

Our modular system for safe brake resistors



BxP

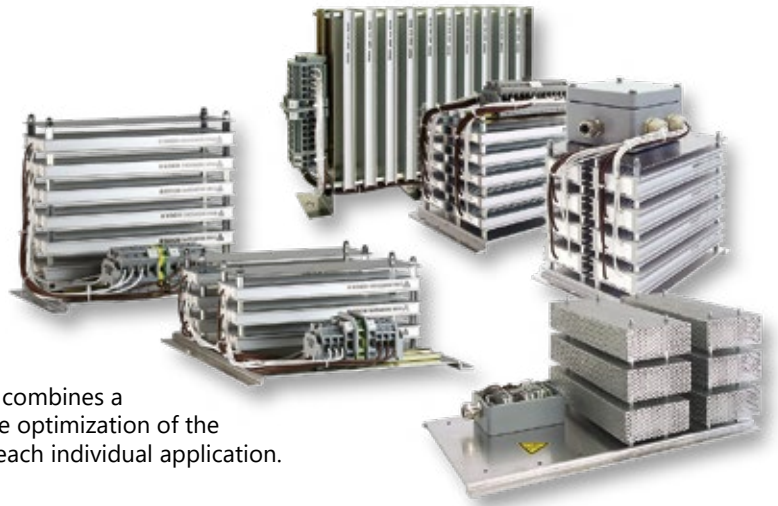
BxH

Our modular system for safe brake resistors

We manufacture resistor combinations by an extensive set of accessories for high performance applications.

The modular system is based on individual modules of the BWD series 250 to 1000 with nominal output of 100 to 400 watts.

In addition to its high performance, this modular system combines a compact design with extreme flexibility. This results in the optimization of the braking resistor in accordance with the specifications of each individual application.



Optimized to the requirements of your application:

- Required power - no „unnecessary over-dimensioning“
- Many resistance values – based on the inverters requirements
- Mechanical design – according to the existing installation space
- Assembly - horizontal or vertical
- Protection class IP 20 or IP 65¹ - according to installation location and environmental conditions
- Individual modules with UL and CSA standard approval
- Several braking resistors in a resistor combination, e.g. for moving and hoisting gear
- Optional: Temperature switch, strain relief, protective cover, etc.



Technical specifications of individual modules ($\vartheta_A = 20^\circ\text{C}$, unless otherwise specified)

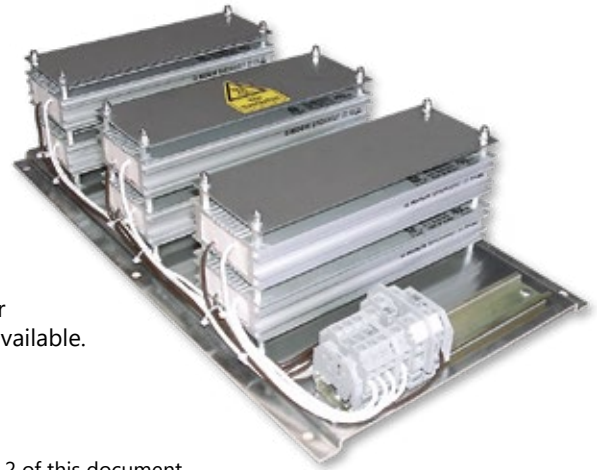
Parameter	Symbol	Value	Unit	Conditions
Tolerance (resistance)		± 5	%	Room temperature
Insulation resistance	R_{ISO}	≥ 100	$M\Omega$	$U_{mess} = 1,000 \text{ VDC}$
Inductance	L	≤ 30	μH	$f = 300 \text{ kHz}, U_{mess} = 50 \text{ mV}$
Capacity against enclosure	C	≤ 300	pF	$f = 300 \text{ kHz}, U_{mess} = 50 \text{ mV}$
Thermal time constant	τ	approx. 550	s	BWD250/500
	τ	approx. 600	s	BWD600
	τ	approx. 850	s	BWD1000
Energy absorption BWD250	Q	4	kJ	with 1.2 s (1% duty cycle)
		8	kJ	with 7.2 s (6% duty cycle)
Energy absorption BWD500	Q	7,5	kJ	with 1.2 s (1% duty cycle)
		15	kJ	with 7.2 s (6% duty cycle)
Energy abs. BWD600/1000	Q	13	kJ	with 1.2 s (1% duty cycle)
		26	kJ	with 7.2 s (6% duty cycle)
Maximum permissible operating voltage	U_B	$\leq 700 \text{ AC}$	V	Taking into consideration
		$\leq 1,000 \text{ DC}$	V	the „intrinsic safety“ ²
		$\leq 600 \text{ AC}$	V	according to CSA and UL
		$\leq 848 \text{ DC}$	V	
Isolation voltage	U_{iso}	$\geq 4,000 \text{ AC}$	V	$f = 50 \text{ Hz}; t = 1 \text{ s}$
Max. permissible case temp.	ϑ_C	≤ 250	$^\circ\text{C}$	unobstructed convection
		≤ 300	$^\circ\text{C}$	unobstructed conv. (BWD1000)
Storage temperature	ϑ_S	-25 ... +85	$^\circ\text{C}$	

¹ Test conditions: Water jet from nozzle 6.3 mm inside diameter, flow rate 12.5 l / min +/- 5%, water pressure according to volume flow, distance 2.5-3m, test duration 3min.
² With fourfold type power and free convection. 1. no short-circuit, 2. no fault to frame, 3. self-extinguishing, 4. no melting of casing. Type power always corresponds to 35% duty cycle of the respective resistor type.

Brake resistor combination BxP

Short-circuit-proof, „intrinsically safe“² resistor combination for operation with drive controllers (brake transistors), consisting of numerous single resistor modules of the 500/600/1000 series.

These combinations of resistors are a perfect fit for applications requiring additional touch protection with a cover. They are exclusively intended for wall-mounted installation. Version with IP20 and IP65¹ protection classes available.



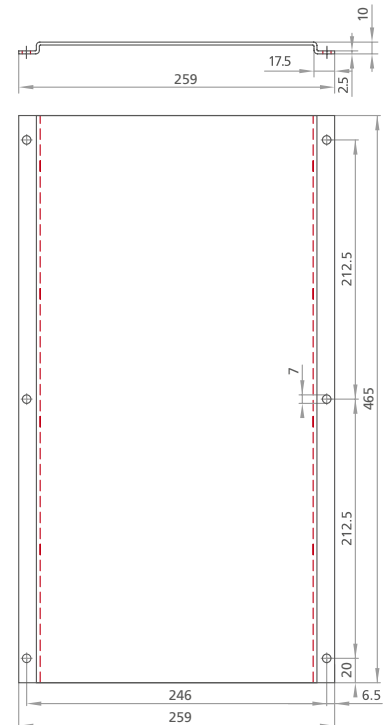
Rated power (kW)
0.2 - 4.8 or upon request

Technical specifications
The technical data can be found on page 2 of this document.

Resistance (Ohm)
1 - 7,400 or upon request

Einbaumaße und Bohrungen (mm)
Mounting plates for brake resistor combinations BxP. Detailed dimensions for specific versions available upon request.

Dimensions (mm)
Upon request



Individual solutions



Brake resistor combination with cover with IP20



Brake resistor combination with cover with IP65¹



Brake resistor combination, IP20

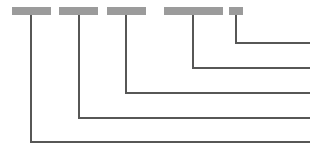
Mounting plate P259A

Mounting plate P259B

Nomenclature

Brake resistor combination BxP...

B2P3.2100-1000H



- Individual design
- Series designation of the installed resistors (with 500, no entry)
- Three-digit resistance of the individual resistor
- Total continuous or rated power of the combination in kW
- Combination on base plate, wired
- Amount of single resistors on same level next to each other, Max. 3 pc. possible
- Position of the top-hat rail P: in parallel with the individual resistors
- H: at right angles to the individual resistors

¹ Test conditions: Water jet from nozzle 6.3 mm inside diameter, flow rate 12.5 l / min +/- 5%, water pressure according to volume flow, distance 2.5-3m, test duration 3min.

² With fourfold type power and free convection. 1. no short-circuit, 2. no fault to frame, 3. self-extinguishing, 4. no melting of casing. Type power always corresponds to 35% duty cycle of the respective resistor type.

Brake resistor combination BxH

Short-circuit-proof, „intrinsically safe“² resistor combination for operation with drive controllers (brake transistors), consisting of numerous single resistor modules of the 500/600/1000 series.

These combinations of resistors are a perfect fit for applications requiring additional touch protection with a cover. They are exclusively intended for wall-mounted installation. Version with IP20 and IP65¹ protection classes available.



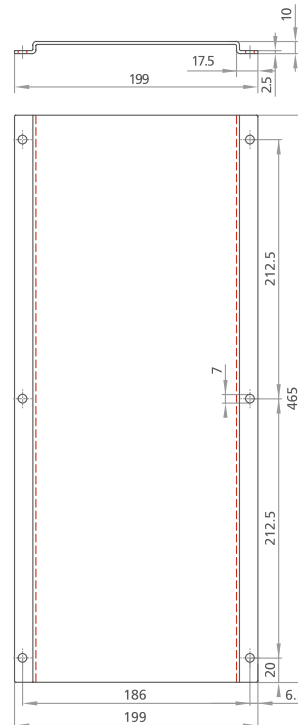
Rated power (kW)
0.2 - 1.6 or upon request

Technical specifications
The technical data can be found on page 2 of this document.

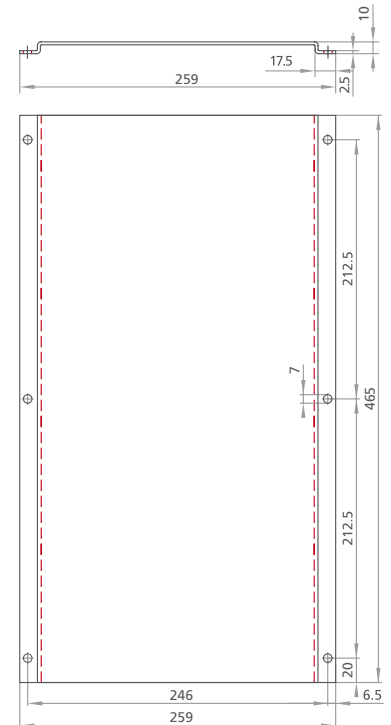
Resistance (Ohm)
1.25 - 3,720 or upon request

Dimensions (mm)
Upon request

Dimensions and mounting holes (mm)
Mounting plates for brake resistor combinations BxH. Detailed dimensions for specific versions available upon request.



Mounting plate P199



Mounting plate P259B

Individual solutions



Brake resistor combination, IP65¹



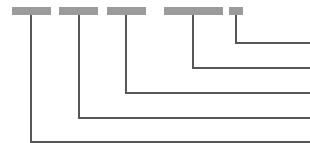
Brake resistor combination with cover with IP65¹



Brake resistor combination in IP65¹ with customer specific connector

Nomenclature Brake resistor combination BxH...

B1H 0.5 100-600 H



- Individual design
- Series designation of the installed resistors (with 500, no entry)
- Three-digit resistance of the individual resistor
- Total continuous or rated power of the combination in kW
- Combination on base plate, wired
- Amount of single resistors on same level next to each other, Max. 2 pc. possible
- Position of the top-hat rail P: in parallel with the individual resistors
H: at right angles to the individual resistors

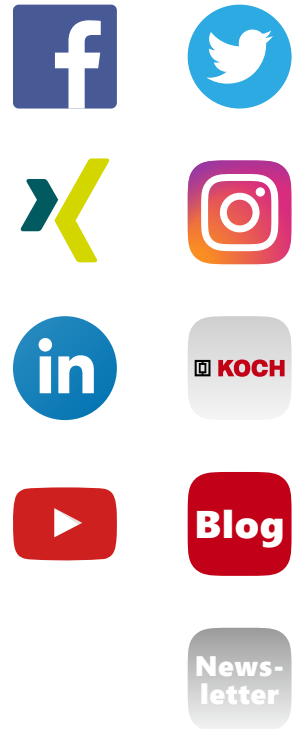
¹ Test conditions: Water jet from nozzle 6.3 mm inside diameter, flow rate 12.5 l / min +/- 5%, water pressure according to volume flow, distance 2.5-3m, test duration 3min.

² With fourfold type power and free convection. 1. no short-circuit, 2. no fault to frame, 3. self-extinguishing, 4. no melting of casing. Type power always corresponds to 35% duty cycle of the respective resistor type.

What we offer:

- Tested product quality
- Certified processes
- Individual application support
- Machine specific design and sizing
- Rapid reaction
- Quick delivery times
- On-time delivery
- Reliable partner
- Long-term business relationship
- Direct customer relations

Use our communication channels:



Your specialist for:

- Active energy management devices and systems
- Safe brake resistors

We look forward to hearing from you!



Michael Koch GmbH
Zum Grenzgraben 28, 76698 Ubstadt-Weiher, Tel. +49 7251 96 26-200
www.brakeenergy.com, mail@bremsenergie.de

Technical changes reserved. MK_DAT_BXP-H_ENG_R01_0

