



Dynamo Regulator

Rex's Speed Shop supply a UK manufactured dynamo regulator for all Lucas E3 dynamos. It is a small, solid state unit that will protect your dynamo's windings whilst giving outstanding performance. It will also easily fit inside most original regulator cases to maintain an authentic appearance. The solid state design can withstand the full output of the 6V dynamo, with even more power available from 12V converted units. Use with a branded battery such as Cyclon or the yellow Motobatt range. We recommend the use of LED headlamps as these really stand out against traffic and their very low power consumption mean the dynamo has very little work to do.

Voltage & Polarity - Ensure you connect the unit correctly.

As supplied the regulator comes ready for 6 volt operation. By cutting the green loop wire the unit is converted to 12 volt operation. Cut the loop flush and apply a blob of epoxy glue over the cut ends to protect them.

ONLY CUT THE GREEN LOOP FOR 12V



Fitting

Before starting ensure any battery is disconnected and removed from the bike. An accidental spark from a battery while wires are being connected could ruin your new regulator. A 15 to 20 amp fuse must be fitted to protect the electrical system in the case of a fault developing.

The unit can be mounted inside empty mechanical control boxes, cooling should not be an issue. If used at maximum power (100 watts) a good air flow must be provided. The unit gets warm but if it is in good contact with a cool metal surface there should be no issue. The case has through holes and Tee slots designed for M4 hex bolts (supplied) to provide a choice of fixing options.

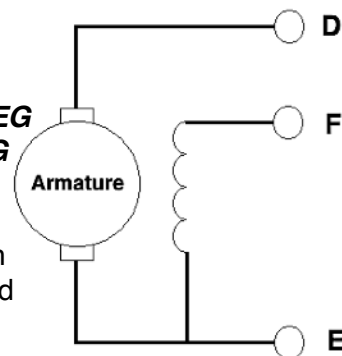
Connections: There are 24 ways to connect 4 wires. Only one combination is correct!

F (Field)	Green
A (Ammeter).....	Brown
D (Dynamo).....	Yellow
E (Earth) Positive	Red
E (Earth) Negative ...	Black

The polarity of your bike **MUST** match the regulator.

Positive earth units have a red earth wire - P-DREG
Negative earth have a black earth wire - N-DREG

Wires can be soldered to terminals of a control box (if using this method to mount the regulator) or fitted with crimp terminals. Connections must be of high standard to avoid faults occurring.



Required dynamo internal connections.

Dynamo Condition.

The enamel on old dynamo windings de-grades with age allowing current leakage to earth when the unit warms up or is placed under load. Old windings must be replaced. Rex's stock a good range of UK manufactured dynamo parts, including new armatures and field windings.

Polarising or Flashing the Dynamo

Ensure the dynamo is the correct polarity to suit the regulator. Repolarise if the dynamo has not been used for a long period, if it has been repaired or you are not sure of its polarity. To do this, check the battery is correctly earthed. Disconnect the regulator from the dynamo, take a jump lead from the un-earthed battery terminal and **briefly** touch it to the F terminal so it sparks. Motoring the dynamo (off the engine) will also polarise it. See our dynamo guide for more information.

Testing output

Measure the battery voltage with the engine idling, as it is revved it will rise to 7.0 to 7.2V (6 volt system) or 14.0 to 14.4V (12 volt system). A more rudimentary test is to disconnect the regulator, connect the F & D terminals on the dynamo together then connect a 12V headlamp bulb between the dynamo body and the joined F & D terminals. The bulb should be bright with the engine at idle.

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