



Thank you for purchasing **Gear 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.
- ※ **The meter only fit on the bike with digital speed / RPM signal (TTL SIGNAL 0-5V) !**

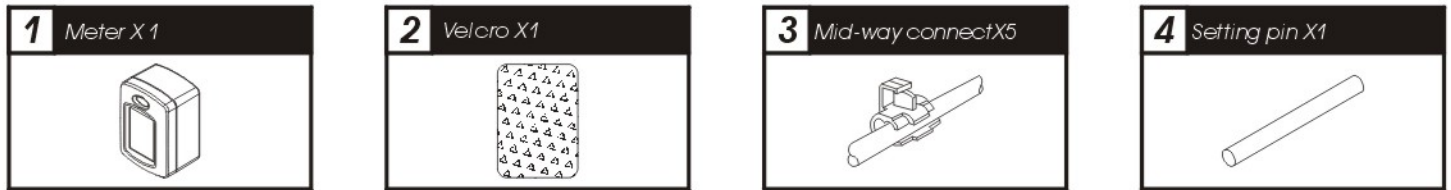
MARK MEANING:

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

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

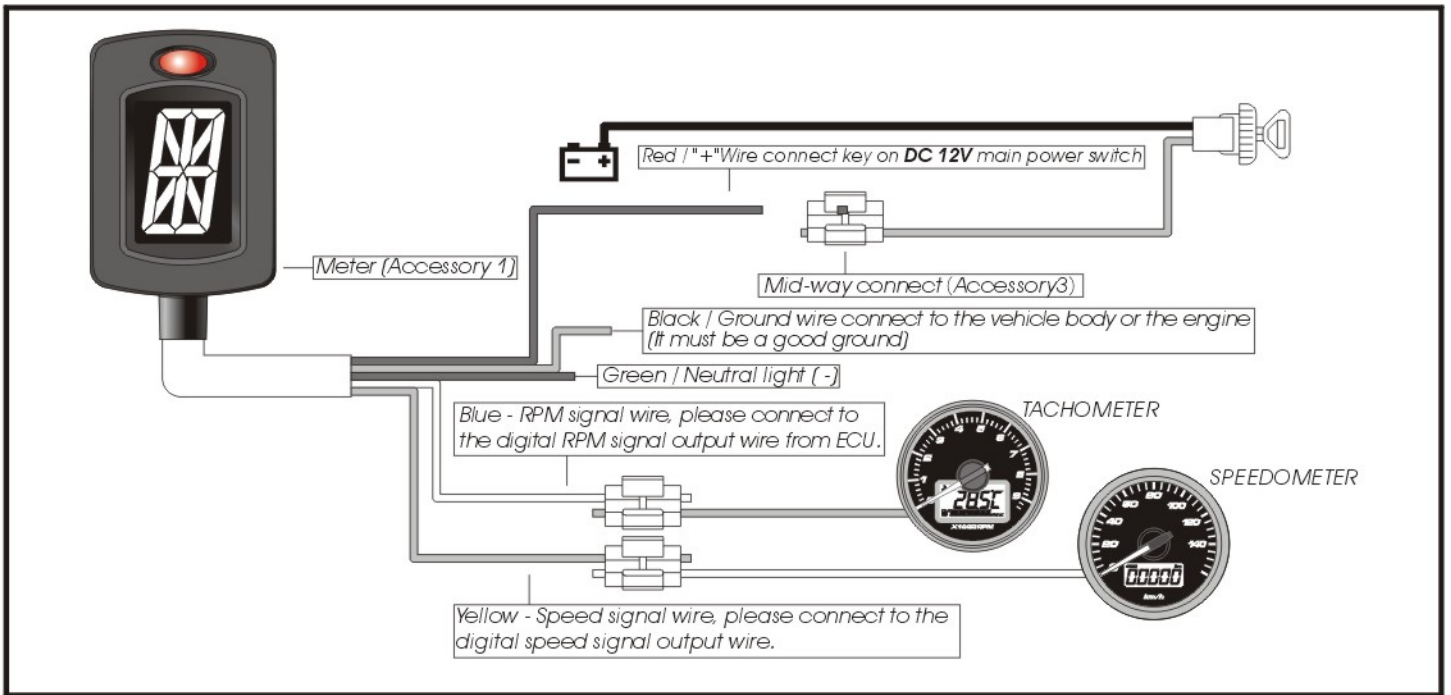
⚠ CAUTION! Some processes must be followed to avoid the damage to the vehicle.

1-1 Accessory

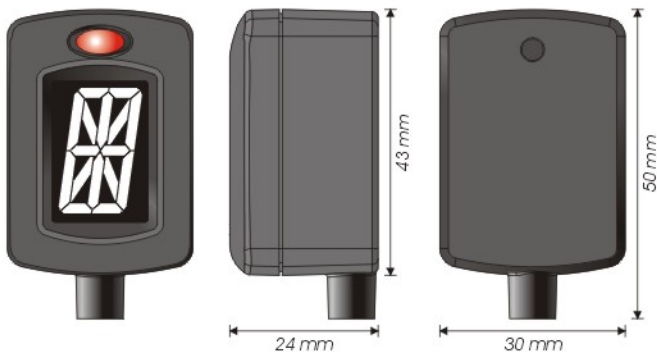


NOTE Please contact the local distributor if the items you open are not the same, with the above-listed one.

2-1 Wiring installation instructions



3-1 Basic function



- Gear meter Display range : N, 1, 2, 3, 4, 5, 6, 7, 8, 9
- Effective voltage **DC 12V**
- Operation temperature -10~ +60°C
- Meter standard JIS D 5601
- Meter size (W X L X H) 30 X 50 X 24 mm
- Meter weight Around 53g

4-1 Gear meter setting



- When the gear meter doesn't detect the current gear, it will show ✱.
- NOTE** Now the gear meter will show ✱ and keep flashing.



The gear setting

⚠ WARNING! Before the setting, please make sure that the bike is in Neutral to avoid the wrong setting caused by the wrong signal.



STEP 1



- Start the engine and fix the bike in neutral, then press down the button to enter the setting. Now the meter will show SET in turn, it means that you enter the setting successfully.

STEP 2



- When the Neutral is flashing, select the first gear. Then the digit "1" will flash and start to detect the gear signal. When the signal is detected, the "1" on screen will be constant and the gear is set.

STEP 3



- Select the second gear after the first gear is set. Then the digit "2" will flash and start to detect the gear signal. When the signal is detected, the "2" on screen will be constant and the gear is set.

STEP 4



- Select the third gear after the second gear is set. Then the digit "3" will flash and start to detect the gear signal. When the signal is detected, the "3" on screen will be constant and the gear is set.

STEP 5



- Select the fourth gear after the third gear is set. Then the digit "4" will flash and start to detect the gear signal. When the signal is detected, the "4" on screen will be constant and the gear is set.

STEP 6



- If you have more gears to set, please keep the following steps until all the gears are detected and set. After you finish the setting, press down the button to exit the setting. After you exit the setting, the screen will show EXT in turn, it means that you already complete the setting.

⚠ WARNING! Don't exit the setting before the setting is finished, or the setting will be wrong.

4-2 Shift light setting



The shift light setting

- Start the engine and fix the engine RPM at the half value of the RPM you want to set for the shift light, then press the button one time to make the setting

NOTE If you want to use the shift light function, please finish the setting in advance.

⚠ For example, if you want to set the shift light at 8000 RPM, you need to fix the engine RPM at 4000 RPM and then press the button to finish the setting.



KOSO GEAR METER APPLICATION INSTRUCTION



Introduction

The gear meter works by comparing relative between motorcycle tacho and speedo signal. For the motorcycle which do not have Tacho. You could get clean pulse signal from engine such like crank pick up sensor. For more RPM signal catch way please check on KOSO website on www.koso.com.tw For the applications not list. You could purchase KOSO signal adaptor parts connect with gear meter to makes the gear meter work properly.

Aprilia Most of these connections will be made at the rear of the Instruments

NOTE Some of Aprilia models wire color may different. Please check correct wire color with motorcycle user manual.

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
Mille Factory	2004	Green/red	Grey/black	Grey/White	Yellow /Black spot
Mille	2001/2	Green	Brown/Pnk	Grey/White	Grey/Violet
Futura	2001/2	Green	Brown	Blue/Orange	Brown/Pink
Falco SL1000	2003	Green	Brown/Pink	Grey/White	Grey/Violet

NOTE Neutral wire is located on LH of frame rail by Diode.

NOTE The wire color of tacho is yellow with black point from Alternator

Bennelli Connections will be made at the rear of the Instruments

NOTE The ground wire normally is back

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
Tornado	2001/2	Green/White	White/Violet	Blue/Orange	Red/Grey
Tornado	2003	Green/White	White/Violet	Blue/Orange	Grey/ Violet

B.M.W Most of these connections will be made at the rear of the Instruments

NOTE The ground wire normally is brown

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
F650CS/GS	All	Green	Brown/Black	Yellow	Black
R1150R	All	Green/Brown	Brown/Black	Blue	L/Green

NOTE R1150R Tacho Connection to Black 6 way plug under tank pin 5, not pin 2 also L/Green

Buell Connections will be made at the rear of the instruments

NOTE The ground wire normally is Black

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
Buell Cyclone	All	Orange	Tan	Orange/White	Pink
Buell XB9R Firebolt	All	Orange/White	Tan/Yellow	White	Pink

Cagiva Connections will be made at the rear of the instruments

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
Raptor	All	Grey/Red	Black/White	Orange/White	Grey/Green

Ducati Most of these connections will be made at the rear of the Instruments

NOTE The ground wire normally is black

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
999	All	To Be confirmed	To Be confirmed	To Be confirmed	To Be confirmed
749*	All	Blue/Yellow	Yellow/Green	Green	Grey/Green
998	All	Red	Blue	Speedo kit *	Grey/Green
996	All	Red	Blue	Speedo kit *	Grey/Green

NOTE Speed upgrade kit Acumen part number 30101 For 749 model: All the wire connect to ECU is at behind of battery carrier.

Harley-Davidson Most of these connections will be made at the rear of the instruments

NOTE The ground wire normally is black

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
Harley Sportster	99	Orange/White	Tan	White/Green	Pink
Harley Softail *	99 on	Orange	Tan	White	Pink
V-Rod *	All	Grey	Tan	White	Red
Sportster *	2006	Grey	Tan	Black/Blue	Red

● For Softail: The pink wire is for Tacho

● For V-rod: The Speedo wire color white. It is twisted by 3 wire red/black/white. The Tacho wire color red. It is twisted by red/black loom to ECU. The rest wire is hidden in back side of meter.

● For sportster 2006: The Speedo wire twisted by 2 wire blue/black. The red wire is crank sensor signal to ECU. Grey wire is from ignition fuse. Black wire is at ECU.

Honda Most of these connections will be made at the rear of the instruments

NOTE The ground wire normally is green. But some models the ground wire using different color like Green/Yellow, Green/Black or Green/Pink

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
HORNET 600	All	Black/Brown	Light Green/Red	Pink/Green	Yellow/Green
CBR600 FX/Y	99/2000	Black/Brown	Light Green/Red	Pink/Green	Yellow/Green
CBR600 F1/S	2001/02	Black/Brown	Light Green/Red	Pink/Green	Yellow/Green
CBR600 RR	2003/4/5/6	White/Green	Light Green/Red	Pink/Green	Yellow/Green
CBR600RR	2007	White/Black	Green/Black	Pink/Green	Yellow/Green
Firestorm	All	Black/Brown	Light Green/Red	Pink/Green	Yellow/Green
Varadero	All	Black/Brown	Light Green/Red	Pink/Green	Yellow/Green
VFR750 *	94FR > 97FV	Black	Light Green	Pink	Yellow/Green
VFR800	Up 2100	Black/Brown	Light Green/Red	Pink	Yellow/Green
VFR800 v Tec	2002-2007	Black/white	Light Green/Red	Pink	Yellow/Green
Fireblade injected	Up to 2003	Black/Brown	Light Green/Red	Pink/Green	Yellow/Green
Fireblade injected	2004	Black/Brown	Light Green/black	Pink	Yellow/Green
Fireblade injected	2004/5	Black/white	Light Green/black	Pink	Yellow/Green
CBR1000RR	2006/7	Black/Brown	Light Green/black	Pink	Yellow/Green
SP1/2	All	Black/Brown	Light Green/Red	Pink/Green	Yellow/Green
CBR1100RR blackbird card	All	Black/Brown	Light Green/black	Pink	Yellow
CBR1100RR blackbird inj	All	Black/Brown	Light Green/black	Pink/Green	Yellow/Green
CB1300-F3*	2003 on	Black/Brown	Light Green/black	Pink/Green	Yellow/Green
ST1300 pan European	2002 on	Black/Brown	Light Green/black	Pink/Green	Yellow/Green
VTX 1800*	All	Black/Brown	Lt Green/RED	Pink/Green	Yellow

VFR750 The wire of ground, power and speedo pick up is from speed sensor behind the left hand of side panel.

CB1300-F3 The connecting can be make in the headlight

VTX 1800 Pick up sensor wire colored yellow.

The Tacho and neutral wires are taken from the ECU

Kawasaki Connections will be made at the rear of the instruments

NOTE The ground wire normally is Black/Yellow

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
ZX6R & ZX636	J model on	Brown/White	Light Green	Yellow	Light Blue
ZX9R	C model on	Brown/White	Light Green	Yellow	Light Blue
Zx10	2004/5/6/7	Brown/White	Light Green	Blue/Yellow	Light Blue
ZX12R	All	Brown/White	Light Green	Yellow	Light Blue
Z1000	2003/4/5/6/7	Brown/White	Light Green	Pink	Light Blue
Z750	2004/5/6/7	Brown/White	Light Green	Pink	Light Blue
ER-6N	2006/7	Brown/White	Light Green	Light Green/Red	Light Blue

M V Agusta Connections will be made at the rear of the instruments

NOTE Some of models not list here please check wire color with user manual.

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
MV F4S Late	All	Violet/Red	Green/Yellow	Brown	Grey/Yellow
F4 1000R	2006	Blue/Yellow	Green/Yellow	Orange/Black	Yellow/Blue

Triumph Most of these connections will be made at the rear of the instruments

NOTE The ground wire normally is Black

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
Daytona 600	03/04	Green/Red	Black/White	Red/Orange	Red
Sprint	RS/RT	Green/Red	Black/White	White/Blue	Pink
Tiger *	05	Green/Red	Black/White	Pink	White/Blue
Daytona 955i	99 on	Green/Red	Black/Grey	White/Blue	Red
Daytona 955i *	2003	Green/Red	Black/Grey	Orange/Green	Red
Sprint ST 1050 *	2004	Green/Red	Black/White	Pink/Yellow	Green/Pink
Speed Triple	2003	Red/Blue	Black/White	Red/Orange	Red
Sprint ST1050	2006	Green/Red	Black/White	Pink/Yellow	Blue/Purple
Tiger 1050 *	2007	Green/Red	Black/White	Pink/Yellow	Blue/Purple

Daytona 955i 2003 model The speedo signal wire orange/green from speed sensor can be found in the right side of fairing near the tank. It is 3 pin triangular waterproof connector.

Sprint ST1050 2004: Power and Earth connections are to the rear of the instruments, as usual. All other connections are under the LH inner fairing panel, into the main loom to the rear of the bike from the ECU.

Sprint ST1050 2006: Speedo, Tacho and Neutral connection into wires into smaller connector of ECU, under LH fairing.

Suzuki Most of these connections will be made at the rear of the Instruments

NOTE Earth (ground) wires are normally Black/white. If the display flickers at high RPM, or goes blank, swap the KOSO Brown and Orange wires. I.e; take the KOSO tacho wire (Brown) to the bike's speedo and vice versa.

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
SV650 *	Up to 02	Orange/Green	Blue/Black	Pink	Green*
SV650S *	Up to 02	Orange/Green	Blue/Black	Pink	Green*
SV650	2003 on	Orange/Green	Blue/Black	Pink/White	Brown/Black
GSX600	Most	Orange/Green	Blue/Black	Pink	Yellow
GSF600 *	Most	Orange/Green	Blue/Black	Pink	Black/Blue *
GSXR600Inj	All	Orange/Green	Blue/Black	Pink	Yellow/Blue
GSX750F *	99/2000	Orange/Green	Blue/Black	Pink	Black/Blue *
GSXR750Inj	All	Orange/Green	Blue/Black	Pink	Yellow/Blue
GSXR750W	All	Orange/Red	Blue/Black	Pink	Yellow
GSXR1000Inj	All	Orange/Green	Blue/Black	Pink	Yellow/Blue
TL1000R	All	Orange/Green	Blue/Black	Pink	Black/Red
GSX1400	All	Orange/Green	Blue/Black	Pink	Brown/Black
Sv1000	Up to 04	Orange/Green	Blue/Black	Pink/White	Brown/Black
DL1000 V-Strom	All	Orange/Green	Blue/Black	Pink/White	Brown/Black
DL650 V-Strom	All	Orange/Green	Blue/Black	Pink/White	Brown/Black
GSX1300R	All	Orange/Green	Blue/Black	Pink	Yellow/Blue
VL 1500	2004-5	Orange/Green	Blue/Black	Pink	Black *

GSF600 Tacho Pulse behind left side panel from Ign Pick-up

GSX750F Tacho Pulse from Ignition Pick-up

GSF1200 Bandit Tacho Pulse behind left side panel from Ign Pick-up

VL1500 Tacho pulse from one of the black alternator wires going to the rectifier regulator inside L/H/S gear box cover

Yamaha Most of these connections will be made at the rear of the Instruments

NOTE Earth (Ground) wires are normally Black or Black/Yellow

Model	Year	Power	Neutral	Speedo	Tacho
KOSO COLOURS		RED	Green	Orange	Brown
FZ6-N *	2004/5/6/7	Red/White	Light Blue	White/Yellow	Grey
FZ1 *	2006/7	Red/Yellow	Light Blue/White	White/Yellow	Grey
Fazer 600	2000/2003	Light Brown	Light Blue	White	Yellow/Black
Fazer 1000	2000/2001	Red/Yellow	Light Blue	White	Yellow/Black
Fazer 1000	2002/3/4/5	Light Brown	Light Blue	White	Yellow/Black
R6	1998	Red/Yellow	Light Blue	White	Yellow/Black
R6	1999-2002	Light Brown	Light Blue/White	White	Yellow/Black
R6 *	2003-2005	Red/Yellow	Light Blue/White	White/yellow	Yellow/Black
R6R *	2006/7	Light Brown	Light Blue/White	White/yellow	Yellow/Black
R1	1999	Red/Yellow	Light Blue	White	Yellow/Black
R1	2000/2001	Light Brown	Light Blue/White	White	Yellow/Black
R1*	2004/5/6/7	Brown	Light Blue/White	White Yellow	Yellow/Black
FJR1300 *	2001/2	Red/White	Light Green	Grey	White/Yellow
FJR1300 & ABS *	2003/4/5/6	Red/White	Light Blue/White	Grey	Yellow/Black
Warrior *		Red/White	Light Blue	White/Yellow	Light Grey
MT01 *	2006/7	Red/White	Light Blue	White/Yellow	Grey

FJR1300 connect to KOSO Speedo wire (Orange) to the bikes Crank sensor (Grey) and the KOSO Tacho (brown) wire to the Bike Speedo (White/Yellow) All connections are to ECU L/H side sub-frame. Neutral wire in loom below ECU. For flickering KOSO or defaulting to 1st gear at high revs, swap the orange and brown KOSO wires around. Connect the KOSO Speedo wire (Orange) to the bikes Speedo (White/Yellow) and the KOSO Tacho (brown) wire to the Bike Crank sensor(Grey)

FZ6-N & Late Fazer 1000 connect to KOSO Speedo wire (Brown) to the bikes Crank sensor (Grey) and the KOSO Tacho (Orange) wire to the Bike Speedo (White/Yellow) All connections are to ECU Loom or, if you prefer, under the petrol tank . Neutral wire in ECU loom coming up from gearbox .

R1 2002/03/04 Speedo connection under tank. White 3-way connector to Speedo sensor

R6 2003 Speedo connection under tank. White 3-way connector to Speedo sensor

Warrior Connections to the ECU except for Neutral wire in loom below ECU and Tacho feed 2way natural colour plug underneath ECU

MT01; All connections under seat. KOSO Red, Black, Brown and Orange to ECU large connector. KOSO Green to large relay behind ECU? you can connect in the main harness on the right-hand side of the bike, at the rear of the tank. If display flashes at higher RPM swap KOSO Brown & Orange wires

FZ1 Grey wire at bike 's ECU, the smaller of the two plug connections

R6R Speedo connection under tank. White 3-way connector to Speedo sensor . Ground connection is Black/White at Instrument cluster