



Brake Resistors for AC Drives

CROHM Brake Resistors Overview

CROHM brake resistors are specifically designed for use with Automation Direct AC Drives, and can also be used with any AC Drive up to 600V class. CROHM resistors are designed and manufactured in the USA with ISO 9001 certification, by experts with over 75 years of experience in the industry. This resistor lineup includes NEMA 1 offerings from 240W to 18kW, with built in thermal overload protection and zinc plated hardware. Certifications include CSA compliance to CSA 22.2 and UL 508 standard, in addition to CE compliance.

The resistors are pre-wired to terminal blocks for easy wiring to any AC drive. A normally closed thermostat is included and should be wired into the AC drive control circuit using the male spade terminals. NEMA1 brake resistor enclosures are designed to easily mount outside of the control panel, saving valuable panel space and reducing panel thermal load.

See the cross-reference pages for the recommended resistor for each VFD offered at Automation Direct.

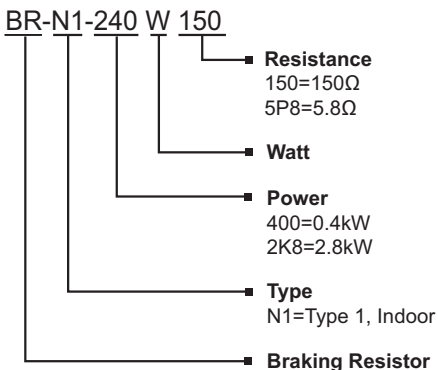
Features:

- 240W to 18.0 kW power ratings
- NEMA1 enclosure
- Normally closed thermal switch
- Zinc plated hardware
- Pre-wired to terminal blocks
- 1-year warranty, Made in USA

Agency Approvals

- CSA listed to UL508 standard
- CE marked

Part Number Key



Drive Usage Cross References

Refer to the online technical specifications below for a list of compatibility between brake resistors and VFDs sold by AutomationDirect.

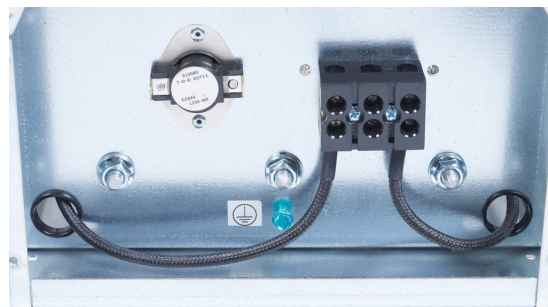
- For GS4 series drives, see [GS4 Drive Braking Components](#).
- For GS10 series drives, see [GS10 Drive Braking Components](#).
- For GS20(X) series drives, see [GS20\(X\) Drive Braking Components](#).
- For GS30 series drives, see [GS30 Drive Braking Components](#).
- For Toshiba AS3 drives, see [AS3 Drive Braking Components](#).
- For Ironhorse ACG series drives, see [ACG Drive Braking Components](#).
- For Ironhorse ACN series drives, see [ACN Drive Braking Components](#).
- For WEG CFW500 series drives, see [CFW500 Drive Braking Components](#).



BR-N1-240W150



BR-N1-6K5W06P4



BR-N1 Brake Resistor with
Endcap Removed



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CROHM Series Specifications

CROHM Braking Resistor Specifications							
Type	Part Number	Price	Power	Resistance (Ω)	Enclosure Frame	Weight (lbs)	Drawing Link
Enclosed NEMA1	BR-N1-240W150	156.00	240W	150	EC1	7	PDF
	BR-N1-240W200	156.00		200		7	PDF
	BR-N1-240W250	156.00		250		7	PDF
	BR-N1-250W400	156.00	250W	400		7	PDF
	BR-N1-280W50	156.00	280W	50		7	PDF
	BR-N1-500W130	234.00	500W	130	EC2	10	PDF
	BR-N1-500W200	234.00		200		10	PDF
	BR-N1-720W50	234.00	720W	50		10	PDF
	BR-N1-720W85	234.00		85		10	PDF
	BR-N1-800W18P0	234.00	800W	18.0		10	PDF
	BR-N1-800W25	234.00		25		10	PDF
	BR-N1-1K1W15P0	300.00	1.1 kW	15.0	EC3	12	PDF
	BR-N1-1K2W50	300.00	1.2 kW	50		12	PDF
	BR-N1-1K2W75	300.00		75		12	PDF
	BR-N1-1K5W14P0	366.00	1.5 kW	14.0	EC4	15	PDF
	BR-N1-1K5W40	366.00		40		15	PDF
	BR-N1-1K6W10P0	430.00	1.6 kW	10.0	EC5	18	PDF
	BR-N1-1K7W30	430.00	1.7 kW	30		18	PDF
	BR-N1-2K2W06P8	456.00	2.2 kW	6.8	EC6	14	PDF
	BR-N1-2K2W08P6	456.00		8.6		14	PDF
	BR-N1-2K3W26	496.00	2.3 kW	26		19	PDF
	BR-N1-2K8W25	602.00	2.8 kW	25	EC8	23	PDF
	BR-N1-3K0W05P8	526.00	3.0 kW	5.8	EC6	15	PDF
	BR-N1-3K6W06P8	556.00	3.6 kW	6.8		16	PDF
	BR-N1-3K6W20	638.00		20		21	PDF
	BR-N1-4K0W16P0	638.00	4.0 kW	16.0	EC9	22	PDF
	BR-N1-4K7W14P7	668.00	4.7 kW	14.7		21	PDF
	BR-N1-6K5W06P4	789.00	6.5 kW	6.4	EC12	30	PDF
	BR-N1-6K9W13P6	789.00	6.9 kW	13.6		27	PDF
	BR-N1-10K8W04P3	1,270.00	10.8 kW	4.3	EC18	50	PDF
	BR-N1-13K0W06P4	1,450.00	13.0 kW	6.4	EC24	54	PDF
	BR-N1-18K0W03P7	1,595.00	18.0 kW	3.7		69	PDF

CROHM Resistor General Specifications		
	Test Condition	Specification
Operating Temperature	—	375°C
Resistance Tolerance	at 25°C	±10%
Housing Material	—	Galvanized sheet steel
Dielectric Strength	Between terminals and housing	3000VAC for 1 minute
Thermal Switch	—	Normally closed with 1/4" blade terminals
Terminal Block	80W–13kW models	Terminal block accepts 18–4 AWG wire
	18kW models	Terminal block accepts 14–2 AWG wire



Brake Resistors for AC Drives

CROHM Brake Resistors Installation Instructions



IMPORTANT: READ THESE INSTRUCTIONS THOROUGHLY BEFORE INSTALLATION. ALL WARNINGS AND PRECAUTIONS SHOULD BE FOLLOWED FOR PERSONNEL SAFETY AND PROPER EQUIPMENT PERFORMANCE. INSPECTION

Upon receipt of your CROHM Braking Resistor, be sure to inspect the unit carefully for any shipping damage. After unpacking, check the unit for loose, broken, bent or otherwise damaged parts due to shipping. Report any shipping damage immediately to the freight carrier. Be sure to verify that the part number and ratings listed on the nameplate conform to the order specification. The ohm rating listed on the nameplate is critical (too low of a resistance value may cause damage to the drive).

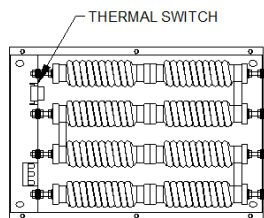
IMPORTANT: The National Electric Code (NEC) and local regulations govern the installation and wiring of electrical equipment such as braking resistors. DC power wiring, AC power wiring, control wiring and conduit must be installed in accordance with these codes.

CROHM braking assemblies cool by natural convection causing hot air to rise vertically from the enclosure. Braking resistors should be mounted in a well-ventilated location free of any combustible materials or equipment affected by heat. Units should be installed with at least 24 inches of free space above the enclosure top and 10 inches of free space surrounding the enclosure sides. If necessary, units can be mounted on spacers or channels to limit heat from conducting from the resistor enclosure to its mounting surface. Indoor type enclosures can be mounted on a flat surface or wall mounted. If the unit is wall mounted, it is important that the resistor coils remain in a horizontal position. See below for correct installation orientation.

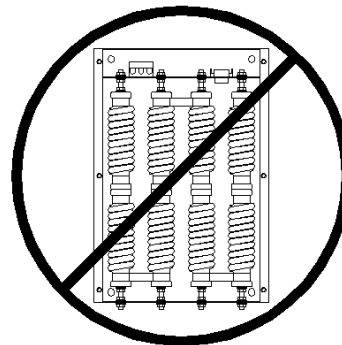
Installation

Units should not be installed on combustible surfaces. Mounting holes are located on the inside of the braking resistor enclosure. To install the unit:

1. For enclosures, EC1, EC2, EC3, EC4, EC5, EC6, EC8, EC10 you must remove the front and top covers to gain access to the mounting holes. For enclosures EC9, EC12, EC15, EC18, EC24 remove only the front and rear covers to gain access to the mounting holes. Cover hardware can be removed with a 5/16" wrench. Mounting dimensions are listed in the model's drawing PDF. Units have 7/16" diameter mounting slots designed for 3/8" hardware.
2. Fasten the unit securely in place.
3. There are convenient conduit knockouts for provided for easy connection. Remove the proper knockout after determining a suitable entry point.
4. After attaching conduit, pull wiring into the enclosure for connection to the terminal block and thermal switch. Your braking resistor contains a factory wired terminal block, you may connect to the terminal block and thermal switch with standard 90°C rated wire. See technical specification for terminal block wire sizes and thermal switch details.
5. Be sure to properly ground the resistor enclosure to prevent electrical shock.
6. After installing and wiring to your CROHM braking resistor, reinstall the covers. Securely tighten cover hardware to 20 inch-pounds of torque max.



CORRECT WALL INSTALLATION



INCORRECT WALL INSTALLATION

Maintenance

Periodically check the unit for loose connections and an accumulation of dust or dirt on the inside and outside of the resistor enclosure. Be sure to allow the unit to cool before servicing (contact may result in burn injury). Remove all power before servicing unit to avoid electrical shock. Allow at least five minutes after input power has been disconnected from the AC drive for the bus voltage to discharge. Electric shock can cause injury or death. Resistor elements should not glow red under normal operating conditions. If the resistor elements glow red you may need a higher rated braking resistor.