

➤ ACTIVE CHARGING RELAY

If no changes can or must be made to the engine, an active charging relay can be used to charge a second battery group. The active charging relay detects charging operation and automatically connects the two connected battery groups.

The battery groups are disconnected again as soon as the voltage falls below the switch-off threshold in order to protect the starter battery from accidental discharge.

Automatic detection and setting to 12 V / 24 V operating mode.



■ ACR 12/24

Order-No.: 7 0010 7610

- for battery groups < 200 Ah
- optional connection of an external control LED

Rated voltage	12 V + 24 V
Continued rating	120 A
Excessive- / peak current	210 A / 280 A
Combine voltage 30 s (120 s)	13.6 V (13.0 V) / 27.6 V (26.0 V)
Cut-off voltage 10 s (30 s)	12.4 V (12.8 V) / 24.8 V (25.6 V)
Cut off high voltage	16 V / 30 V
Power consumption	15 mA
Terminals	∅ 10 mm
Dimensions	L 99 x W 98 x H 48 mm
Protection	IP67 -(watertight)



■ VSR 200

Order-No.: 0 8311 2000

- for battery groups > 200 Ah, emergency start function by remote button
- also useful as active load relay to activate certain loads only while the alternator is running.

Rated voltage	12 + 24 V
Continued rating	190 A
Excessive- / peak current	400 A / 1500 A
Combine voltage 30 s (120 s)	13.8 V (13.4 V) / 27.6 V (26.8 V)
Cut-off voltage 10 s (30 s)	12.5 V (13.0 V) / 25.0 V (26.0 V)
Cut off high voltage	16 V / 32 V
Power consumption	1 mA
Terminals	M 8
Dimensions	L 124 x W 95 x H 50 mm

➤ CHARGE EQUALIZER

■ BLA

Order-No.: 7 0001 6160

The BLA charge equalizer provides charge equalization for batteries connected in series. The BLA charge equalizer works whenever voltage differences occur between the 12 V battery blocks. This can be during charging or discharging or in idle mode.

Differences in cell chemistry and temperature lead to imbalances in charge for batteries connected in series. Since the batteries are charged in series, the charger cannot take into account or compensate for voltage differences between the battery blocks. This results in one battery block being overcharged and the other battery block being insufficiently charged. Subsequent cycles intensify this effect and cause the insufficiently charged battery block to fail prematurely.

The BLA operates bidirectionally and is capable of equalizing the charge in both directions, regardless of where the weak battery is located. If the voltage difference between the batteries connected in series exceeds 10 mV, the charge equaliser switches on automatically and step by step. The charge equalizer draws its energy from the batteries to be equalized and remains permanently connected to them.

The BLA can equalise a 24 V block, for higher-voltage systems several BLA charge equalisers are connected in series, i.e. 2 for a 36 V system and 3 for a 48 V system. is required.

Nominal battery voltage	24 V (2x12 V)
Compensating current	0 - 5 A
No-load current	< 0.5 mA
Dimensions	80 x 38 x 21 mm
Not suitable for lithium batteries!	

