

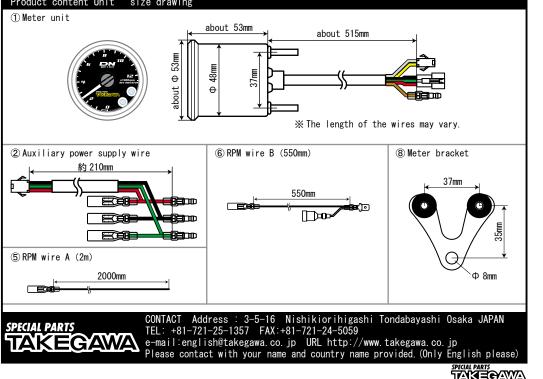
## Precautions on usepurchased dealer

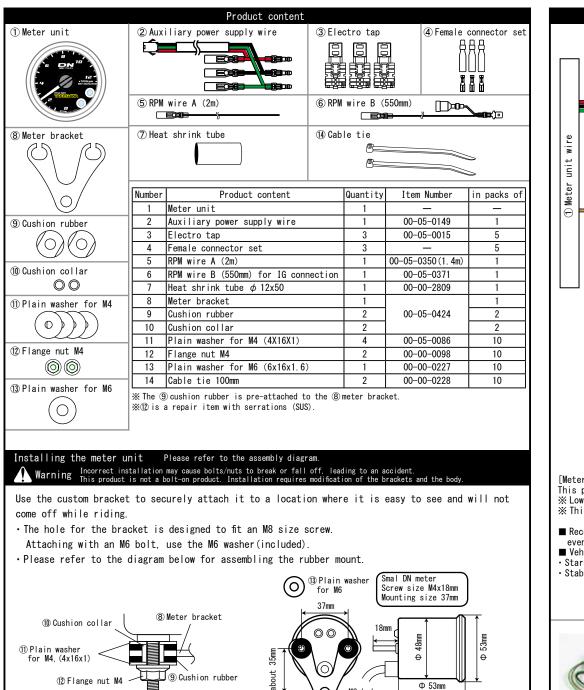
[Prohibition of driving on public road with headlights off / Racing or safety parts removed ] Running without headlights, the unused power will increase the voltage When you continue to run in this condition. the battery may deteriorate due to overcharging or the genuine regulator may malfunction due to excessive strain. In motorcycle with modified engines that run at higher engine speeds than stock, the negative effects will be stronger. If your headlights burn out, stop riding immediately, \*if you need to continue riding, switch headlight to high beam (adjust the optical axis) and run at as low a speed as possible.

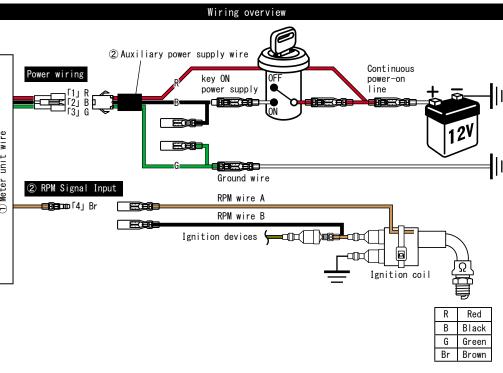
Removing all safety parts on a racing vehicle requires specialized knowledge and replacement or additional parts.

- Do not use LED, H. I. D. headlights or fog lamps kit made by other than our companies at the same time. Some ballast/inverter (voltage converter) generates high-voltage noise that adversely affects the digital circuit resulting in product failure or malfunction.
- The SP Takegawa LED headlight kit can be installed at the same time.
- Do not install aftermarket ignition devices such as ignition coils, plug wires, or racing plugs (resistor-free type) as they may cause malfunctions due to increased noise.
- Deterioration of ignition system parts also contributes to increased ignition noise.
- Do not install aftermarket generators as they may cause a drop in battery voltage due to insufficient charging power or malfunction due to control voltage problems.
- Please be careful not to leave it in the hot sun Please cover it if you leave your bike outdoors for a long time. If left for a long time under harsh conditions such as in the hot sun, there is a risk of deterioration or deformation of body and rubber parts.
- This product is not a full waterproof.
- It has a rain-proof, can be used in the normal rain condition, but it is not fully waterproof (Do not get it in the water). If water gets into the unit, please stop using it immediately.
- Also, when the humidity is high or outside temperature changed, the main unit may absorb moisture and cause fogging on the inside of the panel.
- Please do not use a strong impact to the meter, such as off-road driving, jumping, wheelies, etc. Strong impact, may be damaged internal parts or body.
- If the vehicle battery is not fully charged (each riding is short distance) please charge the battery frequently. Also, if you not ride some period, remove the negative terminal of the battery and charge it frequently. or use our battery charger for fully charging. (Standby current may cause the battery to dead.)

## Product content Unit size drawing







番号	配線色	機能	NO.	Color	Function	
[1]	赤	常時電源入力 (DC12V)	[1]	Red	Battery (DC12V) Allowable voltage range	
[2]	黒	キー ON 電源入力(DC12V)	۲2J	Black	Ignition-SW on (DC12V) DC10V ~ 16V	
[3]	禄	メインアース (GND)	۲3J	Green	Main GND	
[4]	茶	RPM 信号入力(パルス)	[4]	Brown	RPM Signal Input (Pulse)	

#### [Meter unit]

- This product is based on the DC12V battery power supply. Voltage range : DC10V  $\sim$  16V
- \* Lower voltage may LCD density and backlight will be dim.

% This product is NOT compatible with AC12V power supplies.

- Records are stored with a flash memory that does not require a built-in battery, all records are maintained even if the power is turned off for a long period of time.
- Vehicles with batteries (Connect to a DC12V battery power)
- Starting by key-on position. All functions can be used.
- · Stable power source with little voltage fluctuation for engine RPM.



## ■ Optional parts Mini regulator Product number:05-06-0014

Converts input voltages up to 40V to DC12V. The rectifier function also converts AC power to DC power. The mini-regulator is only a protective component when a problem occurs in the vehicle's electrical system, however it does not guarantee use under over-voltage conditions.

When continue to use the vehicle with excessive problems in the electrical system, and the original regulator breaks down and loses its ability to control voltage, Input voltage of the mini-regulator may exceed its maximum



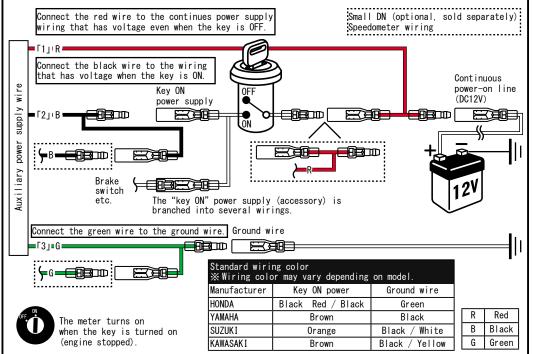


Basic wiring diagram often found on mini bikes, etc. Parts and connecting wire colors differ depending on the models.please understand the purpose of each wire on the meter and carefully check the genuine wiring diagram to connect the wires correctly.

## For motorcycle with battery (DC12V Connect to battery power supply)

The wiring on the meter type connector size (  $\phi$  3.5).

If you can't find connection point, use the connector(included). (If you can't find same size of connector, use the quick connector (included). We recommend to use reliable connectors/couplers for wiring.)



[Connection precautions]

If the power does not turn (with the key ON), is battery deterioration or incorrect wiring. Use a completely deteriorated battery, it will not only cause overvoltage at high speeds, but also cause the genuine regulator to malfunction due to excessive load.

Note:Turn off the headlights on a vehicle with the lights on all the time, the balance of the electrical equipment will be lost and this may cause over-voltage.

#### [Note]

With the engine off, turn on the brake lights and turn signals. If the blinking speed is abnormal, the battery is weak.

[What is DC power supply?]

= DC power supply. Battery power source, voltage is relatively stable from the key is turned on (engine stopped) to the engine is running. Voltage is around 12.5  $\sim$  13V when the key is on, and around 12.5  $\sim$  14.5V while running (general usage)  $\approx$  AC power, type of vehicles uses more power/voltage when the engine starts (mostly in headlights and taillights).

Using modified electrical equipment, we recommend you install our mini regulator kit (05-06-0014 \* sold separately) which controls the voltage up to 40V.

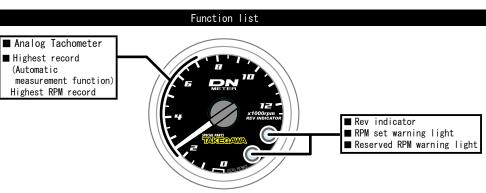
 ${\tt Over-voltage\ may\ occur\ due\ to\ deterioration\ of\ the\ battery\ or\ malfunction\ of\ the\ electrical\ equipment.}$ 



■ Optional parts Mini regulator Product number:05-06-0014 Converts input voltages up to 40V to DC12V. The rectifier function also converts AC

power to DC power. The mini-regulator is only a protective component when a problem occurs in the vehicle's electrical system, however it does not guarantee use under over-voltage conditions.

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This analog display style tachometer uses a DN motor with excellent shock resistance and accuracy, displays and record (automatically) the highest RPM.

The meter has a black back panel with white lighting, it highly visible both during the day or night.

#### ■ List of various functions

	Analog Tachometer	Display range:∼12500r			
		Ignition RPM setting	Number of signals per 2 crankshaft revolutions 1 to 4 signals	Headline number 34	
- "		Electronic circuit	Compatible with DC1OV to 16V (AC power is not compatible)		
PSICAL MARS		Highest record (Automatic measurement function)	Highest RPM record (Records are saved unless reset)	Headline number ①	
SDN RPARZ		Rev indicator	RPM set warning light Reserved RPM warning light (Lights when the RPM is -500 rpm(of set)	Headline number ②	

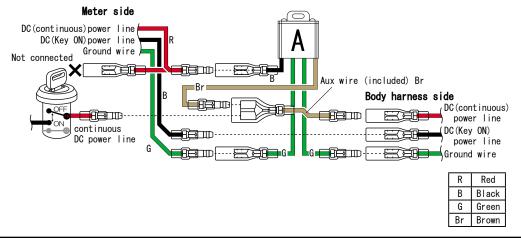
# Mini-regulator connection

• Type A connection (DC(continuous)/DC(Key-ON)/Ground)

Diagram of a meter and two power lines, [continuous DC power line] and [Key ON DC power line].

 $\ensuremath{\mathsf{Please}}$  connect(add) to the continuous DC power supply.

X Type A connected meter requires a constant DC power source from a battery. NOT be used in a battery-less vehicle



SPECIAL PARTS

#### A RPM signal input [A connection] RPM signal input Do not use the aftermarket parts that may have a negative effect. [A connection] Wiring method Increasing the spark also ignition noise accordingly. Modifications to ignition coils, plug cords, How to distinguish the ignition method. C.D.I.ignition DC-C.D.I.ignition method plug caps, racing plugs (non-resistance type), aftermarket CDIs, etc. may have a major negative effects. See heading number ③ Deterioration of ignition system parts also contributes to increased ignition noise. [A connection] Be careful about deterioration and wetting on the surface of the plug cord. A connection Please perform wiring work with care about these condition. Vahicle RPM wiring A side =[4] Brown (1)~(4 There are many ways to pick up the signal. Try the recommended methods in this order. cord Find the lowest negative effects as possible (low signal voltage, low noise) within the range where the tachometer operates normally. Please set the connection. RPM signal frequency, and type by the models. Switch the RPM signal setting of the meter unit. RPM Signal connection : Select the type of RPM wire connection. The setting range of [RPM signal count RPM signal number setting: Basically 2 or 4 RPM signal type setting:Basically Hi, if unstable, try Lo setting] and [RPM signal type setting] changes depending on the value. RPM signal number setting: Setting of the number of signals per crankshaft rotation. When the settings not match, the display shows exactly half, double, triple, etc. 1 Attach the wiring on the near frame or body panel. it will be read by the antenna. RPM signal type setting: Chose the type of loading program that matches your connection method. Small 2) Attach the wiring about 20mm along the surface of the ignition coil and secure it By switching, the same connection method may work properly. with a tie wrap.etc. [A connection] [B connection] [C connection] RPM signal input (3 types) Signal strength ③ Align about 20mm to 30mm along the plug cord and secure with a tie wrap.etc. [A connection] Plug cord surface Note longer the length the stronger the signal. The connection method may varies depending [B connection] Ignition coil primary side Large on the ignition type of the motorcycle. [C connection] Loading the pickup pulse (4) Wrap it around the plug cord and pick up the signal with the electricity generated. Note: more you wrap stronger the signal. How to find ignition types In most cases wrap it around 3 times by method ④ can be read correctly. Know type of ignition system, will help you find the right connection method. ★ : certain conditions There are 3 type of Ignition system. Note: Point type ignition system are $\Delta$ : May be different not compatible with this product. Troubleshooting C.D.I. ignition Common in non-battery model and small size carburetor model. ■ The needle moves stable, but it indicates lower or higher than the actual value. → The "RPM signal count setting" may not be correct. Note: If it doesn't match, it will indicate exactly For ignition There is an ignition coil in the stator, and the double or half the value Basic system For lights and instrument power is stored in the CDI and ignited. Ignition coil ★DC12V power supply (key ON) is not connected to CD ■ The needle does not go up at all, or the goes down at high speeds. Ignition coil is wrapped with ★ There is an ignition coil in the stator $\rightarrow$ Try ways to make the signal stronger. How to find extremely thin copper wiring (right wiring diagram) of about 0.1 mm. and the outer $\triangle$ Most flywheels have only one protrusion. ■ The needle value that is higher than the actual value. The needle swings away. is often protected with a $\rightarrow$ Try to weaken the signal (signals too strong) Connection method [A connection] [B connection] [C connection] Wiring diagram heatresistant sheet lighting 12V Monkey/Ape.both carburetor type. coils are wrapped with copper \* Adjustments are unlikely to introduce subtle numerical errors. It is clear whether values can be displayed wiring of about 0.8 to 1 mm. or not. DC-C.D.I. ignition method Common in older carburetor models. Temporarily secure RPM wiring A with insulating tape, etc., and check operation by rev the engine lightly. lights only For lights only The raised battery power to a high voltage using a boost circuit Basic system and ignited. Commonly known as "battery ignition Warning Do not test ride with attached the RPM wiring temporarily. ★ DC12V power is connected to CDI How to find ★ There is no ignition coil in the stator(right wiring diagram) ■ RPM signal input by [A connection] ③ or ④, please wrap heat shrink tube (sold separately) to complete △ Most flywheels have only one protrusion. the process. • Remove the plug cap from the plug cord. Connection method [A connection] [B connection] [C connection] Wiring diagram • Wrap heat shrink tube over RPM wiring A and shrink by hair dryer etc. KSR110 · CYGNUS-X (carburetor type) · AddressV125 (GK7), etc (Shrinkage temperature: 90°C or higher, shrinks to approximately 50% of the inner diameter) • Please securely secure the RPM wiring with a zip-tie not to fall. • Finally, firmly attach the plug cap. Transistor ignition system Common in injection models and mid to big carburetor models. High tension cord For lights only For lights only Transistor controls the supply of battery power to the ignition Basic system coil and ignites it. Attack $\star$ DC12V power supply is connected to the ignition coil. How to find $\star$ There is no ignition coil in the stator(right wiring diagram) Heat shrink tube $\phi$ 12X50 (kit parts) $\Delta$ There are often multiple flywheels protrusions. Connection method [B connection] [C connection] memo Wiring diagram Monkev(FI) • Ape(FI) • CYGNUS-X(FI) • AddressV125(GK9), etc

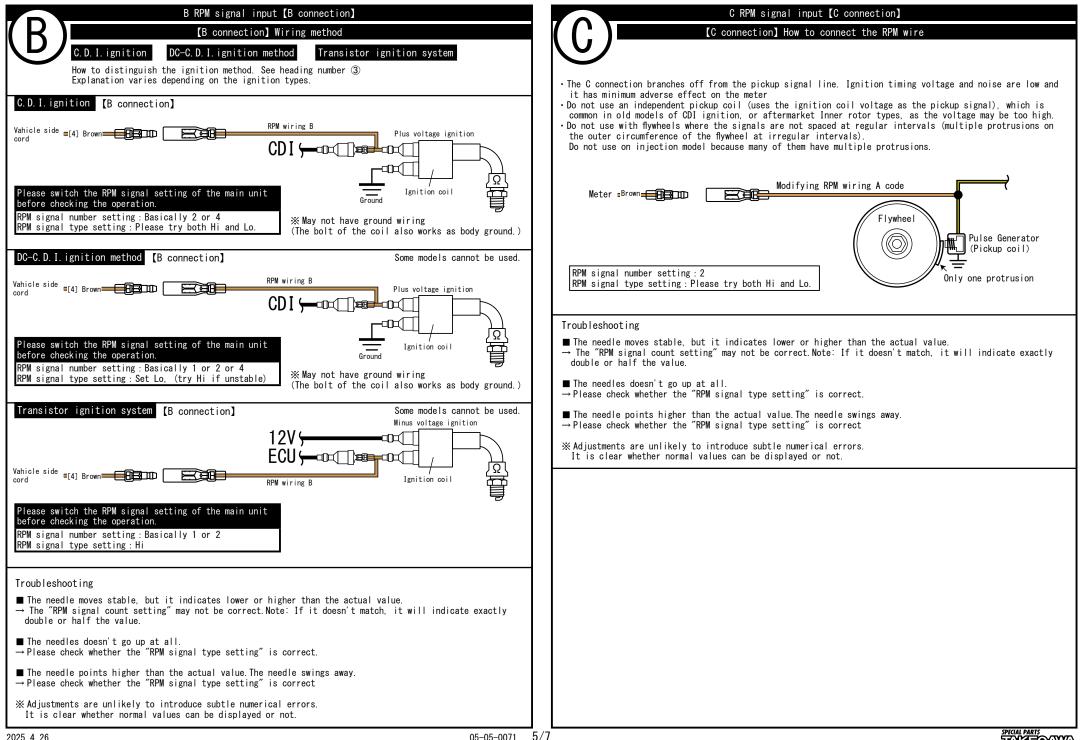


Heat shrink tube

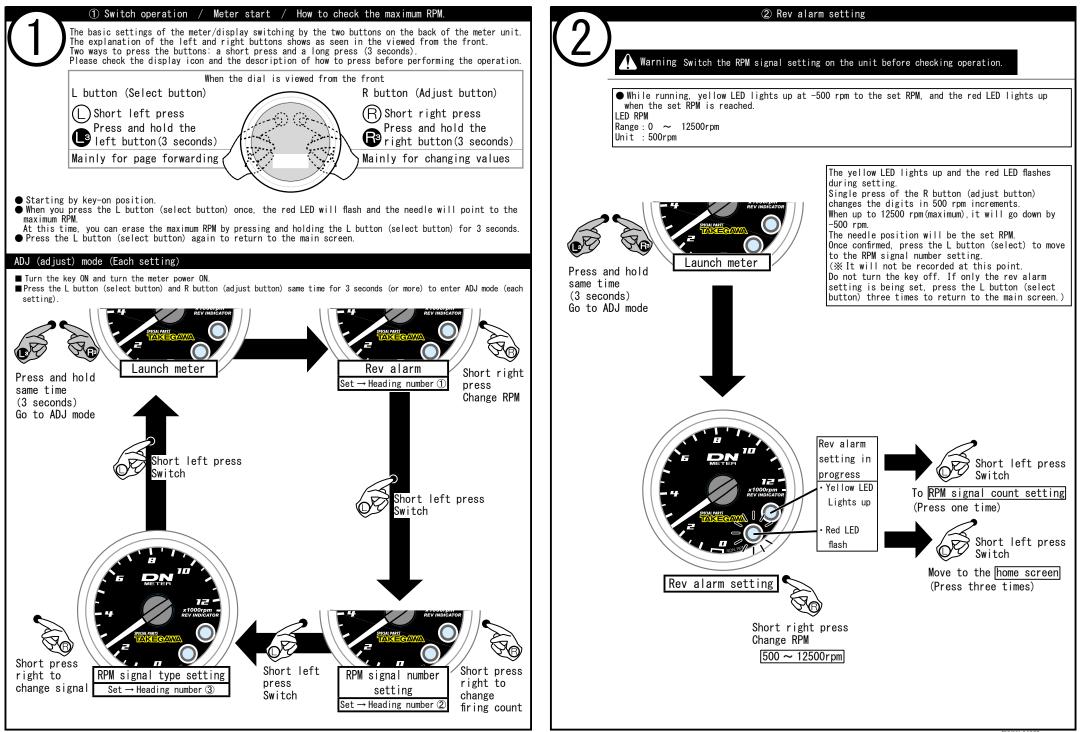
4

Ignition coil

Spark plug cord









#### ③ RPM signal count setting (4) RPM signal type setting O Please refer to pages 4/7 and 5/7. Warning Switch the RPM signal setting on the unit before checking operation. Warning Switch the RPM signal setting on the unit before checking operation. • Number of signals: per two revolutions of the crankshaft • Program types • "1" means that the engine fires once every two revolutions of the crankshaft. • By switching between Hi/Lo, the same RPM wiring connection method may operate correctly. This applies to single-cylinder injection models, and mini bikes such as Monkey FI, and Ape FI. Address V125. Type of loaded program For most single-cylinder carburetor four-stroke models, the setting is "2", which fires twice Range : Pointer "1" for Hi mode / Pointer "0" for Lo mode per two revolutions of the crankshaft.

Some two-stroke one-cylinder bikes and inner rotor equipped bikes, the setting is "2", which

4 times per 2 revolutions.

Press and hold

Go to ADJ mode

Short left press (Press one time)

same time

(3 seconds)

