

5DP Definite Purpose Contactors are designed for DC adjustable speed drive circuits using silicon controlled rectifier switching and other controls where a combination of normally open and normally closed power contacts are required. In all applications, reduced panel space for contactor mounting is made possible through a compact design and the built-in N.C. dynamic brake power contact feature.

In silicon controlled rectifier switching circuits, the SCR is normally phased back prior to contactor opening. Therefore, the N.O. contacts are not required to interrupt any appreciable current. Under abnormal conditions such as failure of the SCR or the control circuit, the

contactor may be required to interrupt up to 200% current. The N.O. contacts are equipped with permanent magnet blowouts to meet this requirement.

The dynamic brake N.C. contact is required to insert the dynamic brake resistor and therefore must make up to 200% of rated current each time the contactor is deenergized.

Jogging is accomplished at low voltage and current. Therefore, the dynamic brake contact is rated at $\frac{1}{3}$ of rated voltage and dynamic brake current. The permanent magnet blowouts provide this interrupting ability.



- 1. Normally Closed Double Break Power Contacts** - made of silver cadmium oxide furnish "anti-weld" protection under overload conditions. Generous size contacts are long lasting, and maintenance-free. All N.C. power contacts supplied with permanent magnet blowouts to lengthen contact life.
- 2. Normally Open Double Break Power Contacts** - incorporate the same design features as the normally closed power poles. Permanent magnet blowouts are also furnished on d.c. load applications.
- 3. Permanent Magnet Blowouts** - mounted to surround the power contacts, function to quickly quench the arc when breaking loads, thereby increasing contact life and assuring positive load circuit interruption. All normally closed poles are furnished with permanent magnet blowouts. Normally open poles can be supplied with or without blowouts as indicated in the circuit symbols shown on page J6.
- 4. Stainless Steel Springs** - maintain exact contact pressure and assure fast contact break (N.O.) and make (N.C.).
- 5. Molded Housing** - constructed of hot-molded, high impact, high arc resistant insulating material. This design totally encloses the contacts and operating magnet in separate compartments and functions to eliminate internal phase-to-phase short circuits.
- 6. Molded Coil** - is layer wound, designed for continuous duty service. Coil construction resists moisture; thermal and mechanical stress. Coil connections are made to pressure type terminals.
- 7. Free-Floating Armature-Magnet Frame** - provide quiet, low vibration, low friction operation. Precision ground pole faces achieve an absolute air gap which prevents "hanging-up". Magnet frame is sized for fast, powerful operation and self-seating extends operational life.
- 8. Auxiliary Contacts** - for 10/40 amp. contactors are available with either the front mounted snap action type with quick connect terminals or the side mounted type with pressure terminals. Contacts for larger sizes in standard or special make-before-break contact combinations feature either standard double break silver-to-silver contacts or low power gold alloy contacts.
- 9. Pressure Type Terminals** - accessible, up-front location permits modern straight-thru wiring. Terminals accept stripped, unglued wires.

SCR Drive Contactors - N.O. or N.C. Power Poles

Drive Contactors Preferred Style 500 VDC Max

Drive Contactors - Old Style

For New Installations Use Preferred Style

Type & Rating	Poles		Fig.No.	Open Type Catalog No.
	N.O.	N.C.		
7001 40 amp.	0	1	7A	7001-5150- **
	0	2	9	7001-5230- **
	1	0	1	7001-6050- **
	2	0	3	7001-7030- **
5DP7 75 amp.	2	1	10	7001-7140- **
	0	1	7A	5DP7-5150- **
	0	2	9	5DP7-5230- **
	1	0	1	5DP7-6050- **
5DP3A 110 amp.	2	0	3	5DP7-7030- **
	2	1	10	5DP7-7140- **
	0	1	8	5DP3A4001* **
	0	2	9	5DP3A3071* **
5DP4 180 amp.	1	0	1	5DP3A4011* **
	2	0	3	5DP3A5021* **
	2	1	15	5DP3A5091* **
	0	1	8	5DP4-4001- **
5DP9 260 amp.	0	2	9	5DP4-3071- **
	1	0	1	5DP4-4011- **
	2	0	3	5DP4-5021- **
	2	1	15	5DP4-5091- **
5DP5 360 amp.	0	1	8	5DP5-4001- **
	0	2	9	5DP5-3071- **
	1	0	1	5DP5-4011- **
	2	0	3	5DP5-5021- **
5DP8 535 amp.	2	1	15	5DP5-5091- **
	0	1	8	5DP8-4001- **
	0	2	9	5DP8-3071- **
	1	0	1	5DP8-4011- **
5DP6 700 amp.	2	0	3	5DP8-5021- **
	2	1	15	5DP8-5091- **
	0	1	8	5DP6-4001- **
	0	2	9	5DP6-3071- **
	1	0	1	5DP6-4011- **
	2	0	3	5DP6-5021- **
	2	1	15	5DP6-5091- **

Type & Rating	Poles		Fig.No.	Open Type Catalog No.
	N.O.	N.C.		
7000 10/40 amp.	0	1	7A	7000-5150- **
	2	0	3	7000-7030- **
	2	1	10	7000-7140- **
5DP1 30 amp.	0	1	8	5DP1-01(*)00
	0	2	9	5DP1-02(*)00
	1	0	1	5DP1-10(*)00
	1	1	5	5DP1-11(*)00
	2	0	2	5DP1-20(*)00
	2	1	6	5DP1-21(*)00
	2	0	3	5DP1-5021- **
5DP2 56 amp.	2	1	7	5DP1-5051- **
	0	1	8	5DP2-01(*)00
	0	2	9	5DP2-02(*)00
	1	0	1	5DP2-10(*)00
	1	1	5	5DP2-11(*)00
	2	0	2	5DP2-20(*)00
	2	1	6	5DP2-21(*)00
5DP3 110 amp.	2	0	3	5DP2-5021- **
	2	1	7	5DP2-5051- **
	0	1	8	5DP3-01(*)00
	0	2	9	5DP3-02(*)00
	1	0	1	5DP3-10(*)00
	1	1	5	5DP3-11(*)00
	2	0	2	5DP3-20(*)00
5DP4 180 amp.	2	1	6	5DP3-21(*)00
	2	0	3	5DP3-5021- **
	2	1	7	5DP3-5051- **
	0	1	8	5DP4-01(*)00
	0	2	9	5DP4-02(*)00
	1	0	1	5DP4-10(*)00
	1	1	5	5DP4-11(*)00
5DP9 260 amp.	2	0	2	5DP4-20(*)00
	2	1	6	5DP4-21(*)00
	2	1	7	5DP4-5051 **
	0	1	8	5DP9-01(*)00
	0	2	9	5DP9-02(*)00
	1	0	1	5DP9-10(*)00
	1	1	5	5DP9-11(*)00
5DP5 360 amp.	2	0	2	5DP9-20(*)00
	2	1	6	5DP9-21(*)00
	2	1	7	5DP9-5051- **
	0	1	8	5DP5-01(*)00
	0	2	9	5DP5-02(*)00
	1	0	1	5DP5-10(*)00
	1	1	5	5DP5-11(*)00
5DP8 535 amp.	2	0	2	5DP5-20(*)00
	2	1	6	5DP5-21(*)00
	2	1	7	5DP5-5051- **
	0	1	8	5DP8-01(*)00
	0	2	9	5DP8-02(*)00
	1	1	5	5DP8-11(*)00
	2	0	2	5DP8-20(*)00
5DP6 700 amp.	2	1	6	5DP8-21(*)00
	2	1	7	5DP8-5051- **
	0	1	8	5DP6-01(*)00
	0	2	9	5DP6-02(*)00
	1	0	1	5DP6-10(*)00
	1	1	5	5DP6-11(*)00
	2	0	2	5DP6-20(*)00
	2	1	6	5DP6-21(*)00

* **Coil Table #1** Replace * with appropriate coil voltage digit.

60 Hz/Voltage	(*)	DC/Voltage	(*)
120	1	115	8
240	2	230	9

** **Coil Table #2** Replace ** with appropriate coil voltage suffix

60 Hz/Voltage	Suffix	DC/Voltage	Suffix
120	11	12	72
208/240	21	24	82
208	90	48	32
240	21	120	12
480	41	240	22
600	51		

The N.C. contact is short time rated for Dynamic Braking applications. Refer to table on page J7 for N.C. contact ratings.

Auxiliary Contact Blocks

Description	Factory Installed Addition	Field Installation Kit Kit No.
Front mtd. aux. 10/40 amp. Old Style & 40A.		
N.O. - N.C. right hand front mtg.	76.	5999-3504
N.O. - N.C. left hand front mtg.	76.	5999-3604
N.O. - N.C. for multiple front mtg.	76.	5999-3704 ¹
For 10/40 amp. Old Style & 40-535 Amp.		
N.O.	101.	5M63
N.C.	101.	5M64
N.O. & N.C.	139.	5M65
N.O. low power .	227.	5M63L
N.C. low power.	227.	5M64L
N.O. & N.C. low power.	353.	5M65L
N.O. Standard & N.C. low power.	277.	5M66
N.O. low power & N.C. standard.	277.	5M65LO
N.C. late break.	101.	5M64E
N.O. & N.C. late break.	139.	5M68 ⁴
N.C. lower power late break.	227.	5M64LE
N.O. & N.C. low power late break.	277.	5M67 ⁴
N.O. low power & N.C. low power late break.	347.	5M69 ⁴
Tandem mounting auxiliary. * *	38.	5M60DA ²
For 700 amp.		
Bi-Pole (N.O. & N.C.).	416.	5999-3163 ³
N.O. low power .	391.	5999-3361 ³
N.C. low power .	391.	5999-3362 ³
N.O. & N.C. late break.	416.	5M46
Bracket for mounting two additional contact blocks.	391.	5999-3969

* * NOT for 10/40A or 40A

Reversing Kits

Description	Kit No
Mechanical interlock 10/40 amp. & 40 amp.	5M115
Mechanical interlock 30-260 amps. contactors except 75 amp.	5999-4737
Mechanical interlock 75 amp. contactors	5999-4717
Mechanical interlock 360 & 535 amp.	5999-4757
Mechanical interlock for two 3-pole 700 amp. contactors	5999-4767
Mechanical interlock for two 700 amp. contactors (1Pole & 2-Pole)	5M96
Reversing baseplate for 10/40 & 40 amp. contactors	5999-8568
Reversing baseplate for 30, 56 & 75 amp.	5999-8569
Reversing baseplate for 110,180 & 260 amp. contactors	5999-8570
Reversing baseplate for 360 & 535 amp. contactors	5999-8571
Reversing baseplate for two 3-Pole 700 amp. contactors	5999-8572
Reversing baseplate for one 2-Pole 700 amp. & one 3-Pole 700 amp. contactors	5999-8573
For 2, 2 Pole 700 Amp	5999-8580

NOTE:

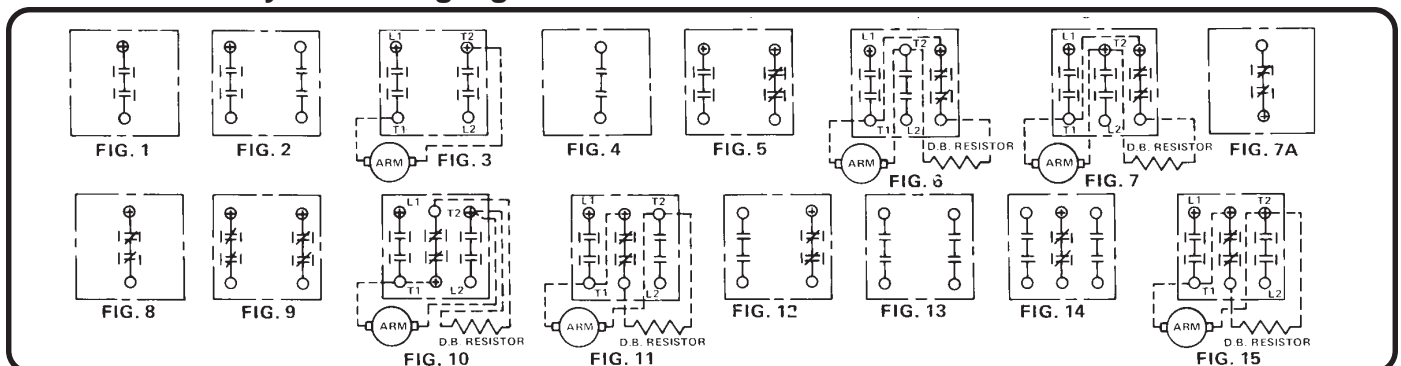
1. Kit includes one N.O. - N.C. auxiliary plus mounting hardware for installing 3rd and 4th auxiliary.
2. Contains mounting hardware only. Order auxiliary separately.
3. Without mounting bracket. Bracket required for mounting more than

Auxiliary Contact Blocks contain 1 or 2 contact depending on the type ordered, the table below lists max. # of contact blocks for each contactor rating.

Amps	Front Mtd		Side Mtd		Maximum Aux. Contacts	N.O.	N.C.	Amps	Front Mtd		Side Mtd		Maximum Aux. Contacts	N.O.	N.C.
	LHS	RHS	LHS	RHS					LHS	RHS	LHS	RHS			
10/40 A	1 ⁵	1 ⁵ or 1	1	1	4=5	2	2	180 A	0	0	2	2	8 =	4	4
30 A	0	0	1	1	4=	2	2	260 A	0	0	2	2	8 =	4	4
40 A	1 ⁵	1 ⁵ or 1	1	1	4= 5	2	2	360 A	0	0	2	2	8 =	4	4
56 A	0	0	2	2	8=	4	4	535 A	0	0	2	2	8 =	4	4
75 A	0	0	2	2	8=	4	4	700 A	0	0	2	1	6 =	3	3
110 A	0	0	2	2	8=	4	4								

4. Not for use on 10/40, 40 & 75 Amp.
5. If DC coil required then front Mtd Auxiliaries not available & contact blocks restricted to 2 & max. aux. contacts 4. 1 contact listed also used to economise coil when DC operated.

Terminal Polarity and Wiring Figures:



Symbols: \perp N.O. Contact \perp Contact with Blowout \neq N.C. Contact \oplus Positive Polarity

Contacts without blowouts do not have any interrupting rating. Contactors with 2 N.O. contacts and blowouts will interrupt 200% current under abnormal conditions.

Contact Kits¹ - 5DP

Contactor Type	Rating	N.O. Contact Kit No.	N.C. Contact Kit No.
7000, 7001	10/40A 40A	5M19	5M20
5DP1	30A	5M55	5M57
5DP2	56A	5M52	5M58
5DP7	75A	5999-2521	5M48
5DP3A	110A	5M80A	5M58
5DP3	110A	5M53	5M49
5DP4	180A	5M54	5M49
5DP9	260A	5M56	5M49
5DP5	360A	5M-045	5999-2461
5DP8	535A	5999-2371	5999-2461
5DP6	700A	5999-2381	5999-2481

Coil Kits - 5DP (AC)

Rating	Volts 50/60Hz	V.A. -60Hz (Approx)		Kit No. ³	
		Inrush	Sealed		
7000 10/40 A	120	120	28	5ML25	
	208	120	28	5ML26	
	7001 40A	240	120	28	5ML29
		480	120	28	5ML27
	600	120	28	5ML28	
5DP1 30A 5DP2 56A 5DP3A 110A	120	234	36	5ML21	
	240	264	41	5ML22	
	480	245	37	5ML23	
	600	246	36.6	5ML24	
5DP7 75 A	120	290	48	5999-1801	
	208	290	48	5999-1805	
	240	290	48	5999-1802	
	480	290	48	5999-1803	
	600	290	48	5999-1804	
5DP3 110A 5DP4 180A 5DP9 260A	120	672	62.4	5ML41	
	208/240	672	69.6	5ML42	
	480	672	67.2	5ML43	
5DP5 360A 5DP8 535A	600	683	72	5ML44	
	120	1725	151	5ML51	
	208/240	1750	138	5ML52	
	480	1776	144	5ML53	
5DP6 700A	600	1782	145	5ML54	
	120	566	187	5999-1601	
	208/220	530	156	5999-1604	
	480	528	177	5999-1602	
	120VDC 240VDC (1-pole N.O.) 240VDC (for 1-pole N.C.; 2-pole N.C.; 2-pole N.O. 2-pole N.O. & 1-pole N.C)			5999-1601 5999-1602 5999-1602 5999-1602 5999-1603	

DC Power Pack Kits⁵ - AC Coils

Rating	Volts 60Hz	Kit No.
5DP6 700amp.	120	5999-8061
	240	5999-8062
	480	5999-8063

NOTE:

For all DC Coils up to 260 Amp add \$221., for 360 & 535 Amp. add \$359., 700 Amp. deduct - \$552.00

Auxiliary Contact Rating

AC Volts	10/40 Thru 100A Amperes	
	Continuous	Inrush
	120	6
280	3	30
480	1.5	15
600	1.2	12

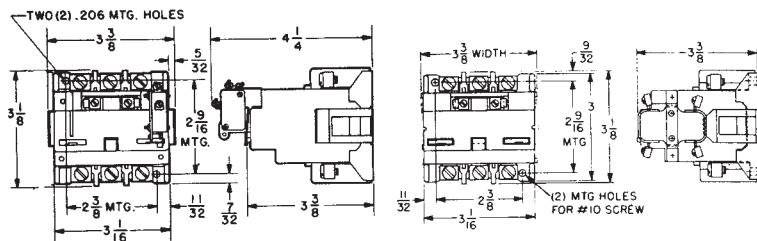
Contact Ratings

DC Contact Rating - Amperes⁷

Type & Rating	Poles	N.O. Contacts (duty)		N.C. Contacts (intermittent)		Type & Rating	Poles	N.O. Contacts (duty)		N.C. Contacts (intermittent)	
		240V	500V	Dynamic Brake Make Only- 500V Max.	Jogging Break Only 160V Max.			240V	500V	Dynamic Brake Make Only- 500V Max.	Jogging Break Only 160V Max.
7000 10/40amp.	2	----	10	20	7	5DP4 180amp.	1	180	----	315	105
	2	40	----	80(240V)	27(80V)		2	180	180	----	----
7001 40amp.	2	40	40	70	23	5DP9 260amp.	1	----	----	387	135
5DP1 30amp.	1	30	30	54	20	5DP5 360amp.	1	360	360	720	240
	2	30	30	----	----		2	360	360	----	----
5DP2 56amp.	1	56	56	105	35	5DP8 535amp.	1	----	----	1070	356
	2	56	56	----	----		2	535	535	----	----
5DP7 75amp.	2	75	75	150	50	5DP6 700amp.	1	700	700	1400	466
5DP3 5DP3A 110amp.	1	110	----	315	105		2	700	700	----	----
	2	110	110	----	----						

Note:

- Contact Kits for 1-pole include stationary contacts, movable contacts and contact spring except as noted for 700 amp. size.
- Assembled kit for 1-pole including yoke with movable contacts and springs; stationary contacts.
- For all pole combinations except 2-pole N.C.
- These coils are for exact replacement at operating voltage and frequency listed.
- Power pack assembly kit includes rectifier, economizing resistor and terminal block. Power Pack Kit must be used on all DC operated 5DP6 units
- Values measured at rectifier power pack input.
- It is necessary to phase back the SCR's so that contactor normally does not interrupt appreciable current. Contactors with blowouts and 2 N.O. contacts will interrupt 200% current under abnormal conditions.

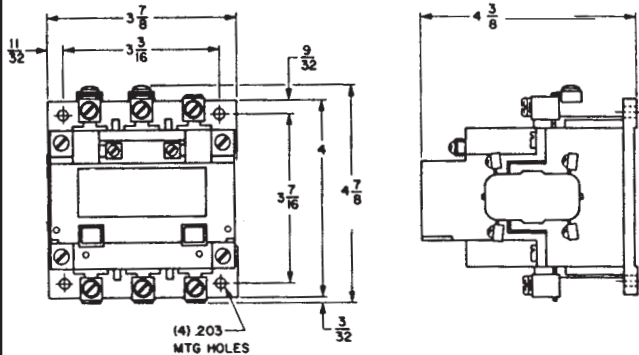


10/40 amp. contactor - 7000
40 amp. contactor - 7001
with front mounted auxiliary

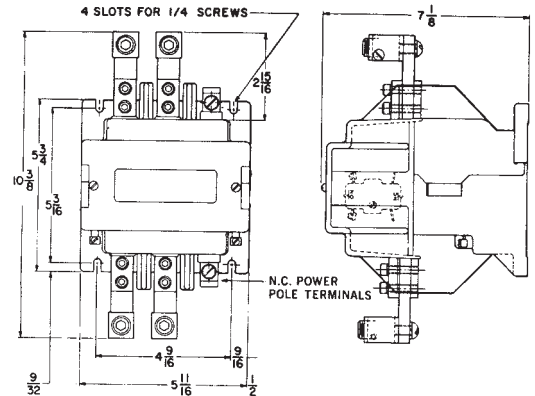
10/40 amp. contactor - 7000
40 amp. contactor - 7001
with side mounted auxiliary

Dimensions - Approximate
(Contactor base mounted vertically)

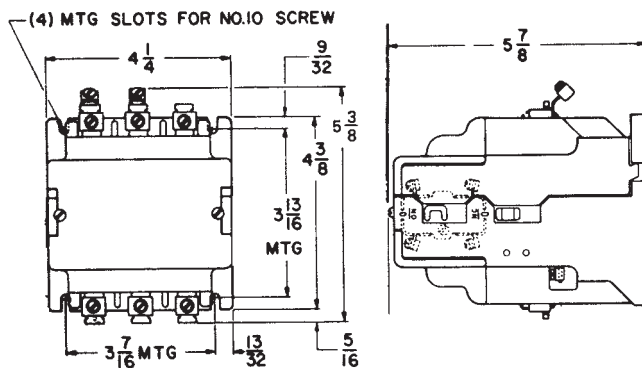
For side mounted auxiliary contact blocks add 1/2" per side to width dimension for all contactor sizes.



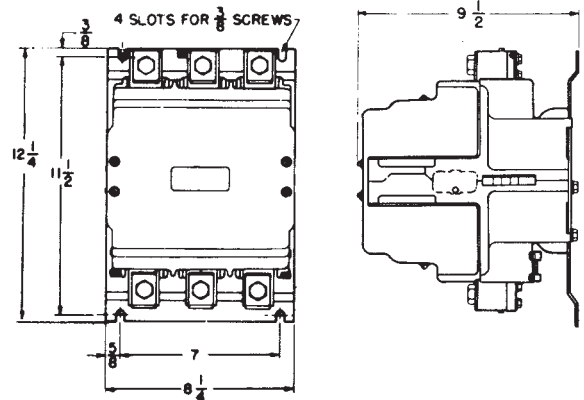
75 amp. contactor - 5DP7



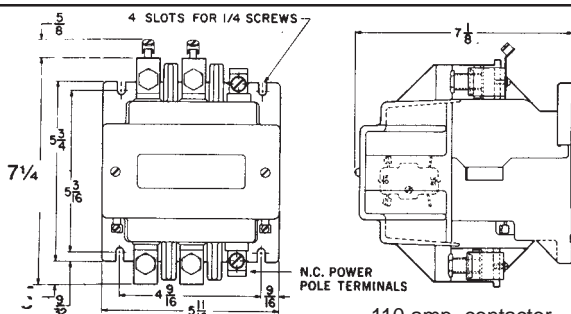
260 amp. contactor - 5DP9



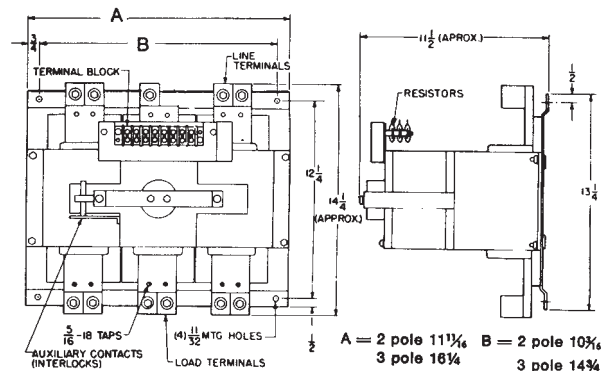
110 amp. contactor - 5DP3A
30 & 56 amp. contactor - 5DP1 & 5DP2



360 & 535 amp. contactor - 5DP5 & 5DP8



110 amp. contactor - 5DP3
180 amp. contactor - 5DP4



700 amp. contactor - 5DP6