

# INSTALLATION



Thanks for purchasing our KOSO Product. Before operating this unit, please read carefully the instruction sheet and retain it for future reference.

## Notice

1. This meter works on DC 12 volts applications only.
2. For proper installation, please follow the steps described in the instruction sheets. Any damages caused by wrong installation shall be imputed to the users.
3. Don't break or modify the wire terminals. To avoid any short circuit, do not pull the wires out of the terminal when installing.
4. Do not disassemble or change any parts.
5. Opening the instrument will void any warranty. Maintenance or repair should be executed by our professionals only.

## MARK MEANING:

**⚠** Some procedures must be followed to avoid damages to the instrument.

**⚠ WARNING!** Some procedures must be followed to avoid injuries to the user or others.

**⚠ CAUTION!** Some procedures must be followed to avoid damages to the vehicle.



## 1-1 Accessories

<b>1</b> Meter X 1	<b>2</b> Speed sensor X 1	<b>3</b> M8/ S type speed sensor bracket X 1	<b>4</b> M10/ S type speed sensor bracket X 1
<b>5</b> M5X5L Hexagon screw X 2	<b>6</b> D6 X 5L mm magnet x6	<b>7</b> 2.5 mm Allen key x1	<b>8</b> Meter bracket X 1
<b>9</b> Handle bar clamp X 1	<b>10</b> Rubber X 1	<b>11</b> M6 X 18L Allen screw X 1	<b>12</b> M5 X P0.8 nut X 3
<b>13</b> M6 X P1.0 nut X 1	<b>14</b> M5 washer X 3	<b>15</b> M6 washer X 1	<b>16</b> M6 Aluminum bushing X 1
<b>17</b> Mid-way connector X 8			

**NOTE** Please contact your local distributor if the items received in the box are not the same as the one listed above.

## 1-2 Optional accessories

<b>1</b> Disc magnet screw 5/16-18 X 22, 1L M5 X P0.8 X 12L M6 X P1.0 X 12, 6L M6 X P1.0 X 19, 7L M6 X P1.0 X 24L M8 X P1.25 X 22, 5L M8 X P1.25 X 27, 5L M8 X P1.25 X 29L M10 X P1.25 X 28, 3L	<b>2</b> Active speed sensor	<b>3</b> L TYPE speed sensor bracket
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**NOTE** The optional active speed sensor can read up to 20 pulses and do not require the installation of any magnets to pick up the speed signal. Note that the passive speed sensor supplied with the instrument can read up to 6 pulses.

**NOTE** Some of the optional accessories might not be available in your country. Contact your local distributor to get more details.

## 2-1 Wiring installation instruction

**Main power switch wire reference:**

	Power	Key on	Ground
YAMAHA	Red	Brown	Black
HONDA	Red	Red / Black	Green
SUZUKI		Black	Green
KAWASAKI	White	Brown	Black / Yellow
KYMCO	Red	Black	Green
SYM	Red	Black	Green
PGO	Red / White	Orange	Black

**Fuel indicator wire reference:**

	Green	KYMCO	Yellow / White
YAMAHA	Green	SYM	Yellow / White
HONDA	Yellow / White	PGO	Gray
SUZUKI	Yellow / White		
KAWASAKI	Black / L Green		

**NOTE** The fuel sensor is electronic type, do not connect in parallel with the original wire - otherwise the fuel gauge won't display. The wrong installation of the fuel wire might damage the instrument.

**NOTE** When connecting the power wire, please follow carefully the instruction. If the red & brown wires are connected in parallel, the meter won't work properly.

## 2-2 Installation instructions

**When installing, please follow the process.**

1. Meter (Accessory 1)
2. Meter bracket (Accessory 8)
3. M5 washer X 3 (Accessory 14)
4. M5XP0.8 nut X 3 (Accessory 12)
5. M6XP1.0 Screw (Accessory 13)
6. M6 washer (Accessory 15)

**A** Use the meter bracket (Accessory 8), aluminum bush (Accessory 16) to install the speedometer on the handle bar stem.

**B** Use the meter bracket (Accessory 8), handle bar clamp (Accessory 9), rubber (Accessory 10) and the M6XP1.0 nut (Accessory 13) to install the meter on the handle bar.

## 2-3 Installation instruction

Put the magnet into the brake disc screw hole.

Install the S type sensor bracket.

Adjust the sensor bracket position to make sure the sensor is facing the magnet to prevent bad speed signal.

Install the speed sensor on the bracket.

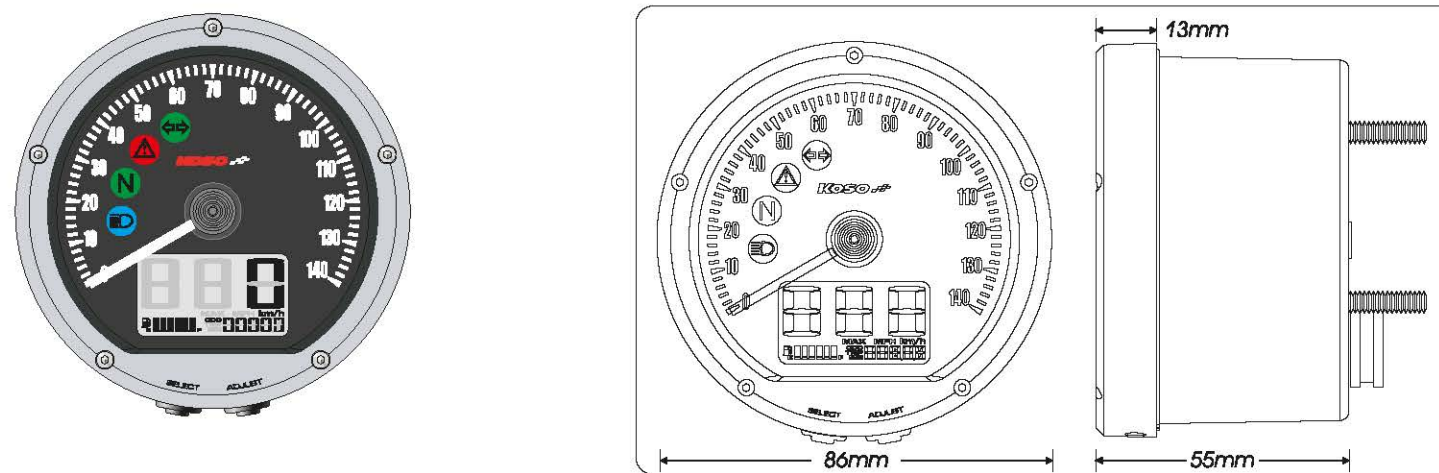
In order to get a good speed signal, the distance between the speed sensor and magnet should be under 2 mm.

**P.S. Try it!**

Higher number of magnets installed on the disk brake will result in a faster speed display on the gauge. The letter "N" on the magnets must face the speed sensor in order to pick up correctly the speed.

EX 1: If the disk brake has 3 screws, you can install 1 or 3 magnets.  
EX 2: If the disk brake has 4 screws, you can install 1, 2 or 4 magnets.  
EX 3: If the disk brake has 5 screws, you can install 1 or 5 magnets.  
EX 4: If the disk brake has 6 screws, you can install 1, 2, 3 or 6 magnets.

### 3-1 Dimensional drawing



### 3-2 Basic function instruction

<b>Needle Speedometer</b> ● Display range: 0 ~ 140 km/h (mph)	<b>Digital Speedometer</b> ● Display range: 0 ~ 360 km/h (0 ~ 225 mph) ● Display unit: 1 km/h (mph)	<b>Odometer</b> ● Display range: 0 ~ 99999 km (mile), reset automatically after 99999 km (mile). ● Display unit: 1 km (mile)
<b>Telltale</b> ● Turn signal (Green) ● Warning (Red) ● Neutral (Green) ● High beam (Blue)		<b>Trip meter A/B</b> ● Display range: 0 ~ 999.9 km (mile), reset automatically after 999.9 km (mile). ● Display unit: 0.1 km (mile)
<b>MAX RECORD</b> ● Digital speed: 0 ~ 360 km/h (0 ~ 225 mph) ● Needle Display: 0 ~ 140 km/h (mph)		<b>Clock</b> ● 24 H
<b>Fuel Level</b> ● Display range: 6 levels. ● The fuel level begins to flash when only 1 level is left.	<b>Select button</b> ● Press the Select button in the main screen to switch between MAX record.	<b>Volt meter</b> ● Display range: DC 8 ~ DC 18V ● Flashing warning when voltage is lower than 11.5V or higher than 15.5 V.
		<b>Adjust Button</b> ● Press the Adjust button in the main screen to switch between ODO, Trip A/B, Clock, Volt meter.

### 3-3 Functions

● Speedometer	Display range: 0 ~ 360 km/h (0 ~ 225 mph) Display unit: 1 km/h (mph)	● Maintenance Mileage	Display range: 0 ~ 99999 km (mile) Display unit: 1 km (mile)
○ Display internal	< 0.5 second	● ODO setting	Display range: 0 ~ 99999 km (mile) Display unit: 1 km (mile)
○ Odometer	Display range: 0 ~ 99999 km (mile), reset automatically after 99999 km (mile) Display unit: 1 km (mile)	● Backlight brightness	Setting range: 1-5 (Darkest) ~ 5-5 (Brightest) Setting unit: Each level represents 20%
○ Trip meter A/B	Display range: 0 ~ 999.9 km (mile), reset automatically after 999.9 km (mile) Display unit: 0.1 km (mile)	● Effective voltage	DC 12 V
○ Tire circumference	Setting range: 300 ~ 2,500 mm Setting unit: 1 mm Sensitive point: 1 ~ 20	● Effective temperature range	-10 ~ +60 °C
● Fuel meter	Display range: 6 levels Display unit: Each level represent 16.6% Setting range: 100 Ω, 250 Ω, 510 Ω, 1200 Ω, SW	● Meter standard	JIS D 0203 S2
● Clock	24 H	● Meter size	85.5 X 54.5 mm
● Volt meter	Display range: DC 8 ~ 18V Flashing warning when voltage is lower than 11.5 V or higher than 15.5 V	● Meter weight	Around 330 g
		● Indicator light color	Turn signal (Green) Warning (Red) Neutral (Green) High beam (Blue)

**NOTE** Design and specifications are subject to change without notice!

### 3-4 Button function instruction

#### Press the Select button

1. In main screen, press the Select button to enter the MAX record display.
2. In setting screen, press the Select button to choose the function you want to set.

#### Hold the Select button for 3 seconds

1. In setting screen, hold pressing the Select button for 3 seconds to go back to the main screen

#### Press the Adjust button

1. In main screen, press the Adjust button to choose the odometer, trip A, trip B, clock, volt.
2. In the setting screen, press the Adjust button to change the setting numbers. If you keep pressing down the Adjust button the number will increase quickly.

#### Hold the Adjust button for 3 seconds

1. In the main screen, hold the Adjust button for 3 seconds to reset the trip A, trip B and the MAX record.
2. In the ODO screen, hold the Adjust button for 3 seconds to switch between the km/h and mile/h.

#### Hold the Adjust button

1. In the setting screen, hold the Adjust button to add quickly the set value.

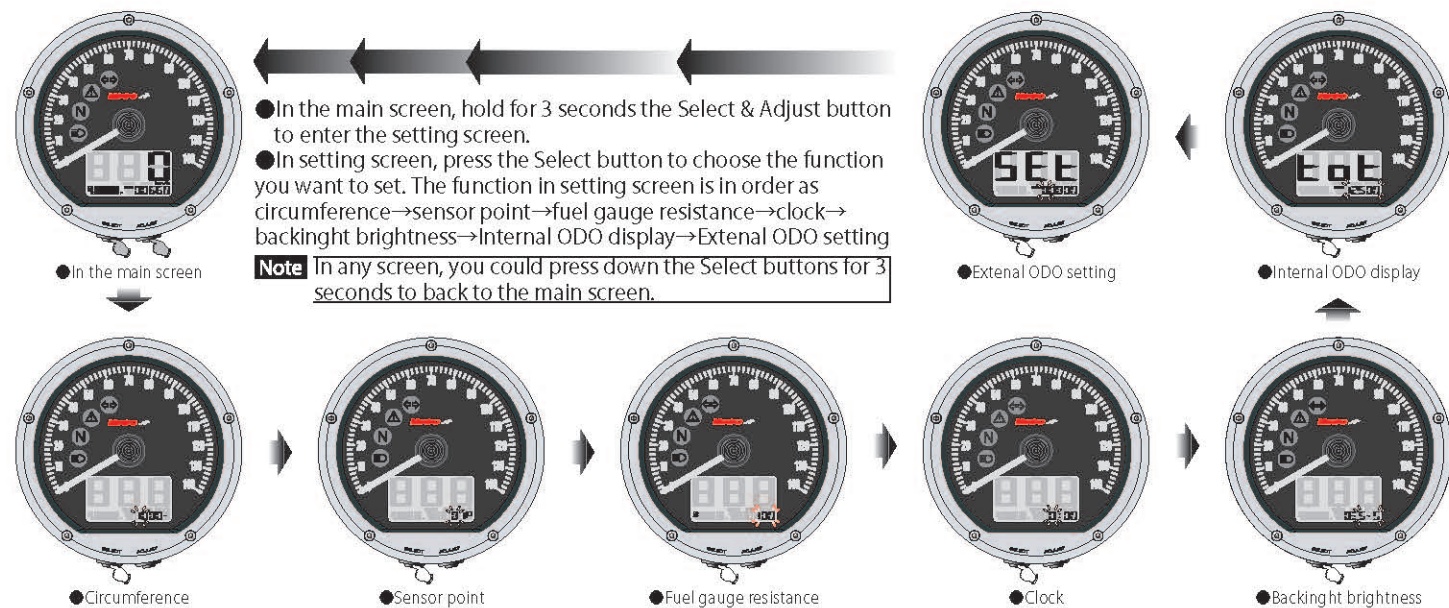
#### Hold the Select + Adjust buttons for 3 seconds

1. In the main screen, hold the Select+Adjust buttons at the same time for 3 seconds to enter the setting screen.

### 3-5 Main function instruction (Select button)

### 3-6 Main function switch instruction (Adjust button)

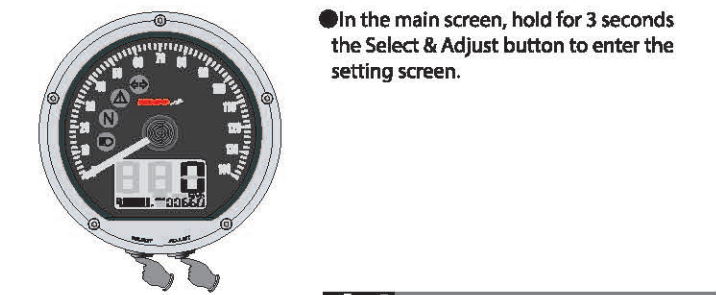
### 3-7 Setting screen instruction



- In the main screen, hold for 3 seconds the Select & Adjust button to enter the setting screen.
- In setting screen, press the Select button to choose the function you want to set. The function in setting screen is in order as circumference → sensor point → fuel gauge resistance → clock → backlight brightness → Internal ODO display → External ODO setting

**Note** In any screen, you could press down the Select buttons for 3 seconds to back to the main screen.

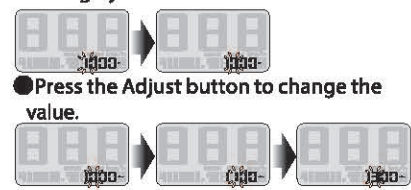
### 4 Entering setting screen



- In the main screen, hold for 3 seconds the Select & Adjust button to enter the setting screen.

#### 4-1 Tire circumference setting

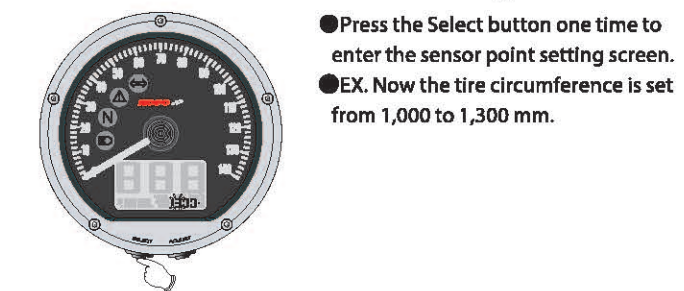
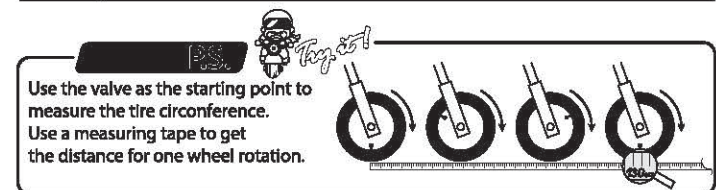
- EX. If the tire circumference is 1,300 mm.
- Press the Select button to move to the digit you want to set.
- Press the Adjust button to change the value.



**Note** Setting range: 300~2500.  
Setting unit: 1mm

#### CAUTION!

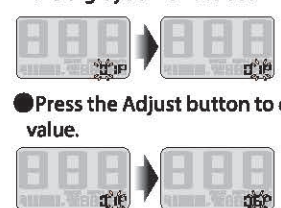
- Measure the circumference of tire which the sensor will be installed and keep note of the number of sensor points.
- The speed displayed on the meter will be affected by the setting. Make sure the tire size and the number of sensor point is correct before you set the value.



- Press the Select button one time to enter the sensor point setting screen.
- EX. Now the tire circumference is set from 1,000 to 1,300 mm.

#### 4-2 Sensor point setting

- EX. If the sensor point is set at 06P.
- Press the Select button to move to the digit you want to set.
- Press the Adjust button to change the value.



**Note** Setting range: 01P~20P.  
Setting unit: 01P.

- Press the Select button once to enter the piston numbers setting screen.
- EX. The sensor point is now set from 01P to 06P.

#### 4-3 Fuel gauge resistance setting

- EX. The fuel gauge need to be set to 510Ω.
- Press the Adjust button to change the setting.



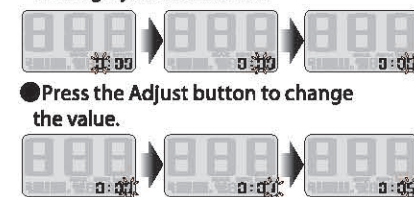
**Note** The fuel gauge resistance setting range: 100Ω, 250Ω, 510Ω, 1200Ω, SW (turn off).

**Note** When Fuel Setting is set to "SW", the fuel level symbol will light up when fuel level signal wire connected to the negative (-) wire

- Press the Select button once to enter the clock setting screen.
- EX. The setting has been changed from 100Ω to 510Ω.

#### 4-4 Clock setting

- EX. Set the clock at 0:05.
- Press the Select button to move to the digit you want to set.
- Press the Adjust button to change the value.



**Note** This is a 24 H clock.

- Press the Select button once to enter the backlight brightness setting screen.
- EX. The clock has been set from 0:00 to 0:05.

#### 4-5 Backlight brightness setting

- EX. Change the brightness to 3-5 (60% brightness.)
- Press the Adjust button to change the value.

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

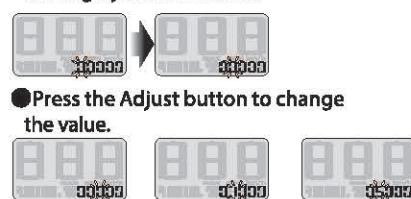
- Press the Select button once to enter the odometer display screen.
- EX. The backlight brightness has been set from 5-5 to 3-5

### 4-6 Odometer display

- Press the Select button one time to enter the external odometer setting screen.
- EX. The internal odometer display is 12500 km.

### 4-7 Odometer display

- EX. Set the odometer to 5000 km (mile).
- Press the Select button to move to the digit you want to set.
- Press the Adjust button to change the value.



- Press the Select button once to go back to the main screen.
- EX. The odometer setting has been changed from 0 to 5,000 km (mile).

● Back to main screen

## 5 Trouble shooting

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

Trouble	Check item	Trouble	Check item
The meter doesn't work when the power is on.	<ul style="list-style-type: none"> <li>●The power is not supplied properly to the meter.</li> <li>→Make sure the wiring harness is connected correctly. The wires and fuse might be broken.</li> <li>→The battery is too old to supply enough DC 12V power to make the meter work.</li> </ul>	Fuel gauge does not appear or appear incorrectly.	<ul style="list-style-type: none"> <li>●Check your fuel tank.</li> <li>→Is there any fuel inside the tank?</li> <li>●Check the wiring harness.</li> <li>→Is the wire connected properly?</li> <li>●Check the setting.</li> <li>→Refer to the manual 4-3.</li> </ul>
The meter shows wrong information. Speed does not appear or appear incorrectly.	<ul style="list-style-type: none"> <li>●Check the voltage of your battery and make sure the voltage is over DC 12V.</li> <li>●Make sure the speed sensor is connected properly.</li> <li>●Check the tire-size setting.</li> <li>→Refer to the manual 4-1 &amp; 4-2</li> </ul>	The clock is incorrect.	<ul style="list-style-type: none"> <li>●Did you connect the wires correctly.</li> <li>→Check the positive wire (Red) connectsd to the battery, and the main positive wire (Brown) connected to the main switch.</li> </ul>

※If still the problem still can't be solve, Please contacy your local distributor to get assistance.