

Braking resistors

Single-phase 100-120 V and 200-240V applications, stopping duty only

100-120 V

Type CR resistors (available for the small HP drives as listed below)

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-01U-05A8-1	1.5	P14494-CR-06	50	100	P14494-CR-18	50	200
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-01U-05A8-1	1.5	P14494-CR-24	50	300	P14494-CR-32	50	400

Standard enclosed resistor packages

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-01U-05A8-1	1.5	P14494-24	45	300	P14494-24	45	300
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-01U-05A8-1	1.5	P14494-24	45	300	P14494-24	45	300

Notes: To determine resistor type, dimensions and weights refer to Resistor Technical Data Tables

200-240 V

Type CR resistors (available for the small HP drives as listed below)

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-01U-10A5-2	3	P14494-CR-12	50	150	P14494-CR-24	50	300
ACS255-01U-15A3-2	5	P14494-CR-54	18	300	P14494-CR-56	18	500
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-01U-10A5-2	3	P14494-CR-32	50	400			

Standard enclosed resistor packages

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-01U-10A5-2	3	P14494-24	45	300	P14494-24	45	300
ACS255-01U-15A3-2	5	P14494-73	30	350	ABB-48431-080	30	800
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-01U-10A5-2	3	P14494-25	45	800	P14494-32	45	800
ACS255-01U-15A3-2	5	ABB-48431-080	30	800	P14494-60	30	1050

Notes: To determine resistor type, dimensions and weights refer to Resistor Technical Data Tables

Braking resistors

Three-phase 200-240 V applications, stopping duty only

Type CR resistors (available for the small HP drives as listed below)

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-03U-07A0-2	2	P14494-CR-06	50	100	P14494-CR-18	50	200
ACS255-03U-10A5-2	3	P14494-CR-12	50	150	P14494-CR-24	50	300
ACS255-03U-18A0-2	5	P14494-CR-26	40	300	P14494-CR-34	40	400
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-03U-07A0-2	2	P14494-CR-24	50	300	P14494-CR-32	50	400
ACS255-03U-10A5-2	3	P14494-CR-32	50	400			

Standard enclosed resistor packages

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-03U-07A0-2	2	P14494-31	35	300	P14494-31	35	300
ACS255-03U-10A5-2	3	P14494-31	35	300	P14494-31	35	300
ACS255-03U-18A0-2	5	P14494-73	30	350	ABB-48431-080	30	800
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-01U-07A0-2	2	P14494-31	35	300	P14494-32	35	820
ACS255-01U-10A5-2	3	P14494-32	35	820	P14494-32	35	820
ACS255-03U-18A0-2	5	ABB-48431-080	30	800	P14494-60	30	1050

Notes: To determine resistor type, dimensions and weights refer to Resistor Technical Data Tables

Braking resistors

Three-phase 380-480 V applications, stopping duty only

Type CR resistors (available for the small HP drives as listed below)

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-03U-04A1-4	2	P14494-CR-03	150	100	P14494-CR-15	150	200
ACS255-03U-05A8-4	3	P14494-CR-11	100	150	P14494-CR-22	100	300
ACS255-03U-09A5-4	5	P14494-CR-22	100	300	P14494-CR-30	100	400
ACS255-03U-14A0-4	7.5	P14494-CR-32	50	400			
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-03U-04A1-4	2	P14494-CR-21	150	300	P14494-CR-29	150	400
ACS255-03U-05A8-4	3	P14494-CR-30	100	400			

Standard enclosed resistor packages

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-03U-04A1-4	2	P14494-15	150	300	P14494-15	150	300
ACS255-03U-05A8-4	3	P14494-15	150	300	P14494-15	150	300
ACS255-03U-09A5-4	5	P14494-19	75	300	P14494-20	75	600
ACS255-03U-14A0-4	7.5	P14494-25	45	800	P14494-25	45	800
ACS255-03U-18A0-4	10	P14494-25	45	800	P14494-26	45	1260
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-03U-04A1-4	2	P14494-15	150	300	P14494-16	150	600
ACS255-03U-05A8-4	3	P14494-16	150	600	P14494-16	150	600
ACS255-03U-09A5-4	5	P14494-20	75	600	P14494-21	75	1000
ACS255-03U-14A0-4	7.5	P14494-26	45	1260	P14494-27	45	1920
ACS255-03U-18A0-4	10	P14494-26	45	1260	P14494-27	45	1920

Notes: To determine resistor type, dimensions and weights refer to Resistor Technical Data Tables

Braking resistors

Three-phase 575-600 V applications, stopping duty only

Type CR resistors (available for the small HP drives as listed below)

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-03U-02A1-6	1.5	P14494-CR-02	200	100	P14494-CR-13	250	200
ACS255-03U-03A1-6	2	P14494-CR-08	250	150	P14494-CR-19	250	300
ACS255-03U-04A1-6	3	P14494-CR-22	100	300	P14494-CR-30	100	400
ACS255-03U-06A5-6	5	P14494-CR-22	100	300			
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	CR part no.	Ohms	Watts	CR part no.	Ohms	Watts
ACS255-03U-02A1-6	1.5	P14494-CR-19	250	300	P14494-CR-27	250	400
ACS255-03U-03A1-6	2	P14494-CR-19	250	300	P14494-CR-27	250	400
ACS255-03U-04A1-6	3	P14494-CR-27	250	400			

Standard enclosed resistor packages

		DutyCycle=3sec on/27sec off			DutyCycle=10sec on/50sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-03U-02A1-6	1.5	P14494-11	250	300	P14494-11	250	300
ACS255-03U-03A1-6	2	P14494-11	250	300	P14494-11	250	300
ACS255-03U-04A1-6	3	P14494-11	250	300	P14494-11	250	300
ACS255-03U-06A5-6	5	P14494-15	150	300	P14494-16	150	600
ACS255-03U-09A0-6	7.5	P14494-20	75	600	P14494-20	75	600
ACS255-03U-12A0-6	10	P14494-66	60	700	P14494-67	60	1200
ACS255-03U-17A0-6	15	P14494-32	35	820	P14494-33	35	1200
ACS255-03U-22A0-6	20	P14494-33	35	1200	P14494-38	35	1865
		DutyCycle=30sec on/180sec off			DutyCycle=60sec on/180sec off		
Drive type code	HP	Resistor part no.	Ohms	Watts	Resistor part no.	Ohms	Watts
ACS255-03U-02A1-6	1.5	P14494-11	250	300	P14494-11	250	300
ACS255-03U-03A1-6	2	P14494-11	250	300	P14494-12	250	600
ACS255-03U-04A1-6	3	P14494-12	250	600	P14494-12	250	600
ACS255-03U-06A5-6	5	P14494-16	150	600	P14494-18	150	1200
ACS255-03U-09A0-6	7.5	P14494-21	75	1000	P14494-22	80	1600
ACS255-03U-12A0-6	10	P14494-67	60	1200	P14494-69	60	2000
ACS255-03U-17A0-6	15	P14494-38	35	1865	P14494-36	35	3600
ACS255-03U-22A0-6	20	P14494-35	35	2500	P14494-45	21	4400

Notes: To determine resistor type, dimensions and weights refer to Resistor Technical Data Tables

Resistor technical data

Part number	Ohms	Watts	Encl	Dimensions W x D x H (inches)	Weight (lbs)
P14494-11	255	300	GCE1	12W x 5D x 5H	7
P14494-12	255	600	GCE2	12W x 7D x 5H	10
P14494-13	200	300	GCE1	12W x 5D x 5H	7
P14494-14	200	600	GCE2	12W x 7D x 5H	10
P14494-15	150	300	GCE1	12W x 5D x 5H	7
P14494-16	150	600	GCE2	12W x 7D x 5H	10
P14494-18	150	1200	GCE4	12W x 13D x 5H	16
P14494-19	75	300	GCE1	12W x 5D x 5H	7
P14494-20	75	600	GCE2	12W x 7D x 5H	10
P14494-21	75	1000	GCE3	12W x 10D x 5H	13
P14494-25	45	800	GCE2	12W x 7D x 5H	10
P14494-26	45	1260	GCE3	12W x 10D x 5H	13
P14494-27	45	1920	GCE5	12W x 16D x 5H	18
P14494-31	35	300	GCE1	12W x 5D x 5H	7
P14494-32	35	820	GCE2	12W x 7D x 5H	10
P14494-34	35	1600	GCE4	12W x 13D x 5H	16
P14494-CR-02	200	100	CR100	6W x 1.5D x 0.75H	1
P14494-CR-03	150	100	CR100	6W x 1.5D x 0.75H	1
P14494-CR-06	50	100	CR100	6W x 1.5D x 0.75H	1
P14494-CR-08	255	150	CR150	9W x 1.5D x 0.75H	1
P14494-CR-11	100	150	CR150	9W x 1.5D x 0.75H	1
P14494-CR-12	50	150	CR150	9W x 1.5D x 0.75H	1
P14494-CR-13	255	200	CR200	6W x 3D x 1.5H	2
P14494-CR-15	150	200	CR200	6W x 3D x 1.5H	2
P14494-CR-18	50	200	CR200	6W x 3D x 1.5H	2
P14494-CR-19	255	300	CR300	9W x 3D x 1.5H	3
P14494-CR-21	150	300	CR300	9W x 3D x 1.5H	3
P14494-CR-22	100	300	CR300	9W x 3D x 1.5H	3
P14494-CR-24	50	300	CR300	9W x 3D x 1.5H	3
P14494-CR-26	40	300	CR300	9W x 3D x 1.5H	3
P14494-CR-27	255	400	CR400	12W x 3D x 1.5H	4
P14494-CR-29	150	400	CR400	12W x 3D x 1.5H	4
P14494-CR-30	100	400	CR400	12W x 3D x 1.5H	4
P14494-CR-31	75	400	CR400	12W x 3D x 1.5H	4
P14494-CR-32	50	400	CR400	12W x 3D x 1.5H	4
P14494-CR-34	40	400	CR400	12W x 3D x 1.5H	4
ABB-48431-052	80	800	GCE2	12W x 7D x 5H	10
P14494-63	80	1050	GCE3	12W x 10D x 5H	13
P14494-62	63	800	GCE2	12W x 7D x 5H	10
ABB-48431-140	63	1200	GCE3	12W x 10D x 5H	13
ABB-41163	35	900	GCE3	12W x 10D x 5H	13
P14494-34	35	1600	GCE4	12W x 13D x 5H	16
P14494-33	35	1200	GCE3	12W x 10D x 5H	13
ABB-44534	40	2010	GCE5	12W x 16D x 5H	18

Type CR case resistor

Information and dimensions

Overview

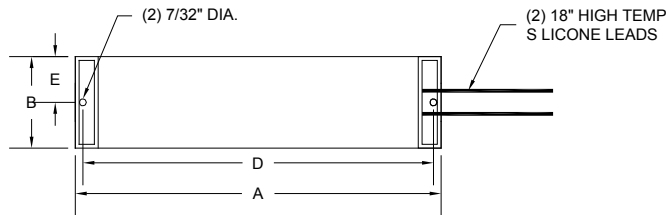
Powerohm's Type CR resistors are manufactured with quality components for superior performance and increased life expectancy. Our case resistors feature a nickel-chromium wire helically wound, then placed inside a ceramic fixture and inserted into a corrosion resistant aluminum case. Each coil end is terminated to high temperature wire leads

and encapsulated with a ceramic potting material. The result is a resistor element electrically isolated, but thermally bound to the outer case to allow the element heat to transfer to the metallic case and efficiently cool. The units are supplied with 18" wire leads, and the case is machined to include two mounting holes for easy installation.

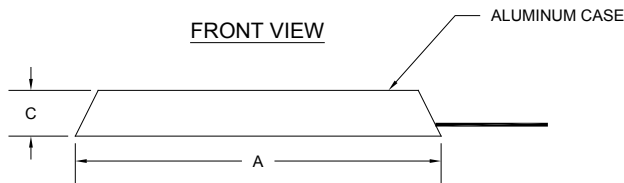
Electrical Ratings & Dimensions of Standard Size Case Resistors

Wattage	Dimension (in)				
	A	B	C	D	E
100	6	1-1/2	3/4	5-1/2	3/4
150	9	1-1/2	3/4	8-1/2	3/4
200	6	3	1-1/2	5-1/2	1-1/2
300	9	3	1-1/2	8-1/2	1-1/2
400	12	3	1-1/2	11-1/2	1-1/2

TOP VIEW



FRONT VIEW



Type GCE resistor

Information and dimensions

Overview

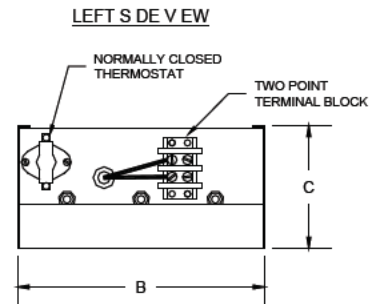
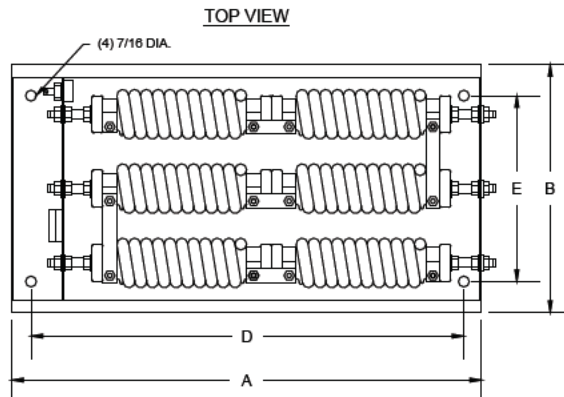
The type GCE enclosures are heavy gage screened enclosures featuring a solid bottom and a built-in wiring compartment separated from the resistor assembly. The resistors are factory wired to a terminal block mounted in this compartment using high temperature Teflon or silicone wire. The terminal compartment also houses a normally closed thermal switch used for detecting resistor temperature overloads. During installation, standard 90°C rated wire is routed into the compartment through the removable 1/2 inch conduit knockouts and connected to the factory wired terminal block.

Our standard unit includes a screened cover which is CNC punched to obtain maximum cooling and professional aesthetics. Mounting holes are located inside the enclosure and can be easily

accessed by removing the cover. Resistor coils are interconnected using stainless steel bus bars, producing a corrosion resistant current path to withstand nearly any harsh industrial environment. The standard finish is galvanized, but an optional powder coated, aluminum or stainless steel finish is available upon request. As shown in the table below, the size of the enclosure will vary depending on the number of resistor coils required for your application. Units are available with louvered covers; add "-W" to the part number and note that the 'A' and 'B' dimensions will increase by an inch. Please do not hesitate to call the factory if you need assistance.

GCE Enclosure Dimensions and Coil Options

Part No.	Max. No. WR Coils	Max. No. SXR, VR or ER	Dimensions (in)				
			A	B	C	D	E
GCE1	1	(1) Size 2	12	5	5	10-1/2	---
GCE2	2	(2) Size 2	12	7	5	10-1/2	4-1/2
GCE3	3	(3) Size 2	12	10	5	10-1/2	7-1/2
GCE4	4	(4) Size 2	12	13	5	10-1/2	10-1/2
GCE5	5	(5) Size 2	12	16	5	10-1/2	13-1/2



Installation instructions for PowerOhm brake resistors

Construction: Powerohm braking resistors consists of smooth-wound, wire-wound or edge-wound type resistor coils mounted in ventilated enclosures. All current carrying components used to manufacture our resistor coils including the elements and terminals are stainless steel for maximum corrosion resistance. Standard enclosures will be mill galvanized with terminals factory wired to a terminal block and normally closed thermal switch. Braking resistors are available with a variety of options such as special enclosure finishes and outdoor ratings.

Inspection: Upon receipt of your Powerohm 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 an ohm value may cause damage to the drive).

Installation:

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.

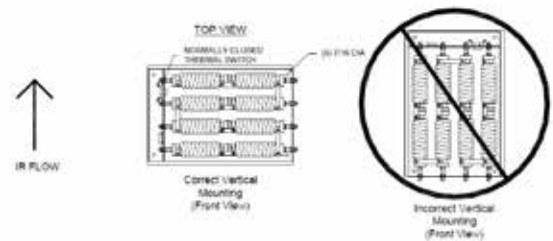
Powerohm braking assemblies cool by natural convection causing hot air to rise vertically from the enclosure. Braking resistors should be mounted in a well ventilated location free of any combustible materials or equipment affected by heat. Units should be installed with at least 24 inches of free space above the enclosure top and 6 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.

Braking resistor enclosures 28 inches or less in width, can be mounted vertically or horizontally. If the unit is mounted vertically, it is important that the resistor coils remain in a horizontal position. Also, if a thermal switch is included with the unit, position the equipment so the switch remains near the top of the enclosure. See below for vertical mounting details.

Smaller 28 inch wide enclosures have convenient conduit knockouts for easy connection. Remove the proper knockout after determining a suitable entry point. Larger units may require field punching for conduit entry. It is preferable to route conduit near the bottom of the resistor enclosure. After attaching conduit, pull wiring into the enclosure for connection to resistor. If connecting directly to the terminals on the resistor elements, it is necessary to use high temperature silicon or Teflon wire rated 200°C. Try to route wiring along the bottom of the enclosure and avoid running the wiring across the top or near the resistor elements. Units are supplied with either #10, 3/8 or 1/2 inch terminal hardware. If you choose to use the factory installed terminal block, then you may connect to it using standard 90°C rated wire. Be sure to properly ground the resistor enclosure to prevent electrical shock.

A normally closed thermal switch is included with the unit, featuring ¼ inch quick connect terminals.

After installing and wiring to your Powerohm Braking Resistor, return the ventilated cover to its proper position. Securely tighten cover hardware (do not exceed 20 inch-pounds of torque).



Installation instructions for PowerOhm brake resistors

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 one minute after input power has been removed 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.