

This page describes how to convert older style Ingram 2 pin external brush blocks for ZM4 connection

For conversion to a ZM4 Smart Regulator our objective is to isolate the earth brush (rear most brush) to allow the field control to be handled by the smart regulator.

Do not get fixated on the labelling on the regulator as it is for a Bosch type external regulator



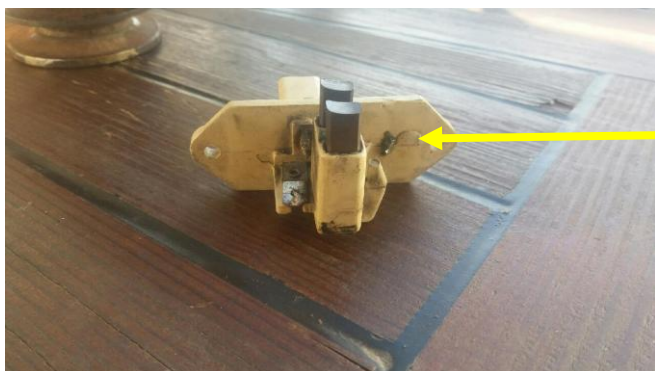
If the internal tang which connects the D+ terminal to the brush block is broken off, see if one of the two spade terminals are common with the D+, i.e. use your multimeter to check for continuity

If Yes then it is a matter of getting a connection to the negative brush, i.e. the rear most brush

If No then solder a wire to the forward most brush and make a connection to the D+ terminal which you will power up with your ignition key.

Some regulators have the earth brush running out to a earth plate under the brush block attachment screw, this must be isolated.

You can check to see if either one of the spade terminals has continuity with the rear most brush, if Yes then this is your ZM4 FIELD wire, if not solder a short 150mm wire to the earth brush and bring that out of the brush block for connection to the ZM4



This brush block has been modified before and the earth lead is not running out to the earth block as described above

To ensure you have it all correct, once you have fitted the alternator and BEFORE connecting the ZM4, with the engine at idle, hold the FIELD wire coming from the brush block against an earth (you will get a spark) and you will hear the engine labour and volts will drive to full output. Only hold this situation long enough to test that you have it configured correctly and then make the connection to the ZM4 and all will work well.