Across the line contactors
Non-reversing, 3 pole


B12C-1


B50C-1


EH260C-1

3 Pole, A.C., Open

General purpose current		Maximum motor horsepower ratings				AC operated		DC operated	
		200V	230V	460/480V	575/600V	Catalog Number		Catalog Number	
AC1	AC3	UL rated							
—	21	9	2	2	5	7.5	B9C-1		BC9C-P	
—	21	11	3	3	7.5	10	B12C-1		—	
—	21	17	5	5	10	15	B16C-1		BC16C-P	
—	33	28	7.5	10	20	25	B25C-1		BC25C-P	
—	45	32	10	10	20	30	B30C-1		BC30C-P	
—	55	41	10	15	30	40	B40C-1		BE40C-P	
—	65	52	15	20	40	50	B50C-1		BE50C-P	
—	85	65	20	25	50	50	B63C-1		BE63C-P	
—	105	80	25	30	60	75	B75C-1		BE75C-P	
—	125	80	30	30	60	75	A95C-1		AE95C-P	
—	140	105	30	40	75	100	A110C-1		AE110C-P	
—	170	130	40	50	100	125	EH145C-1		EH145C-P	
—	190	156	50	60	125	150	EH175C-1		EH175C-P	
—	230	192	60	75	150	200	EH210C-1		EH210C-P	
—	300	242	75	100	200	250	EH260C-1		EH260C-P	
—	350	302	100	100	250	250	EH300C-1		EH300C-P	
—	525	420	125	150	350	400	EH450C-1		EH450C-P	
—	600	480	150	200	400	500	EH550C-1		EH550C-P	
—	715	602	200	250	500	600	EH700C-1		EH700C-P	
—	900	810	250	300	600	700	EH800C-1		EH800C-P	

NEMA rated

NEMA Size	Continuous current								
00	9	1.5	1.5	2	2	BN9C-1		BCN9C-P	
0	18	3	3	5	5	BN16C-1		BCN16C-P	
1	27	7.5	7.5	10	10	BN25C-1		BCN25C-P	
2	45	10	15	25	25	BN50C-1		BEN50C-P	
3	90	25	30	50	50	BN75C-1		BEN75C-P	
4	135	40	50	100	100	EHN145C-1		EHN145C-P	
5	270	75	100	200	200	EHN260C-1		EHN260C-P	
6	540	150	200	400	400	EHN550C-1		EHN550C-P	
7	810	—	300	600	600	EHN800C-1		EHN800C-P	

Coil voltage selection
All AC operated catalog numbers include a 120VAC coil.All DC operated catalog numbers include a 110VDC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection chart for the first digit after the dash in the catalog number.

Coil voltage selection chart

Hz	Contr. type	Volts														
		24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	A,B,EH	F	G		1		B		2	C	2		3	4		6
50	A,B	F		1				2			3	4			6	
50	EH	N		1				J			3	M			5	
DC	A,B,EH	Y	W	P		Q		R					T			

- For other voltages, consult the saes department.
- 24 & 48VAC coils are not available for sizes EH450 – EH800. For these applications, use an interposing control relay.

Auxiliary contacts as standard

Frame size	Number of contacts	Mounting
B(C)9 – B(C)25	1 N.O.	Internal
B(C)30	2 N.O. & 2 N.C.	Top
B(E)40 – EH800	1 N.O. & 1 N.C.	Side
A(E)95 – A(E)110	1 N.O. & 1 N.C.	Side

Additional auxiliary contacts are available for all contactor sizes.

DC Control

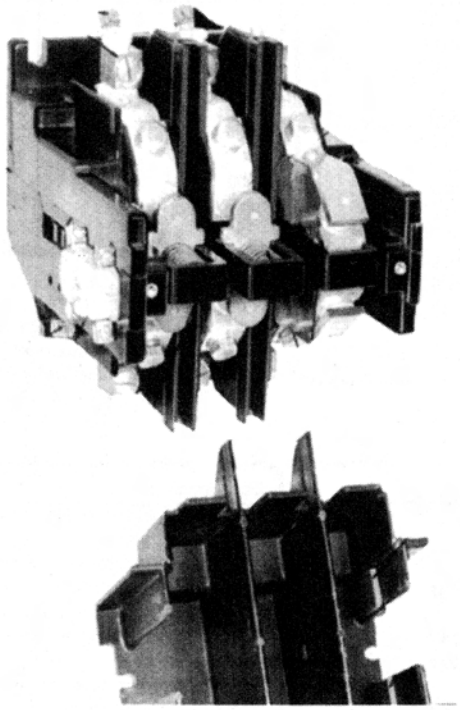
5DP Contactors

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 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 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 wearing, and maintenance-free. All N.C. power contacts supplied with permanent magnet blowouts to lengthen contact life. See Permanent Magnet Blowouts paragraph.
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. See Permanent Magnet Blowout paragraph for combinations available.
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 interrupton. All normally closed poles are furnished with permanent magnet blowouts. Normally open poles can be supplied with or without blowouts
4. **Stainless Steel Springs** - maintain exact contact pressure and assure fast contact break (N.O.) and make (N.C.).
5. **Molded Carrier** - for movable contacts and armature is molded from high impact, high arc resistant insulating material.
6. **Molded Housing** - constructed of hot-molded, high impact, high arc resistant insulating material. This design totally encloses the contacts and operating magnet in separate comparments and functions to eliminate internal phase-to-phase short circuits.
7. **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.
8. **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 principle extends operational life.
9. **Auxiliary Interlocks (Contacts)** - for 10/40 amp. contactors are available with with either the front mounted snap action type with quick connect terminals or the side mounted type with pressure terminals. Interlocks 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.
10. **Pressure Type Terminals** - accessible, up-front location permits modern straight-thru wiring. Terminals take stripped, unlugged wires.

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DC Control

5DP Contactors

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

Current Rating	Poles N.O.	Poles N.C.	Fig. No.	Open Type Catalog No.
40 amp.	0	1	7A	[2]7001-5150- *
	0	2	9	[2]7001-5230- *
	1	0	1	[2]7001-6050- *
	2	0	3	[2]7001-7030- *
	2	1	15	[2]7001-7140- *
75 amp.	0	1	7A	5DP7-5150- *
	0	2	9	5DP7-0230- *
	1	0	1	5DP7-7030- *
	2	0	3	5DP7-1050- *
	2	1	15	5DP7-7140- *
170 amp.	0	1	8	5DP3A-01100
	0	2	9	5DP3A-02100
	1	0	1	5DP3A-10100
	2	0	3	5DP3A-5150- *
	2	1	15	5DP3A-0230- *
180 amp.	0	1	8	5DP4-01100
	0	2	9	5DP4-02100
	1	0	1	5DP4-10100
	2	0	3	5DP4-5021- *
	2	1	15	5DP4-5091- *
260 amp.	0	1	8	5DP9-01100
	0	2	9	5DP9-02100
	1	0	1	5DP9-10100
	2	0	3	5DP9-5021- *
	2	1	15	5DP9-5091- *

* See Coil Table

Current Rating	Poles N.O.	Poles N.C.	Fig. No.	Open Type Catalog No.
360 amp.	0	1	8	5DP5-01100
	0	2	9	5DP5-02100
	1	0	1	5DP5-10100
	2	0	3	5DP5-5021-11
	2	1	15	5DP5-5051-11
535 amp.	0	1	8	5DP8-01100
	0	2	9	5DP8-02100
	1	0	1	5DP8-10100
	2	0	3	5DP8-5021-11
	2	1	15	5DP8-5051-11
700 amp.	0	1	8	5DP6-01100
	0	2	9	5DP6-02100
	1	0	1	5DP6-10100
	2	0	3	5DP6-5021-11
	2	1	15	5DP6-5051-11
700 amp.	0	1	8	5DP6-4001-22
	0	2	9	5DP6-3071-22
	1	0	1	5DP6-4011-22
	2	0	3	5DP6-5021-22
	2	1	15	5DP6-5051-22

Note:

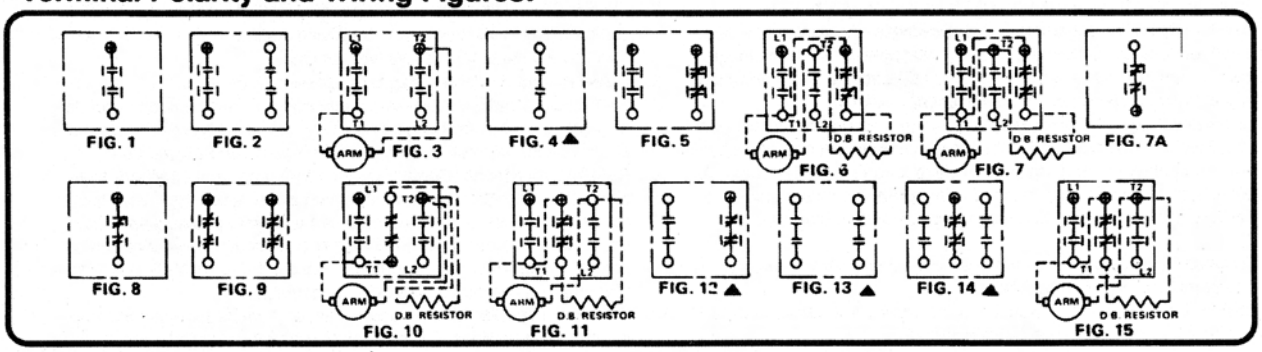
2. PROVISION FOR SIDE-MOUNTED AUXILIARIES STANDARD. When top mounted provisions are desired, modify the 5th catalog number digit as follows: If digit is "5" replace with the number "0" , if "6" use "1", if "7" use "2".

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 (1-Pole & 2-Pole)	5M96

Description	Kit No.
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

Terminal Polarity and Wiring Figures:



Symbols: ⊣⊢ N.O. Contact |⊣⊢| Contact with Blowout ⊣/⊢ N.C. Contact ⊕ Positive Polarity

Contacts without blowouts do not have the interrupting rating. Contactors with blowouts will interrupt 200% current under abnormal conditions.

DC Control

5DP Accessories

Contact Kits[1] - 5DP

Size	N.O. Contacts Kit No.	N.C. Contacts Kit No.
10/40 & 40	5M19	5M20
30	5M55	5M57
56	5M52	5M58
75	5999-2521	5M48
110	5M53	5M49
180	5M54	5M49
260	5M56	5M49
360	5999-0045	5999-2461
535	5999-2371	5999-2461
700	[2]5999-2381	5999-2481

Power Pack Kits[5] - AC Coils

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

Coil Kits - 5DP

Size	Volts 60Hz	V.A. -60Hz (Approx) Inrush	Sealed	Coil No.	Kit No.[3]
10/40 & 40 amp.	120	120	28	344L1	5ML25
	208	120	28	344L2	5ML26
	240	120	28	344L5	5ML29
	480	120	28	344L3	5ML27
	600	120	28	344L4	5ML28
30 & 56 amp.	120	234	36	319L1	5ML21
	240	264	41	319L2	5ML22
	480	245	37	319L3	5ML23
	600	246	36.6	319L4	5ML24
75 amp.	120	290	48	343L1	5999-1801
	208	290	48	343L5	5999-1805
	240	290	48	343L2	5999-1802
	480	290	48	343L3	5999-1803
	600	290	48	343L4	5999-1804
110, 180 & 260 amp.	120	672	62.4	320L1	5ML41
	240	672	69.6	320L2	5ML42
	480	672	67.2	310L3	5ML43
	600	683	72	320L4	5ML44
360 & 535 amp.	120	1725	151	335L1	5ML51
	240	1750	138	335L2	5ML52
	480	1776	144	335L3	5ML53
	600	1782	145	335L4	5ML54
700 amp.[4,6]	120	566	187	347L1	5999-1601
	240	530	156	347L4	5999-1604
	480	528	177	347L2	5999-1602
	120V DC			347L1	5999-1601
	240V DC (1-pole N.O.)			347L2	5999-1602
	240V DC (for 1-pole N.C.;			347L2	5999-1602
	2-pole N.C.; 2-pole N.O.			347L2	5999-1602
	2-pole N.O. & 1-pole N.C)			347L3	5999-1603

Contact Ratings - 5DP

DC Contact Rating - Amperes[7] R.M.S											
		N.O. Contacts		N.C. Contacts (intermittent duty)				N.O. Contacts		N.C. Contacts (intermittent duty)	
Size	Poles	240V	500V	Dynamic Brake Make Only - 500V Max.	Jogging Break Only 160V Max.	Size	Poles	240V	500V	Dynamic Brake Make Only - 500V Max.	Jogging Break Only 160V Max.
10/40 amp.	2	----	10	20	7	180 amp.	1	180	----	315	105
	2	40	----	80(240V)	27(80V)		2	180	180	-----	----
40 amp.	2	40	40	70	23	260 amp.	1	----	----	387	135
30 amp.	1	30	30	54	20		2	260	260	-----	----
	2	30	30	-----	----	360 amp.	1	360	360	720	240
56 amp.	1	56	56	105	35		2	360	360	-----	----
	2	56	56	-----	----	535 amp.	1	----	----	1070	356
75 amp.	2	75	75	150	50		2	535	535	-----	----
110 amp.	1	110	----	315	105	700 amp.	1	700	700	1400	466
	2	110	110	-----	----		2	700	700	-----	----

Note:

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

DC Control

5DP Contactors

Auxiliary Interlocks

Description	Field Installation Kit Kit No.
Front mounted auxiliaries, 10/40 amp.	
N.O. - N.C. right hand front mtg.	5999-3504
N.O. - N.C. left hand front mtg.	5999-3604
N.O. - N.C. for multiple front mtg.[1]	5999-3704
For 10/40 amp.	
N.O. standard	5M63
N.C. standard	5M64
N.O. & N.C. standard	5M65
N.O. low power (except 10/40, 40&75 amp.)	5M63L
N.C. low power	5M64L
N.O. & N.C. low power	5M65L
N.O. standard & N.C. low power	5M66
N.O. low power & N.C. standard	5M65L0
N.C. standard late break	5M64E
N.O. standard & N.C. standard late break	5M68
N.C. lower power late break	5M64LE
N.O. standard & N.C. low power late break	5M67[4]
N.O. low power & N.C. low power late break	5M69[4]
Tandem mounting auxiliary[2]	5M60DA
For 700 amp.	
Bi-Pole (N.O. & N.C.)[3]	5999-3163
N.O. low power[3]	5999-3361
N.C. low power[3]	5999-3362
N..O. standard & N.C. standard early close	5M46
Bracket for mounting more than one extra auxiliary interlock	5999-3969

Note:

1. Kit includes one N.O. - N.C auxiliary plus mounting hardware for installing 3rd or 4th auxiliary in addition to left - or right - hand auxiliary.
2. Contains mounting hardware only. Order auxiliary separately.
3. Without mounting bracket. Bracket required for mounting more than one extra auxiliary interlock.
4. Not for use on 10/40 & 75 amp. contactors.

Ordering Information

Use catalog number. Replace the (*) with the suffix from the coil table.

Coil Table

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

SCR Drive Contactors - Superceded; For Replacement

Size	Poles N.O.	Poles N.C.	Fig. No.	Open Type Catalog No.
10/40 amp.	—	1	7A	7000-5150-*
	2	—	3	7000-7030-*
	2	1	10	7000-7140-*
30 amp.	—	1	8	5DP1-01100
	—	2	9	5DP1-02100
	1	—	1	5DP1-10100
	1	1	5	5DP1-11100
	2	—	2	5DP1-20100
	2	1	6	5DP1-21100
	2	—	3	[6]5DP1-5021-*
	2	1	7	[6]5DP1-5051-*
56 amp.	—	1	8	5DP2-01100
	—	2	9	5DP2-02100
	1	—	1	5DP2-10100
	1	1	5	5DP2-11100
	2	—	2	5DP2-20100
	2	1	6	5DP2-21100
	2	—	3	[6]5DP2-5021-*
	2	1	7	[6]5DP2-5051-*
110 amp.	—	1	8	5DP3-01100
	—	2	9	5DP3-02100
	1	—	1	5DP3-10100
	1	1	5	5DP3-11100
	2	—	2	5DP3-20100
	2	1	6	5DP3-21100
	2	—	3	[6]5DP3-5021-*
	2	1	7	[6]5DP3-5051-*
180 amp.	1	1	5	5DP4-11100
	2	—	2	5DP4-20100
	2	1	6	5DP4-21100
	2	1	7	[6]5DP4-5051-*
260 amp.	1	1	5	5DP9-11100
	2	—	2	5DP9-20100
	2	1	6	5DP9-21100
	2	1	7	[6]5DP9-5051-*
360 amp.	1	1	5	5DP5-11100
	2	—	2	5DP5-20100
	2	1	6	5DP5-21100
	2	1	7	[6]5DP5-5051-*
535 amp.	2	—	2	5DP8-20100
	2	1	6	5DP8-21100
	2	1	7	[6]5DP8-5051-*
700 amp.	1	1	5	5DP6-11100
	2	—	2	5DP6-20100
	2	1	6	5DP6-21100
700 amp.	1	1	4	5DP6-0011-22
	2	—	5	5DP6-3041-22
	2	1	12	5DP6-2041-22
	2	1	2	5DP6-2021-22
	2	1	13	5DP6-0021-22
	2	1	11	5DP6-6061-22
	2	1	14	5DP6-4051-22

Note:

6. These units are used for special requirements when increased DC interruption is required.

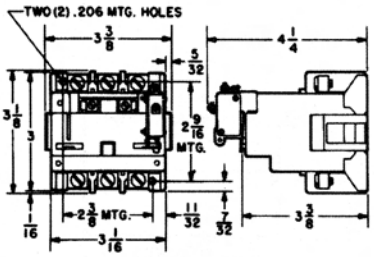
DC Control

Dimensions

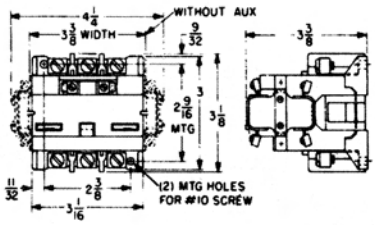
7 RELAYS

DIMENSIONS – Approximate

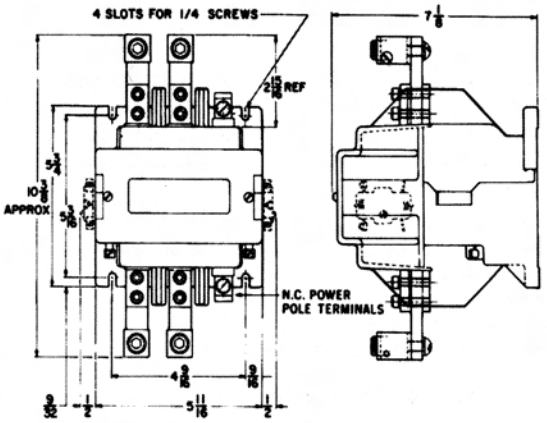
(Contactor base mounted vertically)



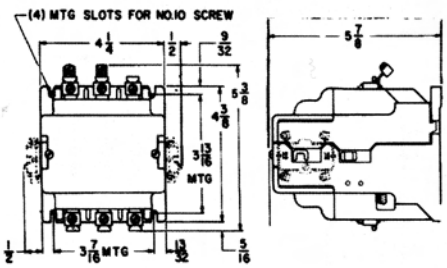
40 amp. contactor
with front mounted auxiliary



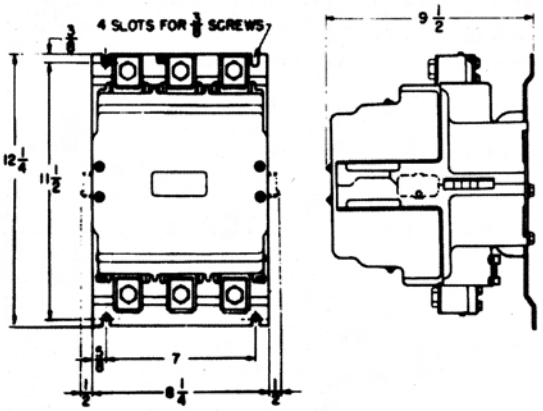
40 amp. contactor
with side mounted auxiliary



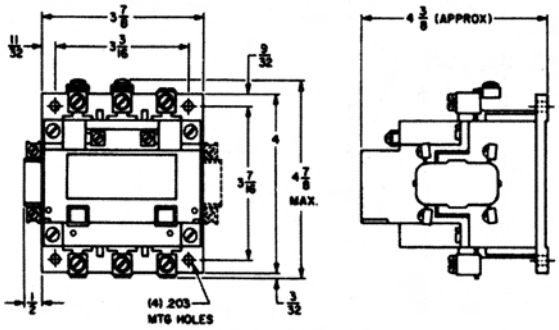
260 amp. contactor



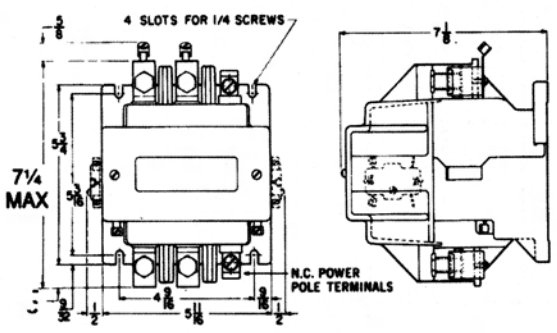
110 amp. contactor



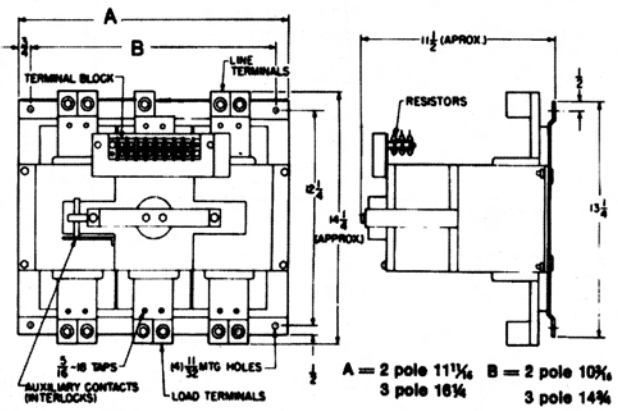
360 and 535 amp. contactor



75 amp. contactor



180 amp. contactor



700 amp. contactor

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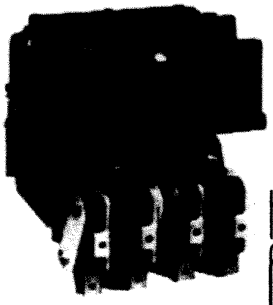
MOTOR REVERSING CONTACTOR, 1 & 2 HP, 6 POLE

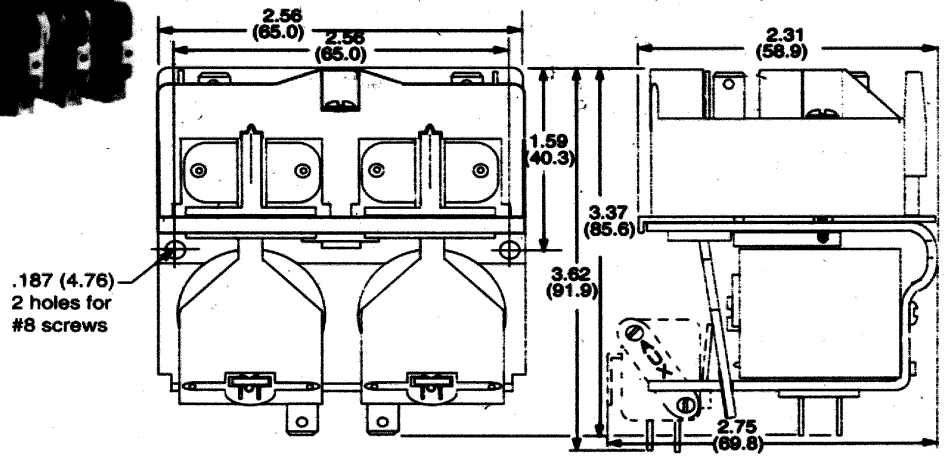
SERIES **A275**



The Series A275 relay is a 2 coil, compact motor reversing contactor which finds extensive applications in the Industrial door operator industry, the hoist industry and electronic wheel balancers, to name a few. The A275 has Q.C. coil terminals extending out the back (opposite the contact terminals), mechanically interlocked armatures is a standard feature.

OUTLINE DIMENSIONS

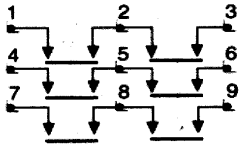
Dimensions shown in Inch and (Millimeters)



WIRING DIAGRAM

TOP VIEW

Main contact terminals are numbered on contactor



Auxiliary contact Snap Switches

AC COIL SPECIFICATIONS @ 25°C

Nominal Voltage	Resistance Ohms ± 10%	Power Consumption
12V/50-60hz	1.24	17VA
24V/50-60hz	4.63	16.7VA
110V/50-120V/60hz	125	16.8VA
220V/50-240V/60hz	500	16.8VA

DC COIL SPECIFICATIONS @ 25°C

Nominal Voltage	Resistance Ohms ± 10%	Power Consumption
12	31.0	4.5W
24	125	4.6W
32	210	4.9W
48	500	4.6W
120	3240	4.4W

Polypropylene encapsulated coils

CONTACT RATINGS

AC CONTACTS: (Apply only with contacts in use, not on a "per pole" basis).

VOLTAGE (60HZ)	PHASE	MOTOR LOADS (HP)	RESISTIVE LOAD (AMPS)
120	1 - 2 - 3	1	15
240	1	1.5	10
240	2 - 3	3	10
480/600	2 - 3	3*	5

DC CONTACTS

VOLTAGE (DC)	RESISTIVE LOAD (AMPS)
30	15
125	5

600 volt spacing to ground.
300 volt spacing for auxiliary contacts.
* 480/600 volt models with electric interlocks are rated for 2 hp.

OPTIONS (CONSULT FACTORY)

ORDERING CODE

Typical Type No. **A275 KXX 90 -24A**

Series
A275, 1/4" Terminals, motor reversing. Continuous , 1 & 2hp, 3 pole models

Contact Arrangements
KXX (3PDM-NO., per coil)

Options
2 Aux. contacts, each 1 form "C" (1 per coil) 1/4" Q.C. terminals - **CODE 90**
4 Aux. contacts, each 1 form "C" (2 per coil) 1/4" Q.C. terminals - **CODE 91**

Coil Voltage
AC: 12, 24, 110, 120, 220, 240 (Add **"A"**)
DC: 12, 24, 32, 48, 120 (Add **"D"**)

GENERAL SPECIFICATIONS

COIL
Pull-in Voltage: AC: 85%, DC: 80% of nominal voltage measured at 25°C
Dropout Voltage: 10% of nominal voltage or more @ 25°C
Max. allowed voltage: 110% of nominal voltage
Coil Resistance: ±10% Measured @ 25°C

CONTACTS
Contact Material: Silver Cadmium Oxide.

TIMING
Operate Time: 50 mS Max. @ Nominal Voltage.
Release Time: 30 mS Max. @ Nominal Voltage.

DIELECTRIC STRENGTH
All Mutually Insulated Points: 2500 V rms between all mutually insulated current carrying parts and those parts to ground.
Insulation Resistance: 500 VDC Exceeds 1000 Megohms.

TEMPERATURE
Temperature Rating: AC: -45°C to +50°C @ rated operation. DC: -45°C to +70 °C @ rated operation.

LIFE EXPECTANCY
Mechanical: 5 Million Operations no load
Electrical: 100,000 Operations @ Rated Load. 500,000 Operations @ 1/2 rated load.

MISCELLANEOUS
Weight: 1 pound. approx..

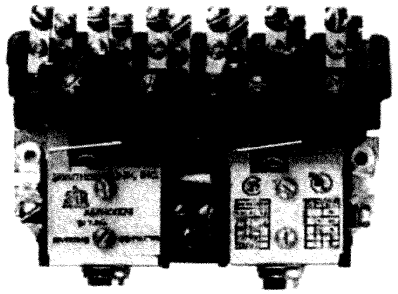
2 COIL MOTOR REVERSING CONTACTOR 1.5 - 7.5HP, 6 POLE

SERIES A575

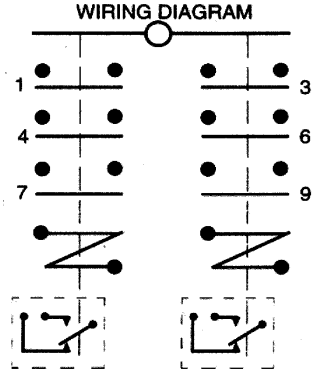
7

RELAYS

The Series A575 relay is rated to 7.5 HP. Two sets of 3 pole, double-make, N.O. contacts are mechanically interlocked to prevent simultaneous closure. Front mounted auxiliary contacts are available for electrical lockup and lockout. All versions have silver cadmium oxide contacts. The A575 motor reversing contactor is widely used for control of overhead doors, elevators, hoists, machine tools, and other similar devices that requires frequent jogging.

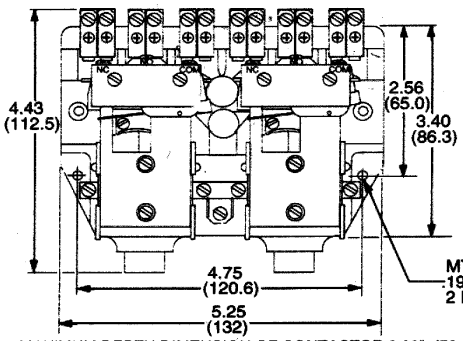


WIRING DIAGRAM



OUTLINE DIMENSIONS

Dimensions shown in Inch and (Millimeters)



MAXIMUM DEPTH DIMENSION OF CONTACTOR 3.00", (76.2)

CONTACT RATINGS

LOAD	VOLTAGE (60HZ)	PHASE	MOTOR LOADS (HP)	RESISTIVE LOAD (AMPS)
3PST-DM-NO (per pole)	120	1	1-1/2	30
	208/240	1	3	30
	208/240	2 - 3	5	30
	480/600	2 - 3	7-1/2	15

DC CONTACTS

LOAD	VOLTAGE (DC)	RESISTIVE LOAD (AMPS)
3PST-DM-NO (per pole)	115	15
	230	2

AUXILIARY CONTACTS

LOAD	VOLTAGE (AC)	RESISTIVE LOAD (AMPS)
1 FORM "A" "B" OR "C"	120	5
	240	5

AC COIL SPECIFICATIONS @ 25°C (22VA)

Nominal Voltage	Resistance Ohms ± 10%	Nominal Current
12	1.00	1.833 AMP
24	5.30	0.917 AMP
*120	92.0	0.183 AMP
240	420	0.920 AMP
440	2100	0.050 AMP
550	3100	0.040 AMP

* AC coil is 120, 50-60HZ

DC COIL SPECIFICATIONS @ 25°C (10 WATT)

Nominal Voltage	Resistance Ohms ± 10%	Nominal Current
12	16.5	0.727
24	58.2	0.412
**120	1,450	0.083
240	4,200	0.055

** DC coil is 110-125 VDC

GENERAL SPECIFICATIONS

COIL
- Pull-in Voltage: AC: 85%, DC: 80% of nominal voltage measured at 25°C
- Dropout Voltage: 10% of nominal voltage or more @ 25°C
- Max. allowed voltage: 110% of nominal voltage
- Coil Resistance: ±10% Measured @ 25°C

CONTACTS
- Contact Material: Silver Cadmium Oxide.

TIMING
- Operate Time: 60 mS Max. @ Nominal Voltage.
- Release Time: 30 mS Max. @ Nominal Voltage.

DIELECTRIC STRENGTH
- All Mutually Insulated Points: 2500 V rms between all mutually Insulated current carrying parts and those parts to ground.
- Insulation Resistance: 500 VDC Exceeds 1000 Megohms.

TEMPERATURE
- Temperature Rating: -40°C to +50°C @ rated operation.

LIFE EXPECTANCY
- Mechanical: 5 Million Operations no load
- Electrical: 100,000 Operations @ Rated Load. 250,000 Operations @ 1/2 rated load.

MISCELLANEOUS
- Weight: 1 pound, approx..

OPTIONS

ORDERING CODE

Typical Type No. **A575 KXX 90 -24A**

Series
A575, Screw Terminals, 2 coil motor rev. contactor, 1.5 - 7.5 HP

Contact Arrangements
KXX (3PDM-NO., per coil)

Options
1 Form "A" & 1 Form "B" Aux. contacts per coil, Rated 5 Amps - **CODE 74**
1 form "C" Aux. contact per coil Rated 5 Amps. - **CODE 90**

Coil Voltage
AC: 12, 24, 120, 240, 440, 550 (Add **"A"**)
DC: 12, 24, 115-125, 240 (Add **"D"**)

NOTE: CONTACTORS MUST BE MOUNTED IN THE VERTICAL POSITION WITH THE LOAD CONTACTS UP.
Mechanical Interlock omitted

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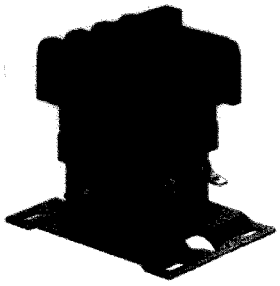
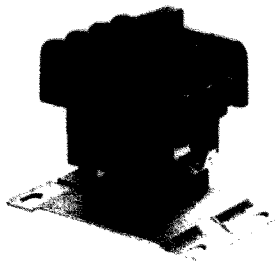


P25 with DC coil



P25 with AC coil

P25 series

DEFINITE PURPOSE MAGNETIC CONTACTOR 25 AMPERE FULL LOAD 30 AMPERE RESISTIVE AC & DC COILS

File E22575
File LR15734
No. R 97069

FEATURES

- AC and DC coils.
- For controlling motors, power supplies, heating elements and lighting.
- Dust cover available.
- Auxiliary switch available.

CONTACT DATA @ 25 C

Arrangements: Up to 3 Form X (3PST-NO-DM).
Ratings: See contact rating table.
Material: Silver-cadmium oxide.
Expected Life: 500,000 operations at full load.
AC coil: 2 million operations, mechanical.
DC coil: 5 million operations, mechanical.
Minimum Contact Load: 3A @ 120VAC.

MAIN CONTACT RATINGS @ +25°C, 60 HZ.

Type	Motor Rating in Amps, 3Ø3P or 1Ø2P				Resistive Rating (Electric Heat)
	Full Load	Locked Rotor			
	@ 600V	@ 240V	@ 480V	@ 600V	@ 600V
P25	25A	150A	125A	100A	30A

Motor Rating in Horsepower			
Type	@ 120V	@ 240V	@ 440-600V
1Ø2P	1.5HP	3HP	—
3Ø3P	3HP	7.5HP	10HP

Notes: Models utilizing box lug terminals are restricted to the following ratings: 25 FLA, 150 LRA @ 250VAC; 30A @ 277VAC Resistive; Horsepower ratings shown in the table are valid up to 240VAC.
Tungsten Lamp Rating: 30A, 277VAC.
Electric Discharge Lamp Rating: 30A, 277VAC.
Heavy Duty Pilot Ratings @ 120V through 600V, 720VA max.
(Box lug nut units limited to 277VAC.)

AUXILIARY SNAP-ACTION SWITCH
Arrangements: Up to 2 Form C (DPDT).
Rating: 10 amps at 120VAC, 60 Hz. @ 25°C.
Material: Silver.

INITIAL DIELECTRIC STRENGTH

Initial Breakdown Voltage: 2,200V rms. minimum between all elements and between all elements and ground.

COIL DATA @ 25 C

Voltage: From 6 to 240VDC and 24 to 600VAC, 50/60 Hz.
Power: DC, 4-8W; AC, 40VA inrush; 10VA, sealed.
Duty Cycle: Continuous.
Insulation Class: Class A, standard. Class B available.
Initial Insulation Resistance: 100 megohms, minimum.

COIL DATA

Nominal VDC	Resistance (Ohms ± 10% @ 25°C)	Must Operate* Volts	Maximum Operating Volts	Nominal Coil Current (ma) @ Nominal Voltage
12	34	9	15	353
24	133	18	30	180

AC Voltage Rating	Nominal		Must Operate	
	60 Hz.	50 Hz.	60 Hz.	50 Hz.
24	24	24	20.4	20.4
120	120	110	102	94
240	208/240	208/220	177	177

*Must operate is 75% of nominal voltage for any mounting position, applicable for vertical or horizontal mounting, but not for upside-down mounting.
**Units requiring less power can be provided for some applications.

Note: Coil suppression is recommended for all DC coil units, particularly 120 and 240VDC coils.

OPERATE DATA @ 25 C

Must-Operate Voltage: See coil data tables.

ENVIRONMENTAL DATA

Temperature Range: **AC:** —55°C to +65°C
DC: —55°C to +55°C
Contact sales representative for higher temperature ratings.

MECHANICAL DATA

Mounting: No. 10 screws on 2.125" (53.98 mm) centers or universal mounting bracket.
Termination:
Contacts: 8-32 screw for No. 16 to No. 8 wire, dual .250" (6.35 mm) quick connect, box lug or captive pressure plate.
Coil: Combination 8-32 screw and .250" (6.35 mm) or .187" (4.75 mm) quick connect, combination captive pressure plate and .250" (6.35 mm) quick connect, or .250" (6.35 mm) quick connect.
Aux. Switch: .250" (6.35 mm) quick connect, .187" (4.75 mm) quick connect.
Weight: 14 oz. (397 g).

ORDERING INFORMATION

Typical Part No. ➤	P25	P	42	A	1	4	P	1	-240

1. TYPE:
P25 Definite Purpose Contactor

2. AUXILIARY SWITCH
P = No Aux Switch
C = 1 Form C (SPDT), silver contacts
F = 2 Form C (DPDT), silver contacts
Double pole contact forms require two switches.

3. MAIN CONTACT ARRANGEMENT:
42 = 3 Form X (3PST-NO-DM)
43 = 2 Form X (DPST-NO-DM) & 1 Form Y (SPST-NC-DB)

4. COIL CONTROL INPUT:
A = Alternating Current, 50/60 Hz. D = Direct Current

5. MOUNTING AND INSTALLED ACCESSORIES:
1 = Without Mounting Plate*
2 = With Mounting Plate 4 = With Mounting Plate and Dust Cover †
* Order separately any mounting hardware which is to be bulk packed.

6. MAIN CONTACT TERMINALS:
2 = 8-32 Screw Terminals
3 = Dual .250" (6.35 mm) Quick Connect
5 = 8-32 Screw with Captive Pressure Plate

7. AUXILIARY CONTACT TERMINALS:
P = No Auxiliary Switch
D = .250" (6.35 mm) Quick Connect

8. COIL TERMINALS:
1 = Combination 8-32 Screw Terminal and .250" (6.35 mm) Quick Connect
6-32 Screw Terminal available on DC Coils only.

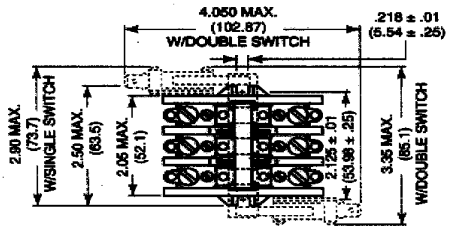
9. COIL VOLTAGE:
24, 120, 240,VAC
12, 24 VDC
See Coil Data table.

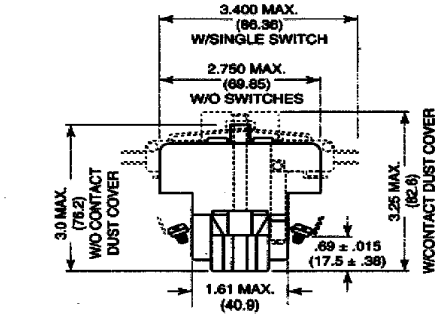
STOCK ITEMS The following items are normally maintained in stock for immediate delivery.

P25P42A12P1-120
P25P42A12P1-240
P25P42A22P1-120
P25P42A22P1-240
P25P42D22P1-12
P25P42D22P1-24

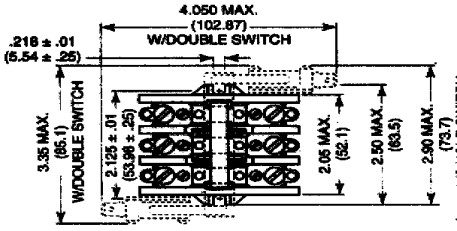
OUTLINE DIMENSIONS

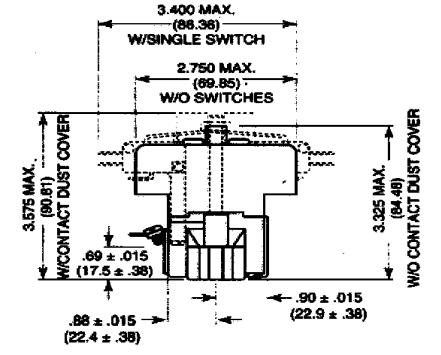
P25 WITH AC COIL



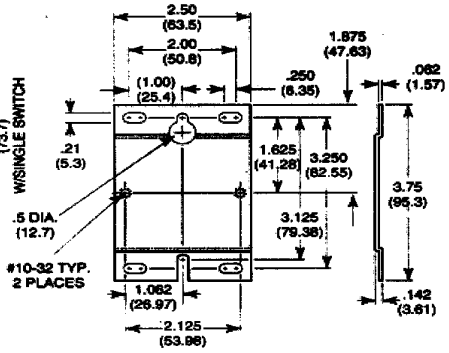


P25 WITH DC COIL





MOUNTING PLATE FOOTPRINT



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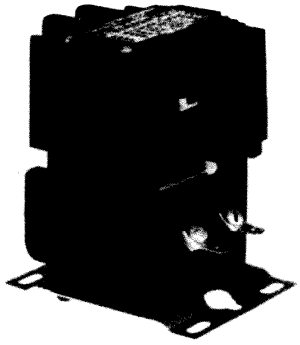
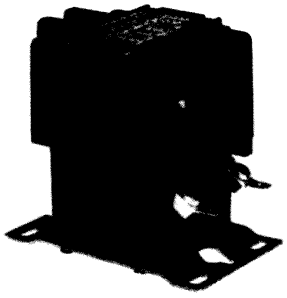


DC Coil



AC Coil

P30/P40 series

DEFINITE PUPOSE MAGNETIC CONTACTOR
30/40 AMPERE FULL LOAD
40/50 AMPERE RESISTIVE
AC & DC COILS

File E22575
File LR15734
P30 No. R 97070
P40 No. R 97071

FEATURES

- AC and DC coils.
- Available with auxiliary switch.
- Variety of main contact terminals.
- For control of motors, power supplies, heating elements and lighting.

CONTACT DATA @ 25°C

Arrangements: Up to 4 Form X (4PST-NO-DM)
Ratings: See contact rating table.
Material: Silver-cadmium oxide.
Expected Life: 200,000 operations at full load.
AC coil: 2 million operations, mechanical.
DC coil: 10 million operations, mechanical.
Minimum Contact Data: 3A @ 120VAC.

MAIN CONTACT RATINGS

Type	Motor Rating in Amps, 3Ø3P or 1Ø2P				Resistive Rating	Tungsten Rating
	Full Load	Locked Rotor				
	@ 600V	@ 240V	@480V	@ 600V	@ 600V	@277V
P30	30A	180A	150A	120A	40A	40A
P40	40A	240A	200A	160A	50A	50A

P30 Electrical Discharge Lamp Control: 40A @ 240V (Delta), 40A @ 600V (Wye).
P40 Electrical Discharge Lamp Control: 50A @ 600V (Wye).

TYPE	Motor Rating in Horsepower			
		@ 120V	@ 240V	@ 440-600V
P30	1Ø2P	1.5HP	3HP	—
	3Ø3P	3HP	7.5HP	7.5HP
P40	1Ø2P	2HP	5HP	—
	3Ø3P	5HP	10HP	15HP

AUXILIARY SNAP-ACTION SWITCH

Arrangements: Up to 2 Form C (DPDT).
Rating: 10 amps at 120-250VAC @ 25°C.
Material: Silver.

INITIAL DIELECTRIC STRENGTH

Initial Breakdown Voltage: 2,200V rms minimum between all elements and between all elements to ground.

COIL DATA @ 25°C

Voltage: From 6 to 240VDC, and 24 to 600VAC, 50/60 Hz.
Power: DC, 7.5 W; AC, 92VA, In rush; 12 VA Sealed.
Duty Cycle: Continuous.
Insulation Class: Class A, standard, Class B available.
Initial Insulation Resistance: 100 megohms, minimum.

COIL DATA

Nominal VDC	Resistance (Ohms ± 10% @ 25° C)	Must Operate* Volts	Maximum Operating Volts	Nominal Coil Current (ma) @ Nominal Voltage
6	5.2	4.5	7	1,154
12	20.8	9	15	577
24	84	18	30	286
48	334	36	57	144
60	529	45	72	113
120	2,110	90	144	57
240	9,000	180	288	26

AC Voltage Rating	Nominal 50/60 Hz.	Must Operate* 50/60 Hz.
24	24	20.4
120	110/120	94
240	208/240	177
277	277	236
480	440/480	374
600	550/600	468

*Applicable for vertical mounting, but not for upside-down mounting.
Note: Coil suppression is recommended for all DC coil units, particulary 120 and 240VDC coils.

OPERATE DATA

Must-Operate Voltage: See coil data tables.

ENVIRONMENTAL DATA

Temperature Range: –55°C to +65°C

MECHANICAL DATA

Mounting: Universal mounting bracket. See outline drawings.
Termination:
Contacts: Binder screw, box lug, captive pressure plate, combination screw and dual .250" (6.35 mm) quick connect. or combination box lug and dual .250" (6.35 mm) quick connect.

Coil: Combination 8-32 screw and .250" (6.35 mm) quick connect.
Aux. Switch: .250" (6.35 mm) quick connect, .187" (4.75 mm) quick connect.
Weight: 3 Pole Models: 25 oz. (709 g) approximately.
4 Pole Models: 28 oz. (794 g) approximately.

ORDERING INFORMATION

Typical Part No. ➤	P30	P	42	A	1	4	P	1	-240

1. TYPE:
P30 = Definite Purpose Contactor, 30 amp.
P40 = Definite Purpose Contactor, 40 amp.

2. AUXILIARY SWITCH:
P = No Aux. Switch
C = 1 Form C (SPDT) F = 2 Form C (DPDT)

3. MAIN CONTACT ARRANGEMENT:
42 = 3 Form X (3PST-NO-DM)
43 = 2 Form X (DPST-NO-DM) & 1 Form Y (SPST-NC-DB)
44 = 2 Form X (DPST-NO-DM)
45 = 1 Form X (SPST-NO-DB) & 2 Form Y (DPST-NC-DB)
46 = 3 Form Y (3PST-NC-DB)
47 = 4 Form X (4PST-NO-DM)
48 = 2 Form X (DPST-NO-DM) & 2 Form Y (DPST-NC-DB)
49 = 4 Form Y (4PST-NC-DB)
Other contact arrangements are available.

4. COIL CONTROL INPUT:
A = Alternating Current, 50/60 Hz. D = Direct Current

5. MOUNTING AND INSTALLED ACCESSORIES:
1 = Standard Mounting

6. MAIN CONTACT TERMINALS:
2 = Screw Terminals
3 = Screw Terminals & Dual .250" (6.35 mm) Quick Connect
4 = Box Lug
5 = Captive Pressure Plate
6 = Box Lug & Dual .250" (6.35 mm) Quick Connect
**Order separately any hardware which is to be bulk packed.

7. AUXILIARY CONTACT TERMINALS:
P = No Auxiliary Switch
C = .187" (4.75 mm) Quick Connect
D = .250" (6.35 mm) Quick Connect

8. COIL TERMINALS:
1 = Combination 8-32* Screw Terminal and .250" (6.35 mm) Quick Connect

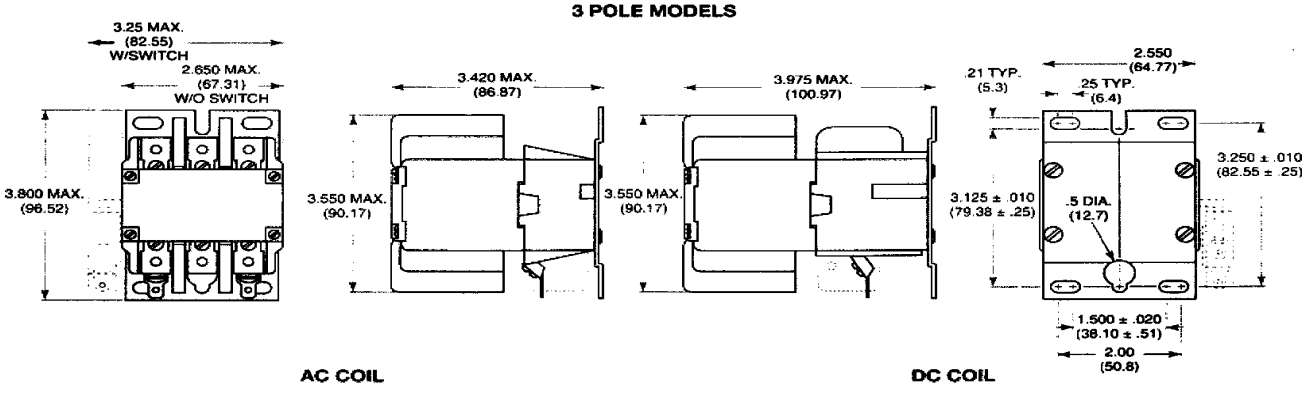
9. COIL VOLTAGE:
24, 120, 240, VAC
12, 24,120 VDC

STOCK ITEMS - The following items are normally maintained in stock for immediate delivery.

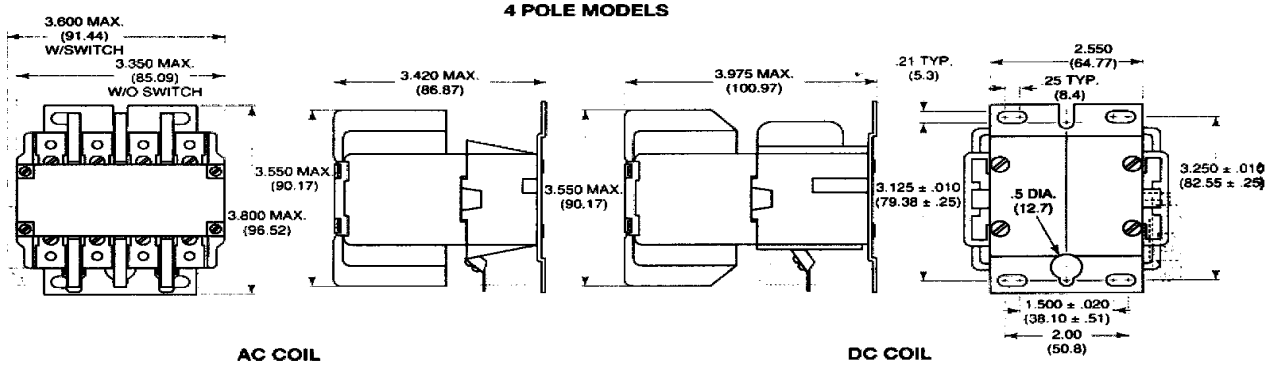
P30P42A12P1-120	P40C42A12D1-120
P30P42D12P1-24	P40P42A12P1-24
P30P47A12P1-120	P40P42A12P1-120
P30P47D12P1-24	P40P42A12P1-240
	P40P42D12P1-24

OUTLINE DIMENSIONS

3 POLE MODELS



4 POLE MODELS



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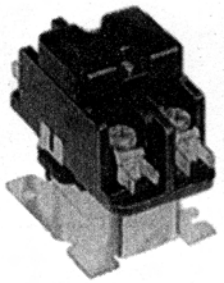
AC POWER CONTACTORS



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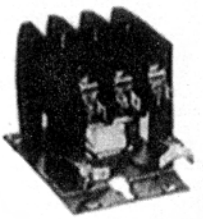


B

Fig. A. Type 122—2PNO; screw power terminals. #10 solid wire max. Auxiliary quick-connect terminals; straight-thru wiring; double make contacts. **Weight:** 10.5 oz. (approx.)

Mfg. No.	Contacts	Coil Volts
122-901	2PNO	24
122-902	2PNO	120
122-903	2PNO	208/240
122-905	2PNO	24
122-906	2PNO	120
122-907	2PNO	208/240

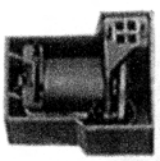
TYPE 122 CONTACT RATING

Inductive	Resistive
30 Amp. Cont. 150 Amp. Inrush at 277 VAC Per Pole	40 Amp. at 600 VAC
40 Amp. Cont. 200 Amp. Inrush at 277 VAC Per Pole With Cover	40 Amp. at 600 VAC

Fig. B. Type 154—3PNO (40 amps type also with DPNO). 20 and 25 amps, screw connectors line and load side for #14 through #8 wire: ¼" double quick connect auxiliary and coil terminals. 30 and 40 amps, pressure connectors on line side for #14 through #4 wire: screw connectors on load side (pressure connector for 40 amps); ¼" double quick connect auxiliary and coil terminals. Non-positional type 154 power contactors come with interchangeable mounting; low coil wattage and non-corroding structure. Type 154 has low temperature rise; riveted terminal assemblies. Hardware included in boxed quantity only. **Size:** 3¾" × 2¾" (3¼" for 40 amps) × 3 1/16" overall.

Mfg. No.	Contacts	Coil Volts
154-902	3PNO	120
154-903	3PNO	208/240
154-904	3PNO	24
154-905	3PNO	120
154-907	3PNO	24
154-908	3PNO	120
154-910	3PNO	24
154-911	3PNO	120
154-912	3PNO	208/240
154-913	DPNO	24
154-914	DPNO	120
154-915	DPNO	208/240

PC BOARD POWER RELAYS



A

B

Mfg. No.	Coil Voltage	Contacts	Fig.
	SEALED CASE		
TS9012A	12VDC	SPNO	B
TS9024C	24VDC	SPDT	B
	DUST COVER CASE		
TD9012C	12VDC	SPDT	A

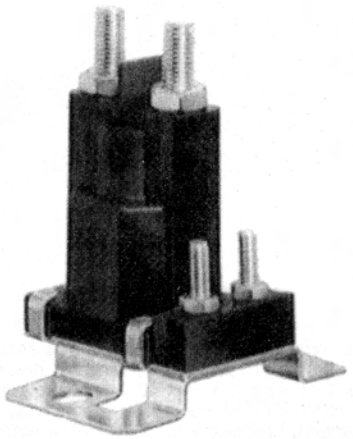
CONTACT RATINGS SILVER-CADMIUM OXIDE

Voltage	Load Type	Form A (NO)	Form B (NC)	Form C (NO)	Form C (NC)
AC	Inductive or Resistive	30A at 240 VAC	15A at 240 VAC	20A at 240 VAC	10A at 240 VAC
AC	Motor	1 HP at 120 VAC 2 HP at 120 VAC	¼ HP at 120 VAC ½ HP at 240 VAC	1 HP at 120 VAC 2 HP at 240 VAC	¼ HP at 120 VAC ½ HP at 240 VAC
	Tungsten	5A at 240 VAC	3A at 240 VAC	5A at 240 VAC	3A at 240 VAC
	Ballast	6A at 277 VAC	3A at 277 VAC	6A at 277 VAC	3A at 277 VAC
	General Purpose	6A at 277 VAC	3A at 277 VAC	6A at 277 VAC	3A at 277 VAC
DC	Inductive	20A at 28 VDC	15A at 28 VDC	15A at 28 VDC	5A at 28 VDC
	Resistive	20A at 28 VDC	10A at 28 VDC	20A at 28 VDC	10A at 28 VDC

Specifications:

Max. Coil Temperature ..... +130°C
Operating Temperature Range ..... –55 to +85°C
Operating Time (including bounce) ..... 15 ms max. 9 ms typ
Release Time (including bounce) ..... 10 ms max. 7 ms typ

TYPE 120



Type 120 - SPNO contactors feature water resistance, durability in high temperatures and high vibration, versatile mounting and termination. Also available with one coil lead grounded to bracket. **Contacts:** Continuous - silver alloy; intermittent - copper. **Contact Termination:** 5/16 - 24 UNF-2A stud. **Coil Terminations:** #10-32 UNF-2A, Standard ¼ QC also available. **Coil Power:** Continuous 8W approx.; Intermittent 14W approx. **Dielectric Strength:** 500V. **Temperature Range:** Intermittent -20°F to +150°F, continuous; -20°F to +120°F. **Weight:** 6 oz. approx.

CONTACT RATING

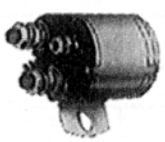
Rating	Full Load	Inrush
Continuous	100A	400A
Intermittent	80A	400A

12 VDC, 15 VDC 50,000 operations. 18 VDC, 24 VDC, 36 VDC 25,000 operations.

TYPE 120 DC CONTACTOR

Mfr. No.	Bracket	Coil (VDC)	Coil Resistance (Ohms)
Continuous Duty			
120-901	Standard	12	16.0
120-902	Standard	15	20.8
120-904	Standard	24	64.0
120-907	L Bracket	12	16.0
Intermittent Duty			
120-912	L Bracket	12	6.0

MFG. TYPE 124



High current contactors for use where ruggedness and high current capacity are required for DC mobile equipment. Dust and splash proof cover. **Operating Temperature Range:** -40°C to + 65°C.

CONTACT RATING DC INDUCTIVE LOAD

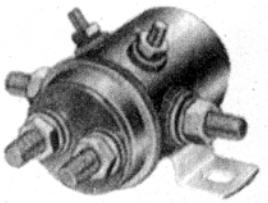
DC Voltage	NO		NC*	
	Cont. Amps	Inrush Amps	Cont. Amps	Inrush Amps
12	100	400	50	200
24	100	400	50	100
36	100	400	50	100

*NC contact ratings are set up and carry applications such as reversing DC motors.

TYPE 124 CONTACTORS

Mfg. No.	Coil	
	Volts	Ohms
4 TERMINALS ISOLATED COIL		
124-902	12	13.2
124-903	24	53
124-904	36	120
3 TERMINALS GROUND COIL		
124-906	12	13.2
124-907	24	53
6 TERMINALS (SPDT)		
124-910	12	13.2
124-911	24	53
124-912	36	120

TYPE 70

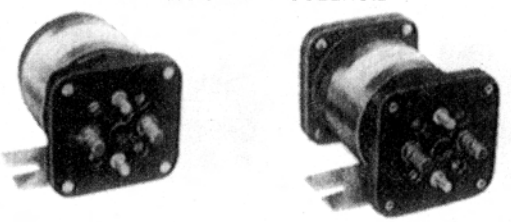


Solenoid actuated DC power contactors with steel dust-proof enclosure, copper power studs, double break disc movable contact, isolated coil terminals. **Coil Rating:** 9 watts continuous duty. **Breakdown Voltage:** 500 Vrms, 60 Hz. **Size:** 2½″ × 3½″ × 2½″ (SPNO); 3⅜″ × 3½″ × 2½″ (SPDT). Mtg. holes on 2.109″ centers (one side slotted).

Mfr. No.	Coil Voltage	Contact Rating (Amps) NO	Contact Rating (Amps) NC
SPNO 4 Terminal			
70-901	6	80 *	. . . . .
70-902	12	80 †	. . . . .
70-903	24	50	. . . . .
70-904	36	50	. . . . .
SPNO 3 Terminal – One Side Of Coil Common to Case			
70-914	12	80 †	. . . . .
70-915	24	50	. . . . .
SPNO 3 Terminal – One Side Of Coil Common to Load			
70-917	6	80 *	. . . . .
70-918	12	80 †	. . . . .
SPNO 4 Terminal – Silver Contacts			
70-906	12	80 †	. . . . .
70-907	24	50	. . . . .
70-908	36	50	. . . . .
SPDT 6 Terminal – Silver Contacts			
70-910	12	80 †	60
70-911	24	50	30
70-912	36	50	30
SPDT 6 Terminal – NO Copper and NC Silver Contacts			
70-922	12	80 †	60
70-923	24	50	30

*Inrush rating: 300A. †Inrush rating: 150A.

TYPE 586 SEALED SOLENOID



A B

Type 586 Sealed Contactors are designed for controlling DC starting motors on gasoline engine driven auxiliaries, battery-chargng power circuits, low-voltage DC motor generator sets, golf carts, reversing circuits in winch applications, industrial lift trucks, to mention a few.

CONTACT RATING DC INDUCTIVE LOAD

DC Voltage	NO		NC*	
	Cont. Amps	Inrush Amps	Cont. Amps	Inrush Amps
6	200	600	100	300
12 & 15	200	600	100	300
24 & 36	200	600	100	200

*NC contact ratings are set up and carry applications such as reversing DC motors.

TYPE 586 SEAL SOLENOID

Mfg. No.	Fig.	Contacts	Coil Voltage DC	SPNO Resistance Ohms @ 25°C
586-901	A	SPNO	6	5.25
586-902	A	SPNO	12	21.0
586-905	A	SPNO	24	84.0
586-906	A	SPNO	36	189.0
586-907	A	SPNO	48	336.0
586-911	B	SPDT	12	13.2
586-914	B	SPDT	24	53.0
586-915	B	SPDT	36	120.0