

### Rectifier Connections

The spring-applied brakes with integrated silicon rectifier may be switched as follows, depending on the coupling time needed:

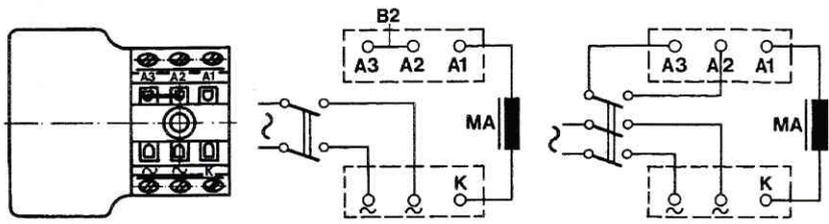


Illustration 3

Circuit I

Circuit II

a) Silicon rectifier in one-way circuit Illustration 3

Circuit I for normal coupling time: Operation is effected as per circuit diagram under A.C. and the brake (MA) is connected to the clamps K and A1. The bridge B2 between A2 and A3 is not to be removed.

Circuit II for reduced coupling time: The brake operates under A.C. and D.C. and is connected to the clamps K and A1. The bridge B2 is removed.

b) Silicon rectifier with over-excitation Illustration 4

This rectifier allows to reduce the disconnection time  $t_2$  of the brakes down to approx. 40 % of the listed value. It consists of a rectifier in bridged circuit with thyristor and timer.

After the over-excitation time has elapsed, the bridge rectifier is switched to one-way rectification and thus the direct current to 102 V (with 230 V 1~) or 178 V (with 400 V 1~).

The over-excitation time may be chosen between 0.12 and 1.76 seconds by exchanging the resistor R as per the following formula:

$$R \approx \frac{t_0 \cdot 150 \text{ k}\Omega \text{ s} - 16.5 \text{ k}\Omega \text{ s}}{1.76 \text{ s} - t_0}$$

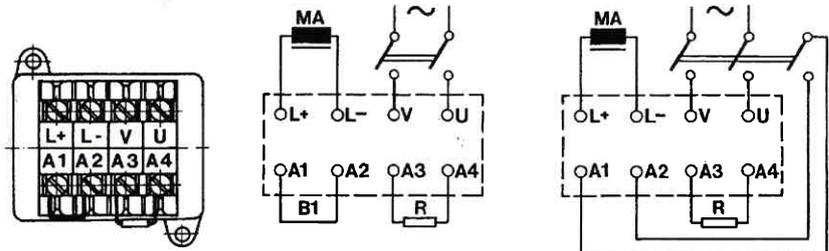


Illustration 4

Circuit I

Circuit II

Circuit I for normal coupling time: The brake operates only under A.C., and is connected to the clamps L+ and L-. The clamps A1 and A2 are bridged with bridge B1.

Circuit II for reduced coupling time: The brake operates under A.C. and D.C. and is connected to the clamps L+ and L-. The bridge B1 is to be removed.

### Dismantling the Brake and Replacement of Spare Parts

(Reference numbers according to illustration 1 and 5)

When dismantling the brake, proceed as follows: Remove the covering (17), loosen setscrew (15), twist out the adjustment ring (14) as well as the cheese-head screws (8). Due to the protective sealing between flange (6) and intermediate ring (5) on one side and between the magnet casing (1.1) and the intermediate ring (5) on the other side, it

might be necessary to slightly twist the parts against each other to separate them. After dismantling and prior to assembling them again, clean all piece parts - except for the friction lining (18) - in a commercially available cleansing agent. Slightly lubricate the thread of the adjustment ring (14), setbolts (12), and pressure springs (11).

Remove any residues of the luting agent on the centering diameter of the intermediate ring (5), flange (6), disc (7), antiadhesive disc (23), and magnet casing (1.1). In case

of vertical axial centre, renew the luting agent (such as "Feuchtigkeitsschutzlack" 190 (lacquer protecting against humidity) of the supplier Dr. Beck, Hamburg) first on the centering of the intermediate ring (5), which is facing the magnet casing (1.1), then connect to magnet casing, and, after a short drying interval, proceed as per the instructions of the luting agent supplier while mounting the flange (6) in the prescribed way. The convex side of the disc (7) must rest on flange (6) (no disc with size 19 and 24).

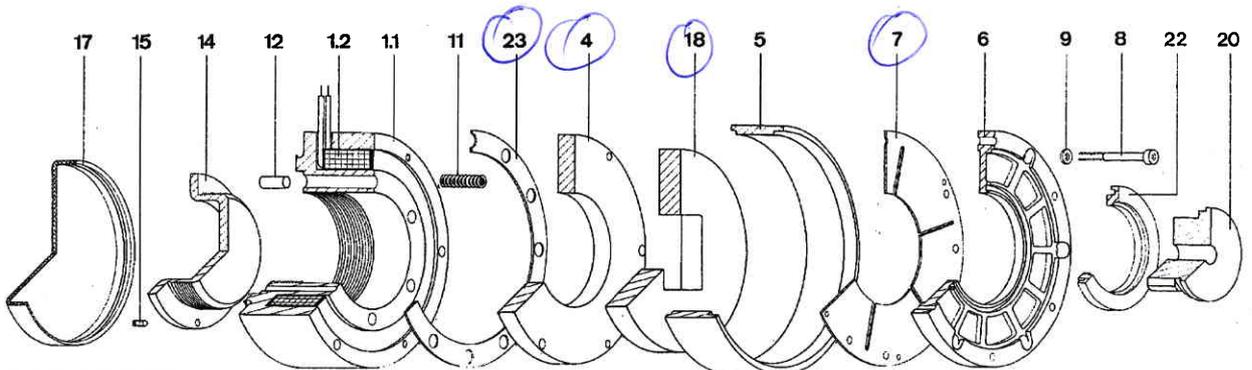


Illustration 5 Basic brake

- |                        |                     |                    |                      |
|------------------------|---------------------|--------------------|----------------------|
| 1.1 Magnet casing      | 7 Disc              | 12 Setbolt         | 18 Friction lining   |
| 1.2 Excitation winding | 8 Cheese-head screw | 14 Adjustment ring | 20 Hub               |
| 4 Armature             | 9 Seal              | 15 Setscrew        | 22 Seal              |
| 5 Intermediate ring    | 11 Pressure spring  | 17 Covering        | 23 Antiadhesive disc |
| 6 Flange               |                     |                    |                      |