

IBS-DBM20A



DBM20A V2.9 software for smart alternators of Euro 6d-Temp vehicles

In the past, the alternator charged the starter battery as soon as the engine was running. Classic dual battery systems such as the IBS-DBS or IBS-DBR, also known as VSR, Voltage Sensing Relay, charge the auxiliary battery easily and reliably during this time.

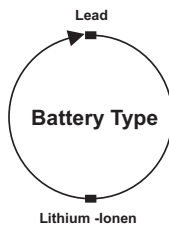
Voltage-reducing alternators have been installed for several years, which charge normally when the vehicle is started and reduce the charging voltage to around 13.3V over the travel time. Among other things, this prevents the battery from being fully charged after a short time. When charging heavily discharged auxiliary batteries, this can lead to them no longer being fully charged. In some vehicles, a ATO-Type diode can be installed in series to the alternator fuse, which increases the charging voltage by 0.6V in classic battery systems and guarantees a fully charged starter and auxiliary battery again.

In recent years with various exhaust gas scandals, the vehicle industry has started to use smart alternators, which only charge when no load is on the engine (downhill, gear change, braking and sometimes shortly after the vehicle starts) and thus allegedly reduce exhaust emissions. A DC/DC charging booster is used here, which continuously ensures a good constant charge on the auxiliary battery.

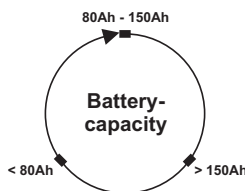
The new IBS-DBM20A with software V2.9 and additionally installed LinkStartKit or IBS-DBS dual battery system activates the dynamic Smart Alternator detection. The measurement of various latest vehicles has shown that some smart alternators can switch between classic, voltage-reduced and smart alternator charging. The IBS system monitors the alternator and changes from classic to smart charging and shortens the charging time if possible. A DC/DC charging booster can only charge up to its maximum charging capacity. The IBS-DBM20A with installed relay charges with the relay while the alternator fully charges, whereby the full charging capacity of the alternator brings the auxiliary battery to approx. 80% charge in a short time. The charging booster with the 3 to 4 charging stages (bulk, absorption, equalize, float) finishes the charge. On long journeys, the DBM20A changes to float charge mode at the end of charging to avoid an overcharging of the auxiliary battery.

In combination with lithium batteries, the DBM20A limits the start current to approx. 0.2C.

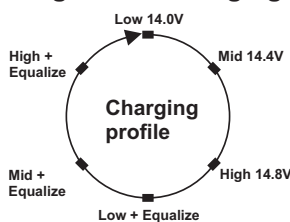
Configuration Battery Type



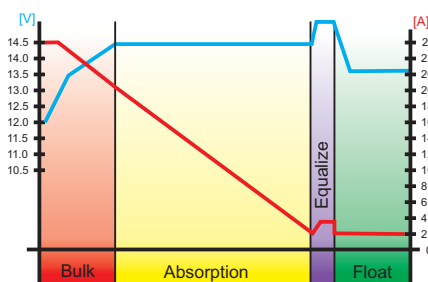
Configuration Battery size



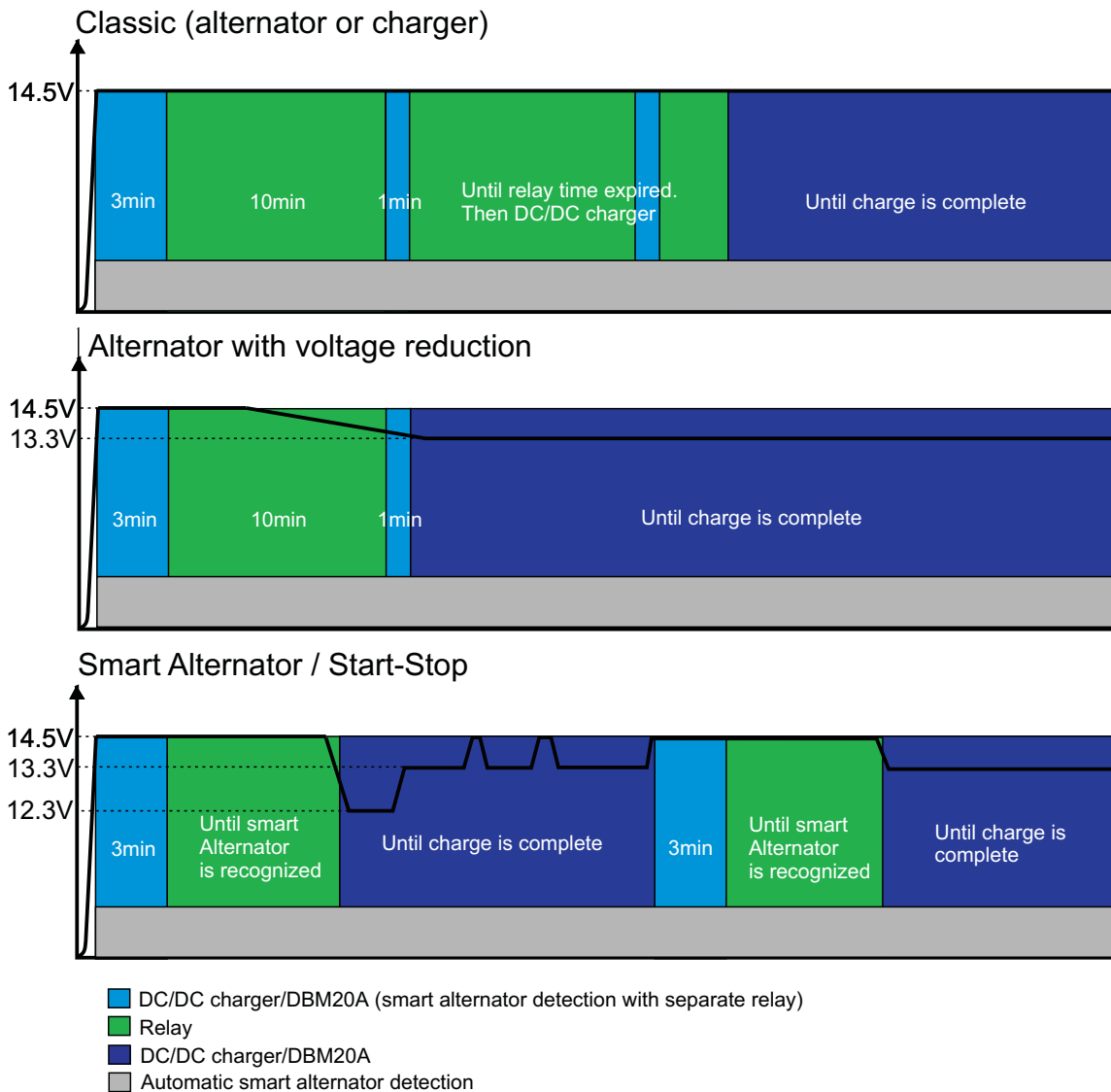
Configuration Charging



Characteristics of the charging stages



Alternator types



Important settings

In order for the smart alternator detection to work reliably, the IGN connection (light blue) must be connected to the ignition or Terminal 15. This connection can be left open on vehicles with a classic alternator.

With the battery size selection (new programming step 2, selection: small (<80Ah), mid (80-150Ah), large (> 150Ah)), the system knows how big the additional battery is and optimizes the relay time accordingly.

Li-ion auxiliary batteries are increasingly being used. Here it is important to correctly configure the DBM20A for lithium (new programming step 1) so that all switching points and control parameters are adjusted and the equalize mode is deactivated.

If an IBS-DBS is also installed on the DBM20A, it is very important that the correct programming of the DIP switch settings (see page 8 in the IBS-DBS manual) is carried out, especially the lithium and DBM20A configuration.

With DBM20A installations without LinkStartKit or IBS-DBS, older versions can also be used in vehicles with Smart Alternator.