KS-RPM*Dual*

OBD II
User Manual
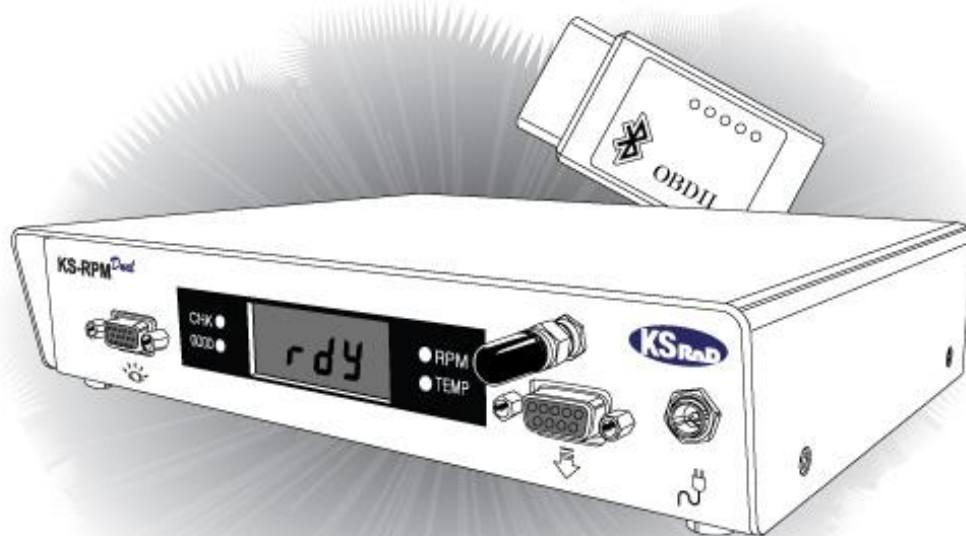
KS RnD CO., LTD.

KS-RPM *Dual*

OBD Ⅱ
User Manual

V0.4

Table of contents

User Precautions

Please use this product after you have read the manual carefully to use the device more safely and efficiently.

\<General Safety Compliance\>

1. Don't use this product except for those who know how to use.

2. Do execute text of manual before measurement.

3. Do not disassemble the device.

\<Dangerous\>

1. This product's 12V adapter is dedicated to AC220V. Please check the power before use.

2. Avoid content with rotor near the engine during measuring engine speed.

3. When you measure engine speed, be cautious for burn.

4. For your safety, hold the hand brake and put the bridging in front and in back of the tire.

KS-RPM^{Dual} OBDⅡ Composition Item

composition	contents
Product	**KS-RPM**^{Dual} machine body
Bluetooth Module	Bluetooth ELM327
Sensor	Sensor of measuring RPM (5 m)
Power	12V adapter
Etc.	User manual

※ Bluetooth ELM327 example product

KS-RPM^{Dual} OBDⅡ Option

option	contents
Oil temp.	Oil temp. cable (5m)

KS-RPM^{Dual} OBD Ⅱ Technical Specifications

details			contents
RPM	Phono magnetic Sensor	Analysis Range	0 ~ 8,000 rpm
		Resolving Power	1 rpm
	OBD II (Bluetooth)	Analysis Range	0 ~ 8,000 rpm
		Resolving Power	1 rpm
Oil Temperature		Analysis Range	0 ~ 200 ℃
		Resolving Power	0.1 ℃
Use Temperature Range			0 ~ 50 ℃
Use Humidity Range			30 ~ 90 %
Weight			0.3kg
Dimensions			220(W) * 150(H) * 45(D) mm
Power Supply			12V adapter
Power Consumption			350 mA
Communication			RS232

KS-RPM^{Dual} OBD Ⅱ Material

명칭	재질
The product body	Aluminum
Sensor Cable	Soft PVC
Sensor Measurement	Aluminum, Steel

Product Name
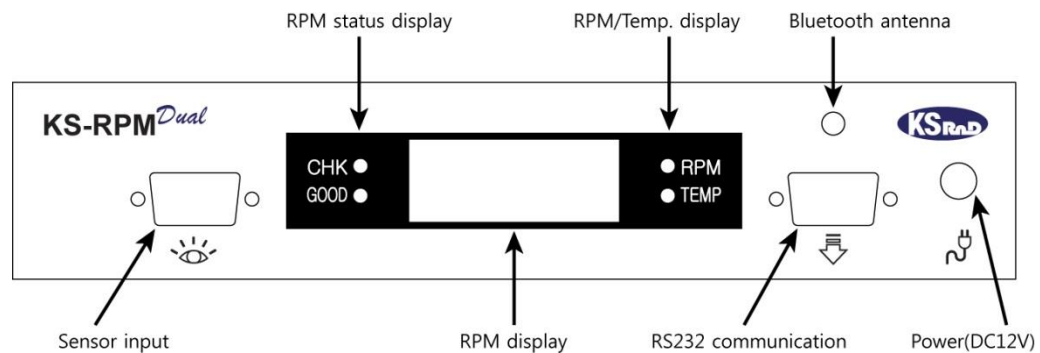
1. Phono Magnetic Sensor

1.1 Preparation before use
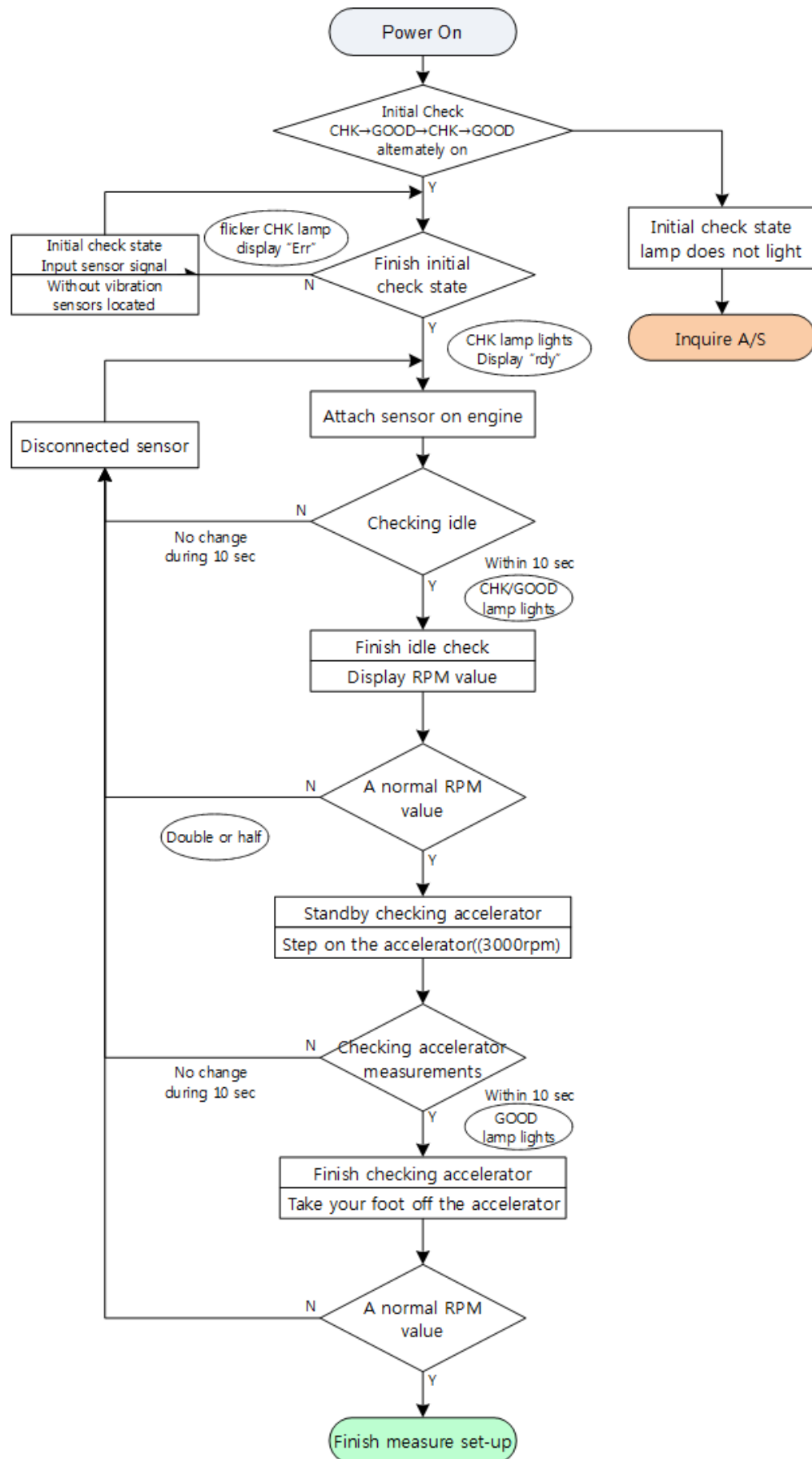
1) Hold the hand breake and put the bridging in front and in back of the tire.

2) Set the car's gear in neutral and start an engine.

3) Open the bonnet of a car.

1.2 How to Connect Devices

1) Connect the measurement sensor(15 pin connector) to ![eye icon] of device, and place where there is no vibration.

2) Connect the DC 12V adapter to ![plug icon] of device.

1.3 Measurement flow chart

Power On

Initial Check
CHK→GOOD→CHK→GOOD
alternately on

Initial check state
lamp does not light

Inquire A/S

Y

flicker CHK lamp
display "Err"

Initial check state
Input sensor signal
Without vibration
sensors located

Finish initial
check state

N

Y

CHK lamp lights
Display "rdy"

Attach sensor on engine

Disconnected sensor

Checking idle

N

No change
during 10 sec

Within 10 sec
CHK/GOOD
lamp lights

Y

Finish idle check

Display RPM value

A normal RPM
value

N

Double or half

Y

Standby checking accelerator

Step on the accelerator((3000rpm)

Checking accelerator
measurements

N

No change
during 10 sec

Within 10 sec
GOOD
lamp lights

Y

Finish checking accelerator

Take your foot off the accelerator

A normal RPM
value

N

Y

Finish measure set-up

1.4 Engine speed measurement

1) When the power is turned on, version is displayed. Execute an initial check, alternately twinkling [CHK] and [GOOD] on the left of LCD.

2) When an initial check is completed, [CHK]of the left of LCD is turned on and "rdy" is marked on LCD display. At this time, red lamp of sensor is turned on.

3) Attach magnet of sensor on flat surface around the engine.

   ※ Sensor do not touch the rotor around the engine.

   ※ Attach sensor on flat surface avoiding the edge of the engine.   (refer to page 11)

4) After a few seconds, [CHK] and [GOOD] on the left of LCD are turned on at the same time. And then current engine speed is marked on display. At this time, Yellow lamp of sensor is turned on.

   ※ If the difference between measurement and RPM gauge value is lage, disconnect the sesor and connect the sensor again when "rdy" is maked or LCD display.

   ※ IF "rdy" is maked more than 10 seconds, disconnect and connect again the sensor.

5) When normal engine speed is displayed, maintain 2000~2500 of the engine speed for a few seconds by treadling the accelerator.

6) When only [GOOD] on the left of LCD is turned on, stop treadling the accelerator and check RPM. At this time, Green lamp of sensor is turned on.

7) Preparation for measuring engine speed is completed. Please tread the accelerator to make level you expected, and then measure RPM.

2. OBDⅡ Communication

2.1 Preparation before use

1) Hold the hand breake and put the bridging in front and in back of the tire.

2) Set the car's gear in neutral and start an engine.

2.2 How to Connect Devices

1) Attach the OBDⅡ module in car.

2) Connect the DC12V adapter to of device.

3) When an initial check is completed, [CHK] on the left of LCD is turned on and "rdy" is marked on LCD display.

2.3 Engine speed measurement

1) When the device automatically recognize ОВDИ communication and properly connected, [GOOD] lamp

 flashs and current RPM value is marked.

※ Detach the OBD2 module unless you can't measure by phono magnetic methlod

Oil Temperature measurement(Option)

1) Connect the sensor to   of the machine.

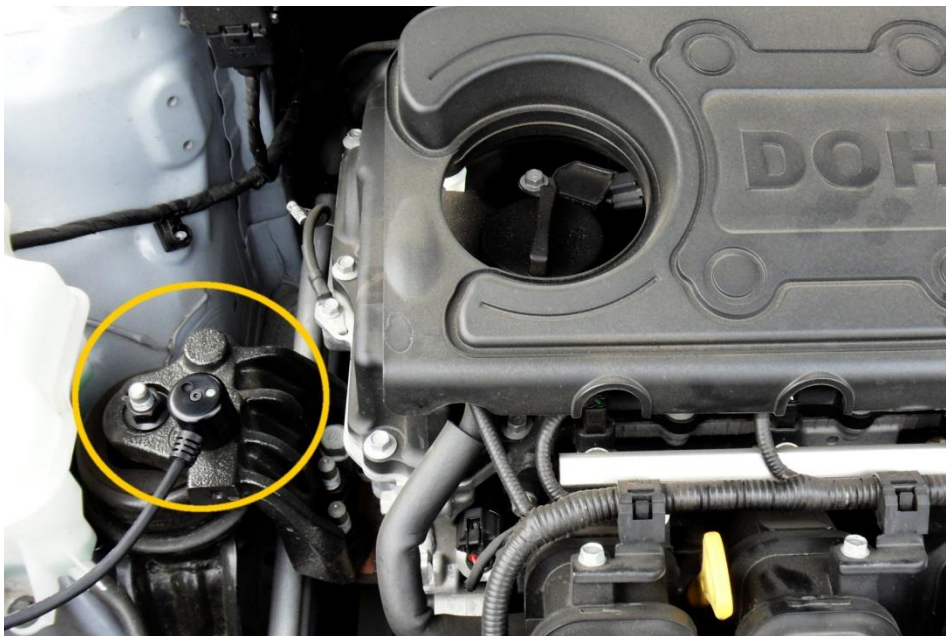2) TEMP lamp of the right of LCD is turned on, and display a current temperature.

3) Input your sensor to place that measure the car's engine oil.

 ※ Watch out burn since engine oil is hot.

Error of oil temp.

Display	Explanation
Hi	Temperature is higher than the measurement range (over 200.0℃)
Low	Temperature is lower than the measurement range (below 200.0℃)
oPEn	Oil sensor has a problem

[Example of attaching sensor]