

System 70 67 499 00 **Alternator for BMW versions /5 and early/6**
=> €/\$ **([base diameter 105mm](#) - check!)**
our complete generator/ignition system see here: [70 67 999 00](#)



Magnet based single phase alternator. Output 12V/[190W](#) DC. No carbons, hence maintenance free. Replaces the original 12V Bosch 3-phase alternator including rectifier and regulator. There is no need for changes on engine casing.

for the /7 and later /6 see system [71 67 499 00](#)

Note: Does not replace ignition!

Picture to left shows complete system (with ignition module)!



Please note:

- does not support any existing electronic revolution counter. If you want a rev meter, [have a look at our info here.](#)

advantage over original system

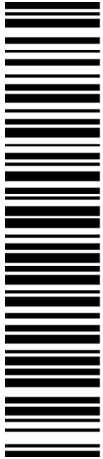
- all parts are new
- no more wear on carbons and collector
- no more trouble with damaged rectifiers

documentation

- [assembly instructions](#)
- [wiring diagram](#)
- [parts in the pack \(photo\)](#)

photos

- [the original Bosch generator](#)
- [new stator unit](#)
- [old and new in comparison](#)



M706749900

If you can install your stock dynamo/alternator and possess basic mechanical skills, you can install a VAPE!

If you never have worked on your electrical system, better have it done by someone who knows.

VAPE can not monitor the compliance to those instructions, nor the conditions and methods of installation, operation, usage and maintenance of the system. Improper installation may result in damage to property and possibly even bodily injury. Therefore we assume no responsibility for loss, damage or cost which result from, or are in any way related to, incorrect installation, improper operation, or incorrect use and maintenance. We reserve the right to make changes to the product, technical data or assembly and operating instructions without prior notice.



IMPORTANT:

Please read these instructions fully and carefully before starting work on your motorcycle

Please bear in mind that [any modification of the material as well as own repair attempts which have not been agreed with VAPE may result in a loss of warranty. Do not cut off wires. This leads to a loss of reverse polarity protection and often results in damage to electronics.](#) Also, please take note of the information provided on the information page for this system. Check that what you have bought really corresponds to the motorcycle you have. During assembly check carefully that the [rotor \(flywheel\) does not touch the stator coils or anything else](#), which may happen due to various circumstances and lead to severe damage.


Designated use

This system is designated to replace stock dynamo/alternator in vintage and classic motorcycles. As it is a voltage generating unit only, it will in not change your engine characteristics. In most cases it will supply more electric power and hence enhance roadworthiness and comfort by offering better lighting, better function of side indicators and horn and, compared with the aging stock systems, increased reliability.

The system does not replace your ignition. **Ignition must be either a completely selfsupplying magneto or there has to be a battery in the system.** The system has not been tested to work with a third party electronic ignition. it may work with it, but also may not and even may damage it. At any rate the system will charge your battery well.

The charging system is only suitable for use with rechargeable 12V (6V systems 6V) lead-acid batteries with liquide electrolyte or sealed lead-acid batteries, AGM, Gel. [It is not suitable for use with nickel-cadmium, nickel-metal-hydride, lithium-ion or any other types of recharchable or non rechargeable batteries.](#)

This is a [replacement system and not a copy of the stock material](#). The parts in this system therefore look different and

	<p>might fit differently (notably ignition coil and regulator) requiring some adaptation by you.</p> <p>During assembly imperatively start with assy of engine based parts to see that those really fit before you start fitting the external parts. In many cases customers assemble those first and thereby often modify them in breach of warranty which renders them unfit for renewed sale. Replacing old electrical systems is not a matter of taking something from a supermarket shelf as there have been very many types, versions and possibly unknown aftermarket modifications which harbour plenty of room for error.</p> <p>Our systems are NOT tested for use with third party electronic devices (such as GPS, mobile phones, LED lighting or electronic ignition)and may cause damage to such parts. Possibly existing electronic tachometers will not work with the new system. Read our information for suitable solutions. Possibly existing safety switches and electronic valve controls are not supported.</p> <p>If you have no expertise for the installation have it done by an expert or at a specialist's workshop. Improper installation may damage the new system and your motorcycle, possibly even lead to bodily harm.</p> <p>Before you order a system, please check whether a puller tool for the new rotor is included in the kit. If not, better order it at the same time. You might want to order light bulbs, fuse, horn, flasher unit etc.</p> <p>Never use anything other than the recommended puller tool to pull the new rotor again. Damage to the rotor as a result of use of other tools or methods is not covered by warranty.</p> <p>The rotor is sensible to blows (including during transport). Before assembly, please always check for damage (on rotor without magnet plastification try to push the magnets aside with your fingers). After impact the glued in magnets might have broken loose, sticking to the rotor solely by magnetic force, so that one does not notice right away. During engine run the damage would be considerable. Before placing the rotor onto the engine, please make sure that its magnets have not collected any metal objects such as small screws, nuts and washers. That equally would lead to severe damage.</p>
 Internet	<p>If you have access to the Internet, best view those instructions online. You get larger and better pictures by clicking onto them and possibly updated information. System list at http://www.powerdynamo.biz</p>



To disengage your new rotor again, you will need a puller M27x1,25 (part 99 99 799 00 - **Not provided!**).

Note: Never use a claw puller, a hammer or any other device, that will shake the magnets off.



You should have received those parts:

- pre-assembled stator unit
- rotor
- regulator/rectifier
- rotor screw M8 with washer
- 3 screws M5
- cables and wire binder

Make sure your motorcycle rests securely, preferably on an elevated work bench and that you have good access to the front of the engine. You will have to turn the front wheel from time to time for better access.

Disconnect your battery and take it out of the motorcycle.



Disconnect all cables on alternator, diode block and regulator and remove those parts.



Do not remove the ignition system. It has to stay in place unaltered.



Put the pre-assembled stator plate instead of the original alternator on the motor case.

Lead the cable upwards through the opening in the rear part of the motor case.



Place the rotor onto the crankshaft and fasten it with the screw M8. Do not forget to place the washer underneath.

Position of the rotor does not matter with this system.

(Picture shows plate from our complete - ignition - system!)



Fix the new regulator/rectifier to the frame of the motorcycle. You may use the space now liberated by the diode plate.

dimensions of this regulator are
80 x 55 x 40mm

(drawing [see here](#))

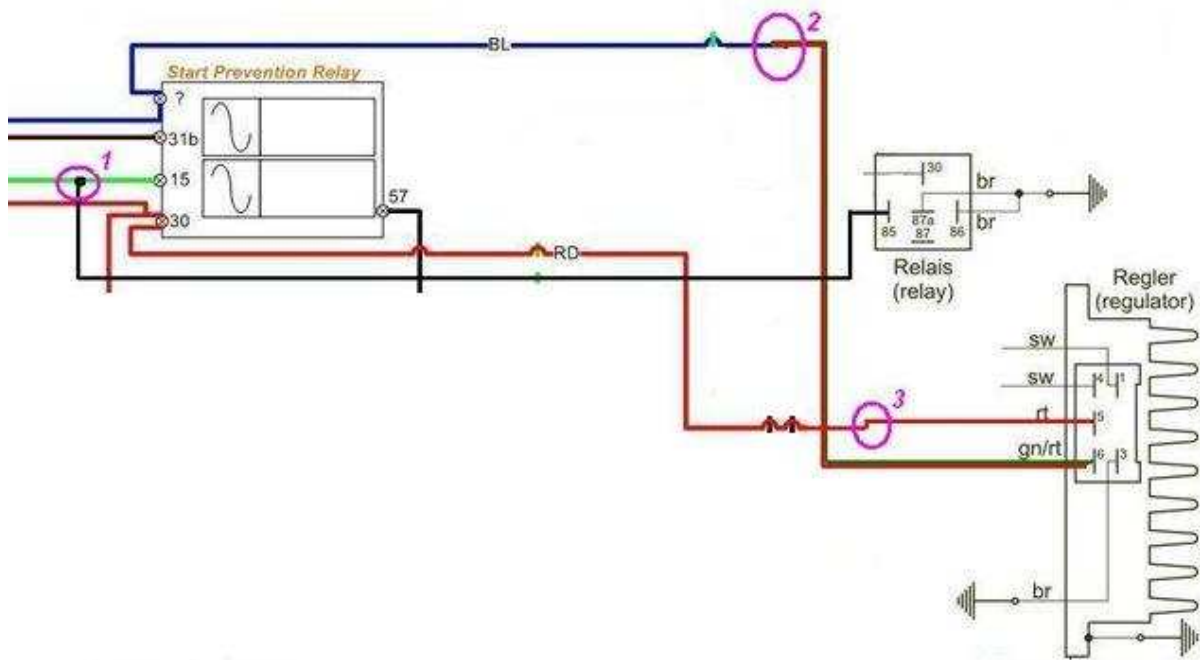
The new system will be wired between the new parts as explained below. You will have to modify however the stock wiring a little (besides of taking alternator, the diode plate and the regulator unit out).

Those changes concern wiring at the original start prevention relay (which please do not confuse with the new cut off relay the VAPE system brings in).

There are 3 connections to modify

- (1) at pin 15 (a green wire to the stock relay), add a wire running to pin 85 of the new switch off relay
- (2) at the pin without number (a blue wire to the stock relay formerly connected to the diode block) connect pin 6 (green/red) of the VAPE regulator (charge control)
- (3) at pin 30 (red wires to stock relay) connect the red from pin 5 of the VAPE regulator (plus output from regulator)

With his arrangement, both the BMW charge control light and the starter prevention relay will function as before.



For a stock wiring diagram [see here](#) (note there have been different versions of this)

Connect the parts as shown in wiring diagram g-only :	
<p>*</p> <p>Regler / Regulator</p>	<p>The new regulator/rectifier has a compact plug with 6 positions, of which <u>one</u> is not used. A female plug cover fitting to this plug is delivered. Into this female plug you have to insert the following wires (which have terminals that snap into the plug):</p>
<p>The two black cables leading from the generator ...</p>	<p>... connect to pins 1/4 of the new regulator (from there equally black wires lead inside the unit). It does not matter which wire connects to which of the both terminals (1/4) as they carry alternating current.</p>
<p>The new brown cable with the round eye terminal ...</p>	<p>... connects pin 3 of the regulator unit (from there equally a brown wire goes inside the unit) with the negative pole of the battery or (in case you drive without battery) to ground (chassis).</p>
<p>The new red cable with the round eye terminal ...</p> <p style="text-align: center;">Take care: Wrong polarity will damage the electronics!</p>	<p>... connects to pin 5 of the new regulator (from there equally a red wire goes inside the unit). Here your regulated positive voltage comes out to connect to battery plus, or (in case you drive without battery) to the voltage input terminal of the main switch (ignition lock, German bikes: pin 51/30).</p>
<p>Make sure that you have a 16A-fuse between battery and vehicle circuitry.</p>	

<p>The green/red wire at pin 6 of the new regulator ...</p> <p style="text-align: center;">Remark:</p> <p>Until November 2007 this wire has been a single wire outside the compact plug.</p>	<p>... is for the charge control light. You connect there the wire that formerly did run from the control light to the original regulator.</p> <p>Sure that this control only functions with a battery present. Should you drive without battery but still connect the wire, you will see that the light glows even as the generator generates voltage. So without battery, do not connect it.</p>
<p>The charge light control function is based on a transistor switch and is an additional function. Even if that should fail, the regulator might still be in ok working condition. Simple check: have the engine running, turn lights on, disconnect the battery. If you have bright lights the unit is ok.</p>	
<p>Remarks for 6 Volt systems:</p>	<ul style="list-style-type: none"> ▪ There is no charge light control function in our 6 volts systems. Hence no green/red wire ▪ The ground wire between plug and regulator body is not brown, but white.
<p>* Finally - and before installing the battery and before the first kickstart - please re-check carefully all connections and fitments against the wiring diagram. Do check battery and light bulbs for correct voltage (12V).</p> <p>Should something not work, please consult our trouble-shooting guide on our homepage. As a first step disconnect the blue wire from the coil and re-test.</p>	
<p>* IMPORTANT: During crank shaft repair the dynamo shaft is often machined and gets shorter. The result is a rotor sitting lower, possibly touching now with its rivets the stator coil. The result is a destroyed stator and ignition failure. For more detail and how to check see (online) here.</p>	
<p>Important safety and operating information for dynamo only systems</p>	
<p># Safety first! Please observe the general health and safety regulations motor vehicle repair (MVR) as well as the safety information and obligations indicated by the manufacturer of your motorcycle.</p>	
<p># After installation, please <u>check tightness of all screws</u>. If parts get loose during run, there will be inevitably damage to the material. We pre-assemble screws only loosely.</p>	
<p># Give the newly installed dynamo a chance to work, before you start to check and test. Our parts have been checked before delivery to you. You will not be able to check much anyway. At any rate do refrain from measuring the electronic regulator other than the output voltage. You risk several damages to the inner electronic there. You will not get any tangible results from the operation anyway. Check ground connections carefully and, to be on the safe side and for testing, put an additional ground wire from the regulator directly to the engine block.</p>	

#	Never do electric arc welding on the bike without completely disconnecting all parts containing semiconductors (ignition coil, regulator, advance) stator and rotor need not be taken off.
#	Electronics are very sensitive to wrong polarity. After work on the system, do check correct polarity of the battery and the regulator. Wrong polarity creates short circuits and will destroy the regulator which is for negative earth only .
#	When you handle the new rotor, take care not to damage its magnets. Refrain from direct blows to the circumference of the rotor. When transporting never put the rotor over the stator. Observe our information relative to transport of the material.
#	It is a good idea to cover the rotor in a thin layer of oil to reduce the risk of corrosion.
#	Never use a claw puller or a hammer to disengage the rotor. Its magnets might become loose in the event. We offer a special puller screw for disengaging the new rotor again (see assembly instruction)!
#	Should the motorcycle not be in use for some longer period, please disconnect the battery (so existing) to prevent current bleeding through the diodes of the regulator. Though, even a disconnected battery will empty itself after a while.
#	Please do observe those remarks, but at the same time, don't be afraid of the installation process. Remember, that before you, thousands of other customers have successfully installed the system. <i>Enjoy driving your bike with its new electric heart!</i>



Schaltplan ohne Zündung 12V (wiring diagram w/o ignition 12V)

