



Thank you for purchasing **KOSO DB-01R+** digital LCD meter, before operating the unit, please read the instruction thoroughly and retain it for the future reference.

**Notice**

1. The meter is apply for **DC 12V**.
2. For installation, please follow the steps described in manual. Any damage caused by wrong installation shall be imputed to the users.
3. To avoid the short circuit, please don't pull the wire when installing. Don't break or modify the wire terminal.
4. Do not disassemble or change any parts excluding the manual description.
5. The interior examination or maintenance should be executed by our professionals.

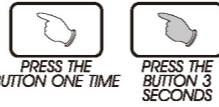
**MARK MEANING:**

**NOTE** You could get the installation details from the information behind the mark.

**▲** Some processes must be followed to avoid the affection caused by wrong installation.

**▲ WARNING!** Some processes must be followed to avoid damages to yourself or the public.

**▲ CAUTION!** Some processes must be followed to avoid the damage to the vehicle.



**1-1 Accessory**

<b>1</b> Meter X 1	<b>2</b> Main wiring X 1	<b>3</b> RPM wire set X 1	<b>4</b> Passive speed sensor X 1
<b>5</b> D6 X 5L mm magnet X 6	<b>6</b> Mid-way connect X 12	<b>7</b> M8/ S type speed sensor bracket X 1	<b>8</b> M10/ S type speed sensor bracket X 1
<b>9</b> Hexagon socket screw X 2	<b>10</b> 2.5 mm spanner X 1	<b>11</b> 4 mm spanner X 1	<b>12</b> Meter bracket X 1 set
<b>13</b> M5 X 12L screw X 2	<b>14</b> M4 screw X 2	<b>15</b> M5 gasket X 2	

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

**1-2 Option accessory**

<b>1</b> Disc magnet screw 5/16-18 X 22.4L 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> Digital speed signal sensor JIS TYPE α	<b>4</b> Digital speed signal sensor JIS TYPE A
<b>5</b> Digital speed signal sensor RUNNER	<b>6</b> Digital speed signal sensor SR X-FIGHT BOOSTER	<b>7</b> L type speed sensor bracket	<b>8</b> Meter bracket (for handle switch)

**NOTE** The advantage of the active speed sensor is as following. 1. You don't need to install the magnet in the opposite position of the speed sensor. 2. You could set up the sensor signal input up to 60 points, and the speed displayed will be more accurate. Please note that the speed sensor attached in the kit is passive speed sensor, and the maximum speed signal it could read is 20 points.

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

**2-1 Wiring installation instructions**

**Main switch wiring reference:**

	Power	Key on	Ground
YAMAHA	Red	Brown	Black
HONDA	Red	Red / Black	Green
SUZUKI	Red	Black	Green
KAWASAKI	White	Brown	Black / Yellow
KYMC0	Red	Black	Green
SYM	Red	Black	Green
PGO	Red / White	Orange	Black

**NOTE** The color listed above may differ depending on the model.

**RPM wiring reference:**

	Power	Key on	Ground
YAMAHA	Yellow / Black	BUELL	Pink
HONDA	Yellow / Green	CAGIVA	Gray / Green
SUZUKI	Yellow / Blue	DUCATI	Gray / Green
KAWASAKI	Light Blue	H-D	Pink
APRILIA	Gray / Violet	MV	Gray / Yellow
BMW	Black	TRIUMPH	Red
BENNELLI	Gray / Violet		

**NOTE** The color listed above may differ depending on the model.

**Fuel Indicator wiring reference:**

	Power	Key on	Ground
YAMAHA	Green	KYMC0	Yellow / White
HONDA	Yellow / White	SYM	Yellow / White
SUZUKI	Yellow / White	PGO	Gray
KAWASAKI	Black / L Green		

**▲** The fuel sensor is electronic type, please don't parallel connection with the original- otherwise the fuel gauge won't display.  
**▲** The wrong installation of the fuel wiring may cause the meter break.

**▲** The RPM wire installation  
**A.** Please connect the RPM wire to connect to the Ignition coil positive pole.

**2-2 Installation instructions**

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

1. M5 X 12L screw X 2 (Accessory 13)
2. Meter bracket for handle bar (Accessory 12)
3. Fix the bracket on handle bar (7/8 inch)
4. Meter bracket clip (Accessory 12)
5. M4 screw X 2 (Accessory 14)
6. M4 gasket X 2 (Accessory 15)
7. Meter fixed board (Accessory 12)
8. Meter (Accessory 1)

**NOTE** Please adjust the meter to the best visible angle before tightening the screw

**Special instruction for meter fix board.**

**A.** Push meter bracket clip up to lock meter fix board (with meter) on bracket

**B.** Push meter bracket clip down to release meter fix board (with meter) on bracket

### MOTO / SCOOTER S type speed sensor bracket instruction

Put the magnet into the brake disc screw hole.

Install the speed sensor on the bracket.

Install the S type sensor bracket.

Adjust the distance between sensor and magnet. We suggest you to make sure the distance is under **8 mm** for catching good speed signal.

Adjust the sensor bracket position to make sure that the sensor could face the magnet to prevent bad speed signal or no signal!

### MOTO / SCOOTER L type speed sensor bracket instruction

Please install the L bracket and the anti-slip rubber on the front fork and adjust it to the proper height and angle.

Install the speed sensor on the bracket.

Please use the cable tie to fix the bracket on the front fork. Please make sure the disc screw could pass the hole on the bracket for you to install the sensor into the same hole for catching the speed signal.

Adjust the distance between sensor and magnet. We suggest you to make sure the distance is under **2 mm** for catching good speed signal.

P.S.

The active speed sensor could be installed by the metal parts to detect the speed.  
 EX. 1 The disc screw.  
 EX. 2 The disc to detect the disc gap. (Please make sure the distances between the gaps are the same in advance to avoid wrong speed signal.)  
 EX. 3 The sprocket to detect the disc gap. (Please make sure the distances between the gaps are the same in advance to avoid wrong speed signal.)  
**We will suggest you to catch the speed from the disc screws. The more the sensor points are, the better the speed accuracy is. The maximum sensor points the speed sensor could detect is 20 points per turn.**  
**After installation, please use your hand to turn the tire to see if everything is ok. The LED on the active speed sensor will light up once the signal is detected.**

**EX. 1**

**The hexagon socket disc screw**  
 The best detect area: The edge of the hexagon socket screw.  
 Please don't catch the signal from the middle hole of the hexagon socket screw to avoid wrong signal.

**The hexagon screw**  
 The best detect area: The middle of the screws.  
 Some hexagon screw center is with a small hole in the center. In this case, we will suggest you to catch the signal from the edge of the screw like the hexagon socket screw.

**EX. 2**

**The disc**  
 The best detect area: Please detect the speed signal from the gaps of the disc.  
 Please note that there are discs with the gaps in different difference, and this method will not work on it!

**EX. 3**

**The sprocket**  
 The best detect area: Please detect the speed signal from the gaps of the sprocket.  
 Please note that there are sprockets with the gaps in different difference, and this method will not work on it!

### 3-1 Basic function instruction

**Bar graph tachometer**  
 ● Display range : 10,000, 12,000, 15,000 RPM

**Speedometer**  
 ● Display range: 0~360 km/h (0~224 MPH).  
 ● Display unit: km/h or MPH.

**Indicator lights**  
 High beam-blue Oil-red   
 Turn signal-green Neutral-green N   
 Fuel (Yellow) Engine Check-Yellow

**Fuel meter**  
 ● Display range: 6 levels.  
 ● Display unit: Each level represents 16.6 %.

**Odo meter**  
 ● Display range: 0~99999 km (mile), reset automatically after 99999 km (mile).  
 ● Display unit: 1 km (mile).

**Trip meter**  
 ● Display range: 0~999.9 km (mile), reset automatically after 999.9 km (mile).  
 ● Display unit: 0.1 km (mile).

### 3-2 Function, setting instruction

● Speedometer	Display range: 0~360 km/h (0~224 MPH) Display unit: km/h & MPH for alternative	● Fuel meter	Display range: 6 levels Display unit: Each level represents 16.6 % Setting range: 100 Ω, 250 Ω, 510 Ω, 1200 Ω
○ Display Internal	<0.5 second	○ Insufficient fuel warning	Display range: The fuel reserve symbol begins to flash if only 1 grids left When Stage 0, the fuel indicator will light up.
○ Odometer	Display range: 0~99999 km (mile), reset automatically after 99999 km (mile). Display unit: 0.1 km (mile)	● Effective voltage	DC12V
○ 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 temperature range	-10~+60°C
○ Tire circumference	Setting range: 300~2,500 mm Setting unit: 1 mm · Sensitive point: 1~20	● Meter standard	JIS D 0203 S2
● Bar graph tachometer	Display range : 10,000, 12,000, 15,000 RPM	● Meter size	130 X 54 X 45.5 mm
○ Display Internal	<0.5 second	● Meter weight	Around 90 g
○ RPM input pulse	Setting range: : 0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 6	● Indicator light color	High beam-blue  Oil-red Turn signal-green  Neutral-green, N Fuel (Yellow)  Engine Check-Yellow

**NOTE** Design and specification are subject to change without notice!  
**NOTE** If you enter the setting screen for 30 seconds and don't press the button, it will back to the main screen automatically.

### 4-1 MAIN SCREEN FUNCTION SWITCH INSTRUCTION

**Adjust button function instruction**

- In main screen, press the **Adjust** button once to switch the function from odometer to trip.
- In main screen, you could hold pressing the **Select** button for 3 seconds to change the speed unit.
- In trip screen, press the **Adjust** button once to switch the function from trip to clock.
- Hold pressing the **Adjust** button for 3 seconds to reset the trip.
- In clock screen, press the **Adjust** button once to switch from clock to the main screen.
- The main screen.

**Select button function instruction**

● In main screen, press the **Select** button once to switch backlight color.

**NOTE** Backlight color: blue, orange, Purple.

### 4-2 Function setting instruction

- In main screen, hold pressing the **Adjust+Select** buttons at the same time for 3 seconds to enter the clock (hour) setting.
- **EX: You want to set the hour at 14.**  
 Press the **Adjust** button to choose the hour you want to set.
- **NOTE** Setting range: 0~23 H.
- **EX: Now the setting is changed from 0:00 to 14:00.**  
 Press the **Select** button to enter the minute setting.
- **NOTE** Press the **Select** button to move to the digit you want to set.

- **EX. To change the setting to 14:05.**  
 Press the **Adjust** button to choose the minute you want to set.
- **NOTE** Setting range: 0~59 minutes.
- **EX. Now the minute is changed from 14:00 to 14:05.**  
 Press **Select** button to back the tire circumference setting.



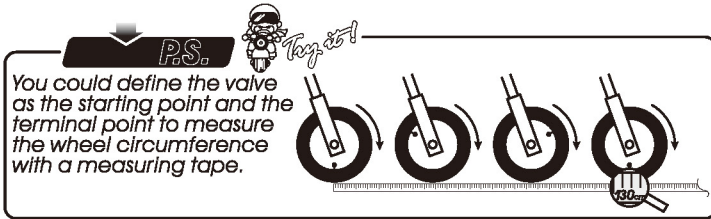
- EX. The tire circumference is 1,300 mm.
- Press the **Select** button to move to the digit you want to set.



**NOTE** The tire circumference setting range : 300~2,500 mm, and the digit you set is from left to right in order.

**CAUTION!**

- Please measure the tire circumference (the tire you will install the sensor on) and make sure the number of magnet sensor point (You could install the magnet into the disc screw or the sprocket screw.)
- The speed displayed on the meter will be affected by the setting, please make sure the setting number is correct before you make the setting.



- EX. The tire circumference setting is changed from 1,000 mm to 1,300 mm.
- Press the **Adjust** button to choose the setting number.



- Press the **Select** button to enter the the sensor point setting.



- EX. The sensor point you want to set is 6.
- Press the **Adjust** button to choose the setting number.



**NOTE** The sensor point setting range: 1~20 points. You could change the setting from left to right.



- EX. the sensor point setting is changed from 1 to 6.
- Press the **Select** button to enter the RPM pulse setting.



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

**NOTE** The piston type can be set is 0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 6.

The setting value	The corresponding stroke and pistons number	The corresponding RPM signal number per ignition.
0.5	4C-1P	2 RPM signals per ignition.
1	2C-1P 4C-2P	1 RPM signal per ignition.
1.5	4C-3P	
2	2C-2P 4C-4P	1 RPM signal per 2 ignition.
2.5	4C-5P	
3	2C-3P 4C-6P	1 RPM signal per 3 ignition.
4	2C-4P 4C-8P	1 RPM signal per 4 ignition.
5	4C-10P	1 RPM signal per 5 ignition.
6	2C-6P 4C-12P	1 RPM signal per 6 ignition.

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



- EX. The ignition angle setting is changed from 1 to 2 (4C-4P).
- Press the **Select** button to enter the RPM signal input setting.



- EX. We would like to change the setting to HI (The positive impulse).
- Press the **Adjust** button to choose the Input signal you want to set.



**NOTE** The impulse setting range is between HI (the positive impulse)& Lo (the negative impulse)

**NOTE** If the tachometer can't detect the signal (No RPM is displayed on the screen), you could choose another setting, and check it again.



- EX. The Impulse setting is changed from Lo to Hi.
- Press the **Select** button to enter the bar graph tachometer range setting screen.



- EX. You want to change the bar graph tachometer range from 10,000 RPM to 15,000 RPM.
- Press the **Adjust** button to choose the setting number.



**NOTE** Setting range: 10,000 ~ 12,000 ~ 15,000RPM



- EX. Now the setting is changed from 10,000 RPM to 15,000 RPM.
- Press the **Select** button to enter the fuel gauge resistance setting screen.



- EX. The fuel gauge you want to set is 510 Ω.
- Press the **Adjust** button to choose the setting number.



**NOTE** The fuel gauge resistance setting range: 100 Ω ~ 250Ω ~ 510 Ω ~ 1200 Ω  
If you don't install the fuel wiring, the fuel gauge will not display.



- EX. Now the fuel resistance setting is changed from 100 Ω to 510 Ω.
- Press the **Select** button to enter the internal odometer display.



- Press the **Select** button to enter the external odometer display.



- EX. You want to set the external odometer to 15,000 km.
- Press the **Select** button to move to the digit you want to set.



- To set external odometer from 10,000 km to 15,000 km.



- Press the **Select** button to back the main screen.



- The main screen.

## 5 Trouble shooting

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

Trouble	Check item	Trouble	Check item
The meter doesn't work when the power is on.	<ul style="list-style-type: none"> <li>●The power doesn't supply to the meter. →Please make sure the wiring is connected. The wiring and fuse are not broken.</li> <li>→The battery is broken or the battery is too old to supply enough power (DC 12V) to make the meter work.</li> </ul>		
The meter shows wrong information.	<ul style="list-style-type: none"> <li>●Please check the voltage of your battery, and make sure the voltage is over DC 12V.</li> </ul>	Fuel gauge does not appear or appear incorrectly.	<ul style="list-style-type: none"> <li>●Please check the spark plug is R type or not. If not, please replace the spark plug with the R type spark plug.</li> <li>●Please check your setting. →Please refer to the manual 4-2.</li> <li>●Please check your fuel tank. →Is there any fuel inside?</li> <li>●Please check the wiring. →Do you connect the wiring correctly?</li> <li>●Please check the setting. →Please refer to the manual 4-2.</li> </ul>
Speed does not appear or appear incorrectly.	<ul style="list-style-type: none"> <li>●Please make sure the speed sensor is connected correctly.</li> <li>●Please check the tire-size setting. →please refer to the manual 4-2.</li> </ul>	The odometer and trip meter is not accumulated or accumulated wrong data.	<ul style="list-style-type: none"> <li>●If it is possible that the permanent power wire is not connected well. →Please check the red positive wire is connect well or not.</li> </ul>
Tachometer does not appear or appear incorrectly.	<ul style="list-style-type: none"> <li>●Please check the RPM sensor wiring is connected correctly.</li> </ul>		

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