Footprint Braking Resistors

up to 180 W, DB / 1 kW, KB

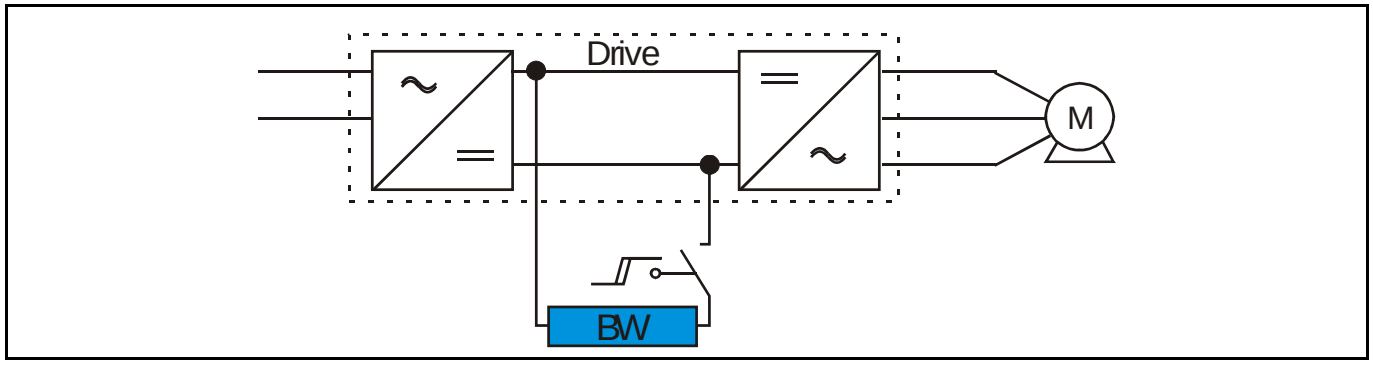
REOHM **Series BW 400**
Type BW 401/...

Applications:

Braking resistors are used with inverters, driving motors with a dynamic load that requires to be stopped quickly such as lifts, cranes or high-speed mechanisms.
The braking resistor is connected in the DC link, between the rectifier and the switching semiconductors. When the DC voltage rises, to a pre-selected limit, a chopper circuit switches in the braking resistor thereby allowing excess energy to be “dumped” in the form of heat, instead of causing damage to the inverter.
When the DC level drops to a lower preset minimum limit the braking resistor is switched out of circuit until it is required again.

Protection IP 20	Test voltage 2.5 kV
Max. temperature 150 ºC	Ambient temperature -10...+40 ºC

Circuit example



Benefits:

- Decelerating a load with large inertia
- Increase the control torque of the inverter
- For frequently repeated ON/OFF cycles
- Compact construction
- Easy installation
- Suitable for the use with any frequency drive
- Compact design
- Continuous power: Max. 180W
- UL Recognized
- High temperature wire
- CE Marked
- DIN 41 480 compliant

Technical data

Type	BW 401/50/R[Ω]	BW 401/100/ R[Ω]	BW 401/180/ R[Ω]
Resistance values [Ohm]	50 - 3200	80 - 1600	120 - 1000
Continuous power[W]	50	100	180
Max. Operating voltage [V]	400	400	400

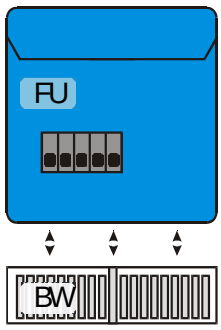
Resistance values conforming to E 6

Other power ratings on request

Dynamics without extra floor space

Especially with retrofitting or use of several drives, there is often a problem of sufficient floor space in switch cabinets in order to meet all requirements.

It is possible to mount the REO footprint braking resistor under the drive and make it almost disappear.



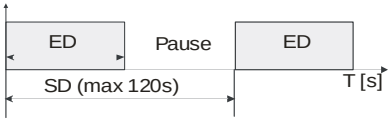
Power Rating Calculation

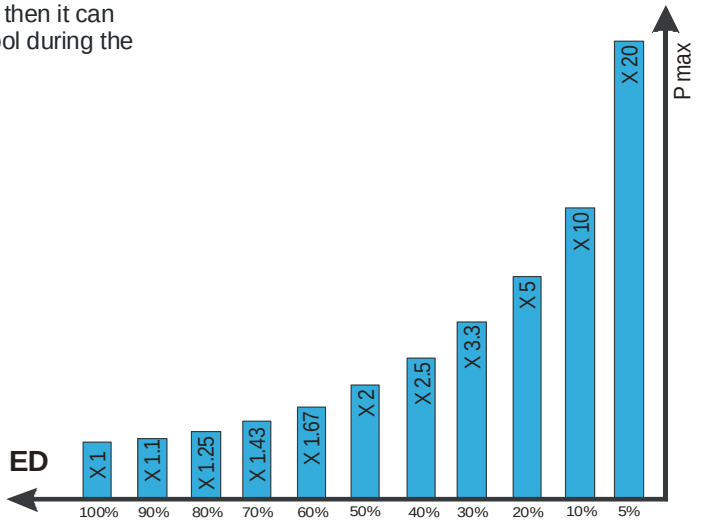
A braking resistor is selected according to the systems duty cycle requirements. If the resistor is not being used continuously then it can be used for a higher power rating because it has time to cool during the "rest" period. To calculate, the following formula is used:

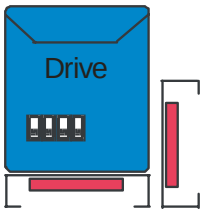
$$P_{max} = \frac{P \times 100}{ED\ [\%]}$$

$$ED\% = \frac{ED[s]}{SD[s]} \times 100$$

Where ED = Duty Cycle
SD = Cycle time



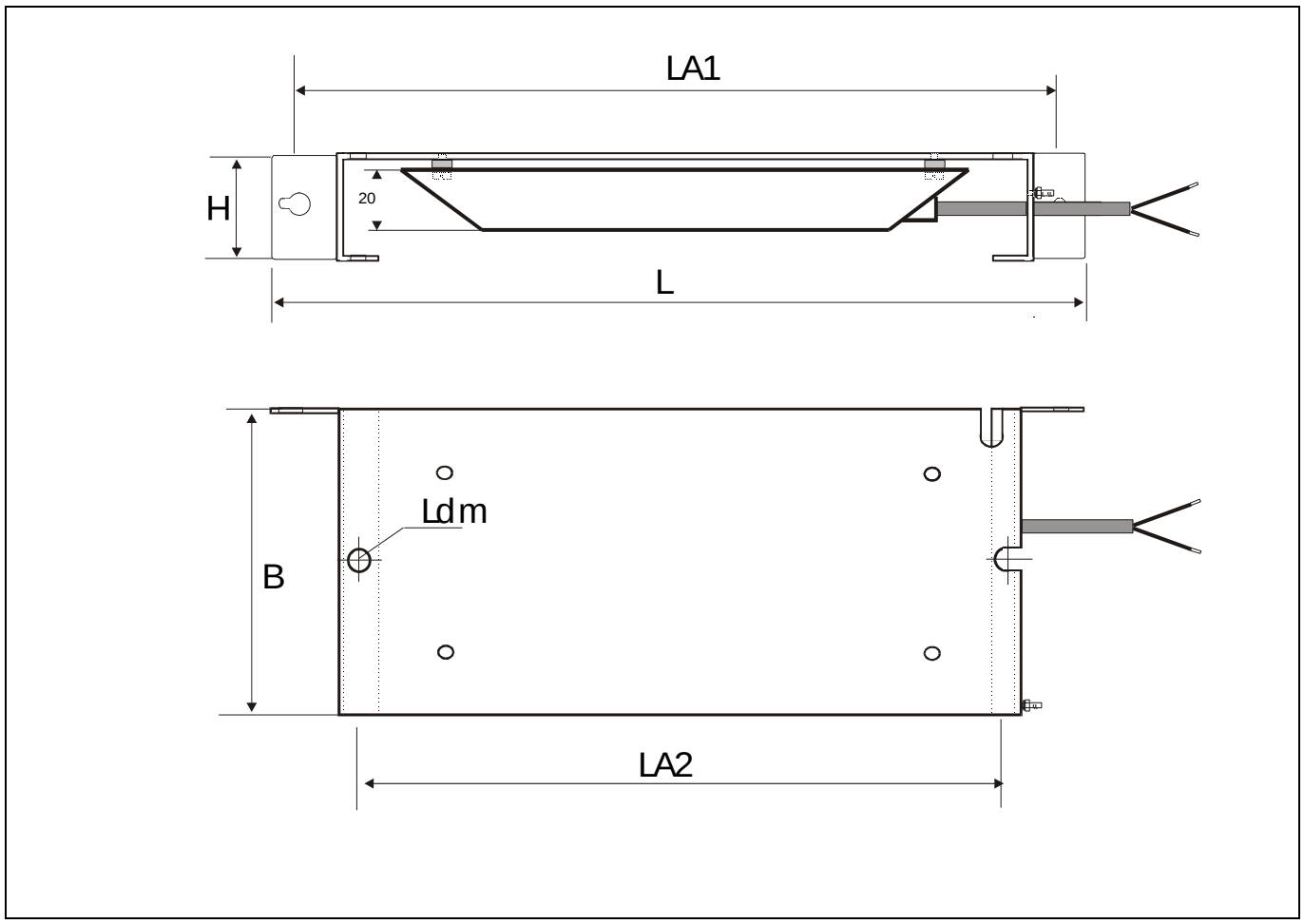




REO-USA, Inc. can offer virtually any braking resistor design to suit any frequency drive, with optional mounting methods: such as footprint, book style, or compact. The footprint version is particularly useful for retrofit applications because no extra panel space is required. Most constructions are in a modular form that is easy to install.

Additional forced air cooling can be fitted to some versions and this greatly increases their power rating, or alternatively enables use within a confined space, such as an IP65 enclosure for food quality or clean room applications.

Dimension Drawing



Type	L [mm]	B [mm]	H [mm]	LA1 [mm]	LA2 [mm]	Ldm [mm]	Connection cable
BW 401/50/R[Ω]	225	82	30	215	177	6.0	2 x 1 mm^2 250 mm long
BW 401/100/ R[Ω]	260	108	30	250	212	6.0	2 x 1 mm^2 250 mm long
BW 401/180/ R[Ω]	260	108	30	250	212	6.0	2 x 1 mm² 250 mm long

Other fixing dimensions possible.