

DYNAMIC BRAKING RESISTOR MODEL MR-100



Advantages

- ✓ Faster braking of DC and AC motors.
- ✓ Lower wear and tear of friction braking components.
- ✓ Keep motor voltages within safe levels.
- ✓ Eliminate risk of a runaway due to overheated friction brakes in some motors.
- ✓ Reduce wasted time during braking.
- ✓ Increase life of the equipment.
- ✓ Improved service reliability.
- ✓ Designed to absorb thermal expansions and contractions.

The purpose of a **DYNAMIC BRAKING RESISTOR** is to slow down or to quickly stop a motor by draining excess voltage and keeping it within safe tolerances. This can help to lower the wear and tear of friction braking components, enable faster braking and eliminate the risk of a runaway due to overheating.

When removed from a power supply, most DC motors will act as electrical generators due to their permanent magnets. If a resistor is then connected as a load, the energy produced by the rotational inertia of the DC motor will be dissipated by the resistor slowing down the motor. While AC motors do not have permanent magnets in their rotors, they do have an induced magnetic field created by the rotating magnetic field in the stator. The energy lost in the stator will backfeed into the variable frequency drive (VFD), which will rise the voltage on the DC bus in the VFD. The greater the difference between the output of the VFD and the rotor's actual speed, the more energy will be fed into the VFD. If the VFD tries to brake the motor too quickly, the voltage will rise too much and damage the VFD. Most VFDs will shut down as a safety feature before this happens, and the motor will coast to a stop by friction alone. With appropriately sized braking resistors the motor can be stopped much more quickly without raising the voltage to unsafe levels.

Braking resistors with smaller ohmic values will help motors stop faster but will also dissipate more heat. This will require the use of more mass in the resistor or a heat sink to keep its temperature within a safe limit.

CUSTOMIZABLE

EFFICIENT

HIGH QUALITY



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Features

- Terminal block
- normally closed thermal switch.
- Stainless steel nuts and bolts.
- Stainless steel and tin plated copper connectors and internal connections for positive contact and reduced oxidation.
- Optional outdoor service with removable covers and ventilated bottom screen for protection against the entrance of rodents, birds or accidental contact by personnel.
- High-temperature mica, porcelain and synthetic insulators.
- Rated, designed, manufactured and tested according to UL508, UL508A, CSA 22.2 – No.14.

Features

Resistive Elements

Wirewound

Edgewound

Enclosures

NEMA 1

NEMA 3R

Enclosure Materials

Galvanized steel

Others

Normally closed thermal switch

Terminal block

Optional Features

Normally open thermal switch

Forced cooling

Mounting brackets

Model MR-100

| Type | Power | Voltage Rating | Enclosure | Duty Cycle | Resistance | Resistance Tolerance |
|------|--------------|----------------|---------------|------------|-----------------|----------------------|
| DB-R | 54KW maximum | 600 Vac | NEMA 3R/NEMA1 | 50% | 0.1 - 1000 ohms | - 0 to +10% |

