

NEMA, Special Purpose and Mining Rating



7

Product Description

Vacuum contactors and starters were designed for starting and controlling three-phase, 50/60 Hz, AC motors. Each contact is enclosed in a vacuum bottle to reduce and contain contact arcing. This design offers excellent performance for plugging and jogging applications.

Application Description

The vacuum contactors and starters are offered in three classifications. They are NEMA rated devices up to 600 Vac, Special Purpose rated devices up to 1500 Vac and Mining rated devices rated up to 1500 Vac. Each device is tested to different standards to serve its market.

Typical applications include full voltage control of three-phase squirrel cage motors, primary control of low voltage wound rotor motors and circuit switching for low voltage capacitors for power factor improvement.

A vacuum contactor is affected by atmospheric pressure on the bellows of the vacuum bottles. Up to an altitude of 6600 feet, the contactor is designed to tolerate normal variations in barometric pressure. If the contactor is to be operated above 6600 feet above sea level, consult your Eaton representative.

Contents

Description

NEMA, Special Purpose and Mining Rating

Product Selection	V5-T7-3
Accessories	V5-T7-4
Replacement Parts	V5-T7-6
Technical Data and Specifications	V5-T7-7
Wiring Diagrams	V5-T7-9
Dimensions	V5-T7-10

Page

Operation

The contact structure of the vacuum break contactor is located inside sealed ceramic tubes that have been evacuated of air. Any arc occurring across the contacts upon opening is automatically extinguished because ionized air is not available to sustain it—the arc breaks when the current passes through zero. The arc typically does not service beyond the first half cycle once the contacts begin to separate. The large arc chutes normally associated with contactors of this size are not required. The ceramic tube with the moving and stationary contacts is called a **vacuum interrupter or bottle**. There is one bottle for each pole on the contactor. A metal bellows (like a small, circular accordion) within the bottle allows the moving contact to be closed and pulled open from the outside without leaking air into the bottle. Both the bellow and the metal-to-ceramic seals of these state-of-the-art bottles have been refined to the point where the possibility of loss of vacuum has been virtually eliminated.

Features

- Rugged, compact and lightweight
- Quiet operation
- Electrical and mechanical interlocks available
- Long service life

Benefits

- Easy maintenance with front removable coil and auxiliaries
- Eliminate extra surge suppressors with the standard low chop interrupters
- Plan your preventative maintenance schedule by utilizing the contact wear indicator, standard on all vacuum bottles

Standards and Certifications

- NEMA Devices
 - UL Listed File #E1491, Guide Number NLDX
 - CSA Approved
- Special Purpose Devices
 - IEC 947-4-1
 - CE Approved EN 60947-4-1
 - UL Listed File #E1491, Guide Number NLDX
 - CSA Approved



Product Selection

When Ordering Specify

- Catalog number
- Heater pack if ordering a starter, order in quantities of three
- Any required accessories

Size 4 Vacuum Contactor



NEMA Rated Vacuum Contactors and Starters

NEMA Size	Ampere Rating	Motor Voltage	Maximum Horsepower Rating	Magnet Coil Voltage ^①	Contactors Non-Reversing Catalog Number	Contactors Reversing Catalog Number	Starters Non-Reversing Catalog Number ^②
4	135	200	40	110/120	V201K4CJ	V211K4CJ	V200M4CJC
		230	50	220/240	V201K4CK	V211K4CK	V200M4CK
		380	75	440/480	V201K4CU	V211K4CU	V200M4CU
		460	100				
		575	100				
5	270	200	75	110/120	V201K5CJZ1	V211K5CJZ1	V200M5CJC
		230	100	220/240	V201K5CKZ1	V211K5CKZ1	V200M5CK
		380	150	440/480	V201K5CUZ1	V211K5CUZ1	V200M5CU
		460	200				
		575	200				
6	540	200	150	110/120	V201K6CJZ1	V211K6CJZ1	V200M6CJC
		230	200	220/240	V201K6CKZ1	V211K6CKZ1	V200M6CK
		380	300	440/480	V201K6CUZ1	—	V200M6CU
		460	400				
		575	400				

160 A Vacuum Contactor



Special Purpose Vacuum Contactors and Starters

Ampere Rating	Motor Voltage	Maximum Horsepower Rating	Magnet Coil Voltage ^①	Contactors Non-Reversing Catalog Number	Contactors Reversing Catalog Number	Starters Non-Reversing Catalog Number ^②	Starters Reversing Catalog Number ^②
160	200	50	110/120	V201KRCJ	V211KRCJ	—	—
	230	60	220/240	V201KRCK	V211KRCK	—	—
	380	100	380/415	V201KRCH	V211KRCH	—	—
	460	125					
	575	150	440/480	V201KRCU	V211KRCU	—	—
	800	200					
	1000	250					
	1500	400					
320	200	100	110/120	V201KTCJZ1	V211KTCJZ1	V200MTCJC	V210MTCJC
	230	125	220/240	V201KTCKZ1	V211KTCKZ1	V200MTCK	V210MTCK
	380	200	380/415	V201KTCHZ1	V211KTCHZ1	V200MTCH	V210MTCH
	460	250					
	575	300	440/480	V201KTCUZ1	V211KTCUZ1	V200MTCU	V210MTCU
	800	450					
	1000	500					
	1500	900					
540	200	150	110/120	V201KVCJZ1	V211KVCJZ1	V200MVCJ	V210MVCJ
	230	200	220/240	V201KVCKZ1	V211KVCKZ1	V200MVCK	V210MVCK
	380	300	380/415	V201KVCHZ1	—	V200MVCH	—
	460	400					
	575	500	440/480	V201KVCUZ1	—	V200MVCU	—
	1000	1000					
	1500	1250					
610	200	200	110/120	V201KZCJZ1	V211KZCJZ1	—	—
	230	200	220/240	V201KZCKZ1	V211KZCKZ1	—	—
	380	300	380/415	V201KZCHZ1	—	—	—
	460	450					
	575	500	440/480	V201KZCUZ1	—	—	—
	800	800					
	1000	1000					
	1500	1600					

Notes

^① Coils are rated for 50/60 Hz applications.

^② Starters use Type B overload relay. Refer to Heater Coil Selection table on **Page V5-T7-6**. Starters do not include heater packs.