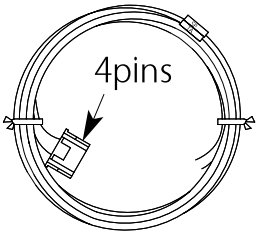
④ Specification

Power supply voltage	10V ～ 36V DC		
Control Unit Current Draw -	+B line	2A（IGN ON） 5mA（IGN OFF）	
	ILM line	800mA	
(Maximum value obtained when connecting 8 gauges)			
Operation temperature range	-20 ～ +60℃ , -4 ～ +140° F（Under 80% relative humidity）		
Storage temperature range	-30 ～ +80℃ , -22 ～ +176° F（Under 80% relative humidity）		
Display range		Speed	0 ～ 400km/h(0 ～ 240MPH)
		Tachometer	0 ～ 11,000rpm
		Oil Pressure	0 ～ 1,000kPa(0 ～ 145PSI)
		Fuel Pressure	0 ～ 1,000kPa(0 ～ 145PSI)
		Oil Temperature	0 ～ 150℃ (32 ～ 302°F)
		Water Temperature	0 ～ 150℃ (32 ～ 302°F)
		Exhaust Temperature	0 ～ 1,100℃ (32 ～ 2,010°F)
		Boost Pressure	-100 ～ 700kPa(-14.5 ～ 101.5PSI)
		Volt #1 & #2	8 ～ 36V
		Trans Temp	0 ～ 150℃ (32 ～ 302°F)
		Wideband - Normal	10 ~ 20 AFR or 0.68 ~ 1.36 Lambda
		Wideband - Diesel	10 ~ 40 AFR or 0.68 ~ 2.72 Lambda
		Air Intake Temp	0 ～ 150c
Applicable speed pulse	2・4・8・16pulse Pulse free setting: 1,274 ～ 16,562pulse/km, 2,051 ～ 26,665pulse/mile（corresponds to 2 ～ 26pulse）		
Applicable number of cylinders	1・2・3・4・5・6・8（4cycle）		
Dimensions	Refer to part names and dimensions section.		
Weight	1500g, 3.3lb (including box, mounting parts, wires, and accessories)		

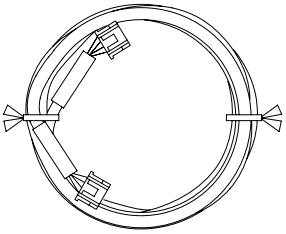
5 Parts list



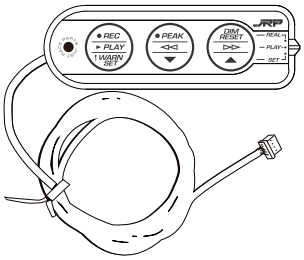
Gauge
1pc



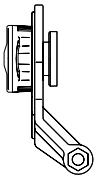
DC Power Source
Cable 1m



Gauge Cable
2m



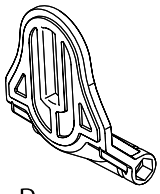
Handset
Cable 2m



Brace set
1pc

Components of Brace set

Knob



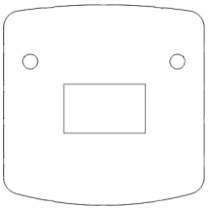
Brace

Bolt holder

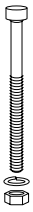
Hexagon head bolt

Components are set in brace.

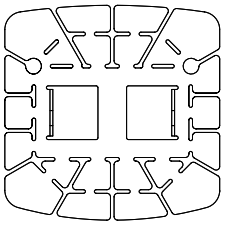
Accessories



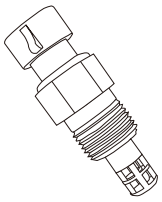
Double sided tape
1pc



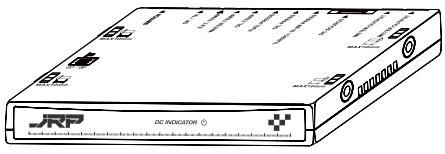
M4 bolt, nut,
washer 1pc



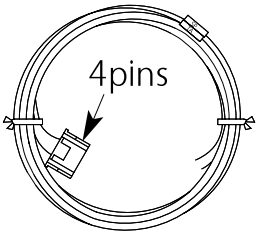
Mounting
bracket 1pc



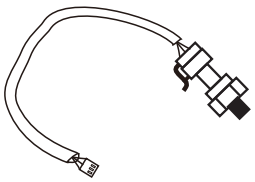
Air Intake
Temp Sensor



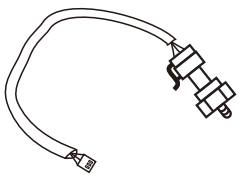
Control
Unit 1pc



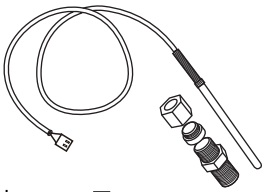
Speed, Tacho, Wideband & Volts #2
Input Signal Cable 2m



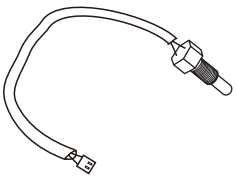
Oil/Fuel Pressure
sensor 2pcs



Boost Pressure
sensor 1pcs

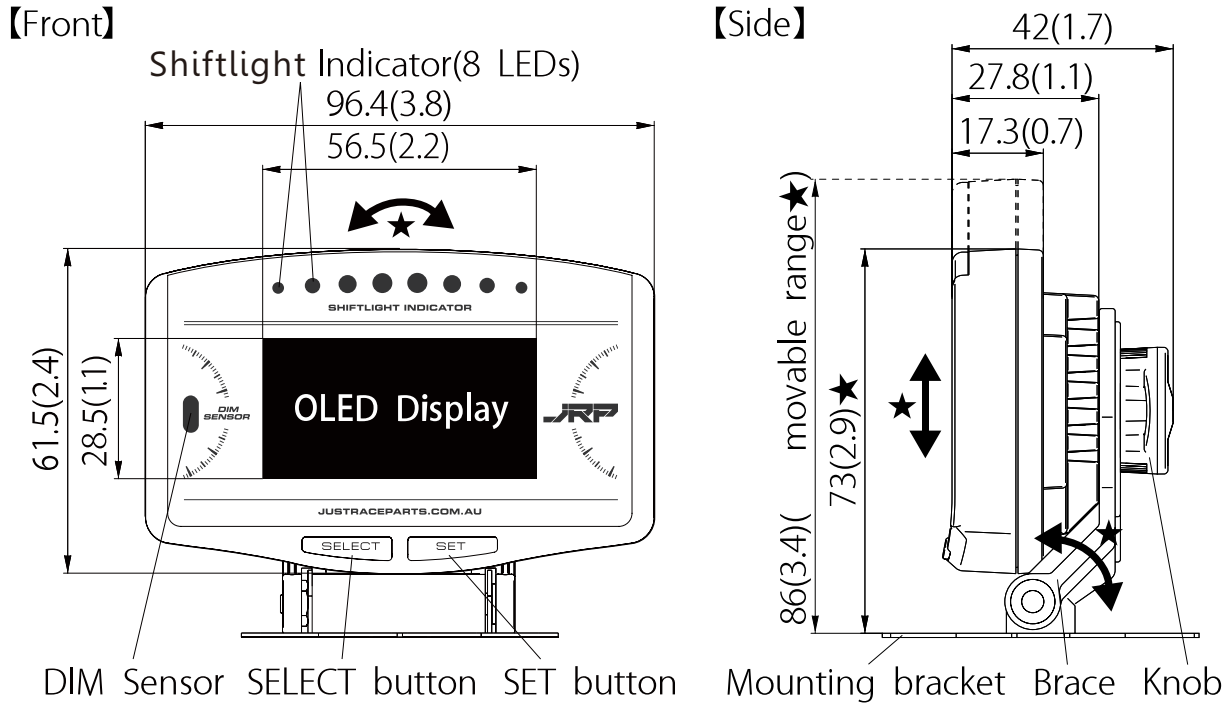


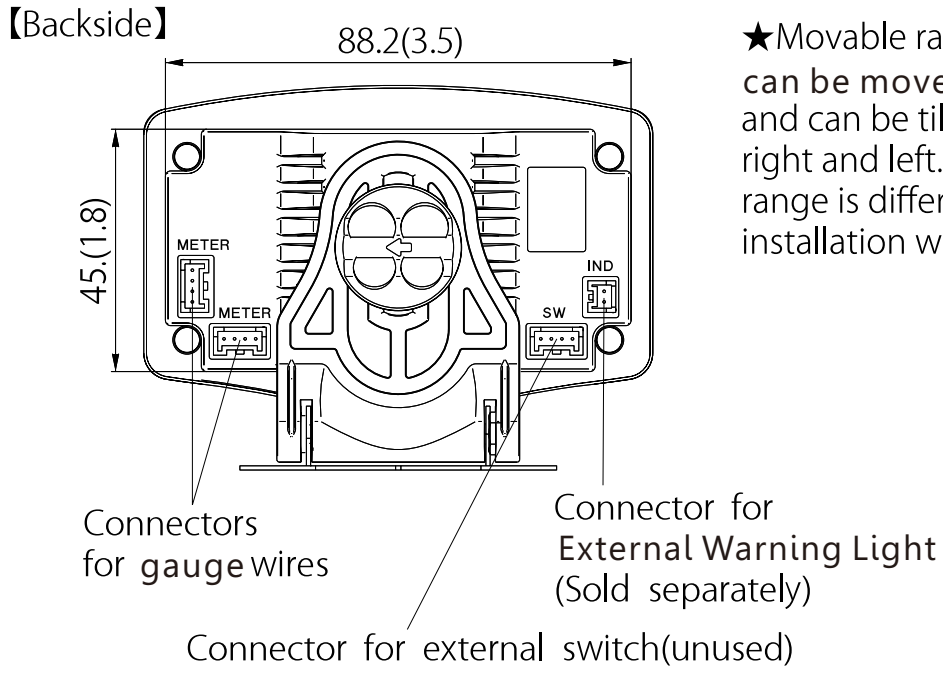
Exhaust Temperature
sensor 1pcs



Temperature sensor
2pcs

⑥-1. Part Names & Dimensions of Gauge in mm(inches)





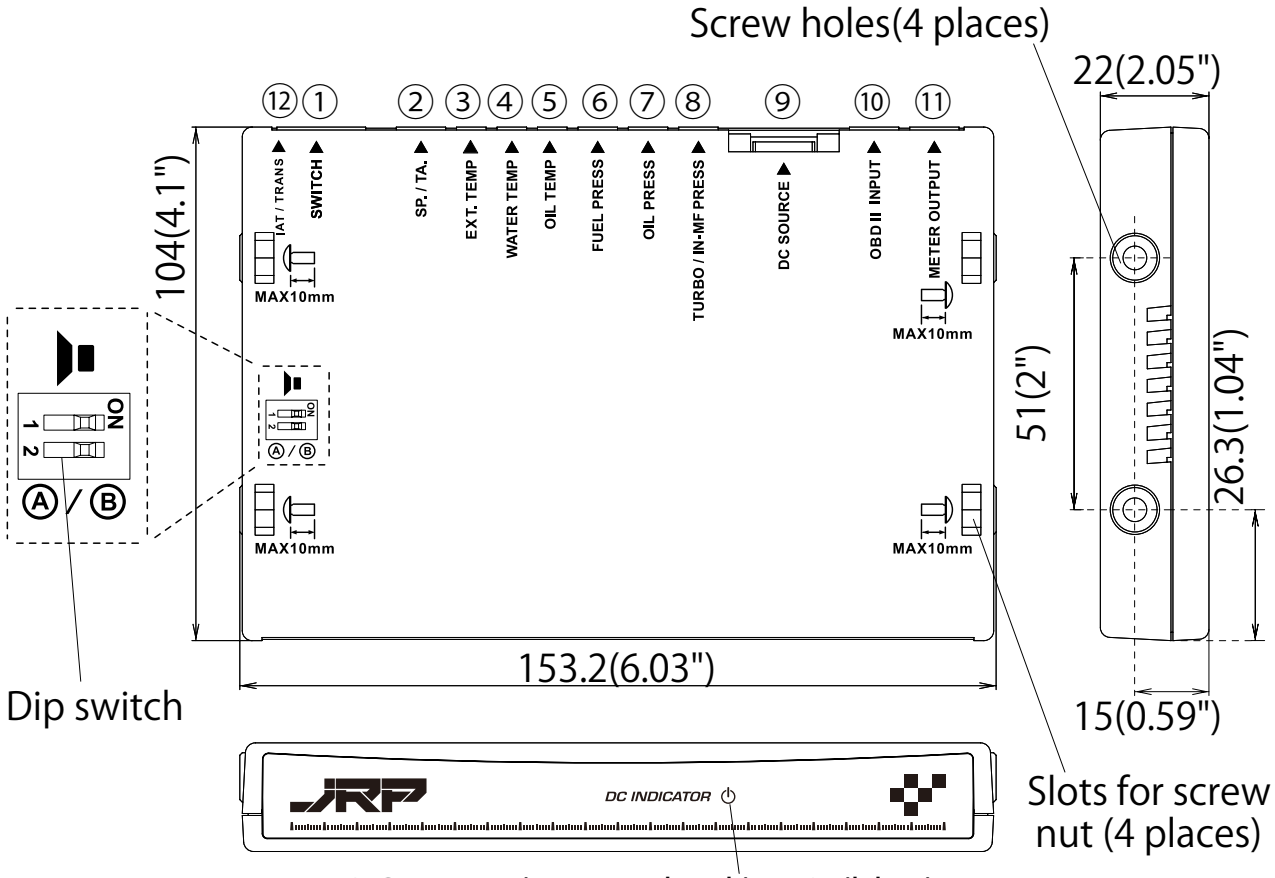
★Movable range
can be moved up and down, and can be tilted front and back, right and left. The movable range is different depending on installation way.

■ Buttons

In this manual, the SELECT button and the SET button are illustrated as follows:

L SELECT SET R

⑥-2. Part Names & Dimensions of Control Unit in mm(inches)



● Dip switch 1&2

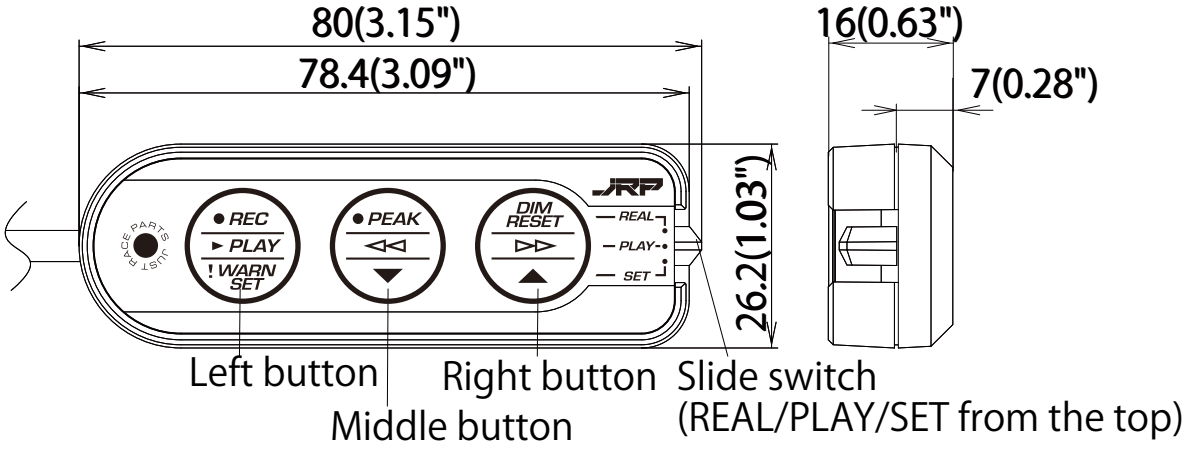
1: Warning buzzer sounds ON/OFF

2: Select if IAT or Trans Temp sensor is installed on port ⑫
OFF = IAT / ON = Trans Temp

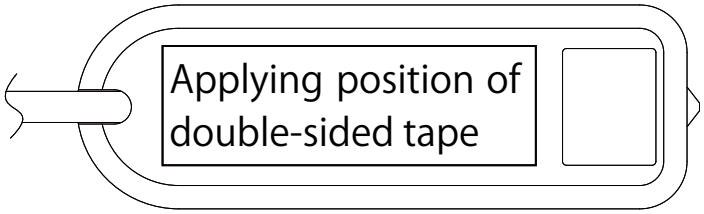
① Handset unit 5-wire (white)
② Speed, Tacho, Volts #2 And Wideband 4-wire (blue)
③ Exhaust temp sensor 2-wire (black)
④ Water temp sensor 2-wire (pink)
⑤ Oil temp sensor 2-wire (red)
⑥ Fuel press sensor 3-wire (red)
⑦ Oil press sensor 3-wire (black)
⑧ Boost sensor 3-wire (light blue)
⑨ DC Power source 4-wire (beige)
⑩ OBDII Connector 4-wire (red) - (Cable Sold Separately)
⑪ Gauge Cable Meter 4- wire (white)
⑫ Air intake temp sensor 2-wire (white) -
⑫ Transmission temp sensor 2-wire - (Sensor Sold Separately)

⚠ Only connect gauge cable to connector marked ⑪ on diagram above

⑥ -3. Part Names & Dimensions of Handset unit in mm(inches)



● Backside of handset unit



● Buttons and slide switch

Operation of gauges is handled by 3 buttons and 1 slide switch. By sliding the switch position, the functions of buttons change.

● Slide switch

In this manual, positions of the slide switch are illustrated as follows:

REAL(upper): for Real mode operation U REAL

PLAY(middle): for operation to replay recorded data M PLAY

SET(lower): for operation to set up L SET

● Buttons

Each button has three marks(upper, middle, and lower position) in accordance with positions of slide switch. In this manual, each button is illustrated as follows:

Left 

Middle 

Right 

Left button: L ● REC or L ► PLAY or L ! WARN.SET from the top

Middle button: M ● PEAK or M ◁◁ or M ▼ from the top

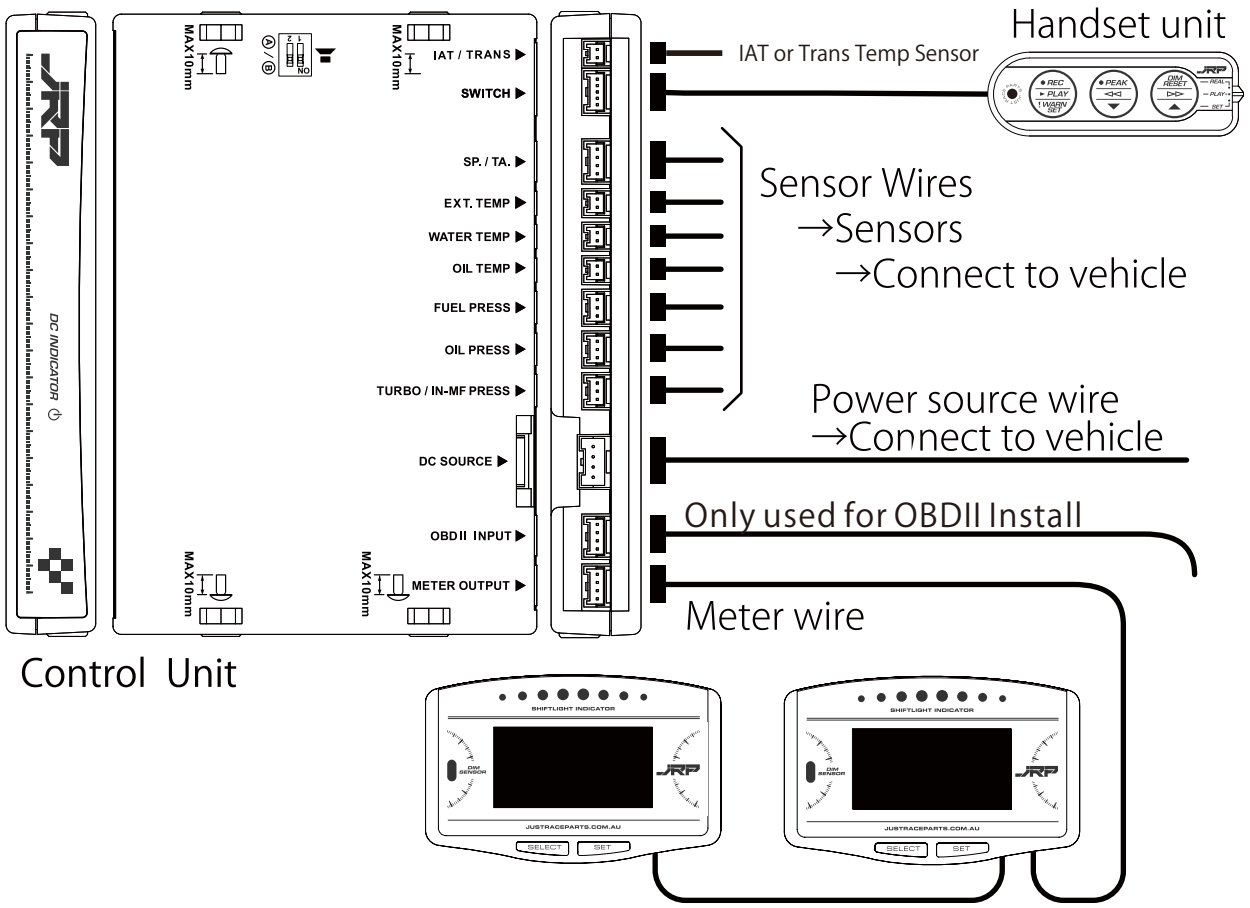
Right button: R DIM/RESET or R ▷▷ or R ▲ from the top

7 Installation

Standalone Install, Non OBDII Vehicles

❗ Please make sure you have read all the installation tips and warnings which can be found on page 2 of this manual.

7 -1. Standalone Installation diagram



There are two different methods to install these systems to obtain power, one is the standalone install which this diagram above covers. The second is an OBDII install which we show the diagram for on page 15 of this manual.

The difference between these two methods of install is, the standalone install you will need to run the supplied DC source power cable off to wires on your vehicle to +12v constant power, +12v IGN, Ground & +12v headlight. The OBDII method of install is for vehicles that have an OBDII port, instead of using the supplied DC power cable used on the standalone method for install, you would use the OBDII cable which is sold separately and this cable will provide all the power and grounds without any need for soldering or crimping to give the unit power.

The OBDII install method will also allow you to obtain some readings from the vehicles ECU through the OBDII input port, such as Speed & RPM without the need to hardwire those in as well. What readings you can get from the OBDII port will depend on the vehicle, but which ever readings do not display from the ECU on the gauge you then install the supplied sensors to get those readings.

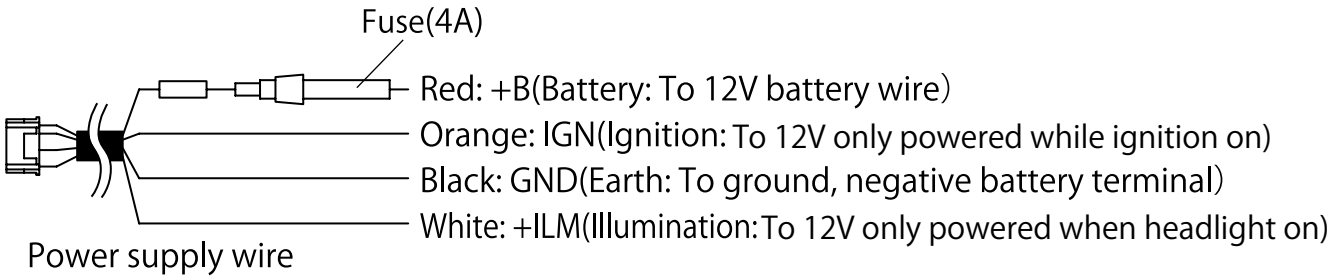
The standalone method of install can be used on any vehicle, but the OBDII method of install can only be used if the vehicle is equipped with an ECU which has an OBDII port.

7 -2. Procedure

1. Confirm the contents.
   ⇒ Check that all parts listed in this manual are supplied and in your box

2. Prepare the necessary parts for installation.

3. Confirm the location of the power source(+B, GND, IGN, ILM) and the sensor installation.
4. Disconnect the negative(-) battery terminal.
5. Connect the control units power supply wire to vehicle.



⚠Warning

6. Connect the power supply wire to the control unit. Connect the negative battery terminal and turn the ignition on. Then confirm DC SOURCE LED lights up, which is on the front of the control unit.

Confirmation

⚠ If the power source wire is wired incorrectly, LED won't light. If LED doesn't light, please confirm wiring again.

7. Disconnect the negative battery terminal and install each sensor.
   ⇒ Refer to 7 -3. Sensor Installation & Signal Connection.

8. Connect the sensor and the sensor wire. Then connect to the control unit.

9. To confirm the wiring and connection, connect gauges and displays to the control unit temporarily by using meter wires. Do not fix the gauge at this stage.

10. Connect the negative battery terminal.

11. Confirm that the DC SOURCE LED is on when the ignition is on. If the power supply wire is wired correctly, the DC SOURCE LED of the control unit lights in blue.

The DC SOURCE LED is not on: The power supply is not taken.
→ Turn the ignition off, then please confirm the wiring of the power supply wire.

● The warning LED of gauge is blinking or the warning LED and peak LED are blinking at the same time: disconnection, short circuit, or communication error is occurred.

→ Turn the ignition off, then please confirm the wiring of the sensor and the sensor wire.

⚠ Warning

❗ If the wiring defects are not found, it is probable that there is a defect in the product. Please detach the product immediately and ask for inspection. It may damage the vehicle.

12. Turn the ignition OFF.

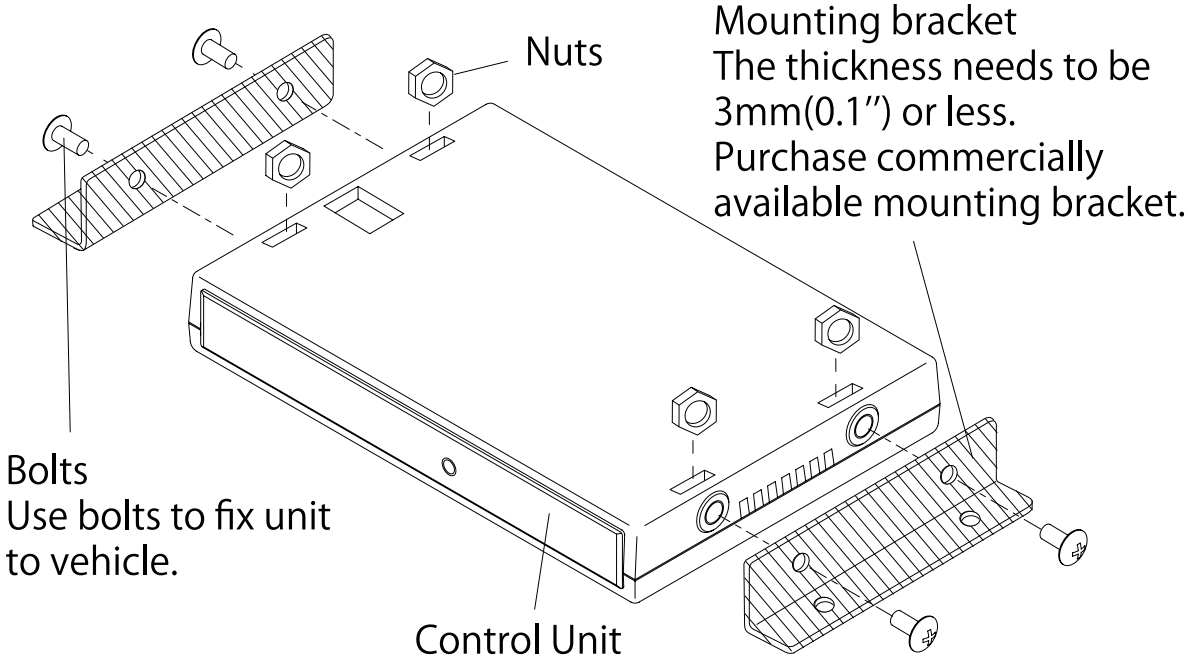
13. Disconnect the meter wire from the gauge, and attach the gauge by using mounting bracket. Confirm it is installed firmly, then connect the meter wire again.

14. Connect the handset to the control unit and fix the handset with double sided tape. Before attaching it , make sure the surface is clean.
⇒ Refer to 6 -3. Part Names & Dimensions of Switch unit in mm(inches).

15. Set 2 dip switches of the control unit.

- Dip switch 1: Setting the buzzer sound ON/OFF.
- Dip switch 2: Select between if an IAT or Trans Temp sensor is installed on port (12) of the control unit, Off = IAT & On = Transmission temp.
⇒ Refer to 6 -2. Part Names of Control Unit in mm(inches) .

16. After setting is done, fix the control unit with attached nuts and bolts and commercial mounting bracket.



Confirmation

⦸ Gauges, including this product, are not waterproof. Please do not install gauges near the vehicle floor or in wet areas.

❗ Use mounting brackets with thickness of 3mm(0.1") and under.

⃠ Do not use other than the supplied bolts. Use of other bolts may damage the inside of the control unit.

⚠ The control unit contains buzzer. So it may difficult to hear the sounds if the control unit is installed inside the dashboard or far from driver's seat.

❗ It is possible to change the setting later. In order to change later, please fix the control unit so as to operate the dip switch.

17. Final confirmation of install completion

⚠ Warning

❗ Please be sure to check the following list; otherwise, there is a possibility that a serious accident may occur.

☐ Ensure that all hoses and tubing are permanently attached. Also ensure that there is no liquid or exhaust leakage.

☐ Check that the sensor and wires are not interfering with the engine operation.

☐ Ensure that the gauge and wires are tightly attached, so they don't come loose and hinder driving.

☐ Check that all wires disconnected from the vehicle during installation have been properly reattached.

⚠ Warning

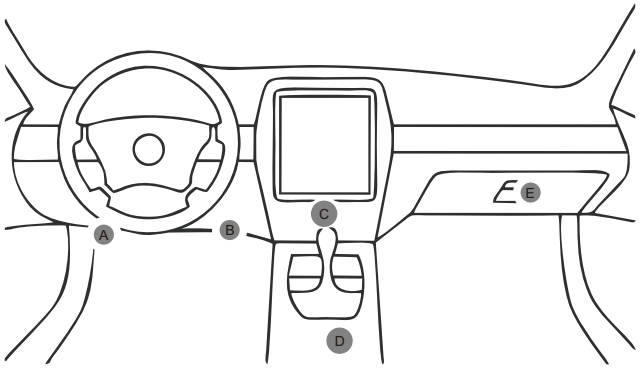
❗ After installation, check that no materials or tools remain in the driver's seat or the engine compartment. If there are tools left at the feet of the driver's seat, this may cause a driver to lose control of brake because of tools or materials caught under the brake pedal. If there are tools in the engine compartment, the engine may break.

7 - 3. OBDII Installation

Only for vehicles which have an OBDII port

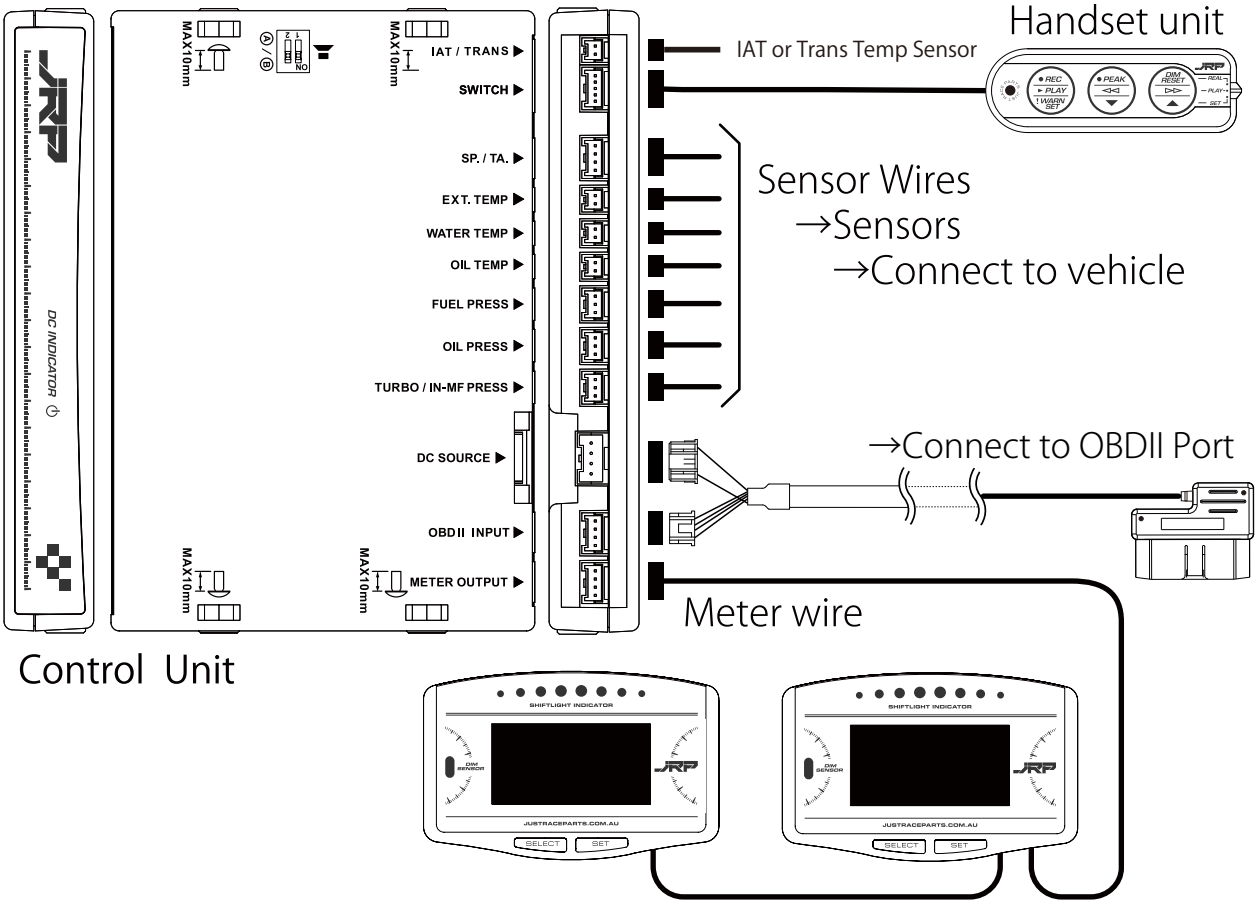
❗ Please make sure you have read all the installation tips and warnings which can be found on page 2 of this manual.

1. OBDII Port Location



Area A: BMW/Audi/Volkswagen/
Toyata/GM/Hyundai/Ford
Area B: Honda/Lexus/Volkswagen
Touran/Buick
Area C: Citroen/Peugeot
Area D: Citroen
Area E: other brands cars

2 OBDII Wire Connnection



The OBDII install method will also allow you to obtain some readings from the vehicles ECU through the OBDII input port, such as Speed & RPM without the need to hardwire those in as well. What readings you can get from the OBDII port will depend on the vehicle, but which ever readings do not display from the ECU on the gauge you then install the supplied sensors to get those readings.

The standalone method of install can be used on any vehicle, but the OBDII method of install can only be used if the vehicle is equipped with an ECU which has an OBDII port.

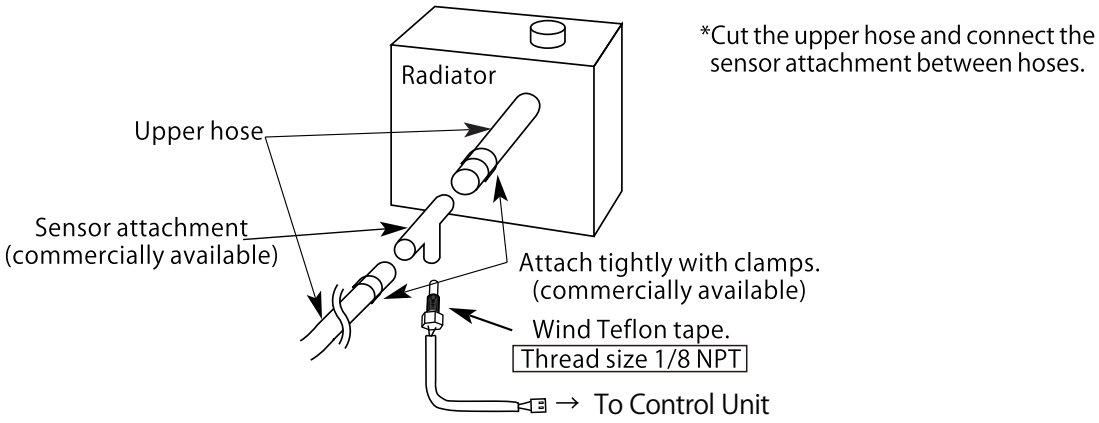
7 -3. Sensor Installation & Signal Connection

7 -3-1. Disconnect the negative(-) battery terminal.

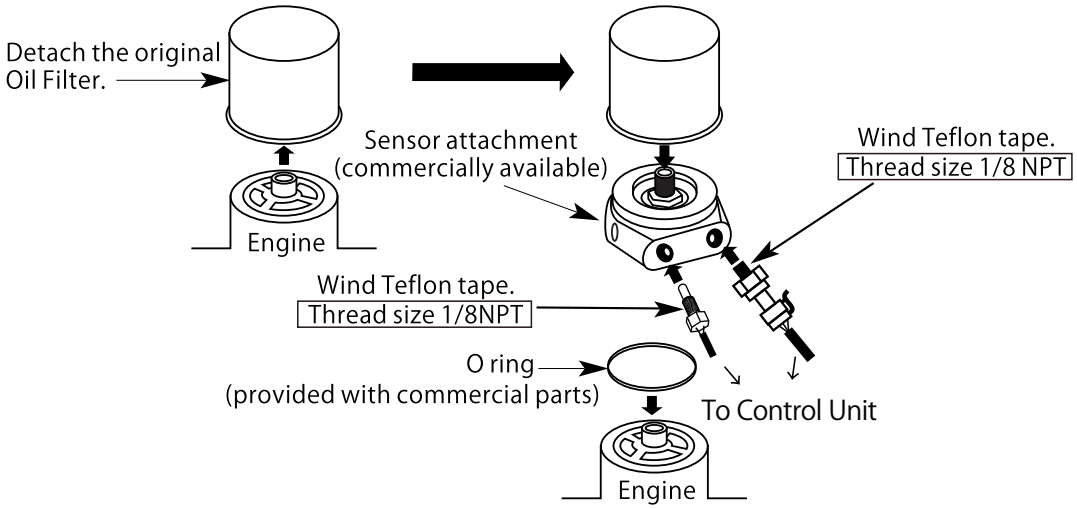
■How to attach Volt gauge

Volts #1 is sourced from main DC power, Volts #2 connect to Aux battery or alt source.

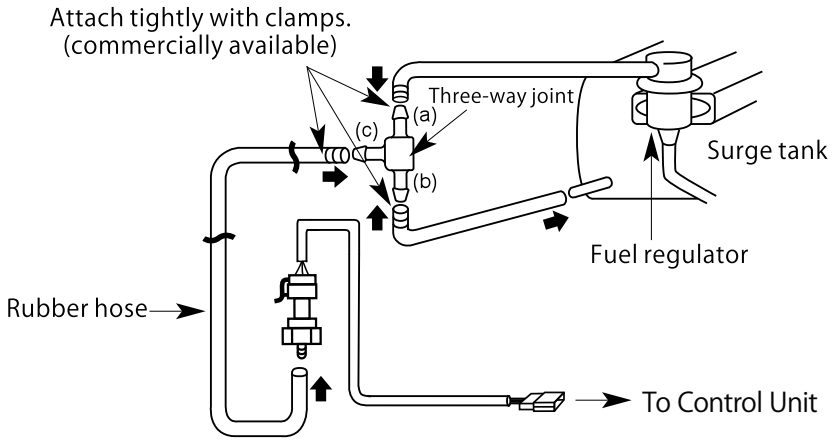
■How to attach temperature sensor for water temperature (Use a commercial sensor attachment.)



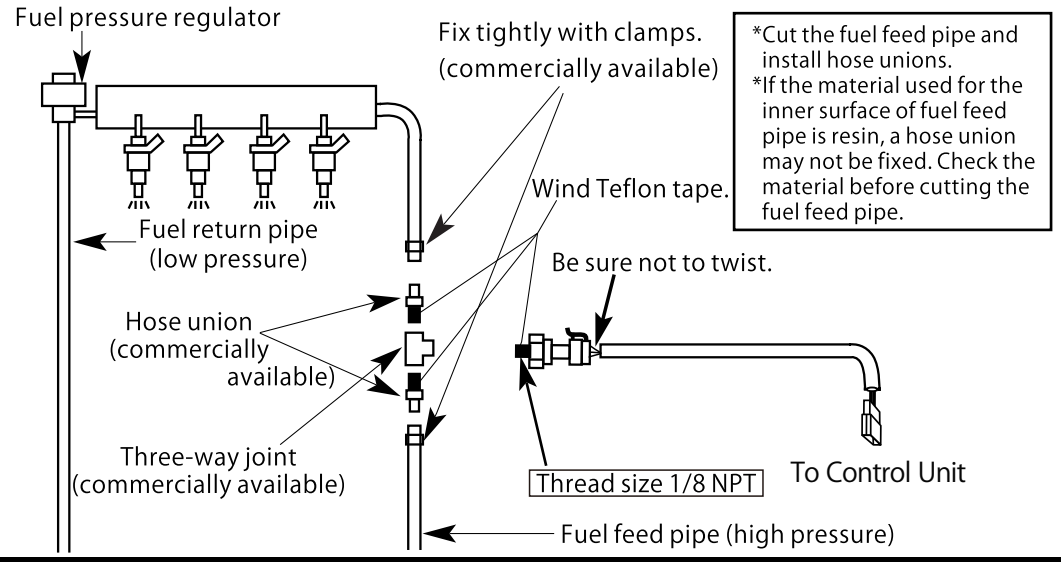
■How to attach sensors for oil pressure and oil temperature (Use a commercial sensor attachment.)



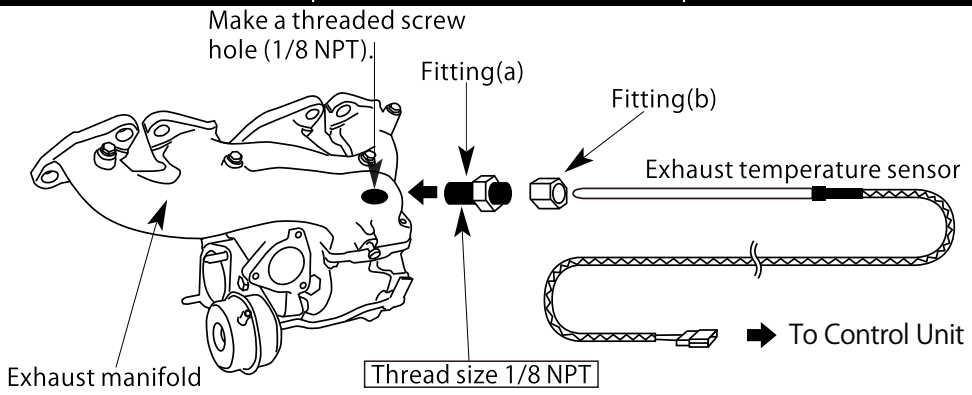
■How to attach boost sensor



■How to attach pressure sensor for fuel pressure (Use a commercial three-way joint and hose unions.)



■How to attach exhaust temperature sensor for exhaust temperature



1) Make a 1/8 NPT threaded screw hole in the exhaust manifold pipe. (Weld if the pipe wall thickness is not enough)
2) Dismantle the fitting. Do not crush the bushing inside the fitting.
3) Tighten the fitting(a) to the hole of the exhaust manifold.
4) Pierce the sensor through the fitting(b) and the bushing.
5) Insert the edge of the sensor into the fitting(a) and position it at the center of the exhaust pipe.
6) Tighten the fitting(b).

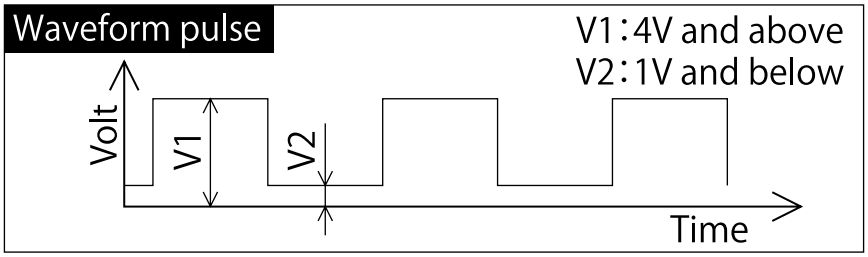
■ How to wire Tacho, Wideband, Volts #2 & Speed signal wires. 4-Wire Cable, connects to SP / TA on Control Unit

1) Connect the signal wire to Tacho / RPM signal of ECU. (Blue wire)
2) Connect the signal wire to Wideband controller. (Yellow wire)
3) Connect the signal wire to Volts #2 / Aux Battery. (White wire)
4) Connect the signal wire to Speed signal of ECU. (Green wire)
5) Then connect the signal wires cable to Control Unit.

7 -3-2. Connect the negative(-) battery terminal.

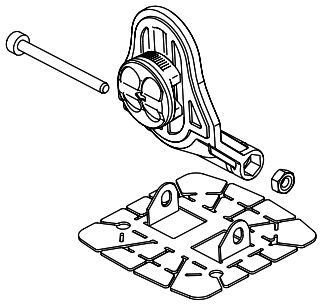
7 -3-3. Set the speed pulse, number of cylinders, tachometer response value after all installation and wiring are done by referring to operation section.

※ The Tacho / RPM signal needs to be a 5v or 12v square wave pulse.

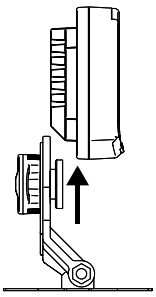


7 -4. Installation of Gauge and wiring of meter wire

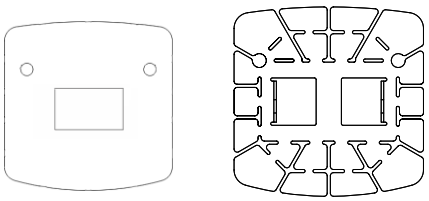
1. The bolt holder and the hexagon head bolt are inserted into the slit of brace. And the knob is temporarily fastened.
2. Insert convex part of the mounting bracket over the legs of the brace. And Attach the mounting bracket to the brace with the bolt, nut and washer included in the kit as shown in the figure 1.
3. Connect the meter wire to the connector on the backside of Gauge.
4. Insert the bolt holder of brace into the groove of Gauge and then fasten the knob as shown in figure 2. If it is too tight-fitting to insert, unfasten the knob once.
5. Adjust the angle and location to attach. The mounting bracket is bendable to fit on the Place to attach.
6. Attach double sided tape on backside of the mounting bracket in figure 4.
7. Confirm the knob and bolts are fastened firmly and Gauge is fixed firmly.



【Fig.1】Fix brace on bracket



【Fig.2】Insert brace to Gauge



Screw holes(Φ4.4mm)

【Fig.3】Attach tape on bracket

Confirmation

❗ Use appropriate dashboard cleaning liquids (commercially available) to clean the area where the double sided tape will be attached.

⚠ If the adherence of double sided tape is not enough, use commercial tapping screws(4mm).

7 -5. Setting and checking of operations

Both the handset and the buttons on the gauge itself are used to setup and operate, in this manual we will refer to which of the two is used to make changes using the below:

Handset used → **HANDSET** Gauge buttons used → **GAUGE**

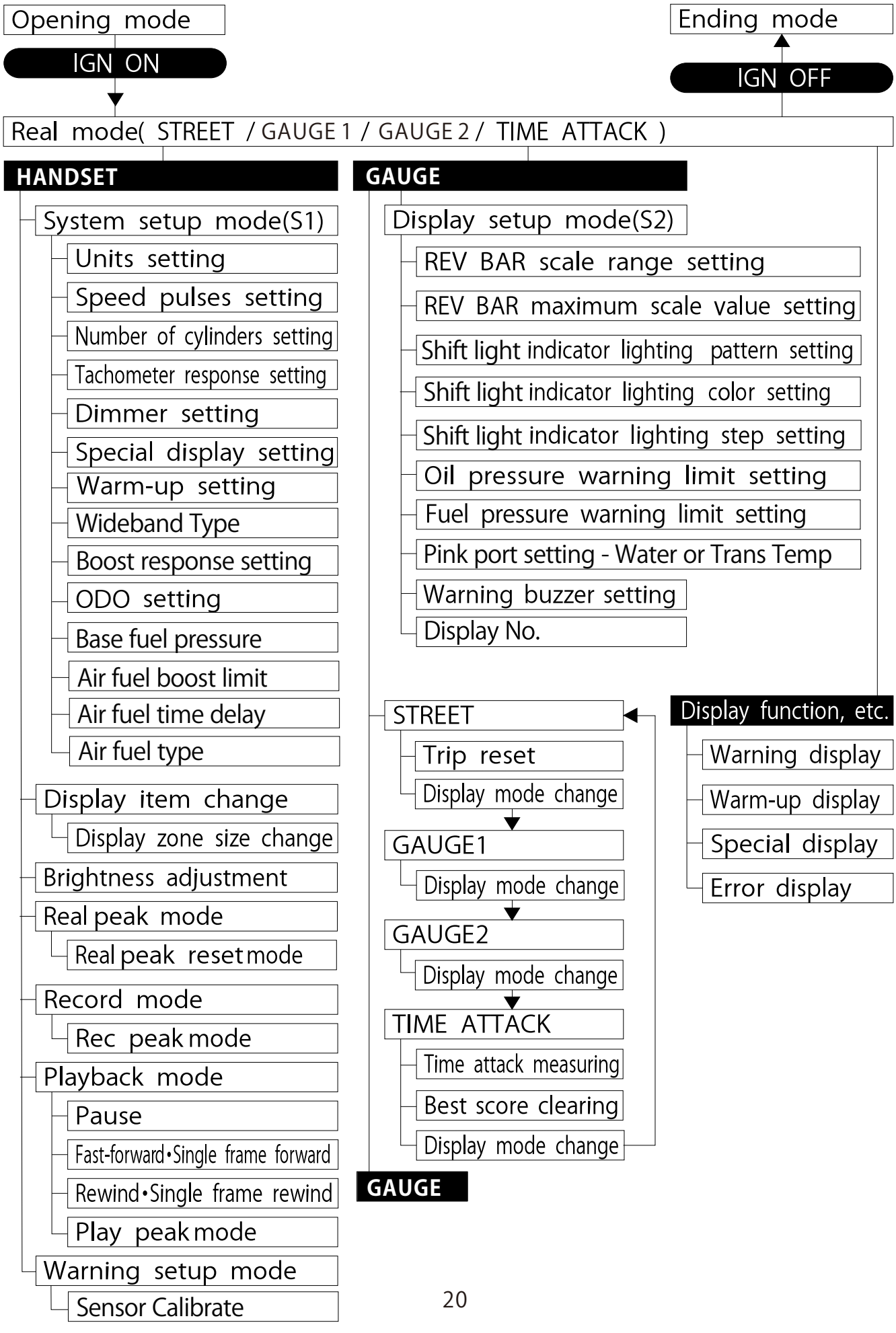
1. Turn the ignition ON. Confirm DC SOURCE LED of Control unit lights up.
   ⇒ Refer to 7 -2. Procedure .
2. Confirm the opening mode is performed (and then STREET display mode is displayed).
   ⇒ Refer to 8 -5. Opening mode, 8 -6-2. Real mode
3. Confirm short-circuit (SHORT) or disconnected (OPEN) errors are not displayed.
   ⇒ Refer to 8 -8. Error display
   ❗ If an error is displayed
   → Turn the ignition off immediately, and then confirm the wiring of the sensor and the sensor wire.
4. Set up the speed pulse, number of cylinders, and tachometer response in the system setup mode.
   ⇒ Refer to 8 -2. System setup mode
5. Set up the items displayed and warning values.
   ⇒ Refer to 8 -3. Display setup mode, 8 -7. Warning setup mode
6. Confirm functions properly.

⚠ Warning

❗ Set up while the vehicle is stopped.

⑧ Operation ⑧-1. State transition diagram

Breakdown of the config menus, selectable screens and functions.
Also shows what the handset is used to navigate, and which the gauge buttons are used to navigate.



If connecting more than one gauge to the system

※ Note the DISPLAY No. setup and the ACITVE display procedure is only used if you have connected more than one gauge to the system, these two pages are only required reading if you have more than one gauge connected to the system.

If you are connecting more than one multi gauge display, you will first need to set the DISPLAY No. on each gauge in the DISPLAY SETUP menu. Each additional gauge connected will need to be assigned its own unique Display No. to function correctly.

⇒ Refer to 8-3-11. Display number setting.

Once the display number for each gauge is selected, you need to understand how the ACTIVE gauge system works, using the handset you can select which of the gauges that are connected is the ACTIVE gauge at the time.

Setting the gauge as ACTIVE allows you to then change the screen layout on that gauge which has been set as ACTIVE.

The ACTIVE gauge will also control the brightness of all other gauges, it will also be the only gauge where the SYSTEM SETUP menu will display and changes made in this menu on the ACITVE gauge will be reflected on all other connected gauges. Also the WARNING SETUP values on the ACTIVE gauge will also be set in all other gauges connected as well.

ACTIVE display

Non-ACTIVE display

How to change the ACTIVE gauge

Below is the process how you change the ACTIVE gauge, note we recommend you first select the gauge as ACTIVE that will be your primary gauge, then setup the SYSTEM SETUP settings and WARNING SETUP settings first, and the screen layout on your primary gauge. Once you have setup your first screen, use the procedure to change the ACTIVE gauge to your second gauge, then you can setup your screen layout on that gauge, then once done, change the ACTIVE gauge back to your primary first gauge.

■ How to change the ACTIVE Gauge

HANDSET (slide switch position：L SET)

1. Set the slide switch to L SET.
2. The ACTIVE Gauge is changed each time M ▼ or R ▲ button is pressed and **[ACTIVE]** is displayed in multi-display zone (Zone A5).

※ **[ACTIVE]** Is not displayed when only one gauge is connected.

⇒ Refer to ⑧ -4. For instructions on how to change the layout of the readouts displaying on the ACTIVE screen.

⑧-2. System setup mode (S1)

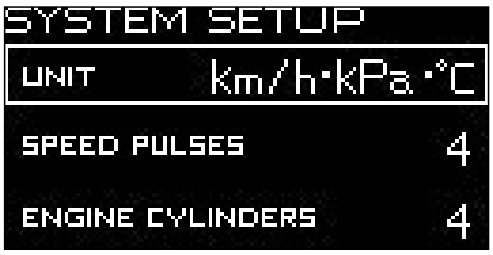
Set the speed pulse, number of cylinders, tachometer response, and so on.

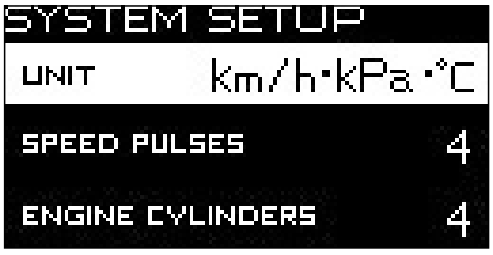
⚠ Caution

- Make sure all the setting is done correctly. The product doesn't operate properly.
- Set up while the vehicle is stopped.

HANDSET (slide switch position : L SET)

1. Set the slide switch to L SET.
2. By pressing L !WARN.SET button long, the display shifts to system setup mode, and SYSTEM SETUP menu is displayed. UNIT setup is highlighted at the start.
3. Choose the item to change by pressing M ▼ or R ▲ button. By pressing the L !WARN.SET button, the item to setup is highlighted.





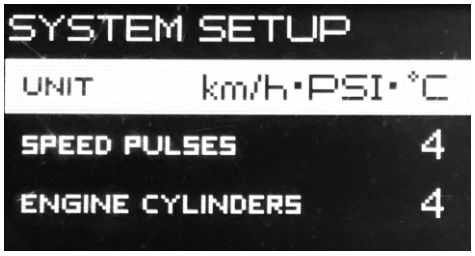
4. Change the setting properly by pressing M ▼ or R ▲ button. By pressing L !WARN.SET button, the setting is framed and set.
5. Return the slide switch to U REAL or M PLAY after all the settings are done.

Setting items	On the screen	Default
Units setting	UNIT	km/h・PSI・℃
Speed pulses setting	SPEED PULSES	4
Number of cylinders setting	ENGINE CYLINDERS	4
Tachometer response setting	TACHO RESPONSE	1 : HIGH
Dimmer setting	DIMMER	AUTO
Special display setting	SPECIAL MODE	ON
Warm-up setting	WARM UP MODE	OFF
Wideband type setting	WIDEBAND TYPE	NORMAL
Boost response setting	BOOST RESPONSE	10
ODO setting	ODO SET	0
Base fuel pressure setting	BASE FUEL PRESSURE	40.0 PSI
Air fuel boost limit setting	AIR FUEL BOOST LIMIT	10.0 PSI
Air fuel time delay setting	AIR FUEL TIME DELAY	4 SEC
Air fuel type setting	AIR FUEL TYPE	AFR

⑧ -2-1. Changing display units & combinations [UNIT]

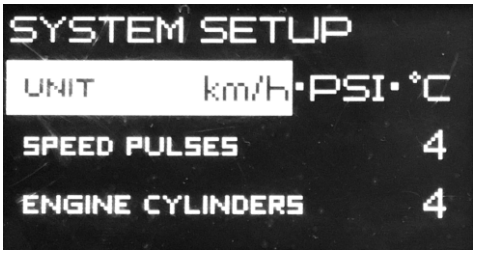
To change the combination of display units, use the process below.
It is possible to run any combination of (km/h, MPH), (kPa, PSI) or (℃, ˚F)

Press the L ! WARN.SET button to highlight the UNIT selection.

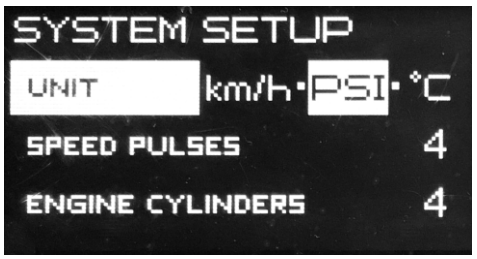


Now press the SET R button to select which UNIT you wish to change.

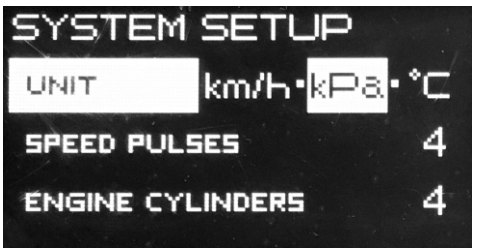
Once the unit set is selected you wish to change, press the L SELECT button to change between units, kPa or PSI for example.



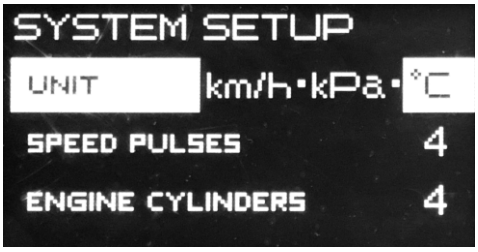
Once units have been selected, press the L ! WARN.SET button to save.



❗ Note if you have more than one screen connected, you will need to do this process on each screen separately. After setting up the first screen, you will need to change the ACITVE screen to your second screen and set the units on it as well, once done change the ACTIVE screen back to your primary screen.



※ Process on how to change ACTIVE screens can be found on page 21 of this manual.



⑧ -2-2. Speed pulse setting [SPEED PULSES]

Choose [SPEED PULSES] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Choose proper speed pulse by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

2 ↔ 4 ↔ 8 ↔ 16 ↔ FREE

■ Pulse free setting

1. If your vehicle is not 2, 4, 8, or 16 pulse, choose FREE and press L !WARN.SET button.

2. If you set the pulse now, select NEW VALUE by pressing M ▼ or R ▲ button and press L !WARN.SET button. If you do not set the pulse now, select CURRENT VALUE. by pressing M ▼ or R ▲ button and press L !WARN.SET button.

3. After NEW VALUE is selected, press L !WARN.SET button when the built-in speedometer of your vehicle indicates 60km/h or 40MPH.

4. The speed pulse is within the limits of setting, COMPLETED is displayed and buzzer sounds. Press L ! WARN.SET button to set. When the speed pulse is NOT within the limits of setting, INCOMPLETED is displayed. Press L ! WARN.SET button to return the system setup mode.

※ Ask fellow passengers to set up. Do not set up at the wheel.
※ It may be unable to be adapted for some models of vehicles.

⑧ -2-3. Number of cylinders setting [ENGINE CYLINDERS]

Choose [ENGINE CYLINDERS] by pressing M ▼ or R ▲ button, and then press L ! WARN.SET button. Choose proper number of cylinders by pressing M ▼ or R ▲ button, and then press L ! WARN.SET button.

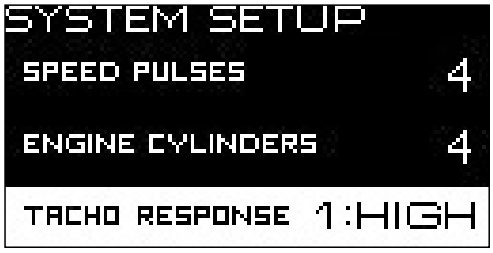
1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 8

※ When setting the number of cylinders for a rotary engine, set it to 4 cylinders for 2 rotors(setting of RX-8 is 2 cylinders), and to 6 cylinders for 3 rotors.

⑧ -2-4 Tachometer response setting [TACHO RESPONSE]

Choose [TACHO RESPONSE] by pressing M ▼ or R ▲ button, and then press L ! WARN.SET button. Choose preferred number of level by pressing M ▼ or R ▲ button, and then press L ! WARN.SET button. Check the actual response and select your preferred level.

1:HIGH ↔ 2:MIDDLE ↔ 3:LOW



⑧ -2-5. Dimmer setting [DIMMER]

Choose [DIMMER] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select [AUTO] or [MANUAL] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

If [AUTO] is selected, the brightness of display is adjusted automatically depending on the outside light. If [MANUAL] is selected, the brightness of display is fixed. AUTO level can be selected from 4 levels (3 automatic levels and constant maximum brightness level) by pressing R DIM/RESET button in real mode or record mode. (It is easy to realize the difference between 3 levels in dark place.)

MANUAL level can be selected from 5 levels (one more constant maximum brightness level in nighttime) by pressing R DIM/RESET button in real mode or record mode.

⇒ Refer to ⑧ -6-1. Refer to brightness adjustment.

⑧ -2-6. Special display setting [SPECIAL MODE]

Choose [SPECIAL MODE] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select [ON] or [OFF] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

If [ON] is selected, a graphic animation is played after the speed signal keeps 0km/h(0MPH) for more than 10 seconds.

⑧ -2-7. Warm-up setting [WARM UP MODE]

Choose [WARM UP MODE] by pressing M ▼ or R ▲ button, and then press L ! WARN.SET button. Select [WATER TEMP] or [OIL TEMP] by pressing M ▼ or R ▲ button, and then press L ! WARN.SET button.

WATER TEMP ↔ OIL TEMP ↔ OFF

If [WATER TEMP] or [OIL TEMP] is selected, set the temperature which warming-up is done by pressing M ▼ or R ▲ button. If M ▼ or R ▲ button is pressed long, the setting value changes quickly. Then press L ! WARN.SET button to set.

⑧ -2-12. Wideband Type setting [WIDEBAND TYPE]

These units support inputs from two types of wideband controllers, the default setting is NORMAL which you select if running the Spartan 2 or Innovate brand widebands for example for petrol, e85, methanol etc. The supported input & range the gauge will display on the NORMAL setting is 10 to 20 AFR or 0.68 to 1.36 Lambda from the 0-5v analog input.

The second setting option is DIESEL, what the difference is between the two is Diesels require a different AFR or Lambda range, the operating range for Diesel motors is 10 to 40 AFR or 0.68 to 2.72 Lambda. To be able to use the Diesel setting on these gauges, you will need a special Diesel wideband that supports that wider AFR or Lambda range, we will be selling Diesel widebands from 14point7 you can use with these gauges, please contact us for more info if required.

Choose [WIDEBAND TYPE] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select Wideband type by pressing M ▼ R ▲ button, and then press L !WARN.SET button.

※ Note, when Wideband Type is set to NORMAL the gauge will display 10-20 AFR or 0.68-1.36 Lambda. When the Wideband Type is set to Diesel the gauge display range changes to 10-40 AFR or 0.68 to 2.72 Lambda. Please see explanation on previous page.

⑧ -2-10. Boost response rate setting [BOOST RESPONSE]

Choose [BOOST RESPONSE] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select response rate by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

Response Rate:

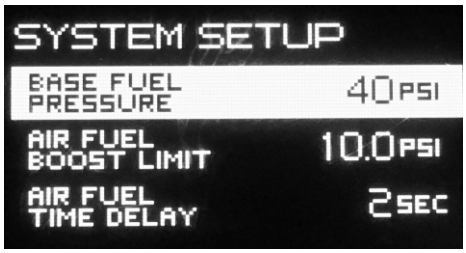
3(Fast) ⟶ 40(Slow)

⑧ -2-11. ODO setting [ODO SET]

Choose [ODO SET] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Set the ODO by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

⑧ -2-12. Base Fuel Pressure [BASE FUEL PRESSURE]

This setting is used to set your base fuel pressure so you can use the differential pressure readout. If you don't know your base fuel pressure, remove the vac line to your fuel pressure reg while your engine is running and take note of the fuel pressure reading on the screen, this will be your base fuel pressure, en ter this value and re-connect the vac line.



Choose [AIR FUEL BOOST LIMIT] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select pressure level by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

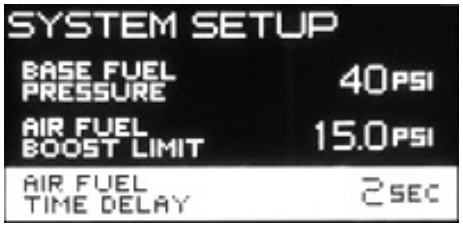
⑧ -2-13. Air Fuel Boost Limit [AIR FUEL BOOST LIMIT]

This setting is used in the wideband lean out warning system. You need to select what boost pressure and above you want the lean warning to be active. In most cases you set this 2psi below maximum boost pressure.

Choose [AIR FUEL BOOST LIMIT] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select pressure level by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

⑧ -2-14. Air Fuel Time Delay [AIR FUEL TIME DELAY]

This setting is used in the wideband lean out warning system as well. This setting sets a time delay before the warning will sound after the set warning values are met. This is to stop false warnings between gear changes for example. We recommend 2sec.



Choose [AIR FUEL TIME DELAY] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select time delay by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

⑧ -2-15. Air Fuel Type AFR Or Lambda [AIR FUEL TYPE]

This setting is used to change the wideband readout type that is displayed on the gauge if you have a wideband connected, this setting changes the readout from displaying either AFR (Air Fuel Ratio) the default setting, or Lambda. Most decent tuners these days use Lambda instead of AFR as it's universal across different fuels, such as Petrol, e85, methanol etc, the Lambda range you will be shooting for in a tune will be the same across fuels.

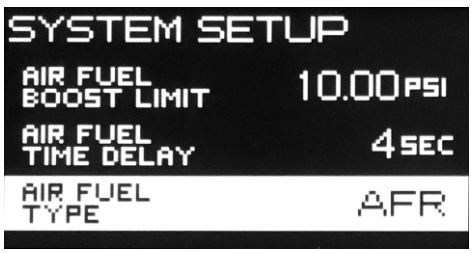
When the wideband type setting is set to NORMAL, see page 28 & 29, and this setting is set to AFR, the gauge will display a range of 10-20 AFR. This range is used in petrol applications and not e85 for example, but if using fuels like e85 only, or even if running flex fuel and have a mix of 98 & e85 at times, we highly recommend you learn Lambda and start use it instead as it's a universal measurement of fuelling where AFR varies across different fuels.

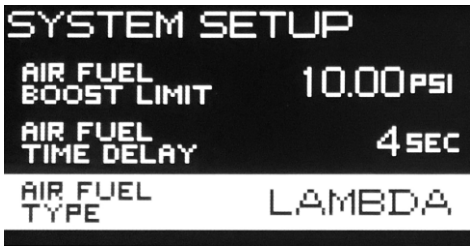
When this setting is changed to Lambda the gauge will change from displaying 10-20 AFR to Lambda, and the range that will be displayed for Lambda is 0.68 to 1.36.

Note for Diesel customers, if you have changed the Wideband Type setting to Diesel, see page 28 & 29, you would leave this on AFR and the gauge will display an AFR range of 10-40 AFR which is the wider range required for diesel tuning and we have made sure this range was calculated properly for Diesels. Note that you must be using the correct wideband with our units for Diesels, contact us if you require more information.

Choose [AIR FUEL TYPE] by pressing M ▼ or R ▲ button, and then press L !WARN.SET button. Select Air Fuel Type by pressing M ▼ or R ▲ button, and then press L !WARN.SET button.

※ Note, when Air Fuel Type is changed to LAMBDA The settings and text for the readout on the gauge itself will change from Air / Fuel to LAMBDA.





⑧ -3. Display setup mode (S2)

Set the rev bar display, indicator lighting, and warning buzzer, etc.

⚠ Caution

❗ Set up while the vehicle is stopped.
※ Stop the special display by pressing L SELECT or SET R button once when you set up if the graphic animation of special display is being played.

GAUGE

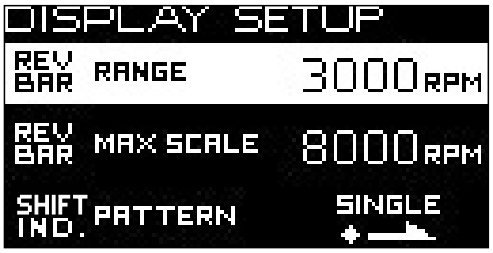
1. By pressing L SELECT and SET R buttons at the same time, the display shifts to display setup mode, and display setup menu is displayed. REV BAR SCALE setup is highlighted at the start.
2. Choose the item to change by pressing SET R button. By pressing L SELECT button, the setting is changed.
3. After all the display settings are done, press L SELECT and SET R buttons at the same time to return to real mode.

Setting items	On the screen	Default
REV BAR scale range setting	REV BAR RANGE	3000RPM
REV BAR maximum scale value setting	REV BAR MAX SCALE	8000RPM
Shift indicator LED pattern setting	SHIFT. IND. PATTERN	SINGLE
Shift indicator LED colour setting	SHIFT. IND. COLOR ALL	MULTI
Shift indicator LED step setting	SHIFT. IND. STEP	200RPM
Oil pressure warning limit setting	OIL PRESS WARNING LIMIT	3000RPM
Fuel pressure warning limit setting	FUEL PRESS WARNING LIMIT	10psi
Control unit Pink Port setting	PINK PORT	WATER T
Warning buzzer setting	DISPLAY WARNING BUZZER	ON
Display number setting	DISPLAY NO.	No.1

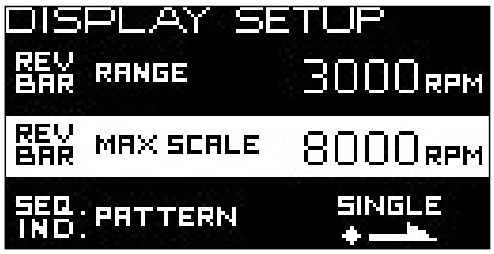
⑧ -3-1. REV BAR scale range setting [REV BAR RANGE]

The scale range of rev bar (the difference between maximum and minimum scale values) in digital display can be set.

Choose [REV BAR RANGE] by pressing SET R button. Select [3000RPM] or [4000RPM] by pressing L SELECT button.



⑧ -3-2. REV BAR maximum scale value setting [REV BAR MAX SCALE]

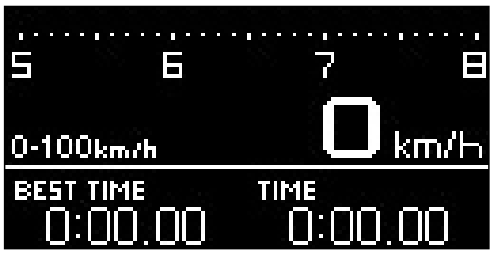


The maximum scale value in digital display can be set. Choose [REV BAR MAX SCALE] by pressing SET R button. Each time L SELECT button is pressed, the value increases by 500RPM.

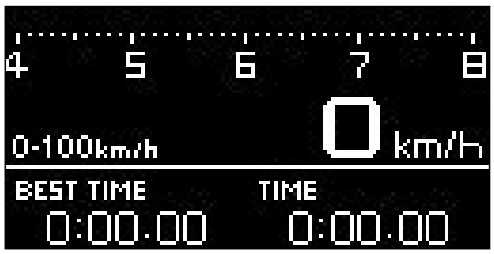
When the setting of REV BAR RANGE is 3000RPM, the lower limit of REV BAR MAX SCALE is 3000RPM. When the setting of REV BAR RANGE is 4000RPM, the lower limit of REV BAR MAX SCALE is 4000RPM.

Setting range：3000(4000)RPM → 11000RPM

REV BAR RANGE: 3000RPM
REV BAR MAX SCALE: 8000RPM
Display range: 5000RPM to 8000RPM

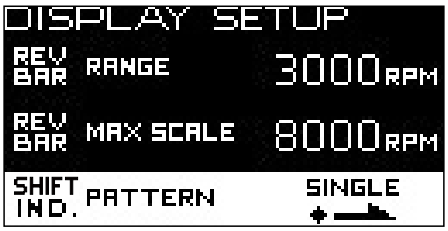


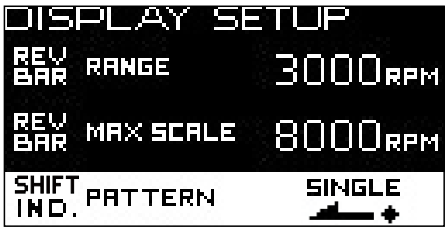
REV BAR RANGE: 4000RPM
REV BAR MAX SCALE: 8000RPM
Display range: 4000RPM to 8000RPM

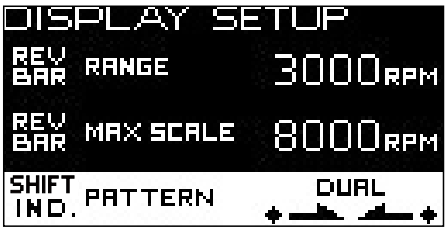


⑧ -3-3. Shift indicator lighting pattern setting [SHIFT. IND. PATTERN]

Choose [SHIFT IND. PATTERN] by pressing SET R button. Select [SINGLE] or [DUAL] by pressing L SELECT button.





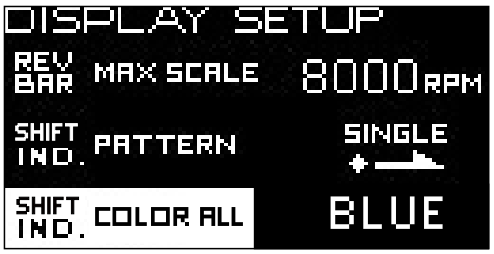


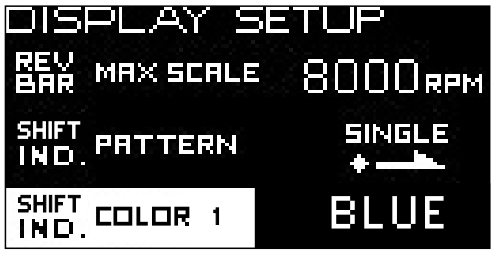
⑧ -3-4. Shift Indicator LED Colour Selection [SHIFT. IND. COLOUR]

The Shift Light Indicator LED's can be changed from all one colour such as all Blue or all Red for example, or you can change each LED's colour individually and have say the first 4 LED be Green and last 4 LED Red.

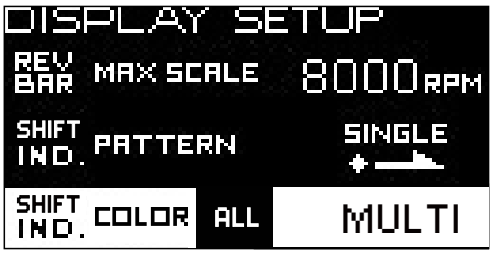
First you need to select if you wish to change all the LED colours at once using the COLOR ALL, or if you wish to change each LED individually using COLOR 1, COLOR 2 etc.

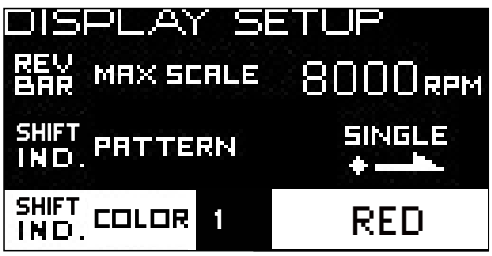
Choose [SEQ. IND. COLOR] pressing SET R button, then press L SELECT button to change between COLOR ALL, or COLOR 1 to 8, once you have selected which you want to change, press the SET R button to move to color change.



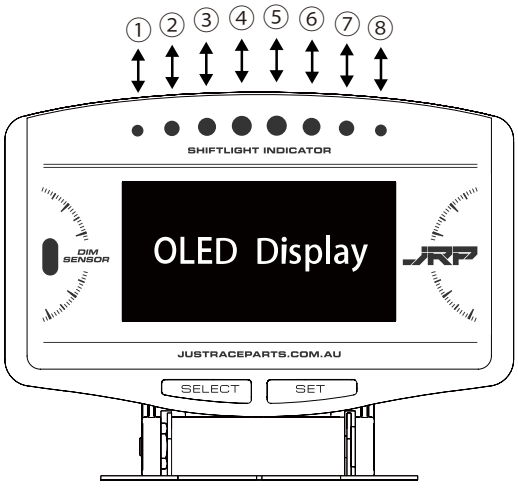


To change the colour for the selected above press the L SELECT button until your colour is chosen. Then press the SET R button to save change. Note this whole process needs to be repeated if wanting to change each LED's colour individually.





Shift Light Indicator LED Colour Numbers



⑧ -3-5. Shift indicator lighting step setting [SHIFT. IND. STEP]

Choose [SHIFT IND. STEP] by pressing SET R button. Select preferred step by pressing L SELECT button.

Lighting step:

100RPM → 200RPM → 250RPM → 500RPM

⇒ Refer to ⑧ -9. Shift indicator

⑧ -3-7. Oil pressure warning limit setting [OIL PRESS WARNING LIMIT]

To setup an advanced oil pressure warning you need to have this setting set correctly along with the actual oil pressure warning value in the warning setup. An RPM source also needs to be connected to the gauge. Adjust this setting to whatever RPM or above you would like the oil pressure warning to be active, then set your oil pressure warning value itself to be just below whatever your normal oil pressure would be at at this selected RPM.

For a standard oil pressure warning setup, change this setting to 0RPM then set your oil pressure warning value in warning setup to what your oil pressure would normally be just below idle.

Choose [OIL PRESS WARNING LIMIT] by pressing SET R button. Each time L SELECT button is pressed, the value increases by 500RPM.

Setting range：0RPM → 11000RPM

⑧ -3-8. Fuel pressure warning limit setting [FUEL PRESS WARNING LIMIT]

The warning function for fuel pressure is only active once manifold pressure is above this set value.

Choose [FUEL PRESS WARNING LIMIT] by pressing SET R button, and then press L SELECT button to set the value.

⑧ -3-9. Control unit pink port readout selection [PINK PORT]

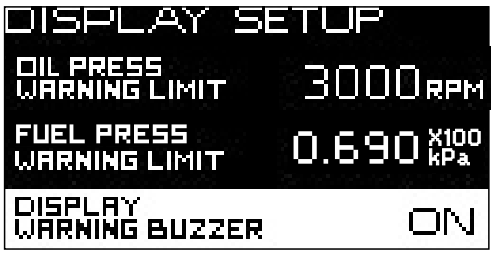
The pink port on the control unit is by default designated as the Water Temp sensor input, the sensor supplied to be connected to this port is a standard fluid temp sensor, it can be used in your radiator system for a water temp readout, or you can also use it in your transmission for a readout of trans temp. This setting tells the gauge where you have placed this sensor, select between water temp or trans temp to display on the gauge for the sensor connected to the pink port on the control box.

Choose [PINK PORT] by pressing the SET R button, then press L SELECT button to change between WATER T, or TRANS T, once you have selected which you want to change, press the SET R button to move to the next setting option.

※ Note these systems also have the option to replace the IAT sensor that comes with the kit with a dedicated trans temp sensor (sold separately) which plugs into the port on the control unit the IAT would normally connect to, then using Dip Switch 2 on the control unit you can select which sensor has been installed and change the display from IAT to Trans temp for those customers that would like to keep Water Temp on the gauge. See page 8 of this manual

⑧ -3-10. Warning buzzer setting [DISPLAY WARNING BUZZER]

The warning buzzer can be turned on and off.
Buzzer does not sound in playback mode independently of buzzer setting even while values exceed the warning settings. (Warning items are highlighted.)



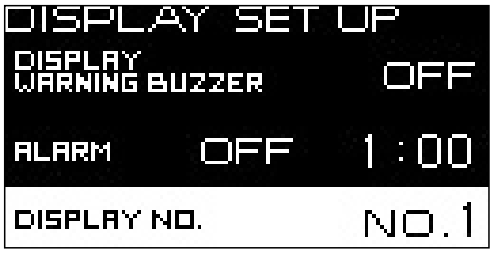
Choose [DISPLAY WARNING BUZZER] by pressing SET R button. Select [ON] or [OFF] by pressing L SELECT button.

※ Note there is a warning buzzer on the OLED Multi gauge, but also on the control unit. We recommend if using the OLED gauges only that you turn off the warning buzzer on the control unit as per this manual.

※ Warning buzzer can be turned on and off, but bleep of operation cannot be turned off.

⑧ -3-11. Display number setting [DISPLAY NO.]

Choose [DISPLAY NO.] by pressing SET R button. Select proper display number by pressing L SELECT button.



※ If you are only using 1x 14in1 gauge screen with the kit, there is no need to change the display number. But if you are going to use more than one 14in1 gauge, you need to first set the display number for each gauge. Eg, 14in1 gauge #1 will be set to Display No.1, and 14in1 gauge #2 will be set to Display No.2. If you do not setup the display numbers like this, the gauges will not operate correctly.

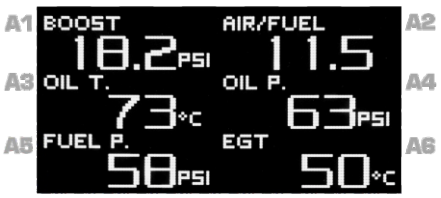
Turn the ignition key off once and turn on again if the display numbers are changed.

8 -4. How to change what sensors / inputs are displayed on the screen

There are 4 different selectable screens on the gauges, in which the layouts of each screen can be changed to the readouts of your choosing, These are Street, Gauge1, Gauge2 & Time Attack screens. It's to be noted that only Gauge1 & Gauge2 can have the entire screen layout changed, where Street & Time Attack screens only the top two readouts can be altered. To see how to change screens see page 39.

Along with changing what readouts are on the screen, there is the option to change from zone size / style A, B or C and certain readouts are supported by different zone sizes / styles. We have provided an example below of the A size zone layout and which readouts are supported, the same for zone size B which is a larger readout & also zone size C which is a graph layout for the temp sensors. To see how to change readouts that are displayed on the selected screen, such as the Gauge1 screen, see page 40.

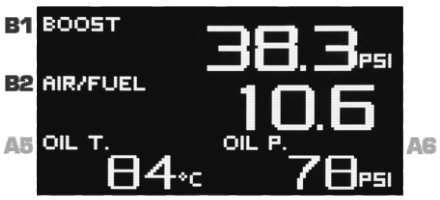
On the Gauge1 & Gauge2 screen options, you can have them setup with all A sized readouts, or a mix or B size or C. If you have any questions about how to setup the screens, feel free to contact us for more info.



Zone A1	Zone A2
Zone A3	Zone A4
Zone A5	Zone A6

Zone A Style Selectable Readouts

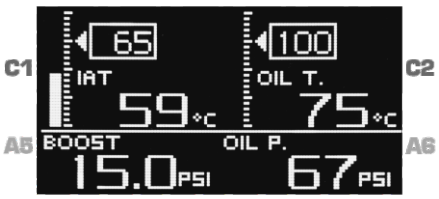
Oil Pressure	Fuel Pressure
Boost	Wideband AFR
Wideband	Volts #1
Volts #2	EGT
Water Temp	Oil Temp
IAT	Diff Pressure
Speed	Trans Temp



Zone B1	
Zone B2	
Zone A5	Zone A6

Zone B Style Selectable Readouts

Oil Pressure	Fuel Pressure
Boost	Wideband AFR
Wideband	Volts #1
Volts #2	EGT
Water Temp	Oil Temp
IAT	Diff Pressure
Speed	Trans Temp
Tacho Digital	Tacho Bar



Zone C1	Zone C2
Zone A5	Zone A6

Zone C Style Selectable Readouts

Water Temp	Oil Temp
IAT	Trans Temp

8 -4-1.How to change between saved screen layouts

There are 4 different selectable screens on the gauges, in which the layouts of each screen can be changed to the readouts of your choosing.
See page 40 for info on changing the selected screens layout.

GAUGE

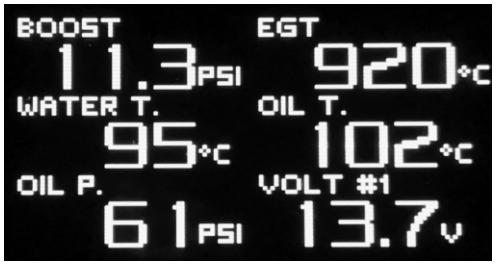
To change between the 4 different selectable screens press the L SELECT button. Note that the Street screen is the default screen

STREET → GAUGE1 → GAUGE2 → TIME ATTACK

STREET

GAUGE1

GAUGE2

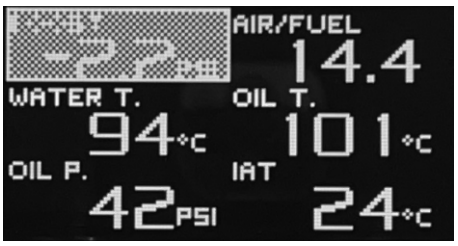


TIME ATTACK

⑧ -4-2. How to change readouts displayed in zones, and zone style & size

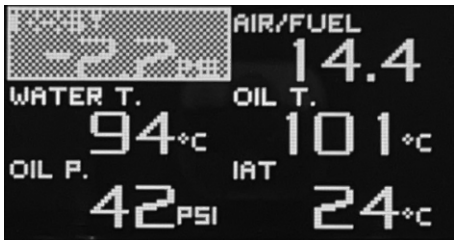
HANDSET (slide switch position : L SET)

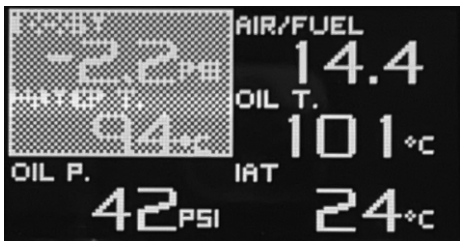
1. Set the slide switch to L SET.
2. Press M ▼ and R ▲ buttons at the same time.
   This enables the system to move between zones & change zone styles.
3. Choose a zone to change by pressing M ▼ button



4. To change from zone style A, B or C press the R ▲ button.

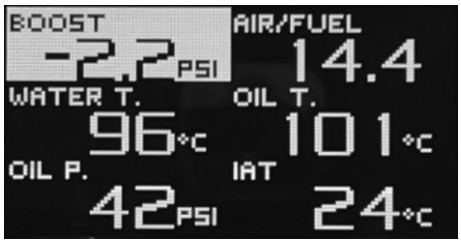
Zone A1 → B1 → C1 Zone A3 → B2 Zone A2 → C2

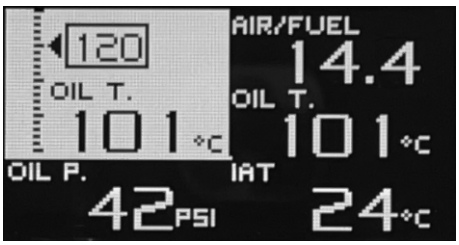




5. Once you have moved to the zone you wish to change, or also have now changed the zone style, press the L !WARN.SET button and now that zones readout will be able to be changed.

Now by pressing M ▼ or R ▲ you can scroll through the readouts that can be set for that zone, select which you would like displayed and then press the L !WARN.SET button to set it.





6. Once you have completed your screen layout selection, return the switch to the U REAL or M PLAY position to exit the screen layout selection setup.

⑧ -5. Opening mode, Ending mode

When ignition is turned on, the OLED multi gauge will perform an opening animation. When the ignition is turned off, the gauge will also perform a ending closing animation.

Confirmation

⚠ Depending on vehicles, the ignition is not turned off immediately after the key is turned off. In this case, ending mode doesn't start until the ignition is turned off.

■

⑧ -6. Operation mode

⚠ Warning

❗ In order to ensure safe driving, check the information on the gauge only for a short period of time. Looking at the display for a long period of time could distract attention from the road and result in an accident.

⃠ Do not operate while driving.

⑧ -6-1.Brightness adjustment

HANDSET (slide switch position：**U REAL**〉)

The brightness can be adjusted by pressing **R DIM/RESET** button in real mode and record mode. AUTO and MANUAL can be selected in the setting of dimmer control in system setup mode.

⇒⑧ -2-5. Refer to Dimmer setting [DIMMER]

AUTO：3 automatic levels and constant maximum brightness level
(AUTO is not interlocked with vehicle dimmer switch on/off.)

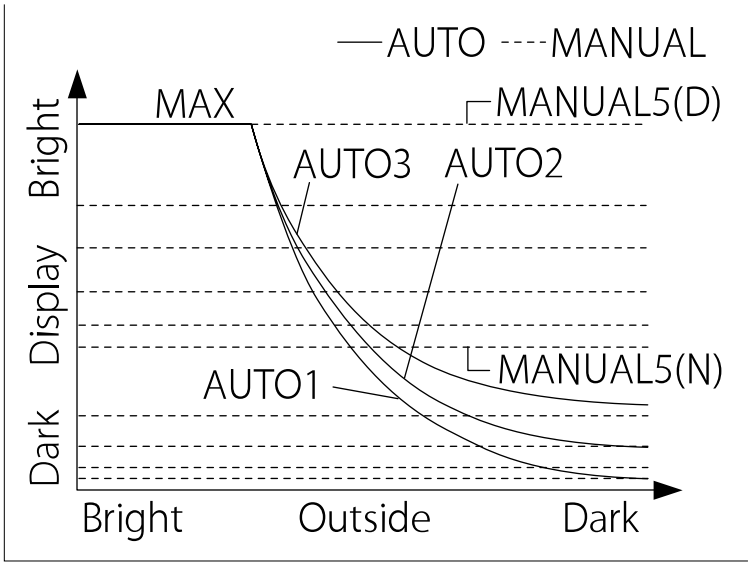
MANUAL：5 constant levels each in daytime and nighttime being interlocked with ve-

hicle dimmer switch (and one more constant maximum brightness level in nighttime)

Defaults are as follows: MANUAL···ILM. LEVEL5

AUTO···ILM. LEVEL3

	AUTO	MANUAL
OLED Display	controlled automatically	interlocked with vehicle dimmer (5 levels each in day & nighttime)
Shift light indicator	changed automatically (one level each in day & nighttime)	interlocked with vehicle dimmer (one level each in day & nighttime)
Handset illumination	changed automatically (light up/light off)	interlocked with vehicle dimmer (light up/light off)



The illumination level is displayed for 0.5 second in multi-display zone (Zone A5) when the brightness is adjusted.

⑧ -6-2-1. Warning display

While a value exceeds the warning setting, the zone that the warning item is displayed is highlighted. (The warning setting value is highlighted in Zone C.) The warning display continues for 5 seconds at shortest even when the warning condition is for less than 5 seconds. Oil pressure and fuel pressure warnings are displayed when dipping from the warning settings.

While warnings are displayed, buzzer sounds if the buzzer sounds is set on.

Tachometer (digital and bar) is not highlighted even while the value exceeds the warning setting.

Warning buzzers on Control unit and Gauge can be turned on/off separately.

⇒ Refer to ⑧ -7. Warning setup mode for how to set warnings.

⑧ -6-2-3. Warm-up display

Setting the water temperature or oil pressure in system setup mode runs warm-up display. While the actual temperature is lower than the set value, the name of item (oil press or water temp) blinks once a second.
Blinking stops when the actual temperature exceeds the setting value.

※ Special display is not performed independently of setting of special display during warm-up display.

⑧ -6-2-4. Special display

A graphic animation is played after the speed signal keeps 0km/h(0MPH) for more than 10 seconds by setting the special mode on.
Sensoring information, clock, and idling time are displayed during the special display. Idling time is not counted when the vehicle engine is stopped even when the ignition is on.

Special display is stopped when

- speed signal is input
- L SELECT or SET R button is pressed
- the mode is changed with the switch unit of Control unit

※ Unless the speed signal is not input, even if special display is stopped the idling time keeps being counted. And the cumulative idling time is displayed after the speed signal keeps 0km/h(0MPH) for more than 10 seconds again.

Special display is not played during

- warm-up
- warning
- short-circuit or wire disconnection
- alarm
- time attack mode
- measuring time attack

⑧ -6-2-5. STREET

STREET display mode displays speed, odometer, and tripmeter all the time.

※ The speed, odometer, and tripmeter are just for reference. If there is a margin of error in speed pulses setting, the margin of error is accumulated not only on the speed but also on the odometer and tripmeter.

■ Default display setting

Boost	EGT
Speed	
ODO	TRIP

× is displayed on the item zone that sensors are not connected.

■ Zones which the display item can be changed

Zone A1	Zone A2
Speed	
ODO	TRIP

Zones that the display item can be changed are A1and A2.

⇒ Refer to ⑧ -4. Display item change.

■ Reset of tripmeter

GAUGE

The tripmeter can be reset by pressing **SET R** button long during STREET display mode.

※ The odometer cannot be reset.

⑧ -6-2-6. GAUGE1, GAUGE2

Display items can be changed in all the zones in GAUGE display modes. 2 layouts can be set in GAUGE1 and GAUGE2. (Odometer and tripmeter cannot be displayed.)

■ Default display setting

GAUGE1

Boost	Air/Fuel
Water Temp	Oil Temp
Oil Press	IAT

GAUGE2

Boost	EGT
Water Temp	Oil Temp
Oil Press	Volt #1

× is displayed on the item zone that sensors are not connected.

■ Zones which the display item can be changed

Zone A1	Zone A2
Zone A3	Zone A4
Zone A5	Zone A6

Zones that the display item can be changed are A1through A6.

⇒ Refer to ⑧ -4. Display item change.

⑧ -6-2-7. TIME ATTACK

Clockings of 0-100km/h and 0-200km/h are available in real mode. While using MPH setting not km/h, clockings of 0-60MPH and 0-100MPH are available instead.

※ Please read the part of 0-100km/h and 0-200km/h in a different way as 0-60MPH and 0-100MPH if you use MPH setting.

⚠ Warning

⃠ Do not use the TIME ATTACK function in open roads. It is only for closed courses.

■ Default display setting

Tacho	
Speed	
BEST TIME	TIME

× is displayed on the item zone that sensors are not connected.

■ Zones which the display item can be changed

Zone A1	Zone A2
Speed	
BEST TIME	TIME

Zones that the display item can be changed are A1and A2.

⇒ Refer to ⑧ -4. Display item change.

■ Time attack setting (Switchover of 0-100km/h and 0-200km/h)

GAUGE

1. Time attack menu appears by pressing SET R button.
2. Highlight [SET UP] by pressing L SELECT button, and then press SET R button.

3. Highlight [SELECT 0-100 km/h] or [SELECT 0-200 km/h] by pressing SET R button.
4. Press L SELECT button to set.
5. Highlight [RETURN] by pressing L SELECT button, and then return to the time attack menu by pressing SET R button.

6. Highlight [RETURN] by pressing L SELECT button, and then return to the time attack display by pressing SET R button.

■ Measuring time attack

GAUGE

1. Time attack menu appears by pressing SET R button.
2. Highlight [START] (by pressing L SELECT button), and then press SET R button. [0-100km/h] or [0-200km/h] blinks with 0:00:00 on the display and is ready to measure. If SET R button is pressed (measuring is started) while driving, measuring is not started up until the speed gets to 0 km/h (0MPH) and then speed signal is input again. Buzzer sounds when measuring starts.
3. Measuring is terminated when the vehicle speed gets to 100km/h under 0-100 km/h setting or 200km/h under 0-200 km/h setting. Best time part blinks and buzzer sounds when a new record is set. Time part blinks when a new record is not set.

※ Press SET R button to cancel measuring while measuring.

※ While measuring 0-200km/h, the best time record for 0-100km/h will be renewed when a new record of 0-100km/h is set.

■ Clearing the best score

GAUGE

1. Time attack menu appears by pressing SET R button.
2. Highlight [SET UP] by pressing L SELECT button., and then press SET R button.
3. Highlight the score to delete by pressing L SELECT button.
4. Press SET R button. The score is cleared and the best time display indicate 0:00:00.

5. Highlight [RETURN] by pressing L SELECT button., and then press SET R button to return to the time attack menu.
6. Highlight [RETURN] by pressing L SELECT button, and then return to the time attack display by pressing SET R button.

⑧ -6-3. Real peak mode

The peak values recorded while driving and idling are displayed during real mode. The maximum and minimum values are displayed in order as for oil pressure and fuel pressure. The peak values can be reset.

The peak value of fuel pressure is displayed in the fuel pressure zone even while displaying differential pressure.

▲ **PEAK** is displayed in multi-display zone (Zone A5) during peak mode.

HANDSET (slide switch position : U REAL)

IF NEITHER OIL PRESSURE NOR FUEL PRESSURE SENSOR IS CONNECTED:

1. Set the slide switch to U REAL.
2. Press M●PEAK button to change the display to real peak mode.
3. By pressing M●PEAK button, the display shifts to real mode.

IF EITHER OIL PRESSURE OR FUEL PRESSURE SENSOR IS CONNECTED:

1. Set the slide switch to U REAL.
2. Press M●PEAK button to change the display to real peak mode (maximum value).

3. Press M●PEAK button again to change the display to real peak mode (minimum value of oil pressure and fuel pressure).
4. By pressing M●PEAK button, the display shifts to real mode.

⑧ -6-4. Real peak reset mode

Peak values can be reset. Regarding oil pressure and fuel pressure, both the maximum value and the minimum value are reset. **PEAK RESET** is displayed for one second in multi-display zone (Zone A5) during peak reset mode.

HANDSET (slide switch position : U REAL〉)
1. Set the slide switch to U REAL〉.
2. Press M●PEAK button to change the display to real peak mode.
3. By pressing R DIM/RESET button, the peak values are reset and he display shifts to real mode.

⑧ -6-5. Record mode

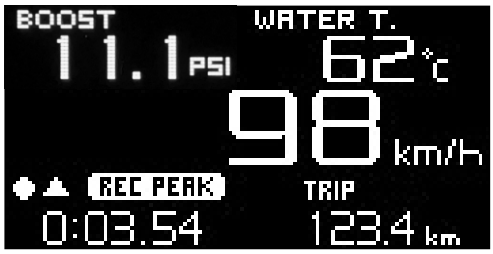
Driving data can be recorded up to 5 minutes. ● **REC** and recording time are displayed in multi-display zone (Zone A5) during record mode.

HANDSET (slide switch position : U REAL〉)
1. Set the slide switch to U REAL〉.
2. Press L●REC button to change the display to record mode.
3. Recording is terminated by pressing L●REC button again or after 3 minutes go by from start of recording. And then the display shifts to real mode.

⑧ -6-6. Rec peak mode

The peak values recorded while recording are displayed during record mode. The maximum and minimum values are displayed for oil pressure and fuel pressure. The peak value of fuel pressure is displayed in the fuel pressure zone

even while displaying differential pressure.
●▲ **REC PEAK** is displayed in multi-display zone (Zone A5) during rec peak mode.



HANDSET (slide switch position : U REAL)
IF NEITHER OIL PRESSURE NOR FUEL PRESSURE SENSOR IS CONNECTED:

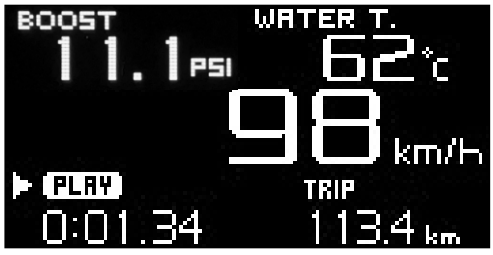
1. By pressing M●PEAK button in rec mode, the display shifts to rec peak mode.
2. Press M●PEAK button to shifts to record mode. Or press L●REC button to shift to real mode. Recording is terminated after 5 minutes go by from start of recording, and then the display shifts to real mode.

IF EITHER OIL PRESSURE OR FUEL PRESSURE SENSOR IS CONNECTED:

1. By pressing M●PEAK button in rec mode, the display shifts to rec peak mode (maximum value).
3. Press M●PEAK button again to change the display to rec peak mode (minimum value of oil pressure and fuel pressure).
3. Press M●PEAK button to shifts to record mode. Or press L●REC button to shift to real mode. Recording is terminated after 5 minutes go by from start of recording, and then the display shifts to real mode.

⑧ -6-7. Playback mode

Recorded data is replayed. Pausing, fast- forwarding, rewinding, single frame forwarding, and single frame rewinding for data are possible.
▶ **PLAY** and the playback time are displayed in multi-display zone (Zone A5) during playback mode.



HANDSET (slide switch position : M PLAY)

1. Set the slide switch to M PLAY.
2. The recorded data is replayed by pressing L►PLAY button.
3. Playback is stopped by pressing L►PLAY button or when the data is replayed to the end. And then the display shifts to real mode.

⑧ -6-7-1. How to operate recording data

■ Pause

To stop replaying, press M ◁◁ button or R ▷▷ button during payback. Data is replayed again by pressing L ▶PLAY button. **II PAUSE** is displayed in multi-display zone (Zone A5) during pause.

■ Fast-forward, single frame forward

To fast-forward single frames, press R ▷▷ button. To fast-forward, press R ▷▷ button long. **II PAUSE** is displayed in multi-display zone (Zone A5) during fast-forward of single frames.

▶▶ PLAY is displayed in multi-display zone (Zone A5) during fast-forward.

■ Rewind, single frame rewind

To rewind single frames, press M ◁◁ button. To rewind, press M ◁◁ button long. **II PAUSE** is displayed in multi-display zone (Zone A5) during rewind of single frames.

◀◀ PLAY is displayed in multi-display zone (Zone A5) during rewind.

※ The single frame is 0.02 seconds.

⑧ -6-8. Play peak mode

The peak values recorded while recording are displayed during playback mode. The maximum and minimum values are displayed in order as for oil pressure and fuel pressure.

▶▲ PLAY PEAK is displayed in multi-display zone (Zone A5) during play peak mode.

HANDSET (slide switch position : M PLAY 〉→ U REAL 〉)

IF NEITHER OIL PRESSURE NOR FUEL PRESSURE SENSOR IS CONNECTED:

1. Set the slide switch to M PLAY 〉.
2. The recorded data is replayed by pressing L ►PLAY button.
3. Set the slide switch to U REAL 〉during playback (or during pause).
4. The peak values are displayed by pressing M ●PEAK button.
5. The recorded data is displayed again by pressing M ●PEAK button again. Or set the slide switch to M PLAY 〉and press L ►PLAY button long to shift to real mode. Playback is not stopped during play peak mode.

IF EITHER OIL PRESSURE OR FUEL PRESSURE SENSOR IS CONNECTED:

1. Set the slide switch to M PLAY 〉.
2. The recorded data is replayed by pressing L ►PLAY button.
3. Set the slide switch to U REAL 〉during playback (or during pause).
4. The peak (maximum) values are displayed by pressing M ●PEAK button.
5. By pressing M ●PEAK button again, The peak values (minimum values of oil pressure and fuel pressure) are displayed .
5. The recorded data is displayed again by pressing M ●PEAK button again. Or set the slide switch to M PLAY 〉and press L ►PLAY button long to shift to real mode. Playback is not stopped during play peak mode.

■ Difference between real peak, rec peak, and play peak

	Real peak	Rec peak	Play peak
Displayed during	Real mode	Record mode	Playback mode
Displayed values	Peak values in all modes	Peak value recorded in record mode	
Update	In all modes	During record mode	
Peak reset	Operatable in real peak mode	Being reset automatically when recording is started	

⑧-7. Warning setup mode

Warning values can be set.

■ Factory default settings of warning values

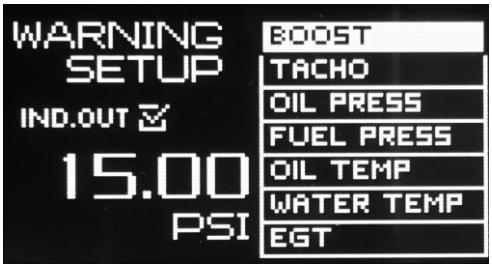
Gauge	Default setting	Unit	Setting range		Warning condition	Warning output
			Minimum	Maximum		
Speed	240	km/h	0	400	Set value and above	ON
	150	MPH	0	240		
Boost	150	kPa	-100	700	Set value and above	ON
	21.75	PSI	-14.5	101.5		
IAT	65	℃	30	120	Set value and above	ON
	149	° F	86	248		
Tachometer	7000	RPM	300	11000	Set value and above	ON
Volt #1 & #2	10	V	8	36	Set value and below	ON
Differential Press	4.0	PSI	0	10	Set value and above	OFF
Air/Fuel Ratio Wideband	13.0	AFR	10.1	16.5	Set value and above	ON
	0.88	λ	0.68	1.12		
Oil press	150	kPa	0	1000	Set value and below	ON
	21.75	PSI	0	145		
Fuel press	150	kPa	0	600	Set value and below	ON
	21.75	PSI	0	87		
Oil temp	120	℃	0	150	Set value and above	ON
	248	° F	32	302		
Water temp	100	℃	0	150	Set value and above	ON
	212	° F	32	302		
Trans Temp	100	℃	0	150	Set value and above	ON
	212	° F	32	302		
Exhaust temp	800	℃	0	1100	Set value and above	ON
	1472	° F	32	2010		

※ Depending on vehicle type and/or condition, vehicle may be damaged even if the value is under the factory default setting value of warning (over the factory default setting value of warning in case of oil pressure and fuel pressure). Be sure to consult store professional to set warning values.

⑧ -7-1. How to change the warning setting values

HANDSET (slide switch position : L SET)

1. Set the slide switch to L SET.
2. Press L !WARN.SET button to shift to warning setup mode.
3. Select the item to set up by pressing L !WARN.SET button. The selected item is highlighted and setting value is displayed. Unconnected items (sensors) cannot be selected. The order is as follows:



BOOST → TACHO → OIL PRESS → FUEL PRESS → OIL TEMP → WATER TEMP → EGT
↑ ↓
SPEED ← IAT ← VOLTAGE #2 ← VOLTAGE #1 ← DIFF PRESS ← AIR / FUEL

4. Press M ▼ button to lower the setting value. Press R ▲ button to raise the setting value. Press each button long to change fast.
5. Return the slide switch to U REAL or M PLAY after all the settings are done.

⑧ -7-2. How to calibrate boost & pressure sensors

The boost and pressure sensors can be calibrated to zero them if they are reading more than 0psi at atmospheric pressure. Example the boost sensor is reading 0.4psi before you start the vehicle. Use this calibration procedure to correct this. Please note that the sensors must not have any pressure applied to them while doing a calibration.

HANDSET (slide switch position : L SET)

1. Set the slide switch to L SET.
2. Press L !WARN.SET button to shift to warning setup mode.
3. Select sensor to calibrate by pressing L !WARN.SET button.
4. To calibrate press and hold the L !WARN.SET button until you hear the gauge make a single beep, the sensor is now calibrated.

⑧ -7-3. How to set external warning light on/off

If the external warning light (sold separately) is connected to the multi gauge, you can enable or disable it on each warning. So the light only functions on the warnings you wish the light to alert you. Note this setting is only to enable or disable the warning light, not the warning itself.

HANDSET (slide switch position : L SET)

1. Set the slide switch to L SET.
2. Press L !WARN.SET button to shift to warning setup mode.
3. Select the item to change ON/OFF by pressing L !WARN.SET button.

GAUGE

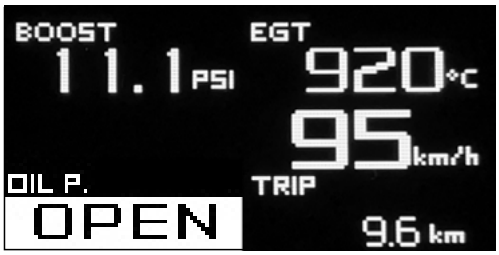
4. Each time SET R button is pressed, the check of **IND. OUT** ☐ is switched over. If the check is on, the warning signal is output while the item is under the condition of warning.

HANDSET (slide switch position : L SET)

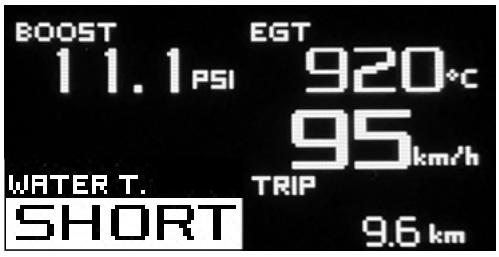
5. Return the slide switch to U REAL or M PLAY after all the settings are done.

⑧ -8. Error display

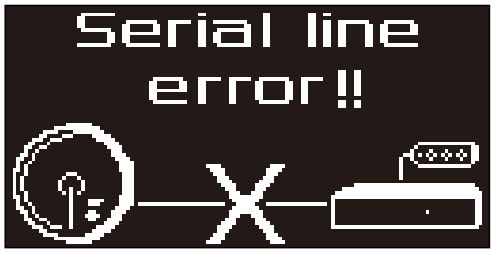
When the sensor wiring is disconnected or short-circuit, the item zone is highlighted and OPEN or SHORT is displayed. Once OPEN or SHORT is displayed, the sign keeps being displayed until ignition is turned off. The short-circuit error displays for oil pressure and fuel pressure are displayed only during short-circuiting.



If there is a wiring problem with a sensor that is not currently displayed on the screen, the error will display in the multi-zone A5.
If there are more than two errors at once, each error will display for 2sec then change to next error.



When there is a communication error between the gauge and the control unit, “Serial line error!!” is displayed on the screen.



❗ Turn the ignition off immediately, and then confirm the wiring of the sensor and the sensor wire. If any defects are not found, please ask the shop for inspection.

⑧ -9. Siftlight Indicator

8 LEDs (red) light up or blink depending on the engine revolutions. The lighting pattern can be selected from [SINGLE] and [DUAL]. The lighting pattern and step is set in display setup mode.

⇒ Refer to ⑧ -3. Display setup mode (S2).

■ Engine revolutions that LED is lighted up
[SINGLE] = (warning setting value of engine revolutions) − (lighting step) × 8
[DUAL] = (warning setting value of engine revolutions) − (lighting step) × 4

■ Engine revolutions that all LEDs are lighted up
[SINGLE] = [DUAL] = (warning setting value of engine revolutions) − (lighting step)

■ Engine revolutions that all LEDs blink
At higher than or equal to warning setting value of engine revolutions

If the dimmer setting is AUTO, the brightness of LEDs is decreased one level automatically depending on the outside brightness. If the dimmer setting is MANUAL, the brightness of LEDs is decreased one level being interlocked with the illumination switch of the vehicle.

<Lighting example> warning setting value：8000RPM lighting step：100RPM

[SINGLE]

LEDs (from left)	1	2	3	4	5	6	7	8	Blink
Lighting revolutions(RPM)	7200	7300	7400	7500	7600	7700	7800	7900	8000

[DUAL]

LED (from left)	1	2	3	4	5	6	7	8	Blink
Lighting revolutions(RPM)	7600	7700	7800	7900	7900	7800	7700	7600	8000

⑧ -10. Alarm function

If the alarm is set, buzzer sounds and sequential indicator blinks at the setting time. Buzzer sounds for a minute. Sequential indicator (all the LEDs) blinks at the same time.

※ The alarm does not function unless the ignition is on at the set time.

GAUGE

Press L SELECT or SET R button to stop the alarm during the alarm.

⇒ Refer to ⑧ -3-10. Alarm setting [ALARM] for how to set up.

※ The clock is semidiurnal. Alarm can be set within only 12 hours. This function alarms only one time after setting. The alarm needs to be set again after using the function once.

⑨ Troubleshooting

⚠ Warning

❗ Below are some basic troubleshooting steps you can follow for common errors found from incorrect installation or setting up of the gauges. If you experiance any of the below issues, follow the steps and if the problem persists, please contact the store for support.

Or if the problem you are experiencing is not listed in the troubleshooting steps, please also contact the store for support.

Condition	Possible Cause	Corrective Action
○ Does not operate. ○ Power is not supplied. ○ DC Source LED of the unit doesn't light.	○ Wiring of the power supply wire is improper. ○ The fuse of the power supply wire is blown out.	○ Check wiring of +B, IGN, GND as per instructions in this manual. ○ Check wiring and replace the fuse. ○ Contact store for support.
○ DC Source LED of the unit is blinking.	○ There is a wire short circuit or disconnected wire somewhere.	○ Double check all wiring is correct, if problem remains, disconnect meter wire, if problem is fixed, contact store for support.
○ Does not carry out the ending mode.	○ The battery wiring is improper.	○ Check wiring of +B as per instructions in this manual.
○Two or more gauges are connected at once and there are erratic readings and open errors.	○Multiple gauges using the same display number.	○ When more than one gauge is connected, the display number needs to be set for each gauge, example Display 1, Display 2. Please check this manual for how to set the display number on each gauge.

Condition	Possible Cause	Corrective Action
○ Error (SHORT or OPEN) is displayed.	○ There has been a short on the sensor cable or the cable has become disconnected.	○ Disconnect and reconnect cable at both sensor end and control box. If open or short remains, contact store for assistance.
○ Serial line error is displayed.	○ Communication error between screen and control unit	○ Disconnect and reconnect meter cable at control box and screen box. If Serial Line error remains, contact store for assistance.
○ The RPM is not displayed correctly.	○ Setting of the number of cylinders is wrong.	○ Check the number of cylinders as per instructions in this manual.
○ RPM does not display, even after being connected to the cars ECU.	○ Incorrect pin on ECU used ○ Signal output from ECU is not 5v-12v square wave ○ Incorrect wire used to connect RPM signal.	○ Double check your ECU pin out diagram. ○ Contact store for assistance ○ Confirm that you have used the Blue wire to connect to you ECU
○ The speed is not displayed correctly.	○ Wiring of the speed signal wire is wrong. ○ The speed pulse setting is wrong.	○ Check wiring as per instructions in this manual. ○ Check the speed pulse as per instructions in this manual.
○ Cannot set up the System setup.	○ Multiple gauges using the same display number.	○ Change the display number as per instructions in this manual.
○ System setup menu is not displayed.	○ Active display is not set.	○ Set an active display as per instructions in this manual.
○ Serial error is displayed and the clock returns to 1:00 at starting engine.	○ The battery is weakening and power-supply voltage is lowering.	○ Change the battery.

⑨ -1. Factory Reset

A vehicles battery which is going flat causing a large voltage drop to the system while it's booting can cause a corruption of the systems firmware. This will present as the start-up animation still working as per normal, but after loading certain readings are missing from the display, or a solid line through the display. If the gauge was working normally and then suddenly it's no longer functioning normally, there is a good chance the system has been powered while there was an insufficient voltage condition which has caused a firmware corruption.

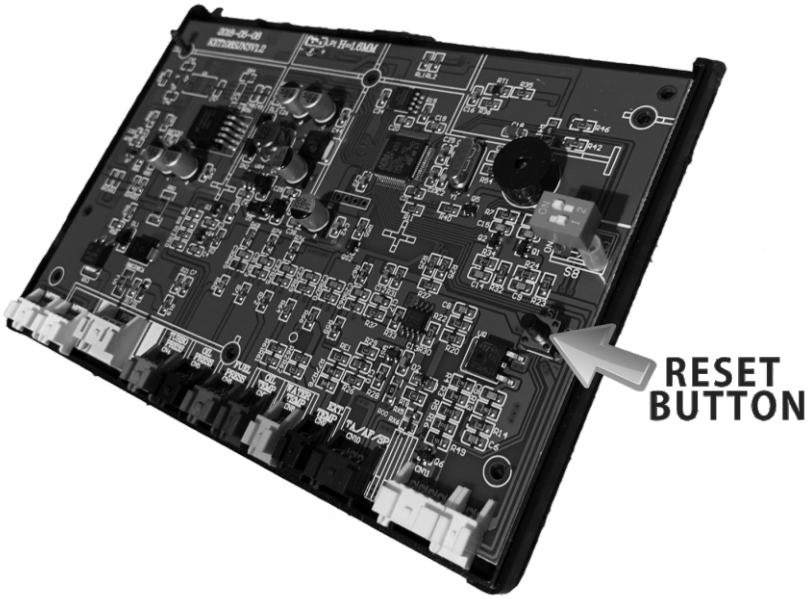
Thankfully the solution for the gauge itself is simple and it just requires a factory reset, below is the procedure to follow.

To do a factory reset you need to take the screws out of the control box, remove the top cover so you expose the top of its PCB. Note that you will still need power connected to the unit to be able to do the factory reset, if you remove the cables from the box to get the screws out easier, just plug the power cable back in once done so we can do the reset.

On the control boxes PCB there is a reset button, I have attached a photo which shows you where this button is located on the board.

Power up the gauge, once it has finished booting up then press and hold this reset button for 5sec. You will know once the reset has completed as the gauge will power off and on again. Once completed the firmware will have been reflashed to the gauge and everything should be back to normal.

Note this will erase all your settings, so you will need to quickly set the gauge back up, screen layout, warnings and settings. On the next page of the manual we have links to our handy YouTube video guides you can watch to help with setting up of the gauges.



⑨ -2. YouTube Video Guides

Below you can find our handy video guides we have done for the 14in1 systems, simply click on the video thumbnail below you wish to watch and it will take you to YouTube. You can also just do a search on YouTube for Just Race Parts to find our channel, as we are always adding more content when we can.

VIDEO GUIDE NO.1

CHANGING SCREEN LAYOUTS & ACCESSING SETTINGS MENUS

YouTube

VIDEO GUIDE NO.2

ADVANCED & BASIC OIL PRESSURE WARNING SETUPS & EXAMPLES

YouTube

VIDEO GUIDE NO.3

SPARTAN 3D DIESEL WIDEBAND INSTALL & SETTINGS

YouTube