KLINGER BORN

Electronic brake up to 16 A

Electronic Motor Brake up to 16.0 A (20 A)

for the braking of potentially hazardous rotating parts within 10 sec.

The brake control meets the requirements of EN60204 Art. 9.2.5.4.2 „emergency stop function“ in category 1.

Special features:

- Braking device according to GS-HO-01
- Absolutely no maintenance
- High operational reliability
- High voltage endurance
- Particularly powerful electric brake
- Integrated, hence minimum Mounting effort
- Adjustable braking torque
- No brake release required (e.g. necessary for blade changes on mechanical brakes)

Technical data:

Designation	408 304 00 = 110 V~ 408 305 00 = 230 V~ 408 306 00 = 400 V~
Voltage	110 V~, 230 V~, 400 V~
Max. braking current	20 A
Power semiconductors	Thyristor = 25 A/1200 V Diodes = 40 A/1200 V
Active braking time	Approx. 6 sec. and approx. 12 sec.
Braking current settings	Infinitely adjustable, dependent on motor and circuit
Braking frequency	10% of running time at 10 sec. braking time (36/h)
Activation time	Approx. 200ms
Control unit	Analog Option: Automated and controller operated
Function	Phase control Full-wave brake
Method of operation	D.c. braking
Use	Requires sinusoidal line voltage, must not be used with generators. For use with generators see Diode-Brake
Ambient temperature/ storage temperature	0° C ... +45° C / -25° C ... +75° C
Dimensions	75 x 54 x 24 mm (LxWxH)

Use in Series :

- K400, K400D, K570, K590, K700, K900, K2000 1Ph, K2000 3Ph, K3000 1Ph, K3000 3Ph, K3500, K4000, Custom housing

Circuit diagram for 3 phase 400 V - control voltage 400 V [pdf-File]

Circuit diagram for 3 phase 400 V - control voltage 230 V [pdf-File]

Circuit diagram for 1 phase 230 V [pdf-File]

Functional description:

Electronic brakes are used to brake asynchronous machines of squirrel-cage design and 1Ph a.c. capacitor motors within 10 sec. of being switched off. When the operating supply is switched off, an adjustable direct current flows via one or more windings of the motor. This current is generated by a thyristor phase control for a fixed time, after which it is then switched off. High currents are induced in the counter-field rotating squirrel cage, resulting in an accordingly high brake torque.

Protection of the brake:

For this powerful brake model we have paid special attention to equipping the power semiconductors with a high level of current carrying capacity and voltage endurance (see Technical data). High operational reliability is assured in addition by circuit arrangements and a specially developed switching element. We equip all switches with a patended switch adapter (circuit breaker) to protect the electronic brake from short-circuits and voltage peaks particularly in the event of restarts during the braking operation.

Heating of the motor during braking:

Heating of the motor during braking by the direct current supply is the same as the heating which occurs when the motor is started. If motors are started and braked frequently, the motor temperature should be monitored by a thermistors (temperature sensor).

Braking current adjustment:

The level of braking current depends on the motor and the flywheel. It can be adjusted with a rotary potentiometer (phase control). Where large series are involved it is advisable, according to our experience, to have motors with flywheel tested at our factory in order to establish the optimum setting for the brake. An external adjustment facility can be provided in all switch series on request.

We have a profound experience in brake moduls for many years. That's why we are the right partner for electronic brakes.