



DVR4 Electronic Regulator & Cut-out

(field to live or Type A, ground side regulation, current limited)

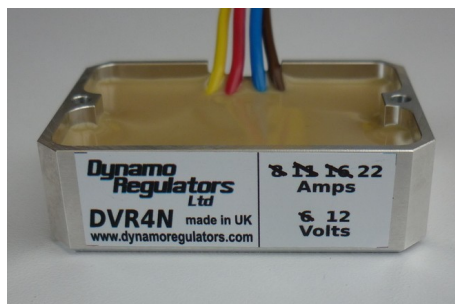
Introduction

Some of the main benefits of fitting a DVR4 high quality 'solid state' electronic dynamo regulator to a classic vehicle are (no particular order):

- ◆ brighter & more consistent lighting ('steady ammeter reading')
- ◆ reliable charging from lower engine speed
- ◆ easier starting due to greater battery power
- ◆ longer battery and bulb life
- ◆ lower maintenance (no adjustments to regulator cut-out and less battery topping up)

General Description

The DVR4 is an electronic dynamo regulator offering a choice of 4 output current values. It is suited to use on many classic cars and other vehicles fitted with 2 brush dynamos with field to live or Type A field (also loosely referred to as series connected field). DRL has made every effort to ensure a robust and reliable design, using latest electronic components assembled using 'surface mount' technology. It is electrically rugged and will survive a variety of accidental wiring faults. The DVR4 is housed in a compact aluminium alloy case for superior heat transfer. This keeps the circuitry cool to enhance reliability.



Protection features

The current limit circuitry offers protection from excessive drain due to faulty wiring or a low or failing battery for example. The DVR4 is protected against voltage spikes from the dynamo or on the battery line and reversed polarity output of the dynamo. Experience has shown that these features are essential. Regulator (and dynamo) protection against accidental reverse connection of the battery is ensured by fitting a fuse in the line from the regulator output (51/30/B+). Fitting a fuse is good practice with either original equipment type 'CVC' regulators or an electronic replacement. A 25A maximum fuse is recommended for 16 and 22 Amp versions, or a 15A maximum fuse for the 8 and 11 Amp versions.

Fitting

The DVR4 unit size is 60 x 42 x 18 mm. The unit produces only a modest degree of heat but careful mounting is necessary to limit temperature rise and extend its life. Preferably the regulator is attached firmly to a flat (not hot) metal surface which then acts as a heat-sink with the supplied adhesive thermal bonding pad. Peel away the protective layer to expose the sticky surface. Position and press firmly. Alternatively a small finned heat-sink is available to allow enhanced air cooling. Central holes either end of the case, 54 mm centres (M3 clearance) provide another fixing option.

Connections

Before fitting the regulator we recommend confirming that your dynamo gives a good output of the correct polarity. Temporarily connect Field to Earth to check unregulated output.

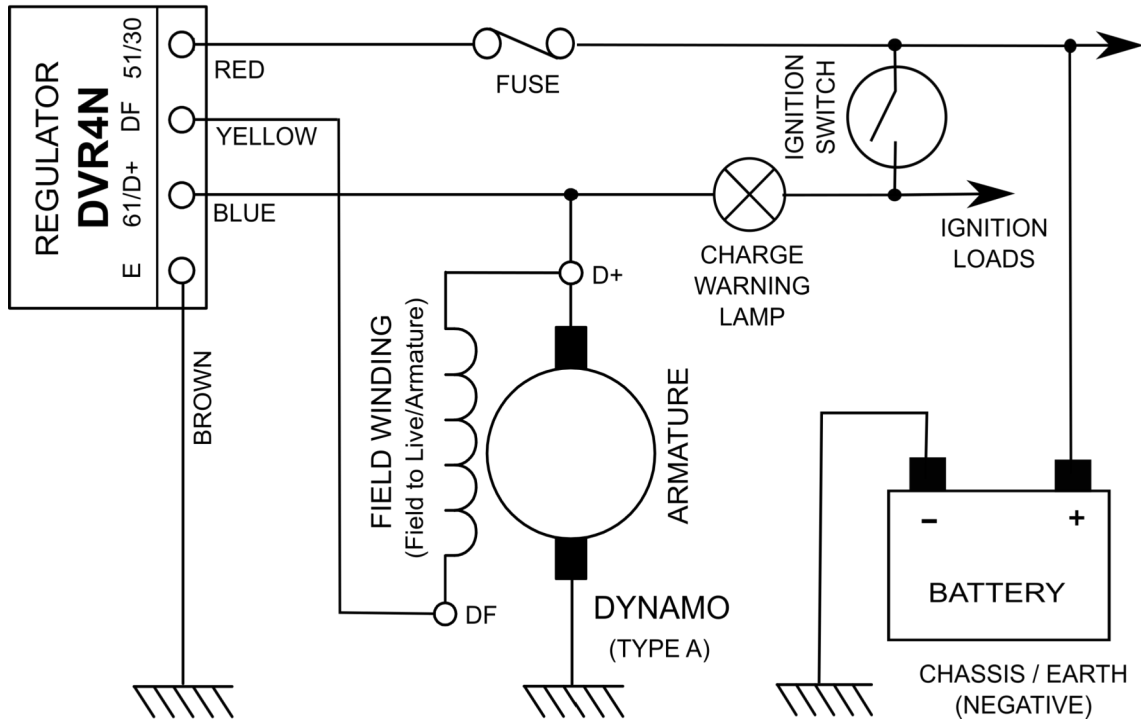
Disconnect the battery or remove the fuse before connecting!

Connect the four leads as indicated in this table:

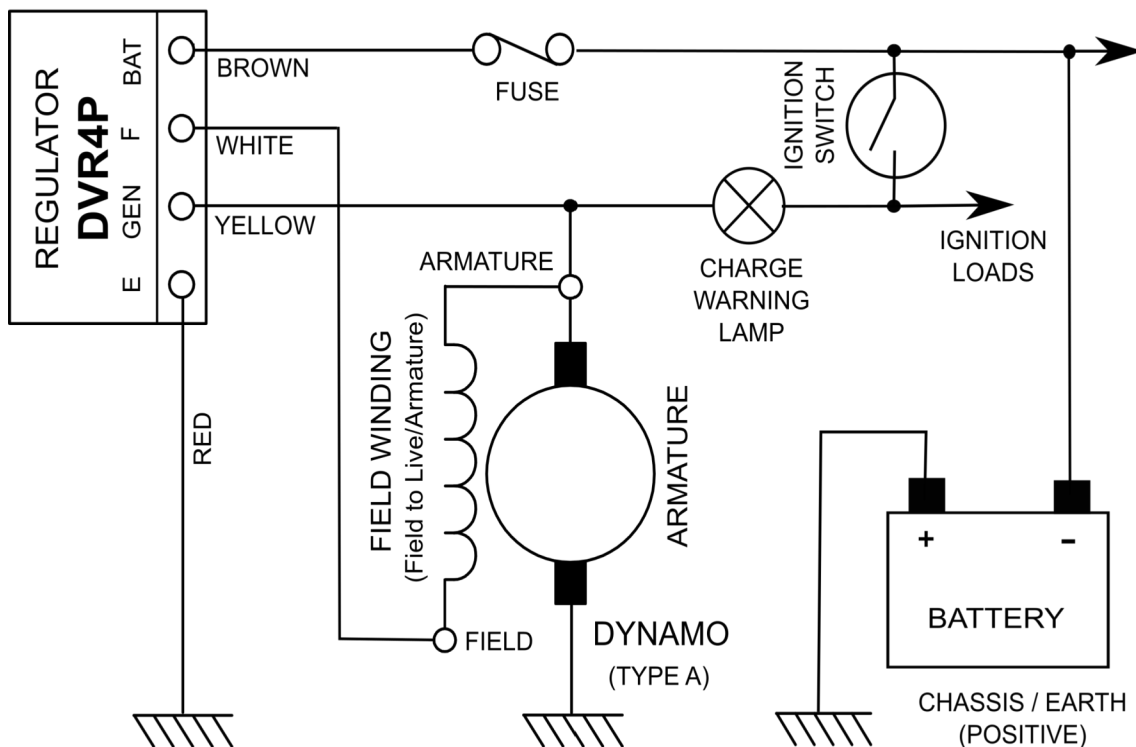
Negative Earth	Positive Earth
Red to battery, 51/30/B+	Brown to battery live/BAT
Yellow to Field, DF	White to Field, F
Blue to Dynamo out, 61/D+	Yellow to Dynamo out/ARM/GEN
Brown to Earth / chassis or frame	Red to Earth / chassis or frame

Don't forget to refit the fuse after connecting!

Typical DVR4N connection diagram



Typical DVR4P connection diagram



(These partial wiring diagrams are intended to show many of the key features you may find. All kinds of detail variations exist. If uncertain please consult a marque expert.)

Other Notes

- ◆ Disconnect or remove any field resistor which may be fitted at the dynamo or elsewhere (wire-wound item connected to field terminal). Ensure that the field wire of the dynamo goes to the F terminal of the DVR4, and that no other wire is connected. *Failure to do so may result in overcharging and possible damage to electrical equipment.*
- ◆ The resistance of the dynamo field winding *must* be greater than 2.5 ohms
- ◆ The DVR4 is *not suitable for use with 3 brush* dynamos. However in many instances a 3 brush dynamo may be easily converted to a 2 brush unit.
- ◆ The metal case of the DVR4 is not connected to the 'earth' lead. If the earth connection via the lead is lost the dynamo output voltage will not be regulated.

Guarantee

The DVR4 is guaranteed for one year from purchase against manufacturing defects, but not for faults caused by improper fitting or use. If a fuse is not fitted as described above any claim for damage may be rejected.

If in any doubt about fitting consult a competent auto-electrician.



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