System 7652799DC

Advantages over the old system:

Alternator/Electronic Ignition for 2-Stroke and 4-Stroke NSU Fox

- Magneto lighting system with integrated fully electronic ignition. Lighting output 12V/150W DC. Contactless electronic ignition with independent power supply within the system. Replaces the old alternator, contact breaker, and ignition coil. No modifications to your engine casing are required. Technically, the system is capable of operating without a battery.

- The system has a fixed ignition timing point, just like both original Fox models.

- all parts are new
- significantly brighter light
- very stable ignition with high-energy spark
- better starting and better combustion
- no more wear on the contact breaker

M7652799DC

Installation Instructions for System 7652799DC	26.2.2026

- If you are able to install and adjust the original ignition and have general mechanical skills, you can also install a VAPE system. If you have never done this before, it is better to have the system installed by someone who is experienced.

- VAPE cannot monitor compliance with these instructions, nor the conditions and methods of installation, operation, use, and maintenance of this system. Improper installation may result in property damage or even personal injury. We accept no responsibility or liability for any losses, damages, or costs arising from faulty installation, improper operation, or incorrect use and maintenance, or in any way related to these. We reserve the right to make changes to the product, technical specifications, or installation and operating instructions without prior notice.

IMPORTANT

Make sure to read the complete instructions carefully before beginning installation

Bear in mind that unauthorized modifications, including repair attempts, to the parts may result in the loss of warranty rights. This also applies to cutting cables, which very often leads to the loss of polarity-protected connectors and subsequently to short circuits or reversed polarity that can destroy components.

Please refer to the **notes on the system information page** . Make sure that the depicted system configuration actually meets the requirements of your engine. Incorrect ignition values, for example, can cause damage to the engine and/or injuries when kick-starting (kickstarter kickback). Extra caution is required during the first start after installation. If you notice any malfunction, check and adjust the ignition timing! During installation, carefully verify that the rotor does not rub against the stator coil or anywhere else, which can happen for various reasons and can lead to serious damage.

Intended Use

- This is a **replacement system and not a copy of original parts**. The parts of the system therefore look different from the original parts, and in particular the ignition coil and regulator may have different mounting points that will require adaptation on your part. This system is **exclusively** intended for replacing original lighting/ignition systems in classic and vintage motorcycles, **whose engine characteristics have not been subsequently altered by structural modifications**. It is not a tuning system; it does not alter the original engine characteristics, and no significantly higher engine output is achieved. However, the roadworthiness and safety of the vehicle are improved through better lighting, more distinct turn signals, a consistently powerful horn, and greater overall reliability compared to the aging original systems. Since our systems do not significantly change the engine characteristics, exhaust and noise behavior does not deteriorate either. In most cases, exhaust behavior may even improve due to more complete combustion.

- VAPE guarantees type-approved products marked with the “E” symbol in a circle (specifically for the Czech Republic, E8), ensuring consistent compliance of product characteristics with the relevant ECE type-approval regulations (in particular ECE R10.05). Inspection is carried out regularly by the competent authority

- The charging system is fundamentally **suitable only for use with rechargeable 12V (6V systems: 6V) lead-acid batteries with liquid electrolyte or sealed lead-acid batteries, AGM, or gel type.** It is not suitable for use with nickel-cadmium, nickel-metal-hydride, lithium-ion, or other types of rechargeable or non-rechargeable batteries.

- The system is **not suitable for use in the context of motorsport events.**
In the event of use other than as intended, the warranty becomes void. In addition, the system may not deliver the performance you desire, and we will be unable to assist you with our support because we are not familiar with the situation. In the worst case, use other than as intended may even result in the loss of the operating permit.

- When installing the parts, always begin without fail with the engine-side parts (adapter, stator, rotor) to verify that the material actually fits, before installing the parts to be mounted outside the engine. Unfortunately, it is often the case that installation begins with the regulator, ignition coil, and possibly the control unit, and these parts are frequently (without coordination!) modified, which makes a later return to us impossible. Replacing lighting/ignition systems on old motorcycles is unfortunately not like shopping off a supermarket shelf; given the variety of types and the possible changes to the material since their production many years ago, it is always a complex matter, which may unfortunately also involve errors

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- Our systems are **NOT tested for use with other electronic components (such as third-party ignitions, GPS devices, mobile phones, LED lighting, etc.)** and may under certain circumstances cause damage to such parts. Any existing tachometers are not supported by the system. However, we do offer a tachometer solution. Likewise, any circuit breakers or exhaust control systems controlled by the ignition are not supported. It may also be the case that your original ignition had a speed-limiting device for legal reasons. The new system does not have such a device. Therefore, please check the legal situation beforehand.

- If you do not have the technical expertise for installation, please have the installation carried out by a qualified professional or a specialist workshop. Improper installation can damage both the new system and the motorcycle, or may even result in injury to the rider.

- Before ordering a system, please check whether the **rotor puller** recommended by us is included in the delivery. If not, it is best to order it at the same time! If the rotor is damaged through the use of other tools and aids, the warranty claim becomes void!

- The rotor is extremely sensitive to impact (e.g. also during transport). Always check the rotor for any damage before installation. If the rotor is one in which the magnets are not cast in place, check the secure seating of the magnets by trying to push them sideways with your fingers. After an impact, some of the glued-in magnets may have come loose and may be held in place only by their magnetic force. This would lead to serious damage to the system during operation. At the same time, please check the rotor magnets for foreign objects (e.g. screws or other metallic items).

- **If you have access to the internet, it is better to view this documentation online**. There you can enlarge most images by clicking on them and you will receive more and potentially more up-to-date information. System list at: *http://www.powerdynamo.biz*

You should have received the following parts:

- pre-assembled stator plate
- Rotor
- ignition coil / ignition cable
- regulator/rectifier
- small parts/hardware

- To remove the new rotor again, you will need a puller M27x1.25 (Part No. 99 99 799 00 **-Not included in delivery!-**).

- WARNING: Using a claw puller will cause the magnets in the rotor to come loose!

- Make sure your NSU is standing securely, preferably on an elevated work platform, and that you have good access to the alternator side of the engine.

- Disconnect the battery and remove it from the motorcycle. Please say goodbye to the old unit at this point, as you will from now on have a 12-volt electrical system and will need - if you wish to install a battery - a 12-volt battery. Technically speaking, the system is capable of operating without a battery. However, if your motorcycle does not qualify as a vintage vehicle, the German Road Traffic Licensing Regulations (StVZO) require a functional parking light. If indicators are fitted, you must then install an electrolytic capacitor of at least 20,000 µF/16V for smoothing instead of the battery. You will need 12-volt bulbs for the headlight, speedometer lighting, and rear light. The old horn can remain.

ULZ 6/25/30

- Remove the old alternator with all its parts.

- Remove the woodruff key on the crankshaft taper with pliers. It will no longer be needed. Please do not forget this, otherwise you will have to remove the alternator again later.

- Pay attention to the original shim washers and the sleeve on the crankshaft. You will need to reinstall these later in such a way that the sleeve sits on the crankshaft without play.

- Examine the new base plate with the pre-assembled stator. On one of the elongated slots you will find a red marking. This is needed for the ignition timing adjustment.

- Caution:
If you ever need to completely remove the stator from the base plate, make sure to note its position. Changing the position will inevitably result in an ignition timing change of 120° and thereby render the marking invalid.

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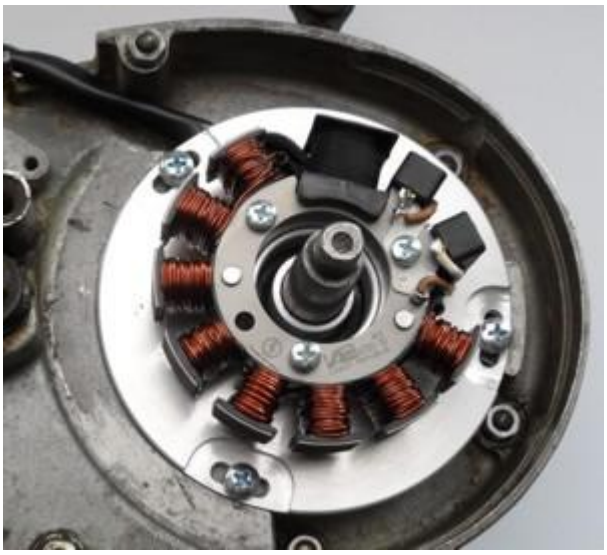
- Now examine the rotor; on its outer circumference you will find a small marking (notched line). Highlighted in white in the image here for better visibility.

- It may be a good idea to make this line more visible with a felt-tip pen so that it can be seen more easily on the engine. This is also an ignition timing mark.



- Bolt the new stator unit to the crankcase using the 3 Phillips screws M5x12.

- The thick black coil will point to approximately the 1 o'clock position.

- Take care not to damage the stator in the process.

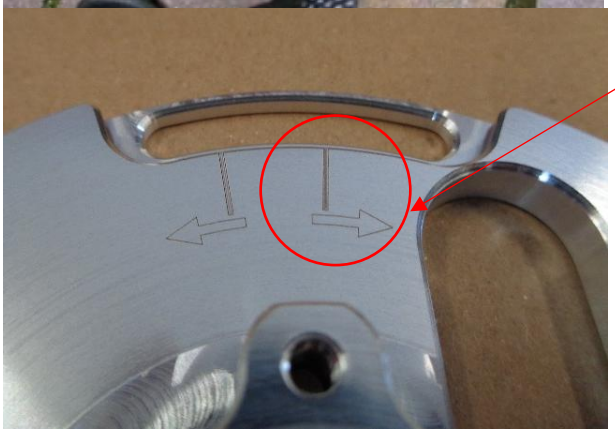
- Remove the spark plug and bring the piston to the ignition timing point. For the 2-stroke engine this is 4mm, for the 4-stroke engine 5.5 mm.

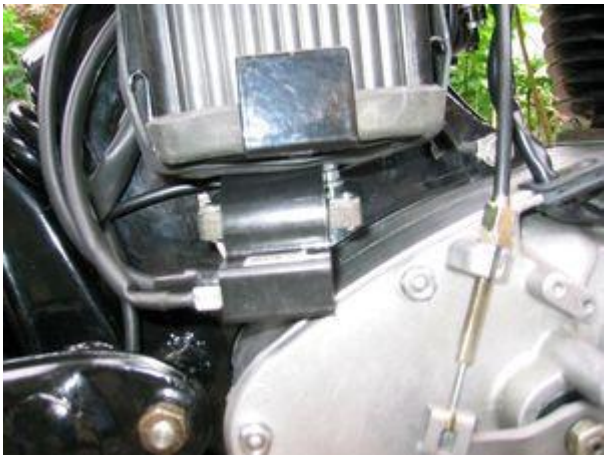
- You can also try initially with 0.5-1 mm less ignition advance (due to high-octane fuels and the high-energy ignition). Since the whole process is complicated using the kickstarter, place the new rotor loosely on the crankshaft stub to use it for turning the crankshaft.

- Once the ignition position has been found, carefully remove the rotor again (without changing the position of the crankshaft!) and place it so that the small line marking on the rotor aligns with the marking on the base plate.

- Carefully bolt the rotor in place using the original retaining nut. Do not forget the washer.

- Throughout the entire process, take care not to move the crankshaft or twist the rotor, otherwise the ignition timing will be incorrect. Screw the spark plug back into the cylinder.





- Mount the new ignition coil and the new regulator in a suitable location.

- This could be, for example, on a small bracket (not included in the delivery) beneath the battery.

- Initially leave one of the two screws loose. This is where a ground cable will be connected.

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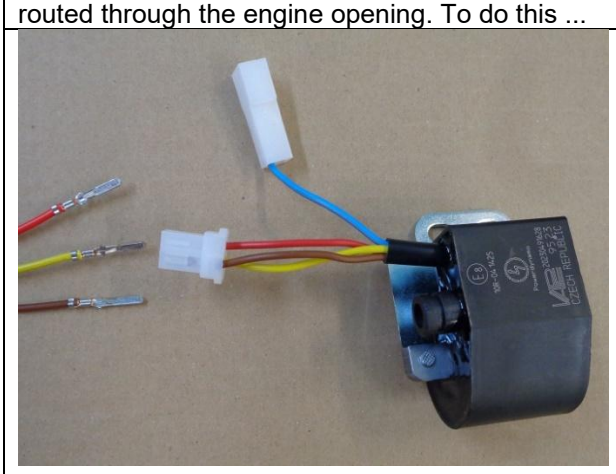
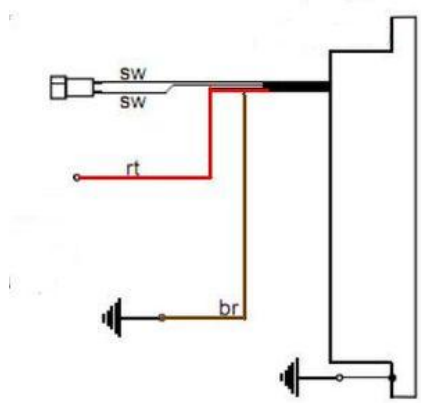
- Especially with the small regulator, it makes sense to house the ignition coil and regulator in an empty battery housing together.

- A simple alternative!!!

- However, if a battery is still housed in the casing, there is no space for the ignition coil:

Connect the cables as indicated in wiring diagram 73ik_102, i.e.:	
- To facilitate or even enable the routing of the cable through narrow openings, the connector of the cable leading to the new ignition coil from the new alternator has not yet been inserted onto the contact pins at the cable end. You should only attach the connector once the cable has been finally routed through the engine opening. To do this ...	
	... take the female connector of the ignition coil with the cable colors yellow, red, and brown. - Insert the loosely supplied 4-pin connector housing onto this connector and feed the loose cables of the alternator (white, red, and brown) with the contact pins into the back of the connector. Make sure that the contact pins click into place in the connector housing. Strict attention must be paid to the correct position of these cables in the connector: • yellow to yellow • red goes to red • brown to brown
- If you wish (or need) to remove the cables from the connector housing again, it is best to use an unfolded paperclip and use it to press the barbs of the contact pins sideways, so that the connectors can be released.	

	The new regulator/rectifier has 4 cables: ▪ the two black cables with the plastic connector are the AC input ▪ the red cable with plastic connector which supplies positive voltage ▪ the brown cable with plastic connector is the ground contact

The two black cables from the regulator ...	... are connected to the two black cables of the alternator. To do this, insert the two black alternator cables into the supplied 2-pin connector housing. It does not matter which cable goes to which of the two terminals, as alternating current is fed in here.
The brown cable from the regulator ...	... wird mit **Minus** der Batterie, bzw. wenn ohne Batterie gefahren mit **ground** verbunden.
The red cable from the regulator ... **<u>Caution:</u>** Incorrect polarity will damage the electronics!	... wird entweder mit **the positive terminal of the 12-volt battery** verbunden oder bei Fahren ohne Batterie mit dem Kabel, das zu den Verbrauchern geht (normalerweise die Eingangsklemme am Hauptschalter).
- If you are riding with a battery, make sure that a **15A fuse** verwendet wird.	
- There is no option to connect a charge indicator light; when riding without a battery, it would have no function anyway. The regulator has an integrated capacitor, which smooths the pulsating DC voltage. This ensures that any fitted indicators and horn also function correctly without a battery.	
- There remains the blue (sometimes also blue/white) cable of the ignition coil - the kill cable. **Note:** In the event of ignition problems, first disconnect this cable (pull the connector). In most cases, you can then continue riding	**- If it is connected to ground, the ignition turns off!** - This wiring variant is used by us in vehicles that originally had magneto ignition (flywheel magneto) and therefore also switched off by short circuit to ground. - These vehicles have a terminal at the ignition switch (on German vehicles: terminal 2), which is switched to ground in the "OFF" position. The blue(/white) cable is connected to this terminal. The ignition switches off in the same way as before.
- The high-voltage cable (ignition cable) ... Please **do not use** "Nology Super Cable" ("hot wire"). These cause interference in VAPE systems and can lead to damage to the electronics	... screw into the ignition coil and place the rubber cap over it. This is of course easier to do before mounting the coil on the vehicle. Please also use the supplied ignition cable and not an old, undefined cable.

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- You would be doing yourself a favour if at this point you fit new spark plugs and new spark plug caps (preferably with 1-2, but no more than 5 kilohms) to your motorcycle. More than enough problems can be attributed to "apparently good" cables, plugs, and caps (including brand new ones)!
- **Do not use** spark plugs with internal suppression resistor **together** with suppressed spark plug caps (this creates double resistance). Always use only one suppression method.

- In conclusion - **before installing the battery and before the first start** - please carefully check all mountings and wiring. Remember to replace all bulbs from 6 to 12 volts. Also remember that from now on you will need a 12V battery. The horn can remain on 6 volts.

- Should the system not work immediately, please consult our troubleshooting page. As a first step, disconnect the blue cable between the relay and the ignition coil (pull the connector); most problems are hidden in the kill circuit.

- IMPORTANT: Please note that if the **crankshaft was reconditioned** (previously), the alternator journal may have been turned down and thus shortened. As a result, the rotor sits deeper and contact may occur between the rotor (the rivets are the lowest point) and the stator coil. The result is a destroyed stator and consequently ignition failure.

Important Safety and Operating Instructions - MUST be read and observed in full!

- Observe the safety instructions and requirements prescribed by the vehicle manufacturer and the motor trade. Installation requires technical expertise.
The ignition marks on the parts serve only as a guide during installation. After installation, please verify the correctness of your setting using appropriate methods (stroboscope) to exclude damage to the engine or risks to your health. You alone are responsible for installation and correct adjustment.

- Warning! Ignition systems generate high voltage - danger to life! Our ignition coils can produce up to 40,000 volts! This can not only cause severe pain if handled carelessly, but can also be damaging, especially to the heart! Persons with pacemakers should not carry out any work on ignition systems. Always maintain a safe distance from the electrode and open high-voltage cables, and during testing press the spark plug cap firmly to ground with an insulating object to safely discharge the voltage.
Never pull a spark plug cap when synchronizing the carburetor! Never disconnect or touch an ignition cable when the engine is running or at starter speed. Only wash the vehicle when the engine is at a standstill.

- If your VAPE ignition cable was supplied with rubber spark plug caps attached to it *(which have no built-in suppression resistor)*, please use *(to comply with local regulations regarding electromagnetic compatibility requirements)* the spark plugs with built-in resistor. Or replace the cable(s) for standard ones and use shielded spark plug caps *(you must never use suppressed spark plugs AND suppressed spark plug caps at the same time. This would cause problems, especially difficulty starting the engine).* The total resistance of the spark plug and cap combination should not exceed 5 kOhm.

- Bear in mind that spark plug caps age and thereby increase their resistance. If an engine only starts when cold, a defective spark plug cap or defective spark plug is almost certainly the cause. Do not use so-called ignition-enhancing cables (e.g. Nology).

- After installation, please make sure to check the secure seating of all retaining screws. If parts come loose, destruction will occur. We only tighten the screws loosely during pre-assembly!

- First give the newly installed system a chance to fire, before you start trying to measure and test everything. Also refer to our notes on how to check for spark. All our parts are tested before delivery. In any case, there is barely anything you can measure on them. Under no circumstances attempt to measure the electronic parts (including the ignition coil, except its high-voltage output). You risk destruction and will still not obtain any useful results! Bear in mind that the problem may also frequently lie with the Vergaser, dem Ansauggummi and above all also the spark plug caps and spark plugs (unfortunately also brand new ones), if the engine does not run immediately (as a rule, after installing the alternator its setting also needs to be adjusted). If the system does not run immediately, check the ground connections above all, in particular between the vehicle frame ground and the engine block. Before removing the parts and sending them to us for inspection, check our knowledge base to see if an answer to your problem can already be found there. If not, use our service ticket system to request specific assistance.
- If you have a system with a dual ignition coil, please note some special features of this coil. The ignition only works correctly when both spark plugs are connected to the coil. You therefore cannot simply remove one spark plug to test. This is because each output draws its ground through the other spark plug. If you really want to test only one side, the other coil output must be connected to ground.
- The spark of classic contact breaker systems has only low energy at approximately 10,000 volts and therefore appears yellow and thick. The spark of our systems is a high-energy spark of up to 40,000 volts and therefore very tightly focused and blue , which makes it harder to see. In addition, the spark is only generated at kick-start speeds. Simply pressing the kickstarter lever by hand will not produce a spark.
- Most of our systems combine ignition and lighting power generation in one. This can be recognized by the presence of a regulator. On the regulator, you can hardly measure anything other than the voltage it outputs. If you are not getting power, check the ground connections above all, and the wiring from the regulator to the ignition switch. This important connection is often cut and overlooked during installation! Most PD systems have DC regulators/rectifiers. However, there are also AC regulators, which have special characteristics to be observed.
- On the vehicle, never perform electric welding without first completely disconnecting all electronic parts containing semiconductors (regulator, ignition coil, and control unit). Stator and rotor do not need to be removed. Only solder with soldering equipment operated via isolation transformers, or unplug the soldering iron before soldering to avoid overvoltage damage to the parts. Never use copper paste on connectors or spark plugs.
- Electronics are sensitive to reverse polarity. After any work on the system, always check the correct connection of the battery and the correct wiring. Reversed polarity and short circuits destroy the regulator and the ignition coil immediately! As a rule, wiring should always follow color to color. Exceptions are explicitly mentioned in the instructions. Damage caused by reverse polarity is not covered by the warranty.
- When mounting the rotor, please take care not to damage the magnets. Avoid direct mechanical force on the rotor. **When transporting the alternator, never insert the stator into the rotor,** please observe our shipping notes (packaging).
- Lightly oil the outside of the rotor; otherwise it will rust quickly in the aggressive environment (which is not harmful but looks unsightly).
- Never use a claw puller or a hammer to remove the rotor. This can cause the magnets to come loose. Always use only a screw-in puller M27x1.25 (see installation instructions).
- If your vehicle is not used for an extended period, you should disconnect the battery (if present) to prevent any slow discharge through the rectifier diodes. However, you will also notice the battery discharging over time even when disconnected - this is normal.
- Please observe these notes, but at the same time do not be put off. Thousands of customers before you have already successfully installed our systems. ***Best of luck and enjoy the ride!***

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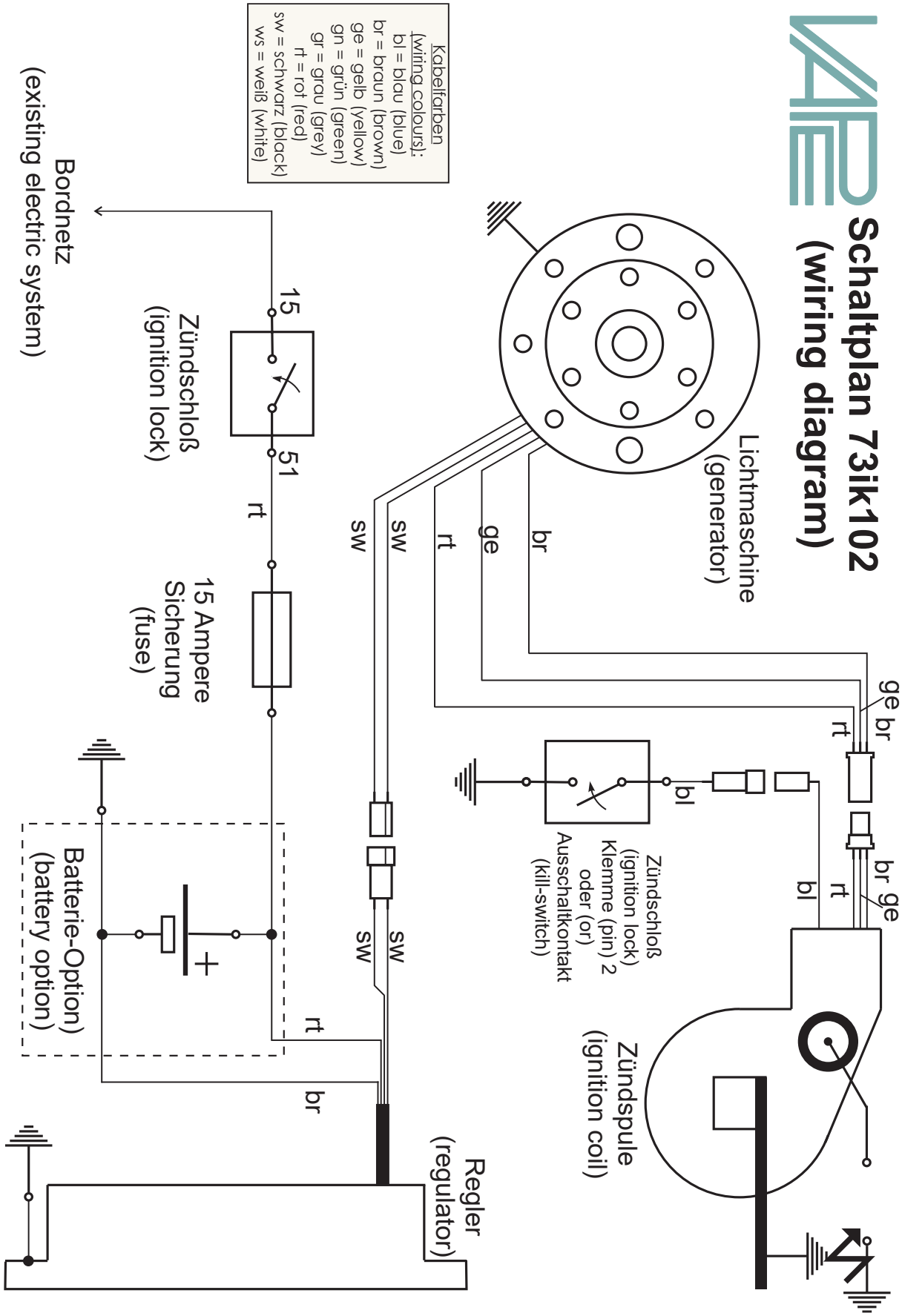
Schaltplan 73ik102
(wiring diagram)
Kabelfarben
(wiring colours):
bl = blau (blue)
br = braun (brown)
ge = gelb (yellow)
gn = grün (green)
gr = grau (grey)
rt = rot (red)
sw = schwarz (black)
ws = weiß (white)
Lichtmaschine
(generator)
Bordnetz
(existing electric system)
Zündschloß
(ignition lock)
15
51
rt
15 Ampere
Sicherung
(fuse)
Batterie-Option)
(battery option)
+
sw
sw
sw
sw
rt
br
Regler
(regulator)
ge
br
rt
bl
Zündschloß
(ignition lock)
Klemme (pin) 2
oder (or)
Ausschaltkontakt
(kill-switch)
bl
rt
br
ge
Zündspule
(ignition coil)