

## DC Magnetic Contactor Crane & Mill Duty

Catalog 5210 • April 2007 • Replaces April 2005

# 5210

### Application

The Type 5210 DC contactor is used for heavy duty DC industrial applications such as DC cranes, steel mills, magnet controllers, starters, mill auxiliary controllers, manual-magnetic disconnect switches and as line contactors or dynamic braking contactors for solid state drives.

### Description

Available in NEMA size 1-8, normally open and normally closed. Rugged Euclid™ contactors feature many unique design and engineering advancements that greatly simplify applications, installations and servicing over 75 years of experience in design as well as manufacturing has been incorporated into these highly reliable units.

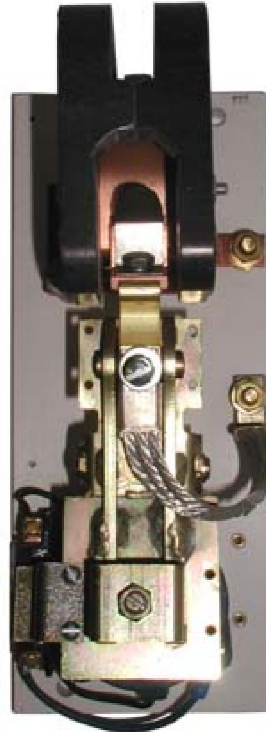
### Features

The Contactor line uses the latest technology in molded plastic materials for those parts requiring insulating qualities and strength.

- Convenient DIRECT-WIRING for Right or Left Hand Power Connections, Rugged Terminals on both sides for all power connections.
- Completely front-connected, front removable "deadback" base design eliminates all nuts and bolts as well as live parts on the back of the base. There is easy access to every part of the contactor.
- Encapsulated Magnet Coil. Operating coils are designed in accordance with NEMA standards to withstand 110% of rated voltage continuously and to operate the contactor successfully at 80% of rated voltage. Standard coil voltages are 115 VDC and 230 VDC. For other coil voltages consult the factory.
- Corrosion resistant, durable, welded steel construction armature assembly incorporates stainless steel spring as well as stainless steel hinge pin providing long mechanical life.
- Hinged Arc-Shield for easy inspection and replacement of contactor tips.
- Power contact tips. Copper contact tips are standard. Silver-faced tips are available and are recommended for applications where the contactors remain closed for extended periods of time, such as manual magnetic disconnect switches. Silver/tungsten/carbide tips are available for hard service applications.

### Accessories

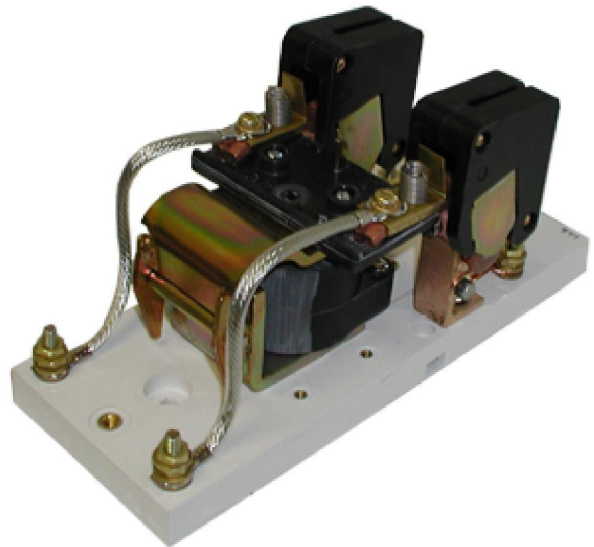
- Auxiliary Electrical Contact Blocks can be mounted on either the right or left hand side of the main contactor. Contacts are bridge-type, double-breaking, silver-cadmium oxide. Units can be "stacked" two deep, for multi-circuit arrangements. Auxiliary Electrical Contacts can be supplied in a kit form consisting of one contact block housing one (1) normally open and one (1) normally closed set of contacts in a common assembly, one knocker, plus the necessary mounting hardware.
- Multi-pole contactors. The size 1 and 2 normally open contactors are available with one, two or three poles. Two pole, normally open size 3-8 contactors can be built by ordering two single pole normally open contactors with half-voltage operating coils and one tie bar kit. The two coils must be wired in series.
- Reversing contactors. Reversing contactors (two single pole or two double pole) contactors can be built by adding a horizontal mechanical interlock between the two single pole normally open or double pole tied normally open contactors mounted side by side.



*NEMA Size 3  
Normally Closed*



*NEMA Size 3  
Normally Open*



*NEMA Size 1 2-Pole Normally Open*



Price List 5210 • April 2007 • Replaces April 2005 • Discount Schedule E44 (EU)

Contactor Ratings Maximum 600 VDC Degree C Ambient			Standard 115 VDC & 230/250 VDC †			
NEMA Size	8 Hour Open DC Amperes	Intermittent Duty Rating DC Amperes	Operating Voltage	Number Of Main Poles	Part Number	List Price
1	25	33	115 VDC	1 N.O.	59311-104	\$750
				2 N.O.	59312-104	\$1170
				3 N.O.	59313-104	\$1710
			230 VDC	1 N.O.	59311-108	\$750
				2 N.O.	59312-108	\$1170
				3 N.O.	59313-108	\$1710
2	50	67	115 VDC	1 N.O.	59321-102	\$930
				2 N.O.	59322-102	\$1590
				3 N.O.	59323-102	\$2370
			230 VDC	1 N.O.	59321-104	\$930
				2 N.O.	59322-104	\$1590
				3 N.O.	59323-104	\$2370
3 §	100	133	115 VDC	1 N.O.	59335-003	\$1560
				1 N.C.	58867-011	\$2100
				1 N.O.	59335-001	\$1560
			230 VDC	1 N.C.	58867-012	\$2100
				1 N.O.	59345-003	\$1890
				1 N.C.	58868-011	\$2610
4 §	150	200	115 VDC	1 N.O.	59345-003	\$1890
				1 N.C.	58868-011	\$2610
				1 N.O.	59345-001	\$1890
			230 VDC	1 N.C.	58868-012	\$2610
				1 N.O.	59495-002	\$2580
				1 N.C.	58900-702	\$3900
5A* §	400	530	230 VDC	1 N.O.	59656-002	\$3480
				1 N.C.	59501-702	\$5250
6	600	800	230 VDC	1 N.O.	59600-111	\$4830
				1 N.C.	59600-990	\$7170
7	900	1200	230 VDC	1 N.O.	59700-111	\$8550
				1 N.C.	59700-990	\$12690
8	1350	1800	230 VDC	1 N.O.	59800-111	\$9690
				1 N.C.	59800-990	\$14400

\* Hubbell rating

† Add \$150 List for non-standard Operating Voltages.  
Consult factory for panel numbers.§ Size 3, 4, 5\*, 5A N.O. contactors provided with steel mounting pan.  
Consult Factory for contactors without mounting pan.

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**Auxiliary Electrical Contact Kits**

**Discount Schedule E49**

Contactor NEMA Size (main cont.)	Optional Auxiliary Contacts	Part Number	List Price Per Kit		Max. Number of Aux. Contacts	
			Customer Install	Factory Install	Left	Right
1 & 2 N.O.	1 N.O./N.C.	68011-003	\$210	\$250	1	1
3 & 4 N.O.	1 N.O./N.C.	68011-001	\$210	\$250	2	2
	2 N.O./N.C.	68011-002	\$420	\$460	1	1
5 & 5A N.O.	1 N.O./N.C.	68011-008	\$210	\$250	2	2
	2 N.O./N.C.	68011-009	\$420	\$460	1	1
6, 7 & 8 N.O.	1 N.O./N.C.	59620-006	\$245	\$285	2	2
	2 N.O./N.C.	59620-066	\$490	\$530	1	1
	1 N.O./N.C. (LH)	59620-106	\$215	\$285	2	2
	2 N.O./N.C. (LH)	59620-166	\$480	\$530	1	1
1 & 2 N.C.	1 N.O./N.C.	68011-003	\$210	\$250	1	1
3 & 4 N.C.	1 N.O./N.C.	68011-004	\$210	\$250	0	2
	2 N.O./N.C.	68011-005	\$420	\$460	0	1
5 & 5A N.C.	1 N.O./N.C.	68011-006	\$210	\$250	2	2
	2 N.O./N.C.	68011-007	\$420	\$460	1	1
6, 7 & 8 N.C.*	1 N.O./N.C.	59620-706*	\$245	\$285	2	0
	2 N.O./N.C.	59620-766*	\$490	\$530	1	0

\* Size 6, 7 & 8 N.C. contactors are supplied with 2 N.O. & 2 N.C. auxiliary contacts as standard.

Auxiliary Electrical Contacts are supplied in a kit form consisting of one normally open and one normally closed set of contacts in a common assembly, one striker, plus the necessary mounting hardware.

**Auxiliary Electrical Contact Ratings**

Electrical Contacts are rated in accordance with NEMA Standard ICS-2-125 (B600 and P600) Table Ratings									
AC	Max. Cont. Amps	Maximum Make and Break Current-Amperes							
		120V		240V		480V		600V	
		Make	Break	Make	Break	Make	Break	Make	Break
B-600	5	30	3	15	1.5	7.5	0.75	6	0.6
DC	Max. Cont. Amps	125V		250V		600V			
		Make	Break	Make	Break	Make	Break		
P-600	5	1.1	1.1	0.55	0.55	0.2	0.2		

**Mechanical Interlock Kits for N.O. Contactors**

**Discount Schedule E44**

NEMA Size (of main contactor)	Number of Poles	Part Number	List Price Per Kit	
			Customer Install	Factory Install
1 & 2	Single	68041-001	\$270	\$300
1 & 2	Multiple	68041-002	\$270	\$300
3 & 4	Single or Multiple	68041-008	\$330	\$360
5 & 5A	Single or Multiple	68041-016	\$390	\$420
6	Single or Multiple	59625-006	\$480	\$510
7 & 8	Single or Multiple	59625-008	\$480	\$510

Only one auxiliary contact block can be mounted when using a mechanical interlock.

**Tie-Bar Kits for Multi-Pole N.O. Contactors**

**Discount Schedule E44**

NEMA Size (of main contactor)	Description	Part Number	List Price Per Kit For Customer Installation
3 & 4	Multi-pole	59400-004	\$90
5 & 5a	Multi-pole	59400-005	\$120
6	Multi-pole	59400-126	\$180
7 & 8	Multi-pole	59400-128	\$210

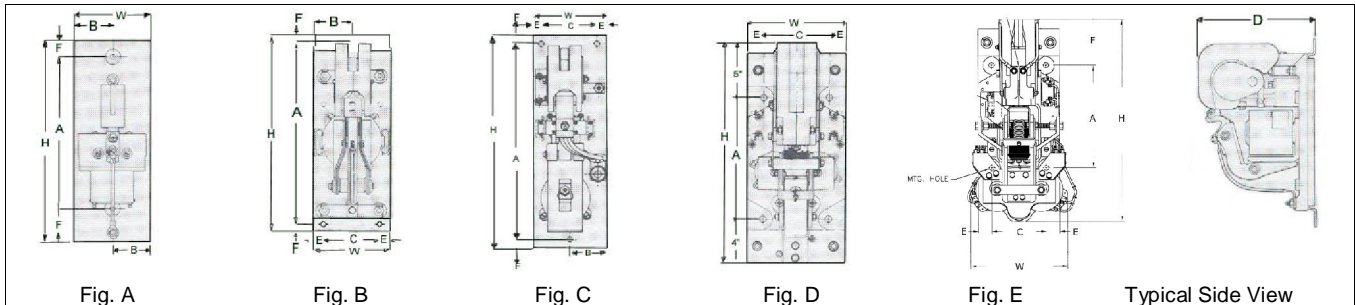
**How to Order:**

- A) Select proper Operating Voltage for contactor coil.
- B) Refer to NEMA Size & Number of Main Poles required for contactor listed in chart.
- C) Order by Part Number.

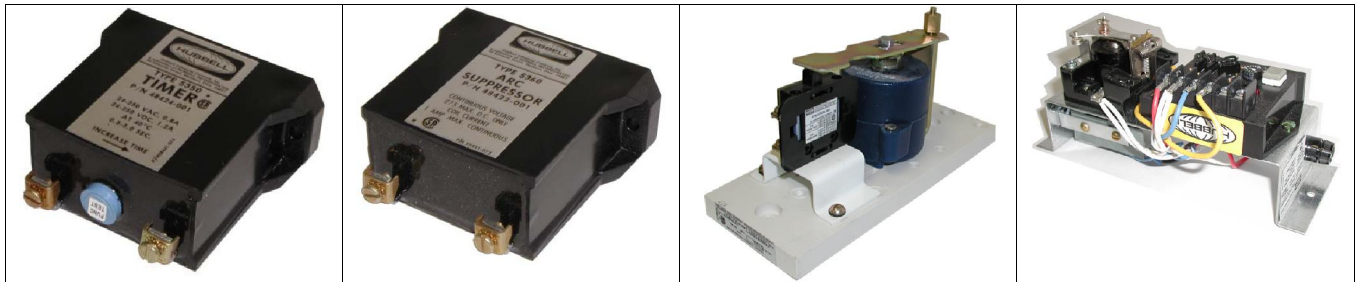
**For Accessories:**

- A) Select the appropriate part number above.
- B) Add to the base price of the contactor and specify either "factory installed" or "separate kit".





CONTACTOR RATINGS Maximum 600 VDC 40° C Ambient				NORMALLY OPEN (N.O.)										
NEMA Size	8 Hour Ratings		Intermit-tent Duty Rating DC Amperes	APPROXIMATE DIMENSIONS (IN INCHES)										
	Open DC Amperes	Enclosed DC Amperes		NEMA SIZE	H HEIGHT	W WIDTH	D DEPTH	A	B	C	E	F	MTG HOLE	FIG.
1	25	23	33	1	10.25	4.00	4.80	7.81	2.0"	---	---	1.625	.265	A
2	50	45	67	2	10.25	4.00	4.80	7.81	2.0"	---	---	1.625	.265	A
3	100	90	133	3	12.00	4.50	7.00	11.00	2.25	3.25	0.63	.50	.38	B
4	150	135	200	4	12.00	4.50	7.00	11.00	2.25	3.25	0.63	.50	.38	B
5	300	270	400	5	15.50	6.13	9.50	14.50	3.06	4.00	1.06	.50	.44	B
5A*	400	360	530	5A*	15.50	6.13	9.50	14.50	3.06	4.00	1.06	.50	.44	B
6	600	540	800	6, 7, 8	20.25	9.00	15.00	11.25	---	6.00	1.50	4.00	.52	D
7	900	810	1200	* * When two "F" Dim. are given, the first is for the top, the second is for the bottom mounting hole										
8	1350	1215	1800											
*Euclid Rating														
MINIMUM 250v DC ARCING CLEARANCES †				NORMALLY CLOSED (N.C.)										
NEMA SIZE	FRONT OF ARC SHIELD	ABOVE ARC SHIELD §		APPROXIMATE DIMENSIONS										
NEMA SIZE	H HEIGHT	W WIDTH	D DEPTH	A	B	C	E	F	MTG HOLE	FIG.				
1	75"	1.0	1	12.00	4.00	5.00	10.75	2.00	---	---	0.62	0.31	A	
2	75"	1.0	2	12.00	4.00	5.00	10.75	2.00	---	---	0.62	0.31	A	
3	2.0"	1.5	3	12.00	5.00	6.90	11.00	4.00	---	---	0.50	0.37	A	
4	2.0"	1.5	4	12.00	5.00	6.90	11.00	4.00	---	---	0.50	0.37	A	
5	2.5	3.0	5	18.00	6.25	9.50	16.50	3.12	4.75	0.75	0.75	0.44	C	
5A*	2.5	3.0	5A*	18.00	6.25	9.50	16.50	3.12	4.75	0.75	0.75	0.44	C	
6	3.0	3.0	6, 7, 8	22.26	10.69	15.80	11.25	---	6.00	1.50	5.00	0.562	E	
7	3.5	3.5	† Consult factory for higher voltage applications.											
8	4.0	4.0	§ Additional clearance may be required for maintenance.											



STATIC IN-LINE TIMER, Type 5350, is used as a series timing device in applications where a timed "ON" delay after energizing is required for AC or DC Contactors or Relay Coils. Totally encapsulated, shock and vibration resistant, wide range of ambient temperature operations, and adjustable time range.

ARC SUPPRESSOR, Type 5360, totally encapsulated, can be utilized in DC control circuits with operating voltages between 24 and 275 VDC. The suppressor will limit the maximum surge voltage across a 1-amp operating coil to 1,000 volts. For mill duty contactors NEMA sizes 1 thru 4, the maximum peak voltage is limited to 500 volts.

DC RELAYS, Type 5320, general purpose control, voltage sensitive, current, and plugging relays are built to withstand severe service using the latest technology in materials for insulating and high-strength. They are recommended for use on heavy industry DC drives such as cranes and mill auxiliaries.

ELECTRONIC OVERLOAD RELAY, Type 5370, receives line current signals from an ammeter shunt and performs both the Inverse Time as well as the Instantaneous Trip functions normally performed by two (2) separate electro-mechanical overload relays

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