KOSO® — Feel The Speed

INSTRUCTIONS

● Thank you for purchasing the DL04 meter. This product is a multifunction meter that has a digital liquid crystal display (LCD) with a backlight design, and is easy to install. Before using, please read the instructions carefully and retain them for future reference.

⚠ Attention For Motorcycle

● To avoid a short circuit from occuring do not pull or modify the wires during installation.
● Any damages caused by faulty installation shall be imputed to the users.
● Opening and diassembling this unit will void any warranty.
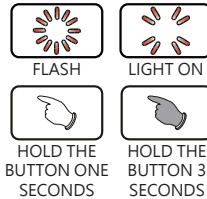● Maintenance and repairs should be executed by our professionals only.
◉ Symbol description:

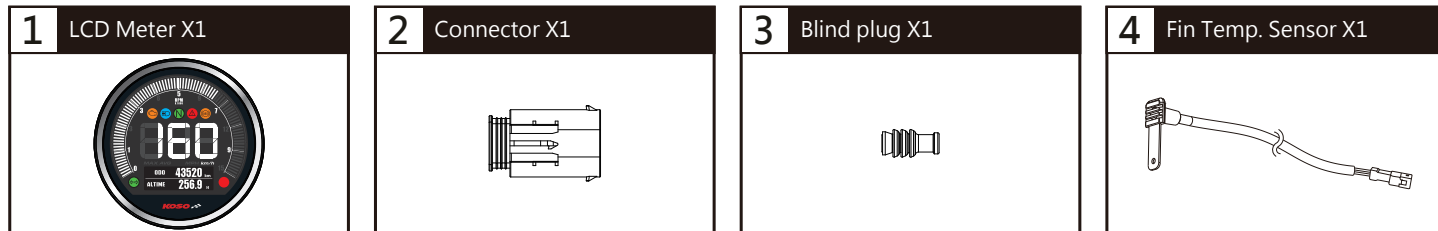|	
FLASH	LIGHT ON
HOLD THE BUTTON ONE SECONDS	HOLD THE BUTTON 3 SECONDS

NOTE
⚠ Procedures must be followed in order to avoid faulty installation.
⚠**WARNING!** Procedures must be followed in order to avoid damages from occuring to yourself and others.
⚠**CAUTION!** Procedures must be followed in order to avoid damages from occuring to the vehicle.

1 Accessories

1 LCD Meter X1	**2** Connector X1	**3** Blind plug X1	**4** Fin Temp. Sensor X1

NOTE Contact your local distributor if the items received are not the same as the items listed above.

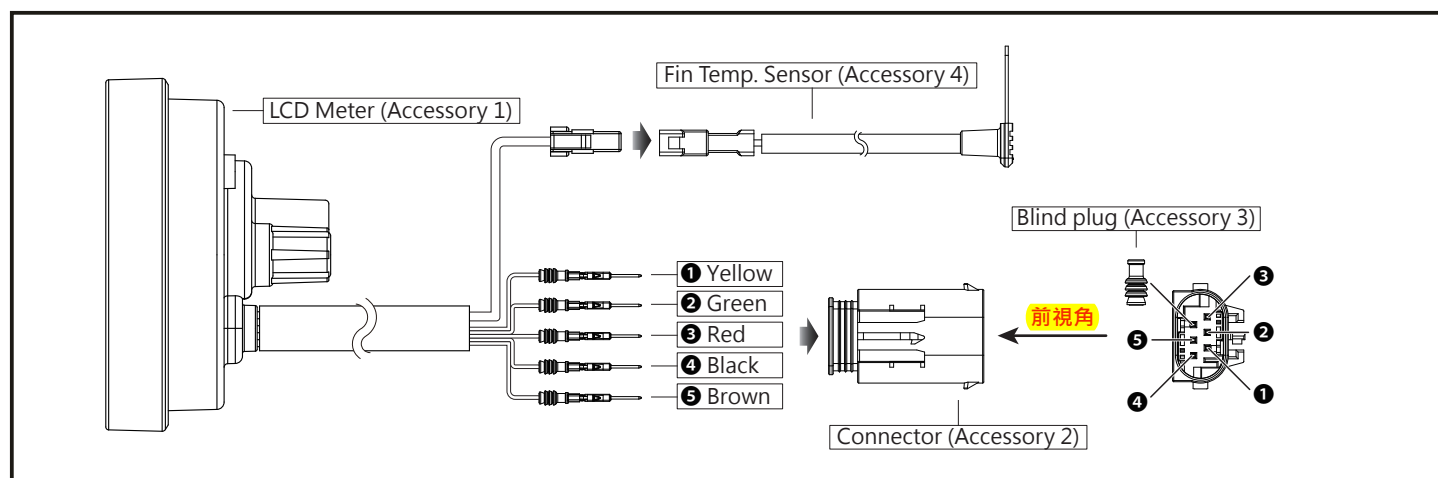## 2-1 Installation instructions

🔧 0.9 Nm (9 kgf.cm)

When installing, please follow the steps bellow.
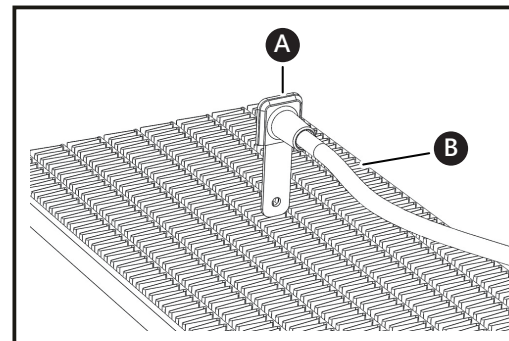1. M5X12L mm Screw x1 (Original part)
2. Meter x1 (Accessory 1)

NOTE Upon installation, the meter shall be placed in after the main wiring has circled the meter holder for one round.

NOTE To diassemble, please refer to the instruction above, and install according to the reverse order of disassembly.

2-2 Wiring installation instructions

- LCD Meter (Accessory 1)
- Fin Temp. Sensor (Accessory 4)
- Blind plug (Accessory 3)
- ❶ Yellow
- ❷ Green
- ❸ Red
- ❹ Black
- ❺ Brown
- Connector (Accessory 2)
- 前視角

2-3 Fin Temp. Sensor installation instructions

Follow the steps below during installation.
1. Please make sure that the Ⓐ Fin Temp. Sensor (Accessory 4) is the correct size.
2. Please apply butter with temperature resistance on the sensor copper plate to ensure the temperture transfer effect, and please keep the surroundings of the blade clean.
3. Please insert Ⓐ Fin Temp. Sensor (Accessory 4) into the Ⓑ Water Tank carefully to avoid damaging the cooling blade.

NOTE The installation location shall be set at the surrounding of the water (oil) tube.

⚠ The butter shall only apply to the surface of the blade that will be inserted into the water. Over application may cause dust adhesion and affect the cooling.

⚠ Please do not install right in front of the cooling fan, or else it may affect the sensing temperature or cause damages to the blades of the fan.

⚠ Keep the wirings away from high heat sources to avoid damages. (Such as exhaust pipe and air-cooled cylinder)

⚠**WARNING!** Please do not stuff or insert the Fin Temp. Sensor into the Water Tank by force to avoid damaging the structure of the Water Tank.
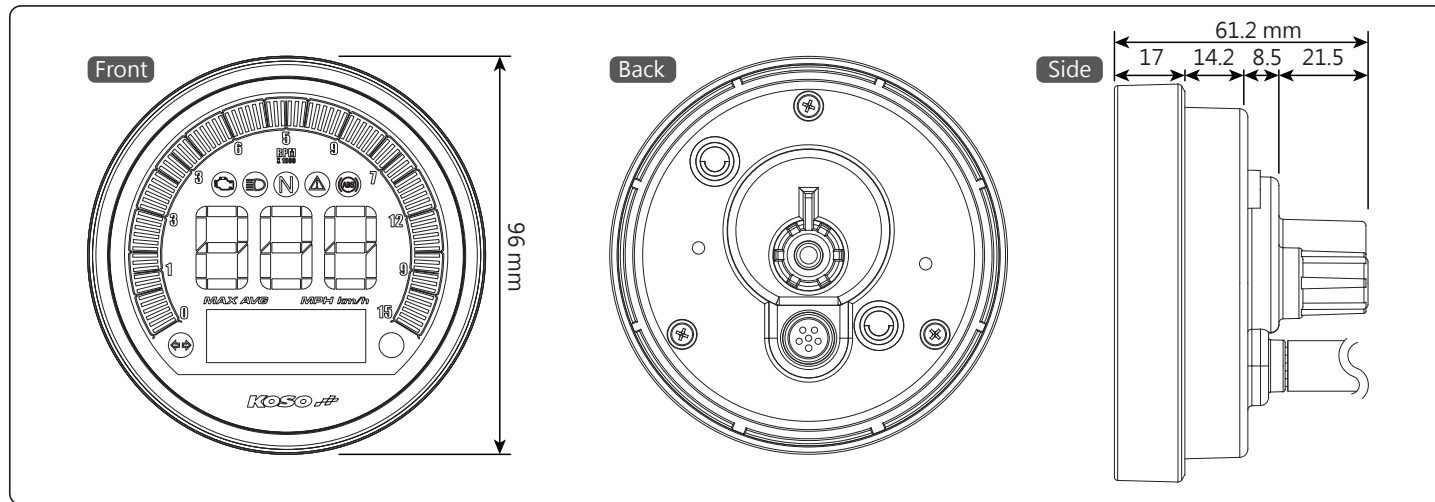
3-1 Basic function instruction

Tachometer
● Display range : 0 ~ 10,000 RPM / 0 ~ 15,000 RPM

Speedometer
● Display range : 0 ~ 360 km/h (225 MPH)

Indication light
● Engine warning light
● High beam light
● Neutral
● Warning light
● ABS
● Trun signal
● RPM shift light

Clock
● Setting range : 12 / 24 hour system
Voltage
● Display range : 8.0 ~ 18.0 V

Highest record
● Highest speed per hour
  Display range : 0 ~ 360 km/h (0 ~ 225 MPH)
● Highest rotation speed
  Display range : 0 ~ 15,000 RPM
● Highest temperature
  Display range : 0 ~ 250°C (32 ~ 482°F)
● Highest voltage
  Display range : 8.0 ~18 V
● Highest gear
  Display range : N、1 ~ 6

Temperature
● Display range : 0 ~ 250°C (32 ~ 482°F)

Internal and external odometer
● Display range : 0 ~ 99,999 km (mile)
● Display unit : 1 km (mile)
Trip meter 1、2
● Display range : 0 ~ 9,999.9 km
● Display unit : 0.1 km
Trip meter O - Motor oil maintenance
● Display range : 0 ~ 9,999.9 km
● Display unit : 0.1 km
Trip meter A -
Mileage for the remaining oil level
● Display range : 0 ~ 9,999.9 km
● Display unit : 0.1 km

Gear
● Display range : N、1 ~ 6

Total engine hour meter
● Display range : 0.0 ~ 9999,9 HOUR
● Display unit : 0.1 HOUR (6 minutes)
Hour meter 1、2
● Display range : 0.0 ~ 9999,9 HOUR
● Display unit : 0.1 HOUR (6 minutes)
Low oil level operating time A
● Display range : 0.0 ~ 9999,9 HOUR
● Display unit : 0.1 HOUR (6 minutes)

3-2 Specifications

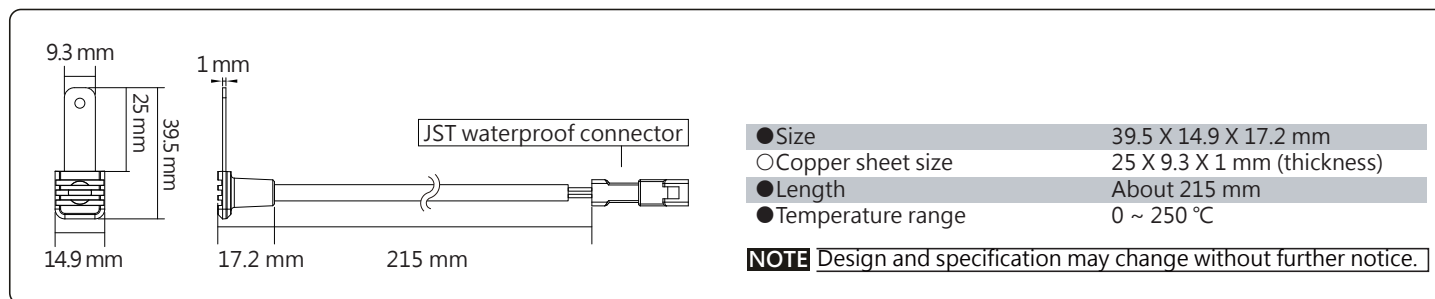|				
● Speedometer	Display range : 0 ~ 360 km/h (225 MPH) Display unit : 1 km/h		● Total engine hour meter	Display range : 0.0 ~ 9999,9 HOUR Display unit : 0.1 HOUR (6 minutes)
○ Internal and external odometer	Display range : 0 ~ 99,999 km (mile) Display unit : 1 km (mile)		○ Hour meter 1、2	Display range : 0.0 ~ 9999,9 HOUR Display unit : 0.1 HOUR (6 minutes)
● Trip meter 1、2	Display range : 0 ~ 9,999.9 km Display unit : 0.1 km		○ Low oil level operating time A	Display range : .0 ~ 9999,9 HOUR Display unit : 0.1 HOUR (6 minutes)
● Trip meter O	Motor oil maintenance Display range : 0 ~ 9,999.9 km Display unit : 0.1 km		● Highest record	Highest speed per hour Display range : 0 ~ 360 km/h (0 ~ 225 MPH) Highest rotation speed Display range : 0 ~ 15,000 RPM Highest temperature Display range : 0 ~ 250°C (32 ~ 482°F) Highest voltage Display range : 8.0 ~18 V Highest gear Display range : N、1 ~ 6
○ Trip meter A	Mileage for the remaining oil level Display range : 0 ~ 9,999.9 km Display unit : 0.1 km			
● Oil maintenance mileage	Setting range : 3,000 ~ 16,000 km (300 ~ 10,000 mile) Setting unit : 100 km (mile)			
● Gear	Display range : N、1 ~ 6			
● Speeding warning setting	Setting range : 30 ~ 360 km/h (18 ~ 225 MPH) Setting unit : 1 km/h (MPH)		● Clock	Setting range : 12 / 24 hour system
● Tachometer	Display range : 0 ~ 10,000 RPM / 0 ~ 15,000 RPM		● Back light brightness	Setting range : 1 - 5(Darkest)~ 5 - 5(Brightest)
● Shift light warning	Setting range : 5,000 ~ 15,900 RPM Setting unit : 100 RPM		○ Voltage	DC 12V
● Temperature	Display range : 0 ~ 250°C (32 ~ 482°F)		● Operating temperature -10 ~ +60°C	
● Overheat warning	Setting range : 60 ~ 250°C (140 ~ 482°F) Setting unit : 1°C (°F)		○ Specification	JIS D 0203(S2)
● Voltage	Display range : 8.0 ~ 18.0 V		● Meter Size	D 96 mm
● Low voltage warning	Setting range : 8.0 ~ 12.5 V Setting unit : 0.1 V		○ Meter Weight	Around 194.5 g
			○ Indication light	● Engine warning light ● ABS ● High beam light ● Trun signal ● Neutral ● RPM shift light ● Warning light

NOTE Design and specification may change without further notice.

3-3 Meter size

Front | Back | Side

61.2 mm
17 | 14.2 | 8.5 | 21.5

96 mm

KOSO

3-4 Fin Temp. Sensor Size

9.3 mm
1 mm
25 mm
39.5 mm
14.9 mm
17.2 mm
215 mm

JST waterproof connector

●Size	39.5 X 14.9 X 17.2 mm
○Copper sheet size	25 X 9.3 X 1 mm (thickness)
●Length	About 215 mm
●Temperature range	0 ~ 250 ℃

NOTE Design and specification may change without further notice.

3-5 INFO button function shifting instructions

● Total Odometer / Total engine hour meter screen, **press button INFO once** to switch to Trip 1 / Hour meter 1 screen.

● Hold the button INFO for 3 seconds enter the setting screen.

● Trip 1 / Hour meter 1 screen, **press button INFO once** to switch to Trip 2 / Hour meter 2 screen.

● Hold the button INFO for 3 seconds, clear the records for 2 functions at the same time.

● Trip 2 / Hour meter 2 screen, **press button INFO once** to switch to Trip meter O - Motor oil maintenance / Low oil level operating time A screen.

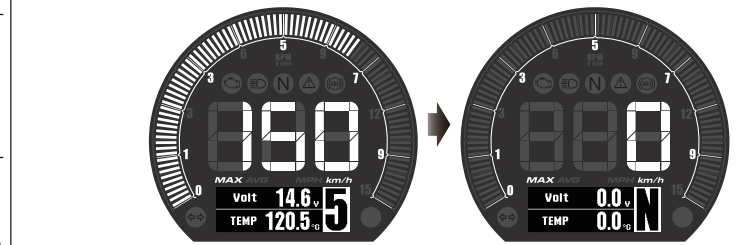● Hold the button INFO for 3 seconds, clear the records for 2 functions at the same time.

● Trip meter O - Motor oil maintenance / Low oil level operating time A screen, **press button INFO once** to switch to highest record screen.

● Hold the button INFO for 3 seconds, clear the distance table O – oil mileage records.

● Highest voltage / Highest temperature screen, **press button INFO once** to switch to Total Odometer / Total engine hour meter screen.

● Hold the button INFO for 3 seconds, clear the records for 5 functions at the same time.

NOTE 5 functions : ❶Highest speed per hour ❷Highest rotation speed ❸Highest temperature ❹Highest voltage ❺Highest gear

● Total Odometer / Total engine hour meter screen.

3-6 Button, heating grip, and function shifting instructions

● Clock / Voltage screen, **press button of the heating grip once** to shift to the heating grip - OFF screen.
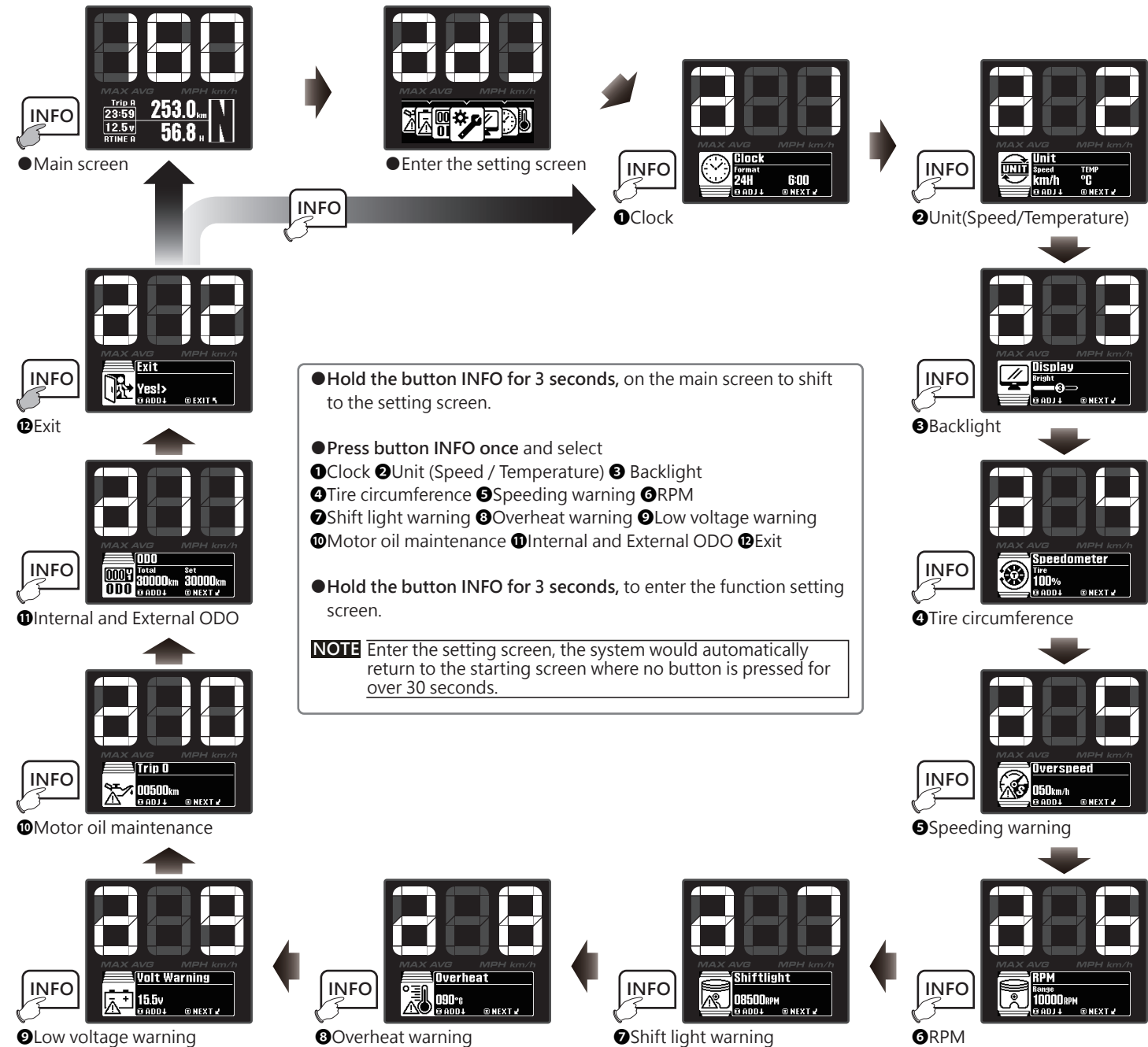
● Heating grip - OFF screen, **press the button of the heating grip once** to shift to the heating grip - gear 1 screen.

● Heating grip - 1 screen, **press the button of the heating grip once** to shift to the heating grip - gear 2 screen.

● Heating grip - 2 screen, **press the button of the heating grip once** to go back to the Clock / Voltage screen.

● Clock / Voltage screen.

4 The settings screen description

● Main screen

● Enter the setting screen

● ❶Clock

● ❷Unit(Speed/Temperature)

● ❸Backlight

● ❹Tire circumference

● ❺Speeding warning

● ❻RPM

● ❼Shift light warning

● ❽Overheat warning

● ❾Low voltage warning

● ❿Motor oil maintenance

● ⓫Internal and External ODO

● ⓬Exit

● Hold the button INFO for 3 seconds, on the main screen to shift to the setting screen.

● **Press button INFO once** and select ❶Clock ❷Unit (Speed / Temperature) ❸ Backlight ❹Tire circumference ❺Speeding warning ❻RPM ❼Shift light warning ❽Overheat warning ❾Low voltage warning ❿Motor oil maintenance ⓫Internal and External ODO ⓬Exit

● Hold the button INFO for 3 seconds, to enter the function setting screen.

NOTE Enter the setting screen, the system would automatically return to the starting screen where no button is pressed for over 30 seconds.

4-1 Clock Setting

- The Clock screen, **press the INFO button for 3 seconds** to enter the clock setting.

INFO

- **Example : Changing the 12H.**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!
- NOTE Setting range : 12 H, 24 H.
  Default value : 24 H.

INFO

- EX : Set time format from 24 H to 12 H.
- **Press the INFO button for 3 seconds** to enter time (hour) setting.

INFO

- **Example : To set clock (hour) as 10 hours.**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!
- NOTE Cursor moving order is :
  Hour → Digit in ten minutes → Digit in minutes
- NOTE Setting range : 1 ~ 12 (12 H)
  0 ~ 23 (24 H)
  Default value : 12(12H) / 0(24H)

INFO

- EX : Set hour from 6:00 AM to 10:00 PM.
- **Press the INFO button for 3 seconds** to enter clock (ten minute) setting.

INFO

- **Example : To set clock(ten minute) as 10 minutes.**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!

INFO

- EX : Set ten minute from 0 to 10.
- **Press the INFO button for 3 seconds** to enter clock (minute) setting.

INFO

- **Example : To set clock (minute) as 5 minute.**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!

INFO

- EX : Set minute from 0 minute to 5 minutes.
- **Press the INFO button for 3 seconds** to go back to the clock screen.

INFO

- Clock main screen.
- **Press button INFO once** to enter next setting.

INFO

4-2 Unit (Speed,Temperature) Setting

- The Unit screen, **press the INFO button for 3 seconds** to enter the speed unit setting.

INFO

- **Example : To set speed unit as MPH.**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!
- NOTE Setting range : km/h, MPH.
  Default value : km/h.

INFO

- EX : Set speed unit from km/h to MPH.
- **Press the INFO button for 3 seconds** to enter the temp. unit setting screen.
- ⚠ Now the setting value is flashing!
- NOTE Setting range : km/h, MPH.
  Default value : km/h.

INFO

- **Example : To set temp. unit to ˚F.**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!
- NOTE Setting range : ˚C (Celsius) and ˚F (Fahrenheit).
  Default value : ˚C (Celsius).

INFO

- EX : Set temp. unit from ˚C (Celsius) to ˚F (Fahrenheit).
- **Press the INFO button for 3 seconds** to go back to the unit (speed, temp.) screen.

INFO

- The unit (speed, temp.) screen.
- **Press button INFO once** to enter next setting.

INFO

4-3 Backlight Setting

- The backlight screen, **press the INFO button for 3 seconds** to enter the backlight setting.

INFO

- **Example : To set the backlight at 5(100%).**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!
- NOTE Setting range : 1 ~ 5 (Brightest).
  Setting unit : 20% per level.
  Default value : 3(60%).

INFO

- NOTE The backlight brightness will change immediately after you set the value.

- EX : Set backlight from 3(60%) minute to 5(100%).
- **Press the INFO button for 3 seconds** to go back to the backlight screen.

INFO

- The backlight screen.
- **Press button INFO once** to enter next setting.

INFO

4-4 Tire Circumference Setting

- The tire circumference screen, **press the INFO button for 3 seconds** to enter the tire circumference setting.
- ⚠ Please reset this setting value if you change to a different tire size.

INFO

- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!
- NOTE Setting range : 50 ~ 200 %.
  Default value : 100%.

INFO

- EX : Set the tire circumference from 100 % to 150 %.
- **Press the INFO button for 3 seconds** to go back to the tire circumference screen.

INFO

- The tire circumference screen.
- **Press button INFO once** to enter next setting.

INFO

4-5 Speeding Warning Setting

- The speeding warning screen, **press the INFO button for 3 seconds** to enter the speeding warning setting.

INFO

- **Example : To set speeding warning value to 80 km/h.**
- **Press the INFO button for 3 seconds** to move to the digit you want to set.
- ⚠ Now the setting value is flashing!
- NOTE Setting range :
  30 ~ 360 km/h (18 ~ 225 MPH)
  Default value : 90 km/h (56MPH)

INFO

- Press the **INFO button** to choose the setting number.

INFO

- EX : Set the speed warning from 50 km/h to 80 km/h.
- **Press the INFO button for 3 seconds** to go back to the speed warning screen.

INFO

- The speed warning screen.
- **Press button INFO once** to enter next setting.

INFO

4-6 RPM Setting

- The RPM screen, **press the INFO button for 3 seconds** to enter the RPM setting.

INFO

- **Example : To set the RPM at 15,000 RPM.**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!
- NOTE Setting range :
  10,000 ~ 15,000 RPM.
  Default value : 10,000 RPM.

INFO

- EX : Set the RPM from 10,000 RPM to 15,000 RPM.
- **Press the INFO button for 3 seconds** to go back to the RPM screen.

INFO

- RPM screen.
- **Press button INFO once** to enter next setting.

INFO

4-7 Shift Light Warning Setting

- The shift light warning screen, **press the INFO button for 3 seconds** to enter the shift light warning setting.

INFO

Shiftlight
06000RPM

- **Example : To set Shift Light Warning value to 9,000 RPM.**
- **Press the INFO button for 3 seconds** to move to the digit you want to set.
- ⚠ Now the setting value is flashing!

NOTE Setting range : 5,000 ~ 15,900 RPM。
Default value : 6,000 RPM。

INFO Shiftlight 06000RPM
- Press the **INFO button** to choose the setting number.

INFO Shiftlight 09000RPM
- EX : Set the shift light warning from 6,000 RPM to 9,000 RPM.
- **Press the INFO button for 3 seconds** to go back to the shift light screen.

- Shift light warning screen.
- **Press button INFO once** to enter next setting.

INFO Shiftlight 09000RPM

4-8 Overheat Warning Setting

- The overheat warning screen, **press the INFO button for 3 seconds** to enter the overheat warning setting.

INFO Overheat 090°C

- **Example : To set the overheat warning at 120 ˚C.**
- Press the **INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!

NOTE Setting range : 60 ~250 ˚C (140 ~482 ˚F).
Default value : 90 ˚C (194 ˚F).

- **Press the INFO button for 3 seconds** to choose the setting number.

INFO Overheat 115°C

INFO Overheat 90°C
- Press the **INFO button** to choose the setting number.

INFO Overheat 120°C
- EX : Set the overheat warning from 90 ˚C to 120 ˚C.
- **Press the INFO button for 3 seconds** to go back to the overheat warning screen.

- Overheat warning screen.
- **Press button INFO once** to enter next setting.

INFO Overheat 120°C

4-9 Low Voltage Warning Setting

- The low voltage warning screen, **press the INFO button for 3 seconds** to enter the low voltage warning setting.

INFO Volt Warning 11.5v

- **Example : To set low voltage warning value to DC 11.0 V.**
- **Press the INFO button for 3 seconds** to move to the digit you want to set.
- ⚠ Now the setting value is flashing!

NOTE Setting range : DC 8.0 ~ 12.5 V.
Default value : 11.5 V.

INFO Volt Warning 11.5v
- Press the **INFO button** to choose the setting number.

INFO Volt Warning 11.0v
- EX : Set the low voltage warning from DC 11.5 V to DC 11.0 V.
- **Press the INFO button for 3 seconds** to go back to the low voltage warning screen.

- Low voltage warning screen.
- **Press button INFO once** to enter next setting.

INFO Volt Warning 11.0v

4-10 Motor Oil Maintenance Setting

- The motor oil maintenance screen, **press the INFO button for 3 seconds** to enter the motor oil maintenance setting.

INFO Trip 0 03000km

- **Example : To set motor oil maintenance at 12,000 km.**
- **Press the INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!

NOTE Setting range : 3,000 ~ 160,000 km (300 ~ 10,000 mile).
Default value : 3,000 km (1,700 mile)。

INFO Trip 0 12000km
- **Press the INFO button for 3 seconds** to move to the digit you want to set.

INFO Trip 0 03000km
- Press the **INFO button** to choose the setting number.

INFO Trip 0 12000km
- EX : Set the motor oil maintenanc from 3,000 km to 12,000 km.
- **Press the INFO button for 3 seconds** to go back to the motor oil maintenanc screen.

- Motor oil maintenance screen.
- **Press button INFO once** to enter next setting.

INFO Trip 0 12000km

4-11 Internal and External ODO Setting

- The internal and external ODO screen, **press the INFO button for 3 seconds** to enter the external ODO setting.
- ⚠ User unable to adjust or clear internal ODO.

NOTE Display range : 0 ~ 99,999 km (mile).

INFO ODO Total 30000km Set 30000km

- **Example : To set external total distance value to 12,000 km.**
- **Press the INFO button** to choose the setting number.
- ⚠ Now the setting value is flashing!

NOTE Cursor's order : one hundred→ thousand→ thousands→thousand→ hundred→ten→digit.

NOTE Display range : 0 ~ 99,999 km (mile).

INFO ODO Total 30000km Set 30000km

INFO ODO Total 30000km Set 30000km
- **Press the INFO button for 3 seconds** to move to the digit you want to set.

INFO ODO Total 30000km Set 10000km
- Press the **INFO button** to choose the setting number.

INFO ODO Total 30000km Set 12000km
- EX : Set external total distance value from 30,000 km to 12,000 km.
- **Press the INFO button for 3 seconds** to go back to the internal and external ODO screen.

- Internal and external ODO screen.
- **Press button INFO once** to enter next setting.

INFO ODO Total 30000km Set 12000km

4-12 Exit Setting

- Exit screen, **press the INFO button for 3 seconds** to go back to the main screen.

INFO Exit Yes!▶

- Main screen.

Trip A 23:59 12.5v ATIME A 253.0km 56.8H

5 Trouble Shooting

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

Trouble	Check item	Trouble	Check item
The meter doesn't work when the power is on.	●The power isn't supplied to the meter. →Please make sure the wiring is connected. The wiring and fuse are not broken. →The battery is too old to supply needed power (DC 12 V).	Thermometer doesn't appear or appear incorrectly.	●Make sure the temperature wire is connected properly. →Please check the temperature wire is connected correctly. ●May be wrong setting. →Please check the setting list to see whether the setting for temperature and others are correct.
The meter shows wrong information.	●Check the voltage of your battery, and make sure the voltage is over DC 12 V.	Voltage doesn't appear or appear incorrectly.	●Wirings for the connector may be poorly installed. →Please confirm whether the wirings for the connector are properly installed and whether the wirings are connected.
Speed meter doesn't appear or appears incorrectly.	●Wirings for the connector may be poorly installed. →Please confirm whether the wirings for the connector are properly installed and whether the wirings are connected. ●May be wrong setting. →Please check the setting list to see whether the setting for speed and others are correct.	The clock is incorrect.	●May be wrong setting. →Please check the setting list to see whether the setting for clock and others are correct. ●Wirings for the connector may be poorly installed. →Please confirm whether the wirings for the connector are properly installed and whether the wirings are connected.
Tachometer doesn't appear or appears incorrectly.	●Wirings for the connector may be poorly installed. →Please confirm whether the wirings for the connector are properly installed and whether the wirings are connected. ●May be wrong setting. →Please check the setting list to see whether the setting for rotation speed and others are correct.	The pilot lamp shows nothing or shows error.	●Wirings for the connector may be poorly installed. →Please confirm whether the wirings for the connector are properly installed and whether the wirings are connected.
Buttons are not working.	●Wirings for the connector may be poorly installed. →Please confirm whether the wirings for the connector are properly installed and whether the wirings are connected.		

If you can't resolve the problems according to the steps above, please contact your local distributors.