

SUPERSEDES:

Class 9998 Price
Page 3,
August, 1964



CLASS	9998
PAGE	103
NOVEMBER, 1967	

PARTS KITS

For Pressure, Float and Vacuum Switches

C SS 9998

Equipment To Be Maintained	Kit Type	Price
See Parts Kit Selection, Table on Page 104	PC-1	\$ 3.15
	PC-2	3.
	PC-3	2.75
	PC-4	3.
	PC-5	5.20
	PC-6	2.50
	PC-7	3.75
	PC-8	2.75
	PC-9	2.75
	PC-10	2.75

FEATURES

Kit No. PC-1 is designed especially for the Class 9013 Type ASG pressure switch. This kit is a complete package which can be readily carried in stock and easily identified when required for maintenance of installed equipment. All contact parts to service the standard "Two" pole switch are included.

Kit No. PC-2 contains all contact and attaching parts to service Class 9013 Type GSG and Type GHG devices. Each Class 9998 parts kit consists of an attractive sturdy blue and yellow carton which contains the parts necessary to service an individual switch. All sub-assembly parts in the kits are sealed in a pliofilm envelope.

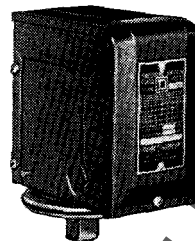
Kits No. PC-3, 8, 9, 10 are designed for the popular Class 9013 Types FSG, HSG, HHG. These kits contain a contact block which includes the stationary contacts, and two movable contacts which include the fingers, springs, cup washers, and cotter pins fully assembled.

Kit No. PC-4 contains all contact parts needed to service the Class 9213 Type DSG and Type DHG, pressure switches. These switches are no longer in production, but because of the Square D policy of providing repair parts for important non-current switches, the contact parts are still available.

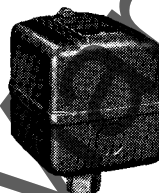
Kit No. PC-5 is designed for the Class 9016 Type GVG vacuum switch. The kit contains all contact parts and a replacement diaphragm complete with a pressure plate and all attaching parts.

Kit No. PC-6 facilitates the servicing of the 9013 JSG. Included in the kit are two movable contacts, contact springs, a diaphragm and a contact panel complete with stationary contacts.

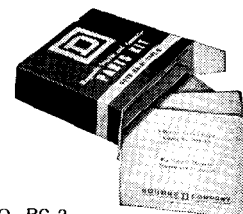
Kit No. PC-7 is designed for the 9013 FYG. A stationary contact block complete with heavy duty contacts, two movable contact assemblies, which include all attaching hardware such as springs, cup washers, etc. and a diaphragm are included in the kit.



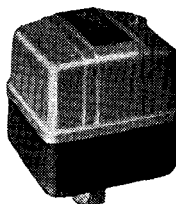
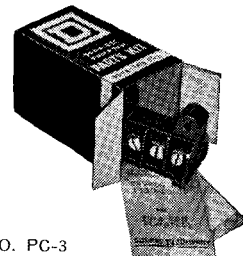
KIT NO. PC-1



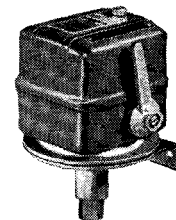
KIT NO. PC-2



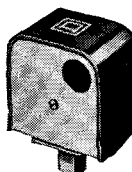
KIT NO. PC-3



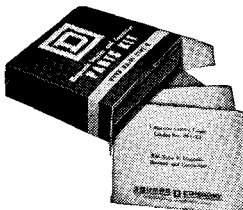
KIT NO. PC-4



KIT NO. PC-5



KIT NO. PC-6



SQUARE D COMPANY

Prices subject to change without notice.

SCHEDULE X PARTS DISCOUNT



PARTS KITS For Pressure, Float and Vacuum Switches

Ten different Class 9998 Parts Kits are available for servicing the majority of pressure, float and vacuum switches. The parts contained in each kit are listed below.

Class 9998 Type PC-1 Kit contains:

- 2—Movable contacts (1522-D5-X1)
- 4—Stationary contacts (1522-X6)
- 2—Contact springs (1522-X14)
- 2—Spring guides (1522-X9)
- 1—Diaphragm (1522-D45-X1) ‡

Class 9998 Type PC-2 Kit contains:

- 2—Movable contacts (2554-G13)
- 4—Stationary contacts (2554-G12)
- 2—Contact springs (1537-X4)
- 1—Diaphragm Assembly (2554-D28-G1) ‡

Class 9998 Type PC-3 Kit contains:

- 1—Contact block complete with contacts (1530-D25-G1)
- 2—Movable contacts complete with springs, fingers, cup washers and cotter pins (2923-D1-G1)
- 1—Rubber diaphragm (1530-X15) ‡
- 2—Mounting screws

Class 9998 Type PC-4 Kit contains:

- 2—Movable contacts (1537-X9)
- 4—Stationary contacts (2554-G4)
- 2—Contact springs (1537-X4)

Class 9998 Type PC-5 Kit contains:

- 2—Movable contacts (2554-G13)
- 4—Stationary contacts (2821-G1)
- 2—Contact springs (1537-X4)
- 1—Rubber diaphragm (2821-D2-G1)

Class 9998 Type PC-6 Kit contains:

- 2—Movable contacts (2664-G2)
- 1—Contact panel complete with contacts (2890-D18-G2)
- 2—Contact Springs (2664-X1)
- 1—Diaphragm (2890-D14-X1)

Class 9998 Type PC-7 Kit contains:

- 1—Contact block complete with contacts (1530-D47-G1)
- 2—Movable contacts complete with springs, fingers, cup washers and cotter pins (2923-D1-G3)
- 1—Rubber diaphragm (1530-X15) ‡
- 2—Mounting screws

Class 9998 Type PC-8 Kit contains:

- 2—Movable contact assembly complete with springs, washers, etc. (1530-L83-G1)
- 1—Stationary contact block complete with contacts (1530-L77-G1)
- 1—Diaphragm (1530-X15)
- 2—Mounting screws

Class 9998 Type PC-9 Kit contains:

- 2—Movable contact assembly complete with springs, washers, etc. (1530-L83-G1)
- 1—Stationary contact block complete with contacts (1530-L77-G1)
- 1—Diaphragm assembly (A65105-022-50)
- 2—Mounting screws

Class 9998 Type PC-10 Kit contains:

- 2—Movable contact assembly complete with springs, washers, etc. (1530-L83-G1)
- 1—Stationary contact block complete with contacts (1530-L75-G1)
- 1—Diaphragm (1530-X15)
- 2—Mounting screws

‡ Diaphragm not used on float switches.

PARTS KIT SELECTION TABLE

Equipment to be Serviced			Class 9999 Type No.
Class	Current Types	Old Type	
9013 *	ASG, ALG † AMG † BSG, AHG †, ALR † AMR †, AHR †, ASR	A, AH †, AK AK5, AK6, AL †, AM † AR, V †, VR †	PC-1
9016	ASG, ASR		Two Pole Only
9017	ASG, AHG	.....	
9036 *	AG5, BKG	A, AK	PC-2
9013	GSG, GHG	.....	
9036	GG	.....	
9037	GG	.....	
PC-3 kit services only devices manufactured prior to July 1, 1965 (Date Code 265 and prior) Consult factory for kit number if device has date code 365 or later.			PC-3
9013		FSG	
9044		A, ESG	
9036		FG-1	
9037		HG-1 & 2 HSG, HFG	
9048		A, AR, AW	PC-4
9213		A, AH, AH-3 DHG, DSG G, GH, GH3	
9017		BSG, BHG	
9237		CG, FA3	
9238		EG, A3	PC-5
9016	GVG	.....	
9013		JSG	PC-6
9013	FYG		PC-7
9013	HSG		PC-8
9013	HHG		PC-9
9013	FSG — For devices manufactured after June 30, 1965 only. (Date Code 365 and later).		PC-10

*9998—PC-1 may be used only on switches with dating code Letter "H" (1938) to "S" (1948), or with current numerical dating code, i.e., 367 (3rd quarter, 1967). Two pole types only.

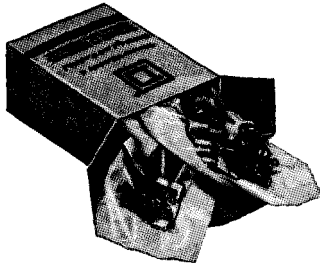
† Diaphragm must be purchased separately. Consult factory for correct diaphragm on old types.

SUPERSEDES:

Class 9998

Page 101

December, 1968

**TYPE S PARTS KITS****For Size 0-3 Type SB thru SE Magnetic Contactors and Starters**

Replacement Contact Parts Kit

All contacts can easily be replaced on the Type S contactors and starters. Replacement contacts are supplied in kits to facilitate servicing and for easy stocking. Each kit contains stationary and movable contacts and finger springs. All parts are sealed in a polyethylene bag for added protection during storage.

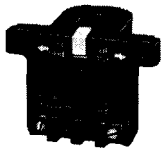
The control circuit contact unit of the overload relay block can easily be replaced. One self-retained screw secures the contact unit to the overload block. The Types SO-1 and SO-2 contact units are interchangeable. An overload relay block can be converted to a unit with both a standard N.C. contact and a N.O. alarm circuit contact by installing the Type SO-2 contact unit in place of the Type SO-1.

REPLACEMENT CONTACT KITS

Equipment to Be Serviced Class	NEMA Size	Description of Contact Kit	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Magnetic Starters & Contactors 8502 8536 8538 8539 8702 8736 8738 8739 8810	0	Replacement contacts and springs.....	3	SL-2	\$ 6.
	0	Replacement contacts and springs.....	4	SL-12	8.
	0 & 1	Replacement contacts and springs for the power pole adder, same parts for N.O. or N.C. contacts.....	1	SL-22	3.
	1 & 1P	Replacement contacts and springs.....	3	SL-3	8.
	1	Replacement contacts and springs.....	4	SL-13	11.
	2	Replacement contacts and springs.....	3	SL-4	18.
	2	Replacement contacts and springs.....	4	SL-14	24.
	2	Replacement contacts and springs for power pole adder, same parts for N.O. or N.C. contacts.....	1	SL-24	6.
	3	Replacement contacts.....	2	SL-6	22.
	3	Replacement contacts.....	3	SL-7	30.

REPLACEMENT CONTACTS FOR OVERLOAD RELAYS

Replacement contact unit for melting alloy type overload relay used in Type S NEMA Size 0 thru 3 starters			Type SO-1		Type SO-2
Standard N.C. contacts Class 9998 Type SO-1.....	\$3.00				
N.O. alarm circuit contacts in addition to standard N.C. contacts (three point contacts) Class 9998 Type SO-2.....	\$7.00				

ORDERING INFORMATION REQUIRED — Order parts kits by class and type number.**TYPE S AC MAGNET COILS****For Size 0, 1, 1P, 2 and 3, Type SB, SC, SD and SE Magnetic Contactors and Starters**

AC Magnet Coil

AC magnet coils are individually packaged in clearly marked cartons for easy stocking and identification. All coils are stamped with the coil part number and the coil voltage and frequency. Epoxy molded coils used in the Type S starter provide a tough, permanently sealed unit impervious to moisture, oil and mechanical damage.

AC MAGNET COILS

Devices Using Coil			Coil Specification Number	SUFFIX NUMBERS (Complete Part Number of Coil Consists of Specification Number Followed by Suffix Number as 31041-400-20)								Price	
Size	Type	Poles		24 Volts 60 Hertz	120 V., 60 Hz. 110 V., 50 Hz.	208 Volts 60 Hertz	220 Volts 60 Hertz	240 V., 60 Hz. 220 V., 50 Hz.	277 Volts 60 Hertz	380 Volts 50 Hertz	480 V., 60 Hz. 440 V., 50 Hz.		600 V., 60 Hz. 550 V., 50 Hz.
0, 1 & 1P	SB & SC	1-5	31041-400	20	42	48	†	51	52	58	60	62	\$ 7.
2	SD	2-3	31063-409	16	38	44	†	47	49	55	57	60	9.
2	SD	4 & 5	31063-400	16	38	44	†	47	49	55	57	60	9.
3	SE	2-3	31074-400	16	38	44	†	47	49	55	57	60	18.

† For 220 volt and 230 volt applications use the 240 volt coil.

115/230 volt, 60 cycle dual voltage coils:

Sizes 0, 1 and 1P (1-5 Pole) — 31041-402-01.....	\$10.
Size 2 (2 and 3 pole) — 31063-411-01.....	13.
Size 2 (4 and 5 pole) — 31063-402-01.....	13.
Size 3 (2 and 3 pole) — 31074-402-01.....	22.

115/230 volts, 50 cycle, dual voltage coils:

Sizes 0, 1 and 1P (1-5 pole) — 31041-402-03.....	\$10.
Size 2 (2 and 3 pole) — 31063-411-03.....	13.
Size 2 (4 and 5 pole) — 31063-402-03.....	13.
Size 3 (2 and 3 pole) — 31074-402-03.....	22.

ORDERING INFORMATION REQUIRED

1—Order magnet coils by part number, voltage and frequency.

2—Order magnet coils not listed above by supplying voltage and frequency and complete identification of starter or contactor for which coil is desired.

SQUARE D COMPANY

Prices subject to change without notice.

SCHEDULE DS-14 DISCOUNTS

www.ElectricalPartManuals.com



PARTS KITS

For Pressure, Float and Vacuum Switches

CLASS 9998

Equipment To Be Maintained	Kit Type	Price
See Parts Kit Selection, Table on Page 104	PC-1	\$ 3.15
	PC-2	3.
	PC-3	2.75
	PC-4	3.
	PC-5	5.20
	PC-6	2.50
	PC-7	3.75
	PC-8	2.75
	PC-9	2.75
	PC-10	2.75

FEATURES

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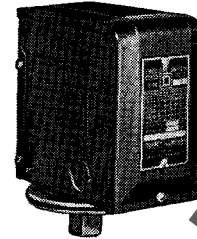
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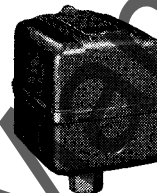
Kit No. PC-5 is designed for the Class 9016 Type GVG vacuum switch. The kit contains all contact parts and a replacement diaphragm complete with a pressure plate and all attaching parts.

Kit No. PC-6 facilitates the servicing of the 9013 JSG. Included in the kit are two movable contacts, contact springs, a diaphragm and a contact panel complete with stationary contacts.

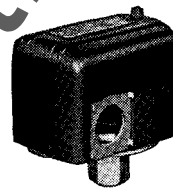
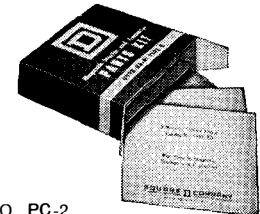
Kit No. PC-7 is designed for the 9013 FYG. A stationary contact block complete with heavy duty contacts, two movable contact assemblies, which include all attaching hardware such as springs, cup washers, etc. and a diaphragm are included in the kit.



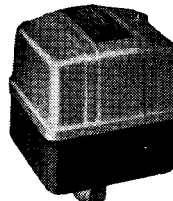
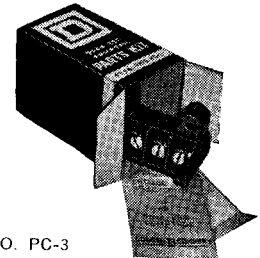
KIT NO. PC-1



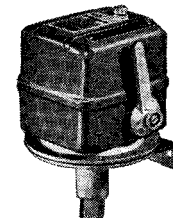
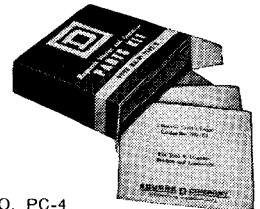
KIT NO. PC-2



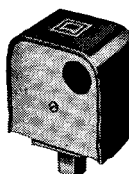
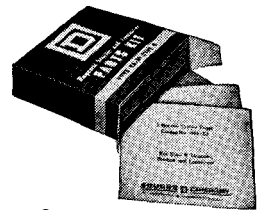
KIT NO. PC-3



KIT NO. PC-4



KIT NO. PC-5



KIT NO. PC-6





PARTS KITS For Pressure, Float and Vacuum Switches

Ten different Class 9998 Parts Kits are available for servicing the majority of pressure, float and vacuum switches. The parts contained in each kit are listed below.

Class 9998 Type PC-1 Kit contains:

- 2—Movable contacts (1522-D5-X1)
- 4—Stationary contacts (1522-X6)
- 2—Contact springs (1522-X14)
- 2—Spring guides (1522-X9)
- 1—Diaphragm (1522-D45-X1) ‡

Class 9998 Type PC-2 Kit contains:

- 2—Movable contacts (2554-G13)
- 4—Stationary contacts (2554-G12)
- 2—Contact springs (1537-X4)
- 1—Diaphragm Assembly (2554-D28-G1) ‡

Class 9998 Type PC-3 Kit contains:

- 1—Contact block complete with contacts (1530-D25-G1)
- 2—Movable contacts complete with springs, fingers, cup washers and cotter pins (2923-D1-G1)
- 1—Rubber diaphragm (1530-X15) ‡
- 2—Mounting screws

Class 9998 Type PC-4 Kit contains:

- 2—Movable contacts (1537-X9)
- 4—Stationary contacts (2554-G4)
- 2—Contact springs (1537-X4)

Class 9998 Type PC-5 Kit contains:

- 2—Movable contacts (2554-G13)
- 4—Stationary contacts (2821-G1)
- 2—Contact springs (1537-X4)
- 1—Rubber diaphragm (2821-D2-G1)

Class 9998 Type PC-6 Kit contains:

- 2—Movable contacts (2664-G2)
- 1—Contact panel complete with contacts (2890-D18-G2)
- 2—Contact Springs (2664-X1)
- 1—Diaphragm (2890-D14-X1)

Class 9998 Type PC-7 Kit contains:

- 1—Contact block complete with contacts (1530-D47-G1)
- 2—Movable contacts complete with springs, fingers, cup washers and cotter pins (2923-D1-G3)
- 1—Rubber diaphragm (1530-X15) ‡
- 2—Mounting screws

Class 9998 Type PC-8 Kit contains:

- 2—Movable contact assembly complete with springs, washers, etc. (1530-L83-G1)
- 1—Stationary contact block complete with contacts (1530-L77-G1)
- 1—Diaphragm (1530-X15)
- 2—Mounting screws

Class 9998 Type PC-9 Kit contains:

- 2—Movable contact assembly complete with springs, washers, etc. (1530-L83-G1)
- 1—Stationary contact block complete with contacts (1530-L77-G1)
- 1—Diaphragm assembly (A65105-022-50)
- 2—Mounting screws

Class 9998 Type PC-10 Kit contains:

- 2—Movable contact assembly complete with springs, washers, etc. (1530-L83-G1)
- 1—Stationary contact block complete with contacts (1530-L75-G1)
- 1—Diaphragm (1530-X15)
- 2—Mounting screws

‡ Diaphragm not used on float switches.

PARTS KIT SELECTION TABLE

Equipment to be Serviced			Class 9998 Type No.
Class	Current Types	Old Type	
9013 *	ASG, ALG † AMG † BSG, AHG †, ALR † AMR †, AHR †, ASR	A, AH †, AK AK5, AK6, AL †, AM † AR, V †, VR †	PC-1
9016	ASG, ASR		Two Pole Only
9017	ASG, AHG	.....	
9036 *	AG5, BKG	A, AK	PC-2
9013	GSG, GHG	.....	
9036	GG	.....	
9037	GG	.....	
PC-3 kit services only devices manufactured prior to July 1, 1965 (Date Code 265 and prior) Consult factory for kit number if device has date code 365 or later.			PC-3
9013		FSG	
9044		A, ESG	
9036		FG-1	
9037		HG-1 & 2 HSG, HFG	
9048		A, AR, AW	PC-4
9213		A, AH, AH-3 DHG, DSG G, GH, GH3	
9017		BSG, BHG	
9237		CG, FA3	
9238		EG, A3	
9016	GVG		PC-5
9013		JSG	PC-6
9013	FYG		PC-7
9013	HSG		PC-8
9013	HHG		PC-9
9013	FSG — For devices manufactured after June 30, 1965 only. (Date Code 365 and later).		PC-10

*9998—PC-1 may be used only on switches with dating code Letter "H" (1938) to "S" (1948), or with current numerical dating code, i.e., 367 (3rd quarter, 1967). Two pole types only.

† Diaphragm must be purchased separately. Consult factory for correct diaphragm on old types.

SUPERSEDES:

Class 9998

Page 111

October, 1967



CLASS	9998
PAGE	111
OCTOBER, 1967	

CONTACT PARTS KITS **FOR MANUAL COMPENSATORS, MANUAL STARTERS, MAGNETIC STARTERS,** **MAGNETIC CONTACTORS, AND RELAYS**

Equipment to Be Maintained				Class 9998 Parts Kit Type No.	Price
Class	Type	No. of Poles in Kit	NEMA Size		
2205 2206 Manual Compensator	14 Contact Compensator (1 Kit required)			PD-1	\$18.00
	28 Contact Compensator (2 Kits required)			BA-22	5.00
2510 Manual Starters Push button Type	B- (Kit includes Contact Block)	2	M-0	BA-21	5.00
	B-	3	M-0	BA-23	7.00
	C- (Kit includes Contact Block)	2	M-1	CA-22	7.00
	C-	3	M-1	CA-21	7.00
	C- (Kit includes Contact Block)	3	M-1	CA-23	9.00
	●M-	3	M-0	●ML-1	5.00
	●M-	3	M-1 & 1P	●ML-2	7.00
	W5, W6, W16, W17, W23, W26, W27, W30, W32, W42, W43, W44, W45, W47, W50, W56, W58, W60 and W62			RA-21	6.00
	W10, W11, W20, W21, W25, W29, W31, W33, W36, W37, W38, W39, W49, W51, W57, W59, W61 and W63		1	SA-21	8.00
	R-	3	M-0	RA-22	7.00
2510 Manual Starters Toggle Type	S-	3	M-1	SA-22	8.00
	●T-	3	M-0	●ML-1	5.00
	●T-	3	M-1 & 1P	●ML-2	7.00
	●A- (Series A & B), Q- (Pre-Series A)			●GA-81▲	6.00
	A- (Series C), Q- (Series A)			QA-82▲	6.00
	±BH-, B-, R- (15 A. Relay)	3		RA-81▲	6.00
	±BH-, B-, R-	4		RA-82	8.00
	±BR- (15 Amp. Relay)	3		RA-83	7.00
	DO-02, 20, 22†; DDO & DEO-20, 22†			RA-84	3.00
	DO-40, 42; DDO & DEO-40, 42			RA-85	7.00
Magnetic Relays	DO-60, 80, 44, 62			RA-86	9.00
	DO-64, 82			RA-87	11.00
	GO-20, 11, 02 (10 A., 300 V. Relay) *			GG-2	5.50
	GO-30, 21, 12, 03 *			GG-3	6.50
	GO-40, 31, 22, 13, 04 *			GG-4	7.50
	GO-60, 51, 42, 33, 24, 15, 06 *			GG-6	10.00
	GO-80, 71, 62, 53, 44, 35, 26, 17, 08 *			GG-8	12.00
	GDO-20, 11, 02 (300 Volt dc Relay) *			GDG-2	5.50
	GDO-30, 21, 12, 03 *			GDG-3	6.50
	GDO-40, 31, 22, 13, 04 *			GDG-4	7.50
7001 7008 8501 8508 Magnetic Starters & Contactors	GDO-60, 51, 42, 33, 24, 15, 06 *			GDG-6	10.00
	GDO-80, 71, 62, 53, 44, 35, 26, 17, 08 *			GDG-8	12.00
	●H-	3		●RA-3	6.00
	●H-	4		●RA-4	8.00
	A- (Series B)	3	00	AA-81	4.00
	A-★	3	00	QA-81▲	6.00
	B- (Series A)	3	0	BA-81▲	6.00
	B-	4	0	BA-82	8.00
	B- (Pre-Series A), R-	3	0	RA-81▲	5.00
	B-	4	0	RA-82	7.00
7010 8539 8738 7032 8541 8739 7033 8547 8747 7702 8549 8750 7732 8550 8810 8606 8811 8502 8630 8812 8504 8640 8904 8508 8650 8906 8536 8651 8907 8537 8702 8920 8538 8736 8940	C- (Series A & B)	3	1	CA-81▲	8.00
	C-	4	1	CA-82	11.00
	C & S (Both Pre-Series A)	3	1	SA-81▲	9.00
	C-	4	1	SA-82	12.00
	D-, T-	3	2	TA-81▲	18.00
	D-	4	2	TA-82	24.00
	E-, U-	2	3	UA-83	22.00
	E-	3	3	UA-81▲	30.00
	E-	4	3	UA-82	40.00
	F- (Series A, B)	3	4	FA-81	85.00
F- (Series C)	F-	2	4	FA-85	40.00
	F-	3	4	FA-82	55.00
	F-	4	4	FA-83	75.00
	F-	5	4	FA-84	90.00
	F-	2	5	GA-83	65.00
	F- (Vertical Action)	3	5	GA-81	95.00
	F-	4	5	GA-82	125.00

† Each kit contains the springs for either 2 to 4 pole or 5 to 8 pole devices.

† For 8501 DO-22, DDO or DEO-22, order two RA-84 kits.

* Kits for Type G, 300 volt, relays consist of 2 complete stationary contact block assemblies and one complete movable contact carrier assembly.

★ For 8702 and 8736 devices only.

▲ Standard Packaging Quantity — 20.

Reversing, multi-speed and reduced voltage starters will require two or more kits for complete servicing depending upon the number of poles involved.

ORDERING INFORMATION REQUIRED Order parts kits by class and type number.

SQUARE D COMPANY

Prices subject to change without notice.

● Changed or added since previous issue.

SCHEDULE DS-14 DISCOUNTS



PARTS KITS

FOR DEFINITE PURPOSE CONTACTORS AND HI DIVISION MAGNET CONTROLLERS, CONTACTORS AND STARTERS

Replacement Contact Kits

Equipment To Be Maintained				Class 9998 Parts Kit Type No.	Price
Class	Type	No. of Poles in Kit	NEMA Size		
Definite Purpose Contactors and Starters 8502 8536 8910	XO, XG, YO, YG.....	....	....	YA-82	\$ 9.00
		2	....	LA-12	5.50
	H.....	3	....	LA-13	7.50
		4	....	LA-14	9.50
		2	....	LA-22	6.00
	J.....	3	....	LA-23	8.00
		4	....	LA-24	10.00
		2	....	LA-32	7.00
	K.....	3	....	LA-33	9.00
		4	....	LA-34	11.00
		2	....	LA-42	8.00
	L.....	3	....	LA-43	10.00
		4	....	LA-44	12.00
		2	....	LA-52	11.00
Magnet Controllers 1315	M.....	3	....	LA-53	13.00
		4	....	LA-54	15.00
High Voltage Contactors and Starters 8110 8198	AD-01 through AD-04 (2-19 amperes).....	⚡	....	MA-1	10.00
	AD-13 through AD-16 (19-130 amperes).....	⚡	....	MA-2	9.00
Magnetic Starters and Contactors 8502 8640 8536 8704 8539 8736 8547 8810 8606 8820 8630 8822	DO-7 through DO-10 (Basic contactors for Class 8198 Type C & S starters).....	3	H3	LA-1	48.00
	H (Series A).....	3	6	HA-81	130.00
	J (Series A).....	3	7	JA-81	210.00
	K (Series A).....	3	8	KA-81	336.00

⚡ Each kit contains complete set of parts to change contacts on both "Lift" and "Drop" contactors.

Reversing, multi-speed and reduced voltage starters will require two or more kits for complete servicing depending upon the number of poles involved.

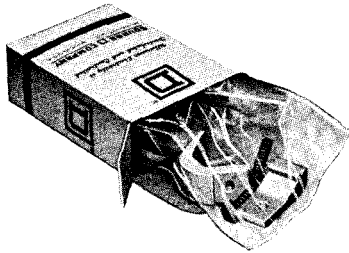
ORDERING INFORMATION REQUIRED Order parts kits by class and type number.



CLASS	9998
PAGE	121
OCTOBER, 1969	

PARTS KITS

FOR MAGNETIC STARTERS, MAGNETIC CONTACTORS, AND MAGNET CONTROLLERS



Replacement
Contact
Parts Kit

These easy to use Class 9998 contact parts kits facilitate the servicing of the more commonly used Square D starters, contactors, and relays. The contact parts kits are packaged in clearly marked cartons for easy stocking and identification. The contacts and other parts are sealed in polyethylene bags for added protection during storage.

An illustrated Instruction Sheet is included in the kits to provide information for servicing and to be used as a guide for identification of each part with respect to its position on equipment to be serviced.

Replacement Contact Kits

Class	Equipment to be Maintained			Class 9989 Parts Kit Type No.	Price
	Type	No. of Poles in Kit	NEMA Size		
Magnet Controllers 1315	AD-01 through AD-04 (2-19 amperes).....	†	....	MA-1	\$ 10.
	AD-13 through AD-16 (19-130 amperes).....	†	....	MA-2	9.
High Voltage Contactors and Starters 8110 8198	DO-7 through DO-10 (Basic contactors for Class 8198 Type C & S starters)	3	H3	LA-1	48.
Magnetic A.C. Contactors and Starters 8502 8702 8536 8736 8539 8739 8547 8810 8606 8820 8630 8822 8640 8901 8650	H (Series A)	3	6	HA-81	130.
	J (Series A)	3	7	JA-81	254.
	K (Series A)	3	8	KA-81	336.
Magnetic D.C. Contactors and Starters 7004 7135 7136 7735 7736	H (Series A)	2	1	HC-1*	5.
	H (Series A) Silver Faced Contact Tips	2	1	HC-2*	24.
	H (Series A)	2	2	HD-1*	5.
	H (Series A) Silver Faced Contact Tips	2	2	HD-2*	24.
	H (Series A)	2	3	HE-1*	5.
	H (Series A)	2	4	HF-1*	8.
	H (Series A)	2	5	HG-1*	9.

†Each kit contains complete set of parts to change contacts on both "Lift" and "Drop" contactors.

*Each kit contains movable and stationary contact tips for two single pole or one double pole contactor. Copper contact tips are standard.

ORDERING INFORMATION REQUIRED—Class and type number of kit.

www.ElectricalPartManuals.com

REPLACEMENT PARTS KITS FOR PRESSURE, FLOAT AND VACUUM SWITCHES

CLASS
9998

Replacement parts are generally available for Pump Control Products with date code letter "H" (1938) to "S" (1948) or with numerical date code: Example 172 (first quarter, 1972) or with current date code. Parts no longer available for devices manufactured prior to 1938.

Class 9998 Type	Description	Class and Type of Equipment To Be Serviced	Price	Discount Schedule
PC-1	Replacement Contact Kit	Obsolete "A" Types Classes 9013, 9016, 9017, 9036; 2 Pole Devices Only ▲ •	\$37.00	D7D
PC-2	Replacement Contact Kit	Obsolete "G" Types (Pre-Series C) Class 9013, 9036, 9037 •	18.00	D7D
PC-5	Replacement Contact Kit	Obsolete 9016 GVG-1 (Pre-Series C) •	23.00	D7D
PC-18	Bel lows Assembly	9012 ACW-1, 8, 21, 28, DCW-8, Pre-Series B	34.00	D14A
PC-19	Bel lows Assembly	9012 ACW-2, 22 Pre-Series B	48.00	D14A
PC-20	Bel lows Assembly	9012 ACW-3, 23 Pre-Series B	64.00	D14A
PC-21	Bel lows Assembly	9012 ACW-4, 24 Pre-Series B	64.00	D14A
PC-22	Bel lows Assembly	9012 ACW-5, 25, DCW-5 Pre-Series B	34.00	D14A
PC-23	Bel lows Assembly	9012 ACR-1, 8, 21, 28 Pre-Series B	34.00	D14A
PC-24	Bel lows Assembly	9012 ACW-9, 29 Pre-Series B	56.00	D14A
PC-25	Bel lows Assembly	9012 ACW-1, 8, 21, 28, DCW-8 Series B	31.00	D14A
PC-26	Bel lows Assembly	9012 ACW-2, 22 Series B	48.00	D14A
PC-27	Bel lows Assembly	9012 ACW-3, 4, 23, 24, Series B	58.00	D14A
PC-28	Bel lows Assembly	9012 ACW-5, 25, DCW-5 Series B	31.00	D14A
PC-29	Bel lows Assembly	9012 ACW-9, 29 Series B	51.00	D14A
PC-30	Bel lows Assembly	9012 BCO-0, 20	87.00	D14A
PC-31	Bel lows Assembly	9012 BCG-0, 20	87.00	D14A
PC-32	Bel lows Assembly	9012 BCG, BCO, BCR-1, 2, 21, 22	46.00	D14A
PC-33	Bel lows Assembly	9012 BCG, BCO, BCR-3, 4, 23, 24	46.00	D14A
PC-34	Bel lows Assembly	9012 BCG, BCO, BCR-6, 7, 26, 27	72.00	D14A
PC-35	Bel lows Assembly	9012 ACR-2, 22 Pre-Series B	53.00	D14A
PC-36	Bel lows Assembly	9012 ACR-3, 23 Pre-Series B	64.00	D14A
PC-37	Bel lows Assembly	9012 ACR-4, 24 Pre-Series B	64.00	D14A
PC-38	Bel lows Assembly	9012 ACR-5, 25 Pre-Series B	34.00	D14A
PC-39	Bel lows Assembly	9012 ACR-9, 29 Pre-Series B	56.00	D14A
PC-40	Bel lows Assembly	9012 ACR-1, 8, 21, 28 Series B	32.00	D14A
PC-41	Bel lows Assembly	9012 ACR-2, 22 Series B	48.00	D14A
PC-42	Bel lows Assembly	9012 ACR-3, 4, 23, 24 Series B	48.00	D14A
PC-43	Bel lows Assembly	9012 ACR-5, 25 Series B	58.00	D14A
PC-44	Bel lows Assembly	9012 ACR-9, 29 Series B	31.00	D14A
PC-45	S.S. Bel lows Assembly	9012 ACR-1, 8, 9, 21, 28, 29 Form A4 Any Series	127.00	D14A
PC-46	S.S. Bel lows Assembly	9012 ACR-2, 22 Form A4, Any Series	288.00	D14A
PC-47	S.S. Bel lows Assembly	9012 ACR-3, 4, 23, 24 Form A4, Any Series	146.00	D14A
PC-48	S.S. Bel lows Assembly	9012 ACR-5, 25 Form A4, Any Series	136.00	D14A
PC-49	S.S. Bel lows Assembly	9012 ACR-6, 7, 10, 20, 26, 27, Form A4, Any Series	405.00	D14A
PC-50	Bel lows Assembly	9012 ACW-6, 7, 10, 20, 26, 27, Any Series	81.00	D14A
PC-51	Bel lows Assembly	9012 ACR-6, 7, 10, 20, 26, 27, Any Series	81.00	D14A
PC-52	S.S. Bel lows Assembly	9012 ACW-1, 8, 9, 21, 28, 29, DCW-8, Form A4, Any Series	127.00	D14A
PC-53	S.S. Bel lows Assembly	9012 ACW-2, 22 Form A4, Any Series	288.00	D14A
PC-54	S.S. Bel lows Assembly	9012 ACW-3, 4, 23, 24, Form A4, Any Series	146.00	D14A
PC-55	S.S. Bel lows Assembly	9012 ACW-5, 25, DCW-5, Form A4, Any Series	136.00	D14A
PC-56	S.S. Bel lows Assembly	9012 ACW-6, 7, 10, 20, 26, 27, Form A4, Any Series	405.00	D14A
PC-57	Bel lows Assembly	9012 ACW-1, 8, 21, 28, Form P4, Series B	31.00	D14A
PC-58	Bel lows Assembly	9012 BCR-0, 20	87.00	D14A
PC-174	Diaphragm	9012 GA, GD-2, 4, 22, 24, GN, GR-3, 4	4.00	D14A
PC-175	Actuator Assembly	9012 GA, GD-5, 25, GN, GR-5	11.00	D14A
PC-176	Actuator Assembly	9012 GA, GD-6, 26, GN, GR-6	12.00	D14A
*PC-177	Actuator Assembly	9012 GB, GE-1, 21, GL, GP, GS-1	24.00	D14A
*PC-178	Actuator Assembly	9012 GB, GE, GH-2, 22, GL, GP, GS-2	24.00	D14A
*PC-179	Actuator Assembly	9012 GB, GE-3, 23, GL, GP, GS-3	24.00	D14A
PC-180	Actuator Assembly	9012 GC, GF-1, 21, GJ-1, 21, GQ, GT-1	50.00	D14A
PC-181	Actuator Assembly	9012 GC, GF-2, 22, GJ-2, 22, GQ, GT-2	50.00	D14A
PC-182	Actuator Assembly	9012 GC, GF-3, 23, GQ, GT-3	50.00	D14A
PC-183	Actuator Assembly	9012 GC, GF-4, 24, GQ, GT-4	50.00	D14A
PC-184	Gasket Kit	All 9012 G open, NEMA 1, 4, 4X, 13 encl. except Type 1, 21	8.00	D14A
PC-185	Replacement Pilot Light Kit	9012 G, NEMA 4, 13 only	10.00	D14A
PC-186	Switch Mechanism	9012 GAR-1, 2	86.00	D14A
PC-187	Switch Mechanism	9012 GAR-4, 5	86.00	D14A
PC-188	Switch Mechanism	9012 GAR-6, GBR-1, 2, 3	86.00	D14A
PC-189	Switch Mechanism	9012 GCR-1, 2, 3, 4	115.00	D14A
PC-190	Switch Mechanism	9012 GAR-21, 22	102.00	D14A
PC-191	Switch Mechanism	9012 GAR-24, 25	102.00	D14A
PC-192	Switch Mechanism	9012 GAR-26, GBR-21, 23	102.00	D14A
PC-193	Switch Mechanism	9012 GCR-21, 22, 23, 24	120.00	D14A
PC-194	Switch Mechanism	9012 GDR-1, 2	76.00	D14A
PC-195	Switch Mechanism	9012 GDR-4, 5	76.00	D14A
PC-196	Switch Mechanism	9012 GDR-6, GER-1, 2, 3	76.00	D14A
PC-197	Switch Mechanism	9012 GFR-1, 2, 3, 4	105.00	D14A
PC-198	Switch Mechanism	9012 GDR-21, 22	92.00	D14A
PC-199	Switch Mechanism	9012 GDR-24, 25	92.00	D14A
PC-200	Switch Mechanism	9012 GDR-26, GER-21, 22, 23	92.00	D14A
PC-201	Switch Mechanism	9012 GFR-21, 22, 23, 24	110.00	D14A
PC-203	SPDT Snap Switch	9012 GA, GB, GC, GD, GE, GF, GG, GH, GJ Single Pole	18.00	D14A
PC-203E3	SPDT Snap Switch	SPDT Devices Having Form E3	24.00	D14A
PC-203E4	SPDT Snap Switch	SPDT Devices Having Form E4	24.00	D14A
PC-204	SPDT Snap Switch	9012 GN, GP, GQ, GR, GS, GT	14.00	D14A
PC-205	Repl. Contact Kit	9013 GHG, GSG, GHR, GSR, GMG; 9036 GG, GR, GW; 9037 GG Series C all except Forms H & R	18.00	D7D

Footnotes — See Page 10.

REPLACEMENT PARTS KITS FOR PRESSURE, FLOAT AND VACUUM SWITCHES

OCTOBER, 1983

Class 9998 Type	Description	Class and Type of Equipment To Be Serviced	Price	Discount Schedule
PC-206	Repl. Contact Kit	9013 GHG, GSG, GHR, GSR, GMG; 9036 GG, GR, GW: 9037 GG Series C Form H only	26.00	D7D
PC-207	Repl. Contact Kit	9013 GHG, GSG, GHR, GSR, GMG; 9036 GG, GR, GW: 9037 GG Series C Form R only	\$ 24.00	D7D
PC-209	Diaphragm Assembly	9013 GMG Series C	5.00	D7C
PC-210	Diaphragm Assembly	9016 GVG Series C	10.00	D7C
PC-211	Diaphragm Assembly	9013 GHR, GSR, GSW Series C	4.00	D7C
PC-212	Cover Gasket	9013 GHW, GSW	7.00	D7C
PC-213	Repl. Mechanism	9036 GR, GW all except Form H & R Series C	45.00	D7D
PC-214	Repl. Mechanism	9036 GR, GW (Form R only) Series C	51.00	D7D
PC-215	Repl. Mechanism	9036 GR, GW (Form H only) Series C	53.00	D7D
PC-216	Gasket	9036, 9037 (GW only)	7.00	D7C
PC-217	Repl. Mechanism	9037 GR, GW all except Forms H Series C	40.00	D7B
PC-218	Repl. Mechanism	9037 GR, GW (Form H) Series C	48.00	D7D
PC-219	Complete Flange and Bellows Assy.	9037 GR, GW-21 (Brass Bellows)	135.00	D7C
PC-220	Complete Flange and Bellows Assy.	9037 GR, GW22 (Brass Bellows)	135.00	D7C
PC-221	Complete Flange and Bellows Assy.	9037 GR, GW23 (Brass Bellows)	135.00	D7C
PC-222	Complete Flange and Bellows Assy.	9037 GR, GW21 Form A (Monel Bellows)	174.00	D7C
PC-223	Complete Flange and Bellows Assy.	9037 GR, GW22 Form A (Monel Bellows)	174.00	D7C
PC-224	Complete Flange and Bellows Assy.	9037 GR, GW 23 Form A (Monel Bellows)	174.00	D7C
PC-225	Switch Mech. (includes case and cover)	9037 GG all except Form H	40.00	D7D
PC-226	Switch Mech. (includes case and cover)	9037 GG Form H only	48.00	D7D
PC-227	Complete Flange and Bellows Assy.	9037 GG21 (Brass Bellows)	90.00	D7C
PC-228	Complete Flange and Bellows Assy.	9037 GG22 (Brass Bellows)	90.00	D7C
PC-229	Complete Flange and Bellows Assy.	9037 GG23 (Brass Bellows)	90.00	D7C
PC-230	Complete Flange and Bellows Assy.	9037 GG21 Form A (Monel Bellows)	129.00	D7C
PC-231	Complete Flange and Bellows Assy.	9037 GG22 Form A (Monel Bellows)	129.00	D7C
PC-232	Complete Flange and Bellows Assy.	9037 GG23 Form A (Monel Bellows)	129.00	D7C
PC-233	Diaphragm Assembly	9016 GAW-1, 21	4.00	D7C
PC-234	DPDT Snap Switch	9012 GA, GB, GC, GD, GE, GF, GG, GH, GJ double pole	30.00	D14A
PC-234E3	DPDT Snap Switch	DPDT devices having Form E3	36.00	D14A
PC-234E4	DPDT Snap Switch	DPDT devices having Form E4	36.00	D14A
PC-235	Cover Assembly	9012, 9016 G NEMA 4, 13 enclosure only	20.00	D14A
PC-241	Replacement Contact Kit	9013 HHG, HSG, 9013 Type FSG, Obsolete 9036 FG-1, Obsolete 9037 FG, HG-1, HG-2, CG, HSG-1, 2, HFG ● +	7.00	D7D
PC-242	Replacement Contact Kit	9013 FYG, 9036 DG, DR, DW, Obsolete 9037 HEG, HSG-3, 4; 9037 DG, EG, ER, EW; HG, HR, HW 3 thru 12; Class 9038 all types (2 Kits Required); 9013 HHG-Y, HSG-Y, HSW-Y●	10.50	D7D
PC-252	Replacement Diaphragm Kit	All 9013 GHG, GSG	6.00	D7C
PC-255	Snap Switch with Terminal Block	All 9016 GAW-1	18.00	D7C
PC-256	Snap Switch with Terminal Block	All 9016 GAW-21	30.00	D7C
*PC-265	Diaphragm Assembly	9012 GA, GD-1, 21; GN, GR-1	10.00	D14A
*PC-266	Diaphragm Assembly	9012 GA, GD, GG-2, 22; GK-2	7.00	D14A
*PC-267	Diaphragm Assembly	9012 GA, GD, GG-4, 24; GK-4; GN, GR-3, 4	7.00	D14A
*PC-268	Actuator Assembly	9012 GA, GD, GG-5, 25; GK-5; GN, GR-5	14.00	D14A
*PC-269	Actuator Assembly	9012 GA, GD-6, 26; GK-6; GN, GR-6	15.00	D14A
*PC-270	Piston Assembly	9012 GC, GF, GJ-1, 21; GQ, GT-1	50.00	D14A
*PC-271	Piston Assembly	9012 GC, GF, GJ-2, 22; GQ, GT-2	50.00	D14A
*PC-272	Piston Assembly	9012 GC, GF-3, 23; GQ, GT-3	50.00	D14A
*PC-273	Piston Assembly	9012 GC, GF-4, 24; GQ, GT-4	50.00	D14A
PC-274	Replacement Pilot Light	9012 G Forms G7, G8, G9, G10; 24 volts	14.00	D14A
PC-275	Pilot Light Kit for Field Conversion	9012 G NEMA 4, 13 enclosures; Forms G1, G2, G5, G6; 120 volts	30.00	D14A
PC-276	Pilot Light Kit for Field Conversion	9012 G NEMA 4, 13 enclosures; Forms G7, G8, G9, G10; 24 volts	34.00	D14A
PC-277	Replacement Pilot Light	9012 G Forms G1, G2, G5, G6; 120 volts	10.00	D14A
PC-280	Replacement Pilot Light	9012 G Forms G11, G12, G15, G16; 240 volts	10.00	D14A
PC-281	Pilot Light Kit For Field Conversion	9012 G NEMA 4, 13 enclosures; Forms G11, G12, G15, G16; 240 volts	30.00	D14A
PC-282	Quad Ring Seal Tube Replacement Kit	9037 H; 9038 C	18.00	D7C

▲ Contacts are 2 pole; diaphragm fits Type AS only.

● These kits also contain replacement diaphragm for pressure switch.

+ For devices manufactured after June 30, 1965 (date code 365 and later) only. For switches mfd. prior to July 1, 1965 (date code 265 and prior) replace the complete device.

● Give complete **CLASS, TYPE, FORM** information to be stamped on replacement cover.* If one of these form designations appears on the pressure switch nameplate, the 9998 PC number must be **COMPLETED** with that same **FORM** suffix; you must then **ADD** the price of the appropriate **FORMS** from the table.

Form	Price
O1	\$20.
P1	N.C.
P2	N.C.
Q3	24.
Q4	24.
Q5	12.
Q13	8.
Q14	8.
Z	N.C.
Z16	26.

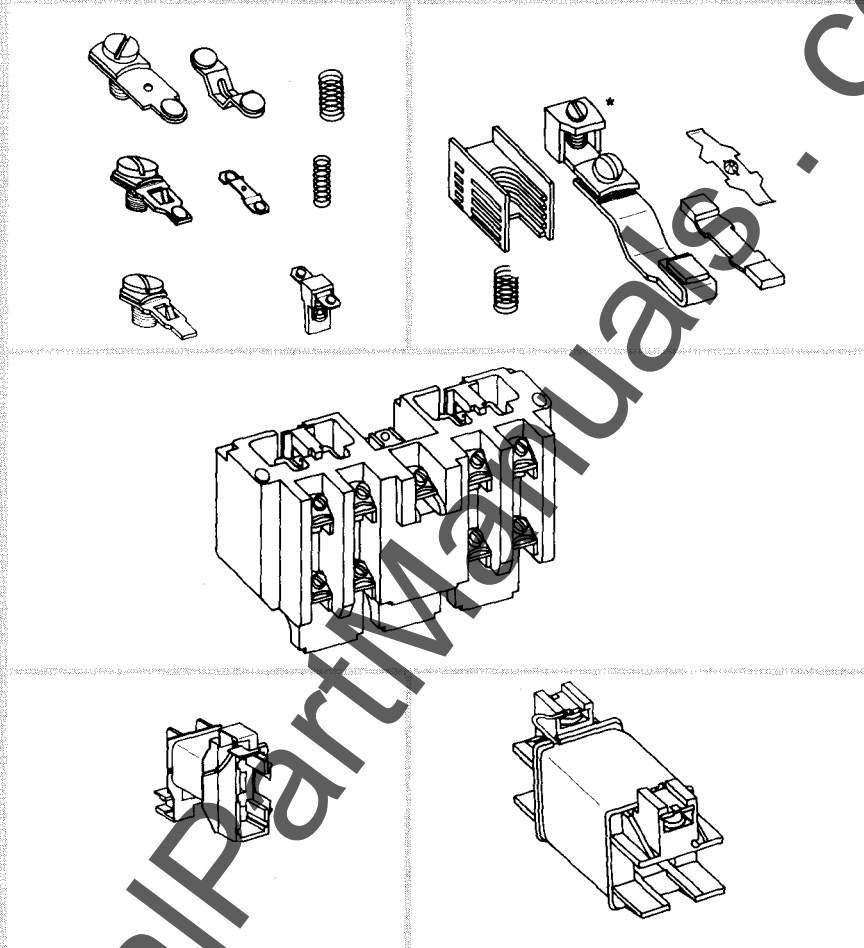
Examples: A 9012 GAW-2 takes diaphragm Kit 9998 PC-174, \$4.

A 9012 GAW-2 Form PZ takes Kit 9998 PC-174 Form P2

(Still \$4.00 since P2 is no charge)

A 9012 GAW-2 Form B2G1Q4 takes

Kit 9998 PC-174 Form Q4, \$28.



INTERNATIONAL CONTROL PRODUCTS

Replacement Parts Kits, Coils and Modification Kits

CONTENTS

Description	Class	Page
Replacement Parts Kits	9998	2-IP
AC Operating Coil Data	9998	2-IP
User Modification Kits	9999	3-IP, 4-IP



SQUARE D COMPANY

REPLACEMENT PARTS KITS FOR CLASS 8502 TYPE DLS CONTACTORS

MARCH, 1983

Illustration	Description	Equipment to be serviced Class 8502 Type	Class 9998 Type	Price
	1 complete set of main contacts consisting of: 6 fixed main contacts 3 moving main contacts 3 contact springs	DLS 16	DLS-16	\$ 58.
		DLS 26	DLS-26	60.
	1 complete set of main contacts consisting of: 6 fixed main contacts 3 moving main contacts 3 contact springs 6 arc chutes 3 leaf springs	DLS 31	DLS-31	150.
		DLS 46	DLS-46	200.
		DLS 61	DLS-61	272.
	1 complete set of main contacts consisting of: 6 fixed main contacts 3 moving main contacts 3 contact springs 6 arc chutes 3 leaf springs	DLS 81	DLS-81	472.
		DLS 101	DLS-101	499.
	1 complete set of main contacts: consisting of: 6 fixed main contacts 3 moving main contacts 3 contact springs 6 arc chutes 3 leaf springs	DLS 151	DLS-151	797.
		DLS 201	DLS-201	912.

D24A DISCOUNT

AC OPERATING COILS

FOR CLASS 8501 TYPES H8, H9 AND PH RELAYS AND CLASS 8502 TYPES DLS, DN, PD AND PE CONTACTORS

		DEVICE TO BE SERVICED — CLASS 8501 AND 8502 TYPES													
Coil Description		DN8 & H8		PD, PE & PH		DN9, DN11 & H9		DLS16 & DLS26		DLS31, DLS46 & DLS61		DLS81 & DLS101		DLS151 & DLS201	
60 Hertz	Coil Voltage	AC OPERATING COIL CLASS 9998													
	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	
	24	DN8C24●	\$42.	PD2C24●	\$34.	DN9C24●	\$48.	DLS16C24●	\$56.	DLS46C24	\$85.	DLS81C24	\$131.	DLS151C24	\$218.
	110	DN8C110●	42.	PD2C110●	34.	DN9C110●	48.	DLS16C110●	56.	DLS46C110	85.	DLS81C110	131.	DLS151C110	218.
	120	DN8C120	42.	PD2C120	34.	△	...	△	...	DLS46C120	85.	DLS81C120	131.	DLS151C120	218.
	208	DN8C208	42.	PD2C208	34.	△	...	DLS16C208	56.	DLS46C208	85.	DLS81C208	131.	DLS151C208	218.
	240	DN8C240●	42.	PD2C240●	34.	DN9C240●	48.	DLS16C240●	56.	DLS46C240	85.	DLS81C240	131.	DLS151C240	218.
	277	DN8C277	42.	PD2C277	34.	△	...	△	...	DLS46C277	85.	DLS81C277	131.	DLS151C277	218.
	480	DN8C480	42.	PD2C480	34.	△	...	△	...	DLS46C480	85.	DLS81C480	131.	DLS151C480	218.
600	DN8C600	42.	PD2C600	34.	△	...	△	...	DLS46C600	85.	DLS81C600	131.	DLS151C600	218.	
50 Hertz	Coil Voltage	AC OPERATING COIL CLASS 9998													
	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	
	24	DN8C24●	\$42.	PD2C24●	\$34.	DN9C24●	\$48.	DLS16C24●	\$56.	△	...	△	...	△	...
	42	DN8C42●	42.	PD2C42●	34.	DN9C42●	48.	DLS16C42●	56.	△	...	△	...	△	...
	110	DN8C110●	42.	PD2C110●	34.	DN9C110●	48.	DLS16C110●	56.	△	...	△	...	△	...
	220	DN8C220●	42.	PD2C220●	34.	DN9C220●	48.	DLS16C220●	56.	DLS46B220	\$85.	DLS81B220	\$131.	DLS151B220	\$218.
	380	DN8C380●	42.	PD2C380●	34.	DN9C380●	48.	DLS16C380●	56.	DLS46B380	85.	DLS81B380	131.	DLS151B380	218.
	415	DN8C415●	42.	PD2C415●	34.	DN9C415●	48.	DLS16C415●	56.	△	...	△	...	△	...
	500	DN8C500●	42.	PD2C500●	34.	DN9C500●	48.	DLS16C500●	56.	△	...	△	...	△	...

△ Consult local Square D field office.

● Coils rated 50/60 hertz.

D24B DISCOUNT

ORDERING INFORMATION REQUIRED

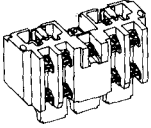
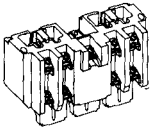
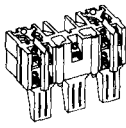
Class and type number

USER MODIFICATION KITS

**FOR CLASS 8501 TYPE H8 RELAYS, CLASS 8502 TYPES DLS, DN, PD
AND PE CONTACTORS AND CLASS 9065 TYPES MR AND TUP OVERLOAD RELAYS**

INTERNATIONAL
PRODUCTS
CLASS
9999

AUXILIARY CONTACTS FOR TYPE DLS CONTACTORS

Illustration	Description	Used with Class 8502 Type★	Class 9999 Type	Price
	1 auxiliary contact unit, complete with 2 N/O and 2 N/C contacts with block assembly as shown in illustration	DLS 31	DLS-31	\$61.
		DLS 46		
		DLS 61		
	1 auxiliary contact unit, complete with 2 N/O and 2 N/C contacts with block assembly as shown in illustration	DLS 81	DLS-81	66.
		DLS 101		
	1 auxiliary contact unit, complete with 2 N/O and 2 N/C contacts with block assembly as shown in illustration	DLS 151	DLS-151	104.
		DLS 201		

★ Note: For additional auxiliary contacts for use with Class 8502 Types PD and PE contactors, refer to the Class 8502 Catalog Section.

Rail Mounting Kit

Each kit listed below contains a clip to be used for DIN 35mm rail mounting. The Class 9999 Type CP-1 kit is used with Class 8501 Type H8 relays or Class 8502 Type DN8 contactors. For Class 9065 Type TUP overload relays, the Class 9999 Type CP-2 kit is used for DIN rail mounting along with the appropriate Class 9999 Type ET separate mounting kit. Also available is a Class 9999 Type MTK-1 kit. This kit contains a clip for DIN rail mounting or separate mounting a Class 9065 Type MR overload relay in addition to a terminal kit used for separate mounting.

Used with	Rail Mounting Kit Class 9999 Type	Price
8501 H8 8502 DN8	CP-1	\$3.
9065 TUP	CP-2△	3.
9065 MR	MTK-1	7.

△ Also required in a terminal kit. Refer to Class Type ET-1 or ET-2 kits.

Separate Mounting Kit

Class 9999 Type ET kits contain terminals and a mounting housing to separate mount Class 9065 Type TUP overload relays. These kits are also used with a Class 9999 Type CP-2 kit for DIN rail mounting the Type TUP overload relays.

Class 9065 Overload Type	Sep. Mtg. Kit Class 9999 Type	Price Per Kit
TUP0.12 thru TUP20	ET-1	\$8.
TUP25 thru TUP35	ET-2	9.

Overload Connector Kit

The overload connector kits listed below are used to connect a Class 9065 Type TUP overload relay with the appropriate Class 8502 contactors.

Used with Classes 8502 and 8702 Types	Overload Connector Kit Required Class 9999 Type	Price Per Kit
DN9, DN11, WS9, WS11	TMP-L	\$3.
PD2, PD3, PDV2, PDV3	TUP-B	3.
PE4, PE5, PEV4, PEV5	TUP-C	3.
DLS16, DLS26, WS16, WS26	TMP-H	6.
DLS31, DLS46, DLS61 WS31, WS46, WS61	TMP-D	9.

ORDERING INFORMATION REQUIRED

Class and type number

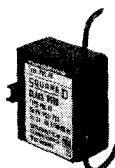
USER MODIFICATION KITS

FOR CLASS 8501 TYPE PH RELAYS AND
CLASS 8502 TYPES PD & PE CONTACTORS

MARCH, 1983

Transient Suppressor Attachment

The Type PRC Transient Suppressor attachment plugs onto a basic contactor, relay or auxiliary contact module. The attachment is used where the transient voltage, generated when opening the coil circuit, interferes with the proper operation of nearby integrated or solid state control circuits.



Type PRC 48

For Use With	Rated Control Circuit Voltage at 50/60 Hz.	Class 9999 Type	Price
8501 Type PH and 8502 Types PD & PE	24 - 48 V 110 - 220 V 220 - 380 V	PRC 48 PRC 220 PRC 380	\$16.

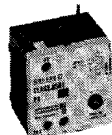
Mechanical Interlock Kit

The Class 9999 Type PMV Mechanical Interlock Kit is designed to mechanically interlock either two Class 8502 Type PD or two PE contactors. This kit can also be used to mechanically interlock two Class 8501 Type PH relays.

For Use With	Class 9999 Type	Price
8501 Type PH and 8502 Types PD & PE	PMV	\$20.

Interface Attachment

By means of the Class 9999 Type PA Interface Attachment, an AC operated relay or contactor can be connected directly to a solid state control output of 24V dc. This attachment can be added to a 4 pole Class 8501 Type PH relay, a Class 8502 Type PD contactor with 1 auxiliary contact max. or a Class 8502 Type PE contactor with **no** auxiliary contacts.



Type PA

For Use With	Class 9999 Type	Price
8501 Type PH and 8502 Types PD & PE	PA	\$115.

Mechanical Latch Attachment

The Class 9999 Type PLA Mechanical Latch Attachment is designed to assure that the main contacts of a relay or contactor remain switched after de-energization of the coil.

For Use With	Class 9999 Type	Price
8501 Type PH and 8502 Types PD & PE	PLAΔ	\$56.

Δ Specify voltage. (Standard voltages available; 110V, 220V and 24V 50/60 Hz.)

Solid State Timer Attachment



Type PT

When a Type PT Timing Attachment is added to a 110 - 220V 50/60 Hz. contactor or relay, all contacts of the control device become timed. The timer is ON delay only and available in 6 separate timing ranges. (Screw adjustable within each timing range.)

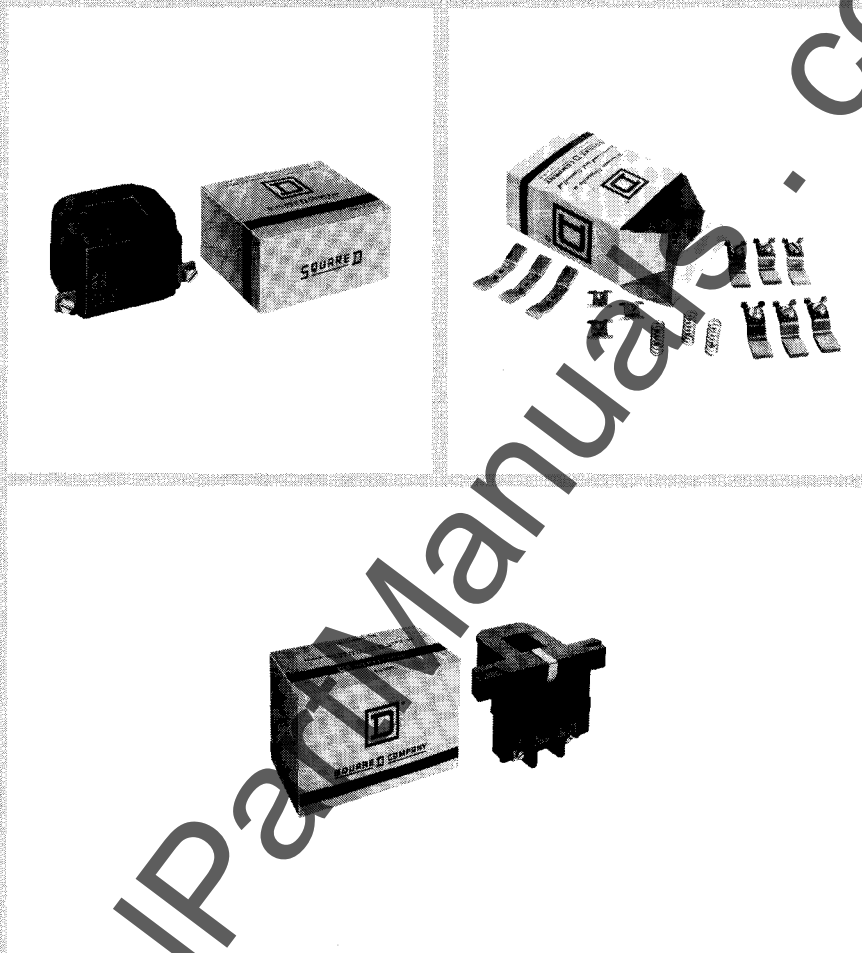
The attachment snap mounts to the top of a 4 pole Class 8501 Type PH relay. This unit can also be added to Class 8502 Type PD contactors with one auxiliary contact and Class 8502 Type PE contactors with **no** auxiliary contacts.

For Use With	Timing Range - Sec.	Class 9999 Type	Price
8501 Type PH and 8502 Types PD & PE	0.15-3	PT 3	\$112.
	0.3-6	PT 6	
	0.5-10	PT 10	
	1.5-30	PT 30	
	3-60	PT 60	
	5-100	PT 100	

ORDERING INFORMATION REQUIRED

Class and type number





Replacement Parts Kits & Coils

CONTENTS

Description	Class	Pages
General Industry Control		
AC Magnet Coil Data	9998	2 & 3
Replacement Parts Kits.	9998	6, 7 & 8
Heavy Industry Control		
(Classes 6815, 7001, 7004, 8110, 8198, 8503)		
DC Coil Data —		
Type K Relays	9998	4
Type M Contactors	9998	5
Replacement Parts Kits.	9998	8
Power Equipment	9998	} Refer to Product Catalog Section
Pump Control	9998	
Automation Products	9998	



SQUARE D COMPANY



AC Magnet Coil
for Type S Starter
and Contactor

AC magnet coils are individually packaged in clearly marked cartons for easy stocking and identification. All coils are stamped with the coil part number and the coil voltage and frequency. Epoxy molded coils provide a tough, permanently sealed unit impervious to moisture, oil and mechanical damage.

FOR MAGNETIC CONTACTORS AND STARTERS

CLASSES 8502, 8536, 8538, 8539, 8547, 8549, 8606, 8630, 8640, 8650, 8651, 8702, 8736, 8738, 8739, 8810, 8811, 8812, and 8508, 8903
Electrically and Mechanically Held Latch Coils. (Refer to Table 3 on Page 3 For Listing of Mechanically Held Unlatch Coils.)

AC MAGNET COILS

DEVICES USING COIL				Coil Specifi- cation Number	Hz	SUFFIX NUMBERS (Complete Part Number of Coils Consists of Specification Number Followed by Suffix Number as 31041-400-42)														Coil Volt- Amperes		Price
Device	Size	Type	Poles			24 Volts	110-115 Volts	120 Volts	208 Volts	220 Volts	240 Volts	277 Volts	380 Volts	440 Volts	480 Volts	550 Volts	600 Volts	In- rush	Sealed			
Coils for CURRENT Design Magnetic Contactors and Starters	20 Amp.	L	2-6	31071-400	60 50	23 24	44 44	44 45	50 52	△ 53	53 54	55 56	60 60	62 62	63 65	65 66	150 140	30 30	\$ 26.00			
		L	8-12	31071-408	60 50	23 24	44 44	44 45	50 52	△ 53	53 54	55 56	62 62	62 63	65 65	65 66	180 170	35 35	26.00			
		LL	All	31071-411	60 50	23 24	44 44	44 45	50 51	△ 53	53 54	55 56	62 62	62 63	65 65	65 66	150 140	30 30	87.00			
	00 Series B & C	A	All	31012-400	60 50	23 25	42 43	43 46	49 49	△ 55	52 55	55 55	58 60	60 61	61 64	63 65	65 67	118 115	10.5 10	26.00		
	0	SB	All	31041-400	60 50	20 22	△ 42	42 43	48 43	△ 51	51 53	52 52	56 57	△ 60	60 61	△ 62	64 64	245 232	27 26	30.00		
	1 & 1P 30 Amp.	SC SM	All	31041-400	60 50	20 22	△ 42	42 43	48 43	△ 51	51 53	52 52	56 57	△ 60	60 61	△ 62	64 64	245 232	27 26	30.00		
	0, 1 & 1P	SB & SC	All	31041-402	60 50	Dual Voltage Coils: 115/230—01 110/230—03										120/240—02	240/480—04	245 232	27 26	43.00		
	2 60 Amp.	SD SP	2 & 3	31063-409	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	311 296	37 36	39.00		
	2 60 Amp.	SD SP	4 & 5	31063-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	438 429	38 37	39.00		
	3 100 Amp.	SE SQ	2 & 3	31074-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	700 678	46 47	78.00		
	3 100 Amp.	SE SQ	4 & 5	31091-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	1185 1260	85 89	78.00		
	4 200 Amp.	SF SV	All	31091-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	1185 1260	85 89	78.00		
	5 300 Amp.	SG SX	All	31096-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	2970 2970	212 250	108.00		
	6 & 7	SH, SJ	2-3	Coil Part Number 31104-400-50 (All System Voltages)																	262.00	
	400, 600 & 800 Amp.	SY, SZ, SJ (Elect. Held)		31104-418	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	555 530	395 395	262.00		
	8	K (Series A & B)	2-3	Coil Part Number 51030-034-01 (2-Required per Contactor)††																	762.00	
Coils for OBSOLETE Design Magnetic Contactors and Starters	0	B	All	1861-S1	60 50	R22B R29B	R29B R30A	R30A R31A	R32B R32B	R33A R33A	R33B R33A	R35B R35B	R36A R36A	R37A R37A	R36B R37A	R37A R38A	160 120	30 26	30.00			
	0	B	All	1861-S14	60 50	Dual Voltage Coils: 115/230—G4 115/230—G5										230/380—G14 220/380—G15	240/480—G6 220/440—G8			43.00		
	1 30 Amp.	C M	All	2936-S1	60 50	C19A C20A	C26B C27A	C27A C28A	C29B C29B	C29B C30A	C30A C31A	C30B C31A	C32B C33A	C33A C34A	C33B C34A	C34A C35A	170 125	40 27	32.00			
	1	C	All	2936-S21	60 50	Dual Voltage Coils: 115/230—G4 110/220—G3										240/480—G11 220/440—G11			56.00			
	2 60 Amp.	D P	2-4	1707-S1	60 50	T13B T14A	T20A T21	T21 T21A	T23A T23A	T24 T24A	T24A T24A	T26A T26A	T26B T26B	T27A T27A	T27B T27B	T27B T28A	465 400	80 65	39.00			
	3 100 Amp.	E Q	2-4	1775-S1	60 50	U11A U12A	U17B U18A	U18A U19A	U20D U20D	△ U21A	U21A U22A	U21B U21B	U23B U23B	U23B U24A	U24A U25A	U24B U25A	U25A U26A	800 600	150 120	78.00		
	4 200 Amp.	F V (Series C)	2-4	1775-S1	60 50	U11A U12A	△ U18A	U18A U19A	U20D U20D	△ U21A	U21A U22A	U21B U21B	U23B U23B	△ U24A	U24A U25A	△ U25A	U25A U26A	1490 1200	140 110	78.00		
	4 200 Amp.	F V (Series C)	5	1775-S1	60 50	16 17	△ U17B	U17B U18B	U20 U20	△ U20B	U20B U21B	U21B U21B	U23B U23B	△ U24B	U23B U24B	△ U24B	U24B U25B	1800 1450	160 125	78.00		
	5 300 Amp.	G X (Series B & C)	All	2938-S1	60 50	16 17	△ F14A	F14A F14B	F16D F16D	△ F17A	F17A F17B	F17B F17B	F19B F19B	△ F20A	F20A F21A	△ F21A	F21A F21B	2800 2000	290 220	108.00		
	6	H (Series A)	2-3	51029-044	60	16	17	17	50	51	52	52	52	52	52	53	53	54	5400	650	304.00	
	6	H (Series B & C)	2-3	51029-074	60	16	17	17	50	51	51	51	51	51	51	52	53	53	2900	220	262.00	
	7	J (Series A & B)	2-3	Coil Part Number 51030-034-01 (2 Required per Contactor)††																	762.00	

††All contactors are supplied with self-contained dc supply consisting of suitable transformer and rectifier to supply 180 volts dc for coil. An ac control relay is also supplied for pilot circuit.

○VA values for these coils are 120% of the values shown.
▲Use next higher voltage, 60 hertz coil.

ORDERING INFORMATION REQUIRED

- Order magnet coils by part number, voltage and frequency.
- Order magnet coils not listed on Pages 2 & 3 by supplying voltage and frequency and complete identification of starter or contactor for which coil is desired.



AC Magnet Coil
for Type D Relay

AC MAGNET COILS

COILS

For Classes 8501, 8508, 8910, 8965 and 9050.
(Also listed are unlatch coils for Class 8903. Refer to Table 3 below.)

AC MAGNET COILS

DEVICES USING COIL			Coil Specification Number	Hz	SUFFIX NUMBER (Complete Part Number of Coils Consists of Specification Number Followed by Suffix Number as 4323-S1-W38B)													Coil Volts Amperes			Price
Device	Type	Poles			24 Volts	110-115 Volts	120 Volts	208 Volts	220 Volts	240 Volts	277 Volts	380 Volts	440 Volts	480 Volts	550 Volts	600 Volts	In-rush	Sealed			
TABLE 1																					
CLASSES 8501, 8508 AND 9050																					
8501 & 8508 (Relays)	A	All	2183-S44	60 50	Q23A Q24A	Q30A Q30B	Q30B Q31A	Q33A	Q33A Q33B	Q33B Q34A	Q34A	Q36A Q36B	Q36B Q37A	Q37A Q37B	Q37B Q38A	90 55	20 12	\$26.			
	BH & BR	All	1861-S1	60 50	R22B R23B	R29B R30A	R30A R31A	R32B	R32B R33A	R33A R34A	R33B	R35B R36A	R36A R37A	R36B R37A	R37A R38A	160 120	30 26	30.			
	CO(1-14)	All	4323-S1	60 50	W28A W28B	W35A W35B	W35B W36A	W37B	W38A W38B	W38B W39A	W39A	W40B W41A	W41A W41B	W41B ....	....	14 11	8.6 6.6	17.			
	DDO DEO	All	2959-S49	60 50	W24B W25B	W31A W31B	W31B W32B	W34A	W34A W34B	W34B W35B	W35A	W36B W37A	W37A W37B	W37B W38B	W38A W38B	62 52	12 11	34.			
	DO-20to DO-42	2-4	2959-S1	60 50	W26A W26B	W32B W33A	W33A W33B	W35B	W35B W36A	W36A W36B	W36B	W38B W38B	W39A W39B	W39B W40A	W40A W40B	58 52	12 11	34.			
	DO-44 to DO-82	6 & 8	2959-S49	60 50	W24A W26A	W30B W31A	W31A W32A	W33B	W33B W34A	W34A W35A	W34B ....	....	W36B W37A	W37A W38A	W37B W38A	W38A W39A	100 75	25 22	34.		
	F	2	31011-400	60 50	37 40	56 58	58 59	65	65 67	67 68	68 ....	....	....	....	....	....	11.5 10.5	8.5 7.8	21.		
	G	All	31021-400	60 50	39 41	59 60	60 62	67	67 69	69 71	70 72	....	....	....	....	....	100 90	13 13	21.		
	H	2-8	31071-400	60 50	23 24	 44	44 45	50 52	53 53	53 54	55 60	....	62 62	62 65	....	65	150 140	30 30	26.		
	HX	8-12	31071-408	60 50	23 24	 44	44 45	50 52	53 53	53 54	55 ....	....	62 62	....	65 65	....	180 170	35 35	26.		
	L	All	9998 CRL†	60 50	618 518	 801	801 556	665 565	 802	802 569	721 ....	....	803 803	803 581	804 804	804 586	120 115	17.5 17.5	21.		
	P	All	2491-S8	60 50	P22B P23B	P29B P30A	P30A P31A	P32B	P32B P33A	P33A P34A	P33B	P35B	P35B P36A	P36A P37A	P36B P37A	P37A P38A	100 80	40 32	34.		
9050 (Timer)	A	All	2959-S1-	60 50	W26A W26B	W32B W33A	W33A W33B	W35B	W35B W36B	W36A W36B	W36B	W38B W39A	W39A W39B	W39B W40A	W40A W40B	62 52	12 11	34.			
	A	All	2959-S49-	60 50	W25A W25B	W31B W32A	W32A W32B	W34A W34B	W34B W35A	W35A W35B	W35B W36A	W37B	W38A W38B	W38B W39A	W39A W39B	74 68	17 17	34.			
	B	All	1861-S1	60 50	R22B R22C	R29B R30A	R30A R30B	R32B	R32B R33A	R33A R33C	....	....	R35B R36A	R36A R36C	R36B R37A	R37A R37C	160 120	30 22	30.		
	B	All	31017-400-	60 50	33 34	....	54 55	61 63	61 63	63 64	65 ....	....	70 72	72 73	73 75	75 76	165 155	27 27	30.		

TABLE 2

CLASSES 8910, 8911 AND 8965

8910, 8911	H-M, N-Q & SYD	All	For Coil Selections. Refer to Class 8910, 8911 Catalog																	—
(Hoist Contactor)	J	All	1861-S1	60 50	R22A R23B	R29A R30B	R29B R31A	R32B ...	R32B ...	R33A R34A	R33B ...	R35B ...	R35C ...	R36A ...	R36B R37B	R36B ...	200 110	43 23	30.	
	R	All	31002-400	60 50	19 20	39 40	40 41	47 49	47 49	49 51	...	...	57	...	58 59	60 ...	76 76	27 27	23.	
	S & T	All	65108-400	60 50	19 21	39 42	40* 43	48 50	48 50	49 ...	51 ...	...	60	58*	60 62	61* 63	93 93	11 11	28.	
	VSD, VTO SPO	All	65108-403	60 50	18 21	38 41	39 42	47 49	47 49	48 51	...	...	56	56 59	57 ...	59 61	60 62	95 95	14 14	28.

TABLE 3

MECHANICALLY HELD UNLATCH COILS — CLASSES 8501, 8508 AND 8903

NOTE: A latch coil is also used with mechanically held devices. For selection of latch coils for Mechanically Held Contactors refer to Page 2. For Latching Relays see TABLE 1.

8501 (Relay)	HL	2-8	31071-963	60 50	50 50	52 52	52 52	53 53	54 54	54 54	55 55	56 56	56 56	57 57	57 57	18 17	18 17	56.	
	HXL	8-12	31071-964	60 50	50 50	52 52	52 52	53 53	54 54	54 54	55 55	56 56	56 56	57 57	57 57	18 17	18 17	56.	
8508 (Relay)	A & P	All	2959-S13	60 50	W24B W25B	W31B W32A	W32A W33A	W34B W34B	W34B W35A	W35A W36A	W35B W35B	W37B W37B	W38A W38A	W38B W39A	W39A W40A	39 28	15 11	62.	
	D & M1	All	2959-S13	60 50	W23B W24B	W30A W30B	W30B W31B	W33A W33B	W33A W33B	W33B W34B	W33B W34B	W36A W36A	W36A W36B	W36B W37A	W37A W37B	39 34	12 10	62.	
8508 (Contactor)	C, D & E	All	1861-S1	60 50	R22B R23B	R29B R30A	R30A R31A	R32B R32B	R32B R33A	R33A R34A	R33B R33B	R35B R35B	R36A R37A	R36B R37A	R37A R38A	30. 30.	30. 30.	30.	
8903 (Con- tactors)	LL	2-4	31071-963	60 50	50 50	52 52	52 52	53 53	54 54	54 54	55 55	56 56	56 56	57 57	57 57	18 17	18 17	56. 56.	
		6-10	31071-964	60 50	50 50	52 52	52 52	53 53	54 54	54 54	55 55	56 56	56 56	57 57	57 57	18 17	18 17	56. 56.	
	SM, SP	All	2959-S13	60 50	W23B W21B	W30B W30B	W30B W31B	W33A W33A	W33A W33B	W33B W34B	W34A W34A	W36A W36A	W36B W36B	W37A W37B	W37B W37B	80 80	62. 62.	62.	
	SQ, SV, SX, SY, SZ	All	31096-416-	60 50	03 03	09 09	09 09	15 15	18 18	18 18	20 20	22 22	24 24	24 24	28 28	550 550	62. 62.	62.	
	SJ	All	31123-403	60 50	03 03	09 09	09 09	15 15	18 18	18 18	20 20	22 22	24 24	24 24	28 28	550 550	62. 62.	62.	
	M, P & Q	All	1861-S1	60 50	R22B R23B	R29B R30A	R30A R31A	R32B R32B	R32B R33A	R33A R34A	R33B R33B	R35B R35B	R36A R36A	R36B R37A	R37A R38A	30. 30.	30. 30.	30.	
	V	All	1861-S1	60 50	R20C R27B	R27B R28C	R27B R28C	R30A R30A	R30B R32A	R30B R32B	R31B R31B	R34B R34B	R33B R34C	R33B R35B	R34B R35C	R35A R36B	30. 30.	30. 30.	30.
	X	All	1861-S1	60 50	R19B R27B	R26B R27B	R26A R27B	R29A R30A	R29A R30A	R29A R30A	R30A R30A	R32B R32B	R32B R33B	R32B R33B	R32B R34B	R34A R35A	30. 30.	30. 30.	30.

OVA values for these coils are 120% of the values shown.

*Coils also rated 380 volts, 50 hertz.

†Series B (Double Pole) and Series D (Single Pole).

‡Replaces Series 31111-400-coil.

•Coils on the Types CO-15 and 16 relays are not replaceable.

*To be used on 60 hertz only.

†Series C (Double Pole) and Series E (Single Pole).

‡Use next higher voltage, 60 hertz coil.

•Coil numbers include latch assemblies. Do not remove unlatch coil. Complete latch assembly must be replaced.

DC COIL DATA FOR CLASS 7001 TYPE K RELAYS

APRIL, 1983

DC 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 DC OPERATING COILS FOR CLASS 7001 TYPE K RELAYS

FULL SHUNT COILS

Class 7001 Device	Coil Number	Volts	Coil Resistance Ohms @ 20°C †	Coil Amperes @ 20°C †
Type				
KG, KE, KF	A51017-067-50	300	2050	.146
	D51017-056-50	230-240	1619	.148
	A51017-067-52	190	863	.222
	A51017-067-53	150	547	.274
	D51017-056-51	115-120	407	.275
	A51017-067-55	100	226	.442
	A51017-067-56	75	140	.536
	A51017-067-57	60	87	.690
	A51017-067-58	45	57	.789
	A51017-067-59	36	36	1.000
	A51017-067-60	24	12.8	1.880
	A51017-067-61	12	3.5	3.43
	A51017-067-62	6	.88	6.82

FULL SERIES COILS

Class 7001 Device	Coil Number	Coil Amperes @ 20°C †	Coil Resistance Ohms @ 50°C †	Number of Turns
Type				
KI, KF	A51152-077-50	.39	177	6480
	A51152-077-51	.49	110	5040
	A51152-077-52	.62	71.2	4128
	A51152-077-53	.77	45.6	3335
	A51152-077-54	.97	28.6	2652
	A51152-077-55	1.2	16.6	1932
	A51152-077-56	1.6	10.4	1539
	A51152-077-57	2.0	6.67	1241
	A51152-077-58	2.4	4.46	1040
	A51152-077-59	3.1	2.76	812
	A51152-077-60	3.8	1.78	663
	A51152-077-61	4.9	1.08	506
	A51152-077-62	6.1	.69	410
	A51152-077-63	7.3	.43	324
	A51152-077-64	9.9	.27	256
	A51152-078-50	12.5	—	200
	A51152-078-51	16.0	—	156
	A51152-078-52	20.8	—	120
	A51152-078-53	26.6	—	93
	A51152-078-54	35.2	—	71
	A51152-078-55	45.3	—	55
	A51152-078-56	58.0	—	43
	A51152-078-57	75.6	—	33
	A51152-079-01	114.5	—	25.5
	A51152-079-02	171.5	—	16.5
	A51152-079-03	257.5	—	10.5
	A51152-079-04	200.	—	13.5

HALF SERIES COILS

Devices Using Coil	Coil Number	Coil Amperes (Cold)†	Coil Resistance Ohms (Cold)	Number of Turns
Type				
KI, KF	A51152-036-50	7.36	—	140
	A51152-036-51	11.71	—	88
	A51152-036-52	18.75	—	55
	A51152-036-53	29.45	—	35
	A51152-036-54	46.90	—	22
	A51152-036-55	73.60	—	14
	A51152-033-01	114.5	—	9.5
	A51152-033-02	171.5	—	6.5
	A51152-033-03	257.5	—	4.5

HALF SHUNT COILS

Devices Using Coil	Coil Number	Coil Amperes †	Coil Resistance Ohms †	Volts
Type				
KF	A51152-044-50	.131	1828	230-240
	A51152-044-51	.252	477	115-120

† At normal operating temperature the coil resistance will increase by approximately 20%.

COILS WITH EXTERNAL DIODE

Device Using Coil	Coil▲ Number	System Volts	Coil Volts	Coil Amperes @ 20°C+	Coil Ohms @ 20°C+	Reverse* Ohms @ 20°C+
Type						
KP	D51017-056-51	240	120	.294	407	1 MEG
	D51017-056-59	120	60	.561	107	1 MEG

▲ Does not include external diode.

* Reverse ohms can only be measured when externally mounted diode is in series with coil.

PRICING INFORMATION — Refer to "Repair Parts Price List," or consult your Local Square D Field Office.

DC COIL DATA

FOR CLASS 7004 TYPE M CONTACTORS

COILS

DC operating coils are designed in accordance with NEMA Standards to withstand 110% of rated voltage continuously and to operate the relay successfully at 80% of rated voltage.

STANDARD DC OPERATING COILS FOR CLASS 7004 TYPE M CONTACTORS

Class 7004 Device			Volts	Coil Part Number	Coil Resistance Ohms @ 20°C†	Coil Amperes @ 20°C†
Size	Type	Poles				
1 & 2	MXCO-1, MXDO-1 MXCO-3, MXDO-3	SPNO SPNC	300	D51015-056-54	3664	.078
			230-240	D51015-056-50	2114	.108
			190	D51015-056-55	1495	.127
			150	D51015-056-56	948	.158
			115-120	D51015-056-51	543	.225
			100	D51015-056-57	394	.254
			75	D51015-056-58	241	.311
			60	D51015-056-58	160	.375
			45	D51015-056-60	99	.454
			36	D51015-056-61	64	.562
			24	D51015-056-62	26	.922
			12	D51015-056-63	6.3	1.9
			6	D51015-056-64	1.64	3.63
3 & 4	MEO-1, MFO-1 MEO-3, MFO-3	SPNO SPNC	300	D51017-056-54	2593	.116
			230-240	D51017-056-50	1619	.148
			190	D51017-056-55	1068	.178
			150	D51017-056-56	673	.223
			115-120	D51017-056-51	407	.294
			100	D51017-056-57	279	.358
			75	D51017-056-58	168	.447
			60	D51017-056-59	107	.561
			45	D51017-056-60	59	.763
			36	D51017-056-61	39	.923
			24	D51017-056-62	17	1.41
			12	D51017-056-63	4.39	2.73
			6	D51017-056-64	1.05	5.71
5	MGO-1 MGO-3	SPNO SPNC	300	D51019-243-52	1857	.160
			230-240	D51019-243-53	1219	.197
			190	D51019-243-54	761	.250
			150	D51019-243-55	485	.310
			115-120	D51019-243-56	310	.360
			100	D51019-243-57	208	.480
			75	D51019-243-58	122	.615
			60	D51019-243-59	77.2	.770
			45	D51019-243-60	42.9	1.04
			36	D51019-243-61	27.3	1.32
			24	D51019-243-62	12.0	1.99
			12	D51019-243-63	3.21	3.73
			6	D51019-243-64	.819	7.33
6 & 6A	MHAO-1, MHO-1 MHO-3	SPNO SPNC	300	D51020-243-52	1172	.256
			230-240	D51020-243-53	717	.321
			190	D51020-243-54	469	.405
			150	D51020-243-55	300	.500
			115-120	D51020-243-56	192	.600
			100	D51020-243-57	122	.820
			75	D51020-243-58	74	1.01
			60	D51020-243-59	45	1.33
			45	D51020-243-60	29	1.55
			36	D51020-243-61	19	1.89
			24	D51020-243-62	8	3.00
			12	D51020-243-63	2	6.00
			6	D51020-243-64	.49	12.2
7 & 8	MJO-1, MKO-1 MJO-3, MKO-3	SPNO SPNC	300	C51022-056-70	639	.469
			230-240	C51022-056-71	401	.599
			190	C51022-056-72	259	.734
			150	C51022-056-73	159	.943
			115-120	C51022-056-74	94	1.28
			100	C51022-056-75	61	1.64
			75	C51022-056-76	37.9	1.98
			60	C51022-056-77	24.0	2.50
			45	C51022-056-78	15.2	2.96
			36	C51022-056-79	9.9	3.64
			24	C51022-056-80	6.0	4.00
			12	C51022-056-81	1.4	8.57

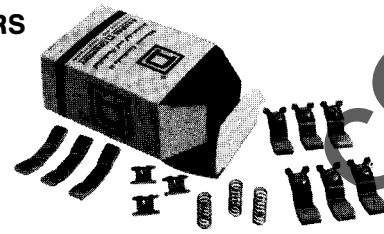
† At normal operating temperatures the coil resistance will increase by approximately 20%.

PRICING INFORMATION — Refer to "Repair Parts Price List," or consult your Local Square D Field Office.

REPLACEMENT PARTS KITS FOR AC RELAYS, CONTACTORS AND STARTERS

APRIL, 1983

The following Class 9998 replacement parts kits are available for servicing the more commonly used General Industry Control relays, contactors and starters. Each kit contains the necessary movable and stationary contacts, contact springs, and additional hardware required to service the devices listed below. When servicing devices having more poles than contained in the corresponding kit, it may be necessary to order an additional kit.



Class 9998 Type SL-3 Contact Kit

MANUAL STARTER CONTACT KITS

Equipment to Be Serviced		NEMA Size	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Class	Type				
2205, 2605 Manual Compensator	14 Contact Compensator (1 Kit required)	.....	..	PD-1	150.
	28 Contact Compensator (2 Kits required)				
2510 Manual Starters Push Button	B-(Kit includes Contact Block)	M-0	2	BA-22	72.
	B-		3	BA-21	72.
	B-(Kit includes Contact Block)		3	BA-23	88.
	C-	M-1	3	CA-21	88.
	M-	M-0	3	ML-1	40.
		M-1 & 1P	3	ML-2	48.
2510 Manual Starters Toggle Type	W5, W6, W16, W17, W23, W26, W27, W30, W32, W42, W43, W44, W45, W47, W50, W56, W58, W60 and W62	0	3	RA-21	50.
	W10, W11, W20, W21, W25, W29, W31, W33, W36, W37, W38, W39, W49, W51, W57, W59, W61 and W63	1	3	SA-21	60.
	R-	M-0	3	RA-22	50.
2510 Manual Starters Toggle Type	S-	M-1 & 1P	3	SA-22	60.
	T-	M-0	3	ML-1	40.
		M-1 & 1P	3	ML-2	48.

‡D14A Discount.

RELAY CONTACT KITS

Equipment to Be Serviced		NEMA Size	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Class	Type				
Magnetic Relays	A-(Series A & B), Q-(Pre-Series A)	.....	3	QA-81	72.
	A-(Series C), Q-(Series A)	.....	3	QA-82	72.
	ARO- BH-, B-, R- (15 A. Relay)	.....	3	RA-81	50.
	ARO- BH-, B-, R-	.....	4	RA-82	60.
	† DO, 02, 20, 22; DDO & DEO 20, 22	.....	..	RA-84	24.
	DO-40, 42; DDO & DEO-40, 42	.....	..	RA-85	48.
	OO-60, 80, 44, 62	.....	..	RA-86	72.
	OO-64, 82	.....	..	RA-87	96.
	GO-20, 11, 02 (10 A., 300 V. Relay)*	.....	..	GG-2	36.
	GO-30, 21, 12, 03*	.....	..	GG-3	42.
	GO-40, 31, 22, 13, 04*	.....	..	GG-4	48.
	GO-60, 51, 42, 33, 24, 15, 06*	.....	..	GG-6	60.
	GO-80, 71, 62, 53, 44, 35, 26, 17, 08*	.....	..	GG-8	72.
	GDO-20, 11, 02 (300 Volt dc Relay)*	.....	..	GDG-2	40.
	GDO-30, 21, 12, 03*	.....	..	GDG-3	46.
	GDO-40, 31, 22, 13, 04*	.....	..	GDG-4	52.
	GDO-60, 51, 42, 33, 24, 15, 06*	.....	..	GDG-6	76.
	GDO-80, 71, 62, 53, 44, 35, 26, 17, 08*	.....	..	GDG-8	98.
7001 7008 8501 8508 8990	H-, HL, HX, HXL, HD	.....	3	RA-6	42.
		.....	4	RA-7	56.
	HM, HML, HXM, HXML, HMD	.....	4	RA-5	78.

* Each kit contains the springs for either 2- or 4 pole or 6 or 8 pole devices.

† For 8501 DO-22, DDO-22 or DEO-22, order two RA-84 kits.

* Kit for Type G, 300 volt, relays consist of 2 complete stationary contact block assemblies and one complete movable contact carrier assembly.

MAGNETIC CONTACTOR AND STARTER CONTACT KITS FOR CURRENT DEVICES

Equipment to Be Serviced		NEMA Size or Amp. Rating	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Class	Type				
8502 8536 8538 8539 8547 8549 8606 8630 8640 8650 8651 8702 8736 8738 8739 8810 8811 8812 8940	A-(Series B & C)	00	3	AA-81	\$ 40.
	SB-	0	3	SL-2	60.
	SB-, SC-(Power Pole Adder)	0 & 1	1	SL-12	80.
	SC-	1 & 1P	3	SL-22	28.
	SD-	1	4	SL-3	84.
	SD-(Power Pole Adder)	2	3	SL-13	112.
	SE-	2	4	SL-4	168.
	SF-	3	4	SL-14	224.
	SG-	4	1	SL-24	56.
	SH-	5	2	SL-6	200.
	SI-	6	3	SL-7	300.
	SJ-	7	3	SL-8	384.
	JA-(Series A)	8	3	SL-9	576.
	KA-(Series A)	9	3	SL-10	952.
	LA-(For 8903 devices only)	20 Amp.	4	SL-11	1413.
8901 & 8903	SM-, (For 8903 devices only)	30 Amp.	3	SL-25	1704.
	SP-, (Also 8901 Type SM)	60 Amp.	4	SL-26	2538.
	SQ-	100 Amp.	3	SL-30	2470.
	SV-	150 Amp. 200 Amp.	2	SL-31	3696.
	SW, SX-	225 Amp. 260 Amp. 300 Amp.	3	SL-81	2920.
	SY-	400 Amp.	3	KA-81	3872.
	SZ-	600 Amp.	2	RA-5	78.
	SJ-	800 Amp.	3	SL-3	84.
			4	SL-13	112.
			3	SL-4	168.
			4	SL-14	224.
			2	SL-6	200.
			3	SL-7	300.
			2	SL-15	384.
			3	SL-16	576.

MAGNETIC CONTACTOR AND STARTER CONTACT KITS FOR OBSOLETE DEVICES

Equipment to Be Serviced		NEMA Size	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Class	Type				
8502 8504 8508 8536 8537 8538 8539 8541 8547 8549 8550 8606 8630 8640 8650 8651 8702 8736 8738 8739 8747 8750 8810 8811 8812 8903 8920 8940	A-(For 8702 and 8736 devices only.)	00	3	QA-81	72.
	B-(Series A)	0	3	8A-81	72.
	B-(Pre-Series A), R-	0	4	BA-82	92.
	C-(Series A & B), M-(30 Amp.)	1	3	RA-81	50.
	C- & S-(Both Pre-Series A)	1	4	RA-82	60.
	D-, P-(60 Amp.), T-	2	3	CA-81	102.
	E-Q-(100 Amp.), U-	3	4	CA-82	135.
	F-(Series A, B)	4	3	SA-81	112.
	F-(Series C)	4	4	SA-82	144.
	G-(Vertical Action, Series B and C)	5	2	TA-81	379.
	H-(Series A)	6	3	TA-82	505.
	H-(Series B and Series C)	6	3	UA-83	334.
	J-(Series A)	7	3	UA-81	496.
			4	UA-82	662.
			5	FA-81	1406.

ORDERING INFORMATION REQUIRED —

Order parts kits by class and type number.



The following Class 9998 replacement parts kits are available for servicing General Industry Control hoist contactors, definite purpose contactors and foot switches.

**HOIST CONTACTOR
CONTACT KITS
CLASSES 7702, 8702 & 8965**

Equipment To Be Serviced		Class 9998 Parts Kit Type No.	Price
Class	Type		
7702 8702 8965	HO-3, 4, 5, 6, 7, & 8 HG-3, 4, 5, 6, 7, & 8	HA-1	\$84.
8965	HDO-3, 4, 5, 6, 7, & 8 HDG-3, 4, 5, 6, 7, & 8	HA-1	84.
8965	RO-1, 2, 3, 4, 5, & 6 RG-1, 2, 3, 4, 5, & 6	RA-88	48.
8702 8965	EQ-1635, EQ-1643, EQ-1933 JO-3, 4, 5, 6, 7 JG-3, 4, 5, 6, 7	JA-2	112.
8965	SO-1, 2, 3, 4, 5, 6	LB-13*	128.
	SO-21, 22, 23, 24, 25, 26	LB-14*	164.
	TO-1, 2, 3, 4, 5, 6	LB-33*	156.
	TO-21, 22, 23, 24, 25, 26	LB-34*	208.
	SPO-44	LA-17	67.
	SO23-S1	LB-15*	164.
	SO2-S1	LB-16*	128.
	AO-22	LC-22	34.
	AO-23	LC-23	39.
	BO-32	LC-32	42.
	BO-33	LC-33	48.
	UO-1, thru UO-6	LB-43	192.
	VO-1, thru 6	LB-53	216.
7702	EQ1390, EQ-1425	JA-1	132.
8702	EQ-1329, EQ-1376, JO-1, 2	JA-1	132.

* Includes Mechanical Interlock.

D14B DISCOUNT

FOOT SWITCH CONTACT KITS — CLASS 9002

Class	Type	Class 9998 Parts Kit Type No.	Price
9002	CG1	FS-1	\$13.
9002	CG2	FS-2	8.
9002	CG3	FS-3	40.

D14B DISCOUNT

DEFINITE PURPOSE CONTACT KITS — CLASSES 8910 AND 8911

Contacts are silver-cadmium oxide overlay on copper finger and supports. Contact springs are music wire. Each kit contains the

movable contacts and stationary contact block required, contact springs and return spring and servicing instructions.

Device to be Serviced			CONTACT PARTS KIT FOR DEVICES WITH ALL NORMALLY OPEN POLES						CONTACT PARTS KIT FOR DEVICES WITH ONE NORMALLY CLOSED POLE					
			Class 9998						Class 9998					
Class	Type	Ampere Rating	2-Pole		3-Pole		4-Pole		3-Pole 2 N.O. & 1 N.C.		4-Pole 3 N.O. & 1 N.C.			
			Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price
8910	H	20	LA-12	\$28.	LA-13	\$35.	LA-14	\$40.	LA-15	\$49.	LA-16	\$55.		
	J	25	LA-22	28.	LA-23	35.	LA-24	40.	LA-25	50.	LA-26	55.		
	K	30	LA-32	35.	LA-33	40.	LA-34	44.	LA-35	55.	LA-36	59.		
	L	40	LA-42	46.	LA-43	50.	LA-44	63.	LA-45	65.	LA-46	78.		
	M	50	LA-52	59.	LA-53	65.	LA-54	80.	LA-55	65.	LA-56	95.		
8911	K	30	...	...	LA-37	72.	LA-38	88.	...	...	...	...		
	M	50	...	...	LA-57	104.	LA-58	120.	...	...	...	...		
	N	60	LA-62	70.	LA-63	75.	...	...	...	...	...	...		
	P	75	LA-72	90.	LA-73	100.	...	...	...	...	...	...		
	Q	90	LA-92	100.	LA-93	120.	...	...	...	...	...	...		
	SYD138	132	...	...	SL-27	300.	...	...	...	...	...	...		
	SYD230	220	...	...	SL-28	576.	...	...	...	...	...	...		
	SYD368	352	...	...	SL-29	1413.	...	...	...	...	...	...		

**MELTING ALLOY OVERLOAD
RELAY JUMPER STRAP KITS**

Jumper strap kits are for use on three-phase manual or magnetic starters with melting alloy overload relays only, where a three-phase starter is used to control a single-phase motor. These kits will include two jumper straps, a wiring diagram showing how to wire a three-phase starter to control a single-phase motor, and single-phase (one thermal unit) selection tables.

D14B DISCOUNT

Class	For Starter		Kit Type No.	Price
	Size	Type		
ALL	00	A	SO-30	\$3.
	00, 0, 1, 2 and M-0 & M-1	SA, SB, SC, SD and M & T (Manual)	SO-31	4.
	3,4	SE, SF	SO-32	6.
	5	SG	None Available	

D1B DISCOUNT

**CONTACT UNITS FOR MELTING ALLOY TYPE
OVERLOAD RELAYS**

One normally closed contact is provided in each overload relay block on Type S starters Sizes 00-4 and Size 6. On the Type S Size 5, a normally closed contact is provided with each of the three overload relay blocks. Contact modules can be easily replaced and are identified in the table below. Isolated overload relay alarm circuit contacts are available as an optional feature. A pilot light or alarm bell can be wired in series with this contact to indicate that the overload relay has tripped. For further information on isolated alarm contacts refer to Class 9999 Type SO-4.

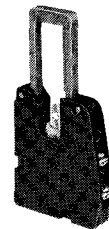
Magnetic Starter			Description	Parts Kit Number	Price
NEMA Size	Type	Series			
00-4	SA-SF	A	Standard N.C. contact unit.....	Class 9998 Type SO-1	\$12.
6-8	SH, H, J & K	A & B	Standard N.C. contact unit for L.H. overload relay.....	31006-509-50	41.
			N.C. and N.O. alarm (three point) contact unit for L.H. overload relay.....	31006-509-51	60.
4, 5	F, G	C	Standard N.C. contact unit for R.H. overload relay.....	31006-509-52	41.
			N.C. and N.O. alarm (three point) contact unit for R.H. overload relay.....	31006-509-53	60.
5	SG	A	Standard N.C. contact unit.....	31102-514-50	41.
			N.C. and N.O. alarm (three point) contact unit.....	31102-514-51	60.

Refer to Class 9065 for contact ratings.

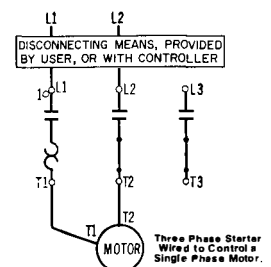
D14A DISCOUNT



Contact Kit for Class 8911



Overload Contact Unit Part No. 31102-514-50



ADAPTOR BRACKETS
ALLEN-BRADLEY REPLACED BY TYPE S

A Class 9998 Type AB-2 adaptor bracket kit is designed for panel mounting Type S contactors or starters in place of Allen-Bradley devices without increasing panel space or redrilling. The bracket can be used to mount open style Class 8502 or 8536 Types SB or SC on panels drilled for A-B's Bulletins 702 or 709, AO or BO magnetic contactors or starters. Mounting screws are provided with each kit.

VERTICAL ACTION REPLACED BY TYPE S

The Class 9998 Type AB-1 adaptor bracket kit contains all the necessary hardware to easily mount open-style Type S, Sizes 0 & 1 starters or contactors on panels drilled for open-style vertical action Types B & C, Sizes 0 & 1 starters or contactors. Keep in mind that this adaptor bracket is primarily meant to be used when replacing vertical action devices on multi-motor control panels. The old style vertical action external reset will not line up with the reset bar on a Type S starter. If external reset is required, we recommend the use of a Class 9066 Type RA-1 reset mechanism.

Contactor or Starter to be replaced by Type S Devices		Adaptor Bracket Class 9998	
NEMA Size	Class and Type	Type	Price
0, 1	8502, 8536 Types BO, CO	AB-1	\$10.
	A-B 702, 709 Types AO, BO	AB-2	4.

D1B DISCOUNT**FOR MEDIUM VOLTAGE CONTROLLERS, MAGNET CONTROLLERS AND AC AND DC CRANE CONTROL PANELS**

Copper contact tips are standard. Silver-faced contact tips are available and are recommended for applications where the contactors remain closed for long periods of time. Silver-faced contact

tips are standard on crane manual magnetic disconnect switches and are optional on dc starters. Each kit contains movable and stationary contacts, necessary hardware and servicing instructions.

COPPER CONTACT TIPS

Equipment to be Maintained			No. of Poles in Kit	Parts Kit Type	Price
Class	Type	Contactor Size			
6815 Magnet Controllers	AD-01 through AD-04 (2-19 amperes)	...	+	MA-1	\$110.
	AD-13 through AD-16 (19-130 amperes)	...	+	MA-2	106.
	SD-20 through SD-29 (2-30 amperes)	...	+	MA-3	52.
	SD-30 through SD-39 (31-80 amperes)	...	+	MA-4	52.
	SD-40 through SD-49 (81-130 amperes)	...	+	MA-5	78.
7004 DC Contactors	MX	1 & 2	2	MX-1	55.
	MX	3	2	MX-3	116.
	M	3	2	ME-1	45.
	M	4	2	MF-1	50.
8503 AC Contactors	M	5	2	MG-1	65.
	M	6 & 6A	2	MH-1	132.
	M	7 & 8	2	MJK-1	228.

+ Each kit contains complete set of parts to change contacts on both "Lift" and "Drop" contactors.

D15A DISCOUNT**SILVER CONTACT TIPS**

Equipment to be Maintained			No. of Poles in Kit	Parts Kit Type	Price
Class	Type	Contactor Size			
7004 DC Contactors	MX	1 & 2	2	MX-2	\$496.
	M	3	2	ME-2	849.
	M	4	2	MF-2	941.
8503 DC Contactors	M	5	2	MG-2	1319.
	M	6 & 6A	2	MH-2	1568.
	M	7 & 8	2	MJK-2	6464.
8110 Medium Voltage Contactors, 8198 Medium Voltage Controllers	DO Series (Old Design)	H3	3	LA-1	948.±
	E Series ISO-Flex®	H3	3	LA-2	948.±

D15B DISCOUNT

ORDERING INFORMATION REQUIRED — Class and Type Number of Kit.



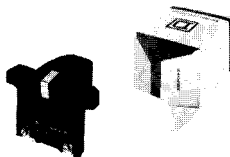


Replacement Parts Kits & Coils

CONTENTS

Description	Class	Pages
General Industry Control		
AC Magnet Coil Data	9998	3 & 4
Replacement Parts Kits	9998	7, 8 & 9
Heavy Industry Control		
(Classes 6815, 7001, 7004, 8110, 8198, 8503)		
DC Coil Data —		
Type K Relays	9998	5
Type M Contactors	9998	6
Replacement Parts Kits	9998	10
Pump Control		
(Classes 9013, 9014, 9016-9018, 9036-9038)		
Replacement Parts Kits	9998	11
Power Equipment	9998	Refer to Product Catalog Section
Systems Control	9998	

www . ElectricalPartManuals . com



AC Magnet Coil
for Type S Starter
and Contactor

AC magnet coils are individually packaged in clearly marked cartons for easy stocking and identification. All coils are stamped with the coil part number and the coil voltage and frequency. Epoxy molded coils provide a tough, permanently sealed unit impervious to moisture, oil and mechanical damage.

FOR MAGNETIC CONTACTORS AND STARTERS

CLASSES 8502, 8536, 8538, 8539, 8547, 8549, 8606, 8630, 8640, 8650, 8651, 8702, 8736, 8738, 8739, 8810, 8811, 8812, and 8508, 8903
Electrically and Mechanically Held Latch Coils. (Refer to Table 3 on Page 4 For Listing of Mechanically Held Unlatch Coils.)

DEVICES USING COIL				Coil Specifi- cation Number	Hz	SUFFIX NUMBERS (Complete Part Number of Coils Consists of Specification Number Followed by Suffix Number as 31041-400-42)													Coil Volt- Amperes		Price
Device	Size	Type	Poles			24 Volts	110-115 Volts	120 Volts	208 Volts	220 Volts	240 Volts	277 Volts	380 Volts	440 Volts	480 Volts	550 Volts	600 Volts	In-rush	Sealed		
Coils for CURRENT Design Magnetic Contactors and Starters	20 Amp.	L	2-6	31071-400	60 50	23 24	44 44	44 45	50 52	△ 53	53 54	55 56	60 60	62 62	63 63	65 65	65 66	150 140	30 30	\$ 26.	
		L	8-12	31071-408	60 50	23 24	44 44	44 45	50 52	△ 53	53 54	55 56	60 60	62 63	63 63	65 65	65 66	180 170	35 35	26.	
		LL	All	31071-411	60 50	23 24	44 44	44 45	50 51	△ 53	53 54	55 56	60 60	62 63	63 63	65 65	65 66	150 140	30 30	87.	
	00 Series B & C	A	All	31012-400	60 50	23 25	42 43	43 46	49 49	△ 55	52 55	55 58	60 61	61 64	63 65	65 67	118 115	10.5 10	5 27	26.	
	0	SB	All	31041-400	60 50	20 22	△ 42	42 43	48 48	△ 51	51 53	52 57	56 57	△ 60	60 61	△ 62	64 64	245 232	27 26	30.	
	1 & 1P 30 Amp.	SC SM	All	31041-400	60 50	20 22	△ 42	42 43	48 48	△ 51	51 53	52 57	56 57	△ 60	60 61	△ 62	64 64	245 232	27 26	30.	
	0, 1 & 1P	SB & SC	All	31041-402	60 50	Dual Voltage Coils: 115/230-01 115/230-03													245 232	27 26	43.
	2 60 Amp.	SD SP	2 & 3	31063-409	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	311 296	37 36	39.	
	2 60 Amp.	SD SP	4 & 5	31063-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	438 429	38 37	39.	
	3 100 Amp.	SE SQ	2 & 3	31074-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	700 678	46 47	78.	
	3 100 Amp.	SE SQ	4 & 5	31091-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	1185 1260	85 89	78.	
	4 200 Amp.	SF SV	All	31091-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	1185 1260	85 89	78.	
	5 300 Amp.	SG SX	All	31096-400	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	2970 2970	212 250	108.	
	6 & 7	SH, SJ	2-3		Coil Part Number 31104-400-50 (All System Voltages)																262.
	400, 600 & 800 Amp.	SY, SZ (Elect. Held)		31104-418	60 50	16 17	△ 38	38 39	44 44	△ 47	47 48	49 49	53 54	△ 57	57 58	△ 60	60 61	555 530	395 395	262.	
	8	K (Series A & B)	2-3		Coil Part Number 51030-034-01 (2-Required per Contactor)†††																762.
Coils for OBSOLETE Design Magnetic Contactors and Starters	0	B	All	1861-S1	60 50	R22B R23B	R29B R30A	R30A R31A	R32B R33A	R32B R33A	R33A R34A	R33B R34A	R35B R36A	R35B R36A	R36A R37A	R36B R37A	R37A R38A	160 120	30 26	30.	
	0	B	All	1861-S14	60 50	Dual Voltage Coils: 1 15/230-G4 1 15/230-G5													230/380-G14 220/380-G15	240/480-G6 220/440-G8	43.
	1 30 Amp.	C M	All	2936-S1	60 50	C19A C20A	C26B C27A	C27A C28A	C29B C30A	C29B C30A	C30A C31A	C30B C34A	C32B C33A	C33A C34A	C33B C34A	C34A C35A	170 125	40 27	32.		
	1	C	All	2936-S21	60 50	Dual Voltage Coils: 115/230-G4 110/220-G3													240/480-G11 220/440-G11	56.	
	2 60 Amp.	D P	2-4	1707-S1	60 50	T13B T14A	T20A T21	T21 T21A	T23A T24	T23A T24	T24 T24A	T24A T26A	T26A T26B	T26B T27A	T27A T27B	T27B T28A	465 400	80 65	39.		
	3 100 Amp.	E Q	2-4	1775-S1	60 50	U11A U12A	U17B U18A	U18A U19A	U20D △	△ U21A	U21A U22A	U21B △	U23B U24A	U24A U25A	U24B U25A	U25A U26A	800 600	150 120	78.		
	4 200 Amp.	F (Series C)	2-4	1775-S1	60 50	U11A U12A	△ U18A	U18A U19A	U20D △	△ U21A	U21A U22A	U21B △	U23B U24A	△ U24A	U24A U25A	△ U25A	1490 1200	140 110	78.		
	4 200 Amp.	F (Series C)	5	1775-S1	60 50	△ U17B	U17B U18B	U20 △	△ U20B	U20B U21B	△ U21B	△ U21B	△ U24B	U23B U24B	△ U24B	U24B U25B	1800 1450	160 125	78.		
	5 300 Amp.	G X (Series B & C)	All	2938-S1	60 50	△ F14A	F14A F14B	F16D △	△ F17A	F17A F17B	F17B △	△ F19B	△ F20A	F20A F21A	△ F21A	F21A F21B	2800 2000	290 220	108.		
	6	H (Series A)	2-3	51029-044-	60	△	△	50	51	52	52	△	53	△	54	5400	650	304.			
	6	H (Series B & C)	2-3	51029-074-	60	△	△	50	51	51	51	△	52	△	53	2900	220	262.			
	7	J (Series A & B)	2-3		Coil Part Number 51030-034-01 (2-Required per Contactor)†††																762.

†† All contactors are supplied with self-contained dc supply consisting of suitable transformer and rectifier to supply 100 volts dc for coil. An ac control relay is also supplied for pilot circuit.

* To be used on 60 hertz only.

○ VA values for these coils are 120% of the values shown.

† Coils also rated 380 volts, 50 hertz.

△ Use next higher voltage, 60 hertz coil.

ORDERING INFORMATION REQUIRED

1. Order magnet coils by part number, voltage and frequency.

2. Order magnet coils not listed on Pages 3 & 4 by supplying voltage and frequency and complete identification of starter or contactor for which coil is desired.



SQUARE D COMPANY

D14A DISCOUNT

AC Magnet Coil
for Type D Relay

AC MAGNET COILS

JANUARY, 1981

For Classes 8501, 8508, 8910, 8965 and 9050.
(Also listed are unlatch coils for Class 8903. Refer to Table 3 below.)

AC MAGNET COILS

DEVICES USING COIL			Coil Specification Number	Hz	SUFFIX NUMBER (Complete Part Number of Coils Consists of Specification Number Followed by Suffix Number as 4323-S1-W38B)												Coil Volt-Amperes		Price
Device	Type	Poles			24 Volts	110-115 Volts	120 Volts	208 Volts	220 Volts	240 Volts	277 Volts	380 Volts	440 Volts	480 Volts	550 Volts	600 Volts	In-rush	Sealed	

TABLE 1

CLASSES 8501, 8508 AND 9050

8501 & 8508 (Relays)	A	All	2183-S44	60	Q23A Q24A	Q30A Q30B	Q30B Q31A	Q33A Q33B	Q33A Q33B	Q33A Q34A	Q34A Q34A	Q36A Q36B	Q36A Q36B	Q37A Q37B	Q37A Q37B	Q37A Q37B	90 55	20 12	\$26.
	BH & BR	All	1861-S1	60	R22B R23B	R29B R30A	R30A R31A	R32B R32B	R32B R33A	R33A R34A	R33B R33B	R35B R35B	R35B R36A	R36A R37A	R36A R37A	R37A R37A	180 120	30 26	30.
	CO(1-14)	All	4323-S1	60	W28A W28B	W35A W35B	W35B W36A	W37B W37B	W38A W38B	W38B W39A	W39A W39A	W40B W41A	W41A W41B	W41B W41B	W41B W41B	W41B W41B	14 11	8.6 6.6	17.
	DDO DEO	All	2959-S49	60	W24B W25B	W31A W31B	W31B W32B	W34A W34A	W34A W34B	W34B W35B	W35A W35B	W36B W37A	W37A W37B	W37B W38B	W38A W38B	W38B W38B	62 52	12 11	34.
	DO-20to DO-42	2-4	2959-S1	60	W26A W26B	W32B W33A	W33A W33B	W35B W35B	W35B W36A	W36A W36B	W36B W36B	W38B W38B	W38B W39A	W39A W39B	W39B W40B	W40B W40B	58 52	12 11	34.
	DO-44to DO-82	6 & 8	2959-S49	60	W24A W25A	W30B W31A	W31A W32A	W33B W33B	W33B W34A	W34A W35A	W34B W35A	W36B W36B	W37A W37A	W37A W38A	W37B W38A	W38A W39A	100 75	25 22	34.
	F	2	31011-400	60	37 40	56 58	58 59	65 65	65 67	67 68	68 68	68 68	68 68	68 68	68 68	68 68	11.5 10.5	8.5 7.8	21.
	G	All	31021-400	60	39 41	59 60	60 62	67 67	67 69	69 71	70 72	70 72	70 72	70 72	70 72	70 72	100 90	13 13	21.
	H	2-8	31071-400	60	23 24	44 44	44 45	50 52	53 53	53 54	55 55	60 60	62 62	62 63	65 65	65 65	150 140	30 30	26.
	HX	8-12	31071-408	60	23 24	44 44	44 45	50 52	53 53	53 54	55 55	60 60	62 62	62 63	65 65	65 65	180 170	35 35	26.
	L	All	9998-CRL†	60	618 518	801 801	556 556	665 665	802 802	802 569	721 721	803 803	803 581	804 804	804 586	804 586	120 115	17.5 17.5	21.
	P	All	2491-S8	60	P22B P23B	P29B P30A	P30A P31A	P32B P32B	P32B P33A	P33A P34A	P33B P33B	P35B P35B	P35B P36A	P36A P37A	P36B P37A	P37A P38A	100 80	40 32	34.
	A 1E, 1D, 5DE	All	2959-S1-	60	W26A W26B	W32B W33A	W33A W33B	W35B W35B	W35B W36A	W36A W36B	W36B W36B	W38B W39A	W39A W39B	W39B W40A	W40A W40B	W40B W40B	62 52	12 11	34.
	A All Others	All	2959-S49-	60	W25A W25B	W31B W32A	W32A W32B	W34A W34B	W34B W35A	W35A W35B	W35B W36A	W37B W38A	W38A W38B	W38B W39A	W39A W39B	W39B W39B	74 68	17 17	34.
9050 (Timer)	B	All	1861-S1	60	R22B R22C	R29B R30A	R30A R30B	R32B R32B	R32B R33A	R33A R33C	R33B R33B	R35B R36A	R36A R36C	R36A R37A	R36B R37A	R37A R37C	160 120	30 22	30.
	B	All	31017-400-	60	33 34	54 55	54 55	61 61	61 63	63 64	65 65	70 72	72 73	73 75	75 75	75 75	165 155	27 27	30.

TABLE 2

CLASSES 8910 AND 8965

8910 (Contactor)	H, J, K, L, M	All	65108-400	60	19 21	39 42	40 43	48 50	48 50	49 51	51 51	57 60	58* 60	60 62	61* 63	93 93	11 11	28.
8965 (Hoist Contactor)	J	All	1861-S1	60	R22A R23B	R29A R30B	R29B R31A	R32B R32B	R32B R33A	R33A R34A	R33B R33B	R35B R35C	R36A R36A	R36B R37B	R36B R37B	200 110	43 23	30.
	R	All	31002-400	60	19 20	39 40	40 41	47 49	47 49	49 51	51 51	57 57	58 58	59 60	60 60	76 76	27 27	23.
	S & T	All	65108-400	60	19 21	39 42	40* 43	48 50	48 50	49 51	51 51	57 60	58* 60	60 62	61* 63	93 93	11 11	28.
	VSO, VTO SPO	All	65108-403	60	18 21	38 41	39 42	47 49	47 49	48 51	51 51	56 59	57 59	59 61	60 62	95 95	14 14	28.

TABLE 3

MECHANICALLY HELD UNLATCH COILS—CLASSES 8501, 8508 and 8903

NOTE: A latch coil is also used with mechanically held devices. For selection of latch coils for Mechanically Held Contactors refer to Page 3. For Latching Relays see TABLE 1.

8501 (Relay)	HL	2-8	31071-963-■	60	50 50	52 52	53 53	54 54	55 55	55 55	56 56	56 56	57 57	57 57	57 57	18 17	18 17	56.
	HXL	8-12	31071-964-■	60	50 50	52 52	53 53	54 54	55 55	55 55	56 56	56 56	57 57	57 57	57 57	18 17	18 17	56.
8508 (Relay)	A & P	All	2959-S13	60	W24B W25B	W31B W32A	W32A W33A	W34B W34B	W34B W35A	W35A W36A	W35B W35B	W37B W38A	W38A W39A	W38A W39A	W39A W40A	39 28	15 11	62.
	D & M1	All	2959-S13	60	W23B W24B	W30A W30B	W30B W31B	W33A W33B	W33A W33B	W33B W34B	W33B W34B	W36A W36A	W36B W36B	W37A W37B	W37B W37B	39 34	12 10	62.
8508 (Contactor)	C, D & E	All	1861-S1	60	R22B R23B	R29B R30A	R30A R31A	R32B R32B	R32B R33A	R33A R34A	R33B R33B	R35B R36A	R36A R37A	R36B R37A	R37A R38A	...	...	30.
8903 (Con- tactors)	LL	2-4	31071-963-■	60	50 50	52 52	53 53	54 54	55 55	55 55	56 56	56 56	57 57	57 57	57 57	18 17	...	56.
	LL	6-10	31071-964-■	60	50 50	52 52	53 53	54 54	55 55	55 55	56 56	56 56	57 57	57 57	57 57	18 17	...	56.
	SM, SP	All	2959-S13	60	W23B W21B	W30B W30B	W30B W31B	W33A W33B	W33A W33B	W34A W34B	W33B W34B	W36A W36A	W36B W36B	W37A W37B	W37B W37B	80 ...	...	62.
	SQ, SV, SX, SY, SZ, SJ	All	31096-416-	60	03 03	09 09	09 09	15 18	18 18	20 20	22 22	24 24	24 24	28 28	28 28	550 ...	...	62.
	M, P & Q	All	1861-S1	60	R22B R23B	R29B R30A	R30A R31A	R32B R32B	R32B R33A	R33A R34A	R33B R33B	R35B R36A	R36A R37A	R36B R37A	R37A R38A	...	...	30.
	V	All	1861-S1	60	R20C R20C	R27B R28C	R27B R28C	R30A R30A	R30B R32A	R30B R32B	R31B R31B	R34B R34B	R34C R34C	R35B R35B	R35C R35C	...	...	30.
	X	All	1861-S1	60	R19B R19B	R26B R27B	R26A R27B	R29A R30A	R29A R30A	R29A R30A	R30A R30A	R32B R32B	R32B R32B	R32B R32B	R34B R35A	...	...	30.

●VA values for these coils are 120% of the values shown.

■Coils also rated 350 volts, 50 hertz.

*Series B (Double Pole) and Series D (Single Pole).

†Replaces Series 31111-400- coil.

●Coils on the Types CO-15 and 16 relays are not replaceable.

*To be used on 60 hertz only.

▲Series C (Double Pole) and Series E (Single Pole).

△Use next higher voltage, 60 hertz coil.

■Coil numbers include latch assemblies. Do not remove unlatch coil. Complete latch assembly must be replaced.

FOR ORDERING INFORMATION — Refer to Page 3.



DC COIL DATA FOR CLASS 7001 TYPE K RELAYS

COILS

DC 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 DC OPERATING COILS FOR CLASS 7001 TYPE K RELAYS

FULL SHUNT COILS

Class 7001 Device	Coil Number	Volts	Coil Resistance Ohms @ 20°C †	Coil Amperes @ 20°C †
Type				
KG,	A5-1017-067-50	300	2050	.146
KE,	D5-1017-056-50	230-240	1619	.148
KF	A5-1017-067-52	190	863	.222
	A5-1017-067-53	150	547	.274
	D5-1017-056-51	115-120	407	.275
	A5-1017-067-55	100	226	.442
	A5-1017-067-56	75	140	.536
	A5-1017-067-57	60	87	.690
	A5-1017-067-58	45	57	.789
	A5-1017-067-59	36	36	1.000
	A5-1017-067-60	24	12.8	1.880
	A5-1017-067-61	12	3.5	3.43
	A5-1017-067-62	6	.88	6.82

FULL SERIES COILS

Class 7001 Device	Coil Number	Coil Amperes @ 20°C †	Coil Resistance Ohms @ 50°C †	Number of Turns
Type				
KI, KF	A5-1152-077-50	.39	177	6480
	A5-1152-077-51	.49	110	5040
	A5-1152-077-52	.62	71.2	4128
	A5-1152-077-53	.77	45.6	3335
	A5-1152-077-54	.97	28.6	2652
	A5-1152-077-55	1.2	16.6	1932
	A5-1152-077-56	1.6	10.4	1539
	A5-1152-077-57	2.0	6.67	1241
	A5-1152-077-58	2.4	4.46	1040
	A5-1152-077-59	3.1	2.76	812
	A5-1152-077-60	3.8	1.78	663
	A5-1152-077-61	4.9	1.08	506
	A5-1152-077-62	6.1	.69	410
	A5-1152-077-63	7.3	.43	324
	A5-1152-077-64	9.9	.27	256
	A5-1152-078-50	12.5	—	200
	A5-1152-078-51	16.0	—	156
	A5-1152-078-52	20.8	—	120
	A5-1152-078-53	26.6	—	93
	A5-1152-078-54	35.2	—	71
	A5-1152-078-55	45.3	—	55
	A5-1152-078-56	58.0	—	43
	A5-1152-078-57	75.6	—	33
	A5-1152-079-01	114.5	—	25.5
	A5-1152-079-02	171.5	—	16.5
	A5-1152-079-03	257.5	—	10.5
	A5-1152-079-04	200.	—	13.5

HALF SERIES COILS

Devices Using Coil	Coil Number	Coil Amperes (Cold)†	Coil Resistance Ohms (Cold)	Number of Turns
Type				
KI, KF	A5-1152-036-50	7.36	—	140
	A5-1152-036-51	11.71	—	88
	A5-1152-036-52	18.75	—	55
	A5-1152-036-53	29.45	—	35
	A5-1152-036-54	46.90	—	22
	A5-1152-036-55	73.60	—	14
	A5-1152-033-01	114.5	—	9.5
	A5-1152-033-02	171.5	—	6.5
	A5-1152-033-03	257.5	—	4.5

HALF SHUNT COILS

Devices Using Coil	Coil Number	Coil Amperes †	Coil Resistance Ohms †	Volts
Type				
KF	A5-1152-044-50	.131	1828	230-240
	A5-1152-044-51	.252	477	115-120

† At normal operating temperature the coil resistance will increase by approximately 20%.

COILS WITH EXTERNAL DIODE

Device Using Coil	Coil▲ Number	System Volts	Coil Volts	Coil Amperes @ 20°C+	Coil Ohms @ 20°C+	Reverse* Ohms @ 20°C+
Type						
KP	D5-1017-056-51	240	120	294	407	1 MEG
	D5-1017-056-59	120	60	561	107	1 MEG

▲ Does not include external diode.

* Reverse ohms can only be measured when externally mounted diode is in series with coil.

PRICING INFORMATION — Refer to "Repair Parts Price List," or consult your Local Square D Field Office.

DC COIL DATA FOR CLASS 7004 TYPE M CONTACTORS

JANUARY, 1981

DC operating coils are designed in accordance with NEMA Standards to withstand 110% of rated voltage continuously and to operate the relay successfully at 80% of rated voltage.

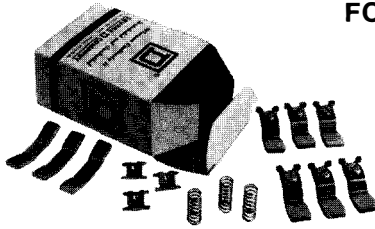
STANDARD DC OPERATING COILS FOR CLASS 7004 TYPE M CONTACTORS

Class 7004 Device			Volts	Coil Part Number	Coil Resistance Ohms @ 20°C†	Coil Amperes @ 20°C†
Size	Type	Poles				
1 & 2	MXCO-1, MXDO-1 MXCO-3, MXDO-3	SPNO SPNC	300	D5-1015-056-54	3864	.078
			230-240	D5-1015-056-50	2114	.108
			190	D5-1015-056-55	1495	.127
			150	D5-1015-056-56	948	.158
			115-120	D5-1015-056-51	543	.225
			100	D5-1015-056-57	394	.254
			75	D5-1015-056-58	241	.311
			60	D5-1015-056-59	160	.375
			45	D5-1015-056-60	99	.454
			36	D5-1015-056-61	64	.562
			24	D5-1015-056-62	26	.922
			12	D5-1015-056-63	6.3	1.9
			6	D5-1015-056-64	1.64	3.63
3 & 4	MEO-1, MFO-1 MEO-3, MFO-3	SPNO SPNC	300	D5-1017-056-54	2593	.116
			230-240	D5-1017-056-50	1649	.148
			190	D5-1017-056-55	1068	.178
			150	D5-1017-056-56	673	.223
			115-120	D5-1017-056-51	407	.294
			100	D5-1017-056-57	279	.358
			75	D5-1017-056-58	168	.447
			60	D5-1017-056-59	107	.561
			45	D5-1017-056-60	59	.763
			36	D5-1017-056-61	39	.923
			24	D5-1017-056-62	17	1.41
			12	D5-1017-056-63	4.39	2.73
			6	D5-1017-056-64	1.05	5.71
5	MGO-1 MGO-3	SPNO SPNC	300	D5-1019-243-52	1857	.160
			230-240	D5-1019-243-53	1219	.197
			190	D5-1019-243-54	761	.250
			150	D5-1019-243-55	485	.310
			115-120	D5-1019-243-56	310	.380
			100	D5-1019-243-57	208	.480
			75	D5-1019-243-58	122	.615
			60	D5-1019-243-59	77.2	.770
			45	D5-1019-243-60	42.9	1.04
			36	D5-1019-243-61	27.3	1.32
			24	D5-1019-243-62	12.0	1.99
			12	D5-1019-243-63	3.21	3.73
			6	D5-1019-243-64	.819	7.33
6 & 6A	MHAO-1, MHO-1 MHO-3	SPNO SPNC	300	D5-1020-243-52	1172	.256
			230-240	D5-1020-243-53	717	.321
			190	D5-1020-243-54	469	.405
			150	D5-1020-243-55	300	.500
			115-120	D5-1020-243-56	192	.600
			100	D5-1020-243-57	122	.820
			75	D5-1020-243-58	74	1.01
			60	D5-1020-243-59	45	1.33
			45	D5-1020-243-60	29	1.55
			36	D5-1020-243-61	18	1.89
			24	D5-1020-243-62	8	3.00
			12	D5-1020-243-63	2	6.00
			6	D5-1020-243-64	.49	12.2
7 & 8	MJO-1, MKO-1 MJO-3, MKO-3	SPNO SPNC	300	C5-1022-056-70	639	.469
			230-240	C5-1022-056-71	401	.599
			190	C5-1022-056-72	259	.734
			150	C5-1022-056-73	159	.943
			115-120	C5-1022-056-74	94	1.28
			100	C5-1022-056-75	61	1.64
			75	C5-1022-056-76	37.9	1.98
			60	C5-1022-056-77	24.0	2.50
			45	C5-1022-056-78	15.2	2.96
			36	C5-1022-056-79	9.9	3.64
			24	C5-1022-056-80	6.0	4.00
			12	C5-1022-056-81	1.4	8.57

† At normal operating temperatures the coil resistance will increase by approximately 20%.

PRICING INFORMATION — Refer to "Repair Parts Price List," or consult your Local Square D Field Office.

REPLACEMENT PARTS KITS FOR AC RELAYS, CONTACTORS AND STARTERS

CLASS
9998

Class 9998 Type SL-3 Contact Kit

The following Class 9998 replacement parts kits are available for servicing the more commonly used General Industry Control relays, contactors and starters. Each kit contains the necessary movable and stationary contacts, contact springs, and additional hardware required to service the devices listed below. When servicing devices having more poles than contained in the corresponding kit, it may be necessary to order an additional kit.

MANUAL STARTER CONTACT KITS

Equipment to Be Serviced		NEMA Size	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Class	Type				
2205, 2605 Manual Compensator	14 Contact Compensator (1 Kit required)				
	28 Contact Compensator (2 Kits required)			PD-1	\$3150.
2510 Manual Starters Push Button	B-(Kit includes Contact Block)	M-0	2	BA-22	72.
	B-		3	BA-21	72.
	B-(Kit includes Contact Block)		3	BA-23	88.
	C-	M-1	3	CA-21	88.
	M-	M-0 M-1 & 1P	3	ML-1	40.
			3	ML-2	48.
	W5, W6, W16, W17, W23, W26, W27, W30, W32, W42, W43, W44, W45, W47, W50, W56, W58, W60 and W62	0	3	RA-21	50.
	W10, W11, W20, W21, W25, W29, W31, W33, W36, W37, W38, W39, W49, W51, W57, W59, W61 and W63	1	3	SA-21	60.
	R-	M-0	3	RA-22	50.
	S-	M-1 & 1P	3	SA-22	60.
2510 Manual Starters Toggle Type	T-	M-0 M-1 & 1P	3	ML-1 ML-2	40. 48.

*D14A Discount.

RELAY CONTACT KITS

Equipment to Be Serviced		NEMA Size	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Class	Type				
Magnetic Relays	A-(Series A & B), Q-(Pre-Series A)		3	QA-81	72.
	A-(Series C), Q-(Series A)		3	QA-82	72.
	ARO-, BH-, B-, R- (15 A. Relay)		3	RA-81	50.
	ARO-, BH-, B-, R-		4	RA-82	60.
	† DO-, 02, 20, 22; DDO & DEO 20, 22			RA-84	24.
	DO-40, 42; DDO & DEO-40, 42			RA-85	48.
	DO-60, 80, 44, 62			RA-86	72.
	DO-64, 82			RA-87	96.
	GO-20, 11, 02 (10 A., 300 V. Relay)*			GG-2	36.
	GO-30, 21, 12, 03*			GG-3	42.
	GO-40, 31, 22, 13, 04*			GG-4	48.
	GO-60, 51, 42, 33, 24, 15, 06*			GG-6	60.
	GO-80, 71, 62, 53, 44, 35, 26, 17, 08*			GG-8	72.
	GDO-20, 11, 02 (300 volt dc Relay)*			GDG-2	40.
	GDO-30, 21, 12, 03*			GDG-3	46.
	GDO-40, 31, 22, 13, 04*			GDG-4	52.
	GDO-60, 51, 42, 33, 24, 15, 06*			GDG-6	76.
	GDO-80, 71, 62, 53, 44, 35, 26, 17, 08*			GDG-8	98.
	H-, HL, HX, HXL, HD		3	RA-6	42.
			4	RA-7	56.
	HM, HML, HXM, HXML, HMD		4	RA-5	78.

♦ Each kit contains the springs for either 2 or 4 pole or 6 or 8 pole devices.

† For 8501 DO-22, DDO-22 or DEO-22, order two RA-84 kits.

* Kit for Type G, 300 volt, relays consist of 2 complete stationary contact block assemblies and one complete movable contact carrier assembly.

ORDERING INFORMATION REQUIRED —
Order parts kits by class and type number.

MAGNETIC CONTACTOR AND STARTER CONTACT KITS FOR CURRENT DEVICES

Equipment to Be Serviced		NEMA Size or Amp. Rating	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Class	Type				
8502 8536 8538 8539 8547 8549 8606 8630 8640 8650 8651 8702 8736 8738 8739 8810 8811 8812 8940	A-(Series B & C)	00	3	AA-81	\$ 40.
	SB-	0	3	SL-2 SL-12	60. 80.
	SB-, SC-(Power Pole Adder)	0 & 1	1	SL-22	28.
	SC-	1 & 1P	3	SL-3 SL-13	84. 112.
	SD-	2	3	SL-4 SL-14	168. 224.
	SD-(Power Pole Adder)	2	1	SL-24	56.
	SE-	3	2	SL-6 SL-7	200. 300.
	SF-	4	2	SL-8 SL-9	384. 576.
	SG-	5	2	SL-10 SL-11	952. 1413.
	SH-	6	2	SL-25 SL-26	1704. 2538.
	SI-	7	2	SL-30 SL-31	2470. 3696.
	J-(Series A)	7	3	JA-81	2920.
	K-(Series A)	8	3	KA-81	3872.
	L-(For 8903 devices only)	20 Amp.	4	RA-5	78.
	SM-, (For 8903 devices only)	30 Amp.	3	SL-3 SL-13	84. 112.
8901 & 8903	SP-, (Also 8901 Type SM)	60 Amp.	3	SL-4 SL-14	168. 224.
	SQ-	100 Amp.	2	SL-6 SL-7	200. 300.
	SV-	150 Amp. 200 Amp.	2 3	SL-15 SL-16	384. 576.
	SW, SX-	225 Amp. 260 Amp. 300 Amp.	2 3	SL-10 SL-11	952. 1413.
	SY-	400 Amp.	2 3	SL-25 SL-26	1704. 2538.
	SZ-	600 Amp.	2 3	SL-32 SL-33	1704. 2538.
	SJ-	800 Amp.	2 3	SL-30 SL-31	2470. 3696.

MAGNETIC CONTACTOR AND STARTER CONTACT KITS FOR OBSOLETE DEVICES

Equipment to Be Serviced		NEMA Size	No. of Poles in Kit	Class 9998 Parts Kit Type No.	Price
Class	Type				
8502 8504 8508 8536 8537 8538 8539 8541 8547 8549 8550 8606 8630 8640 8650 8651 8702 8736 8738 8739 8747 8750 8810 8811 8812 8903 8920 8940	A-(For 8702 and 8736 devices only.)	00	3	QA-81	72.
	B-(Series A)	0	3	BA-81 BA-82	72. 92.
	B-(Pre-Series A), R-	0	3	RA-81 RA-82	50. 60.
	C-(Series A & B), M-(30 Amp.)	1	3	CA-81 CA-82	102. 135.
	C- & S-(Both Pre-Series A)	1	3	SA-81 SA-82	112. 144.
	D-, P-(60 Amp.), T-	2	3	TA-81 TA-82	379. 505.
	E-Q(100 Amp.), U-	3	2	UA-83 UA-81 UA-82	334. 496. 662.
	F-(Series A, B)	4	3	FA-81	1406.
	F-(Series C)	4	2	FA-85	831.
			3	FA-82	1237.
			4	FA-83	1654.
			5	FA-84	2054.
	G-(Vertical Action, Series B and C)	5	1	GA-84	788.
			2	GA-83	1675.
			3	GA-81	2109.
			4	GA-82	2826.
	H-(Series A)	6	3	HA-81	2160.
	H-(Series B and Series C)	6	3	HA-82	2160.
	J-(Series A)	7	3	JA-81	2920.

REPLACEMENT PARTS KITS

FOR HOIST CONTACTORS, DEFINITE PURPOSE CONTACTORS AND FOOT SWITCHES

JANUARY, 1981

The following Class 9998 replacement parts kits are available for servicing General Industry Control hoist contactors, definite purpose contactors and foot switches.

HOIST CONTACTOR CONTACT KITS CLASSES 7702, 8702 & 8965

Equipment To Be Serviced		Class 9998 Parts Kit Type No.	Price
Class	Type		
7702 8702 8965	HO-3, 4, 5, 6, 7, & 8 HG-3, 4, 5, 6, 7, & 8	HA-1	\$84.
8965	HDO-3, 4, 5, 6, 7, & 8 HDG-3, 4, 5, 6, 7, & 8	HA-1	84.
8965	RO-1, 2, 3, 4, 5, & 6 RG-1, 2, 3, 4, 5, & 6	RA-88	48.
8702 8965	EQ-1635, EQ-1643, EQ-1933 JO-3, 4, 5, 6, 7 JG-3, 4, 5, 6, 7	JA-2	112.
8965	SO-1, 2, 3, 4, 5, 6 SO-21, 22, 23, 24, 25, 26 TO-1, 2, 3, 4, 5, 6 TO-21, 22, 23, 24, 25, 26 SPO-44 SO23-S1 SO2-S1 AO-22 AO-23 BO-32 BO-33 UO-1, thru UO-6	LB-13* LB-14* LB-33* LB-34* LA-17 LB-15* LB-16* LC-22 LC-23 LC-32 LC-33 LB-43	128. 164. 156. 208. 67. 164. 128. 34. 39. 42. 48. 192.
7702	EQ1390, EQ-1425	JA-1	132.
8702	EQ-1329, EQ-1376, JO-1, 2	JA-1	132.

* Includes Mechanical Interlock.

FOOT SWITCH CONTACT KITS CLASS 9002

Class	Type	Class 9998 Parts Kit Type No.	Price
9002	CG1	FS-1	\$13.
9002	CG2	FS-2	8.
9002	CG3	FS-3	40.



Contact Kit for Class 8911

DEFINITE PURPOSE CONTACTORS CLASSES 8910 AND 8911

Contacts are silver-cadmium oxide overlay on copper finger and supports. Contact springs are music wire. Each kit contains the

movable contacts and stationary contact block required, contact springs and return spring and servicing instructions.

Device to be Serviced			CONTACT PARTS KIT FOR CONTACTORS WITH ALL NORMALLY OPEN POLES									CONTACT PARTS KIT FOR CONTACTORS WITH ONE NORMALLY CLOSED POLE								
			Contact Replacement Kit									Contact Replacement Kit								
			2-Pole			3-Pole			4-Pole			3-Pole 2 N.O. & 1 N.C.			4-Pole 3 N.O. & 1 N.C.					
Class	Type	Ampere Rating	Class	Type	Price	Class	Type	Price	Class	Type	Price	Class	Type	Price	Class	Type	Price	Class	Type	Price
8910	H	20		LA-12	\$28.		LA-13	\$35.		LA-14	\$40.		LA-15	\$49.		LA-16	\$55.			
	J	25		LA-22	28.		LA-23	35.		LA-24	40.		LA-25	50.		LA-26	55.			
	K	30		LA-32	35.		LA-33	40.		LA-34	44.		LA-35	55.		LA-36	59.			
	L	40	9998	LA-42	46.	9998	LA-43	50.	9998	LA-44	63.	9998	LA-45	65.	9998	LA-46	78.			
	M	50		LA-52	59.		LA-53	65.		LA-54	80.		LA-55	65.		LA-56	95.			
8911	K	30		....	...		LA-37	72.		LA-38	88.		....	...		....	...			
	M	50		....	...		LA-57	104.		LA-58	120.		....	...		....	...			

ORDERING INFORMATION REQUIRED — Class and type number of kit.



REPLACEMENT PARTS KITS FOR AC CONTACTORS AND STARTERS

**CLASS
9998**

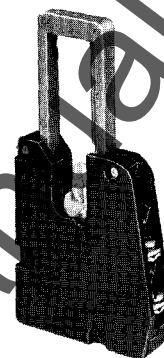
CONTACT UNITS FOR MELTING ALLOY TYPE OVERLOAD RELAYS

One normally closed contact is provided in each overload relay block on Type S starters Sizes 0-4 and Size 6. On the Type S Size 5, a normally closed contact is provided with each of the three overload relay blocks. Contact modules can be easily replaced and are identified in the table below. Isolated overload relay alarm

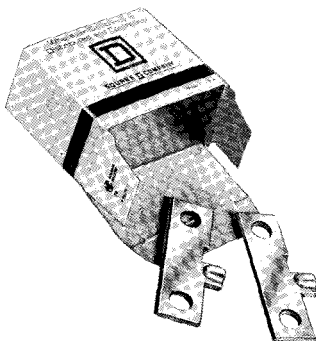
circuit contacts are available as an optional feature. A pilot light or alarm bell can be wired in series with this contact to indicate that the overload relay has tripped. For further information on isolated alarm contacts refer to Class 9999 Type SO-4.

Magnetic Starter			Description▲	Parts Kit Number	Price
NEMA Size	Type	Series			
0-4 6-8	SB-SF SH, H, J & K	A A & B	Standard N.C. contact unit.....	Class 9998 Type SO-1	\$12.
4, 5	F, G	C	Standard N.C. contact unit for L.H. overload relay.....	31006-509-50	41.
			N.C. and N.O. alarm (three point) contact unit for L.H. overload relay.....	31006-509-51	60.
			Standard N.C. contact unit for R.H. overload relay.....	31006-509-52	41.
			N.C. and N.O. alarm (three point) contact unit for R.H. overload relay.....	31006-509-53	60.
			Standard N.C. contact unit.....	31102-514-50	41.
5	SG	A	N.C. and N.O. alarm (three point) contact unit.....	31102-514-51	60.

▲ Refer to Class 9065 for contact ratings.

D14A DISCOUNT


Part No.
31102-514-50

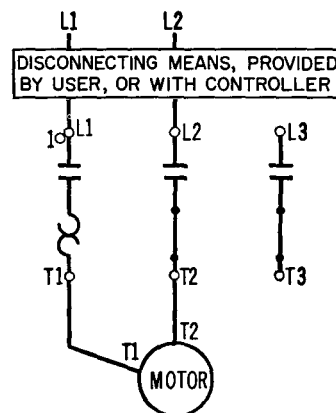


Type SO-31
Jumper Strap

MELTING ALLOY OVERLOAD RELAY JUMPER STRAP KITS

Jumper strap kits are for use on three-phase manual or magnetic starters with melting alloy overload relays only, where a three-phase starter is used to control a single-phase motor. These kits will include two jumper straps, a wiring diagram showing how to wire a three-phase starter to control a single-phase motor, and single-phase (one thermal unit) selection tables.

Class	For Starter		Kit Type No.	Price
	Size	Type		
ALL	00	A	SO-30	\$3.
	0, 1, 2	SB, SC, SD M & T (Manual)	SO-31	4.
	3, 4	SE, SF	SO-32	6.
	5	SG	None Available	

D1B DISCOUNT


Three Phase Starter
Wired to Control a
Single Phase Motor.

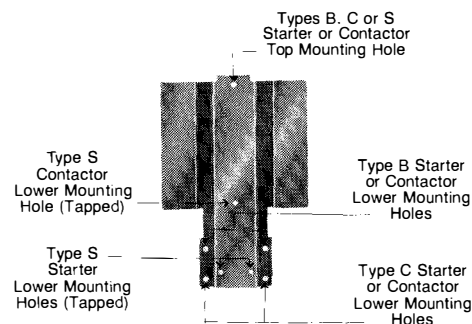
ADAPTOR BRACKET FOR MOUNTING TYPE S IN OLD STYLE VERTICAL ACTION INSTALLATION

The Class 9998 Type AB-1 adaptor bracket kit contains all the necessary hardware to easily mount open-style Type S, Sizes 0 & 1 starters or contactors on panels drilled for open-style vertical action Types B & C, Sizes 0 & 1 starters or contactors. Keep in mind that this adaptor bracket is primarily meant to be used when replacing vertical action devices on multi-motor control panels. The old style vertical action external reset will not line up with the reset bar on a Type S starter. If external reset is required, we recommend the use of a Class 9066 Type RA-1 reset mechanism.

For use with magnetic contactor or starter		Class 9998 Type No.	Price
NEMA Size	Type		
0-1	SB & SC	AB-1	\$10.

D1B DISCOUNT

ORDERING INFORMATION REQUIRED — Class and type number of kit.

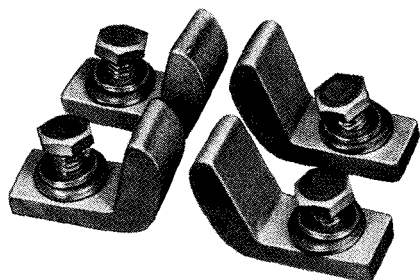


Class 9998 Type AB-1 Bracket

REPLACEMENT PARTS KITS

FOR HIGH VOLTAGE STARTERS, MAGNET CONTROLLERS, AND AC AND DC CRANE CONTROL PANELS

JANUARY, 1981

Replacement
Contact Parts Kit**GENERAL INFORMATION**

Copper contact tips are standard. Silver-faced contact tips are available and are recommended for applications where the contactors remain closed for long periods of time. Silver-faced contact tips are standard on crane manual magnetic disconnect switches and are optional on dc starters. Each kit contains movable and stationary contacts, necessary hardware and servicing instructions.

COPPER CONTACT TIPS

Equipment to be Maintained			No. of Poles in Kit	Parts Kit Type	Price
Class	Type	Contactor Size			
6815 Magnet Controllers	AD-01 through AD-04 (2-19 amperes) .....	....	†	MA-1	\$110.
	AD-13 through AD-16 (19-130 amperes) .....	....	†	MA-2	106.
	SD-20 through SD-29 (2-30 amperes) .....	....	†	MA-3	52.
	SD-30 through SD-39 (31-80 amperes) .....	....	†	MA-4	52.
	SD-40 through SD-49 (81-130 amperes) .....	....	†	MA-5	78.
7004 DC Contactors 8503 AC Contactors	MX	1 & 2	2	MX-1	55.
	M	3	2	ME-1	45.
	M	4	2	MF-1	50.
	M	5	2	MG-1	65.
	M	6 & 6A	2	MH-1	132.
	M	7 & 8	2	MJK-1	228.
	M	7 & 8	2	MJK-1	228.

† Each kit contains complete set of parts to change contacts on both "Lift" and "Drop" contactors.

D15A DISCOUNT**SILVER CONTACT TIPS**

Equipment to be Maintained			No. of Poles in Kit	Parts Kit Type	Price
Class	Type	Contactor Size			
7004 DC Contactors 8503 DC Contactors	MX	1 & 2	2	MX-2	\$496.
	M	3	2	ME-2	849.
	M	4	2	MF-2	941.
	M	5	2	MG-2	1319.
	M	6 & 6A	2	MH-2	1568.
	M	7 & 8	2	MJK-2	6464.
8110 High Voltage Contactors 8198 High Voltage Starters	DO-7 through DO-10 (400 amperes)	H3	3	LA-1	948.
	(Silver Faced)	H3		LA-2	

D15B DISCOUNT**ORDERING INFORMATION REQUIRED:**

1. Class
2. Type



REPLACEMENT PARTS KITS FOR PRESSURE, FLOAT & VACUUM SWITCHES

**CLASS
9998**

Replacement parts are generally available for Pump Control Products with date code letter "H" (1938) to "S" (1948) or with numerical date code: Example 172 (first quarter, 1972) or with current date code. Parts no longer available for devices manufactured prior to 1938.

PACKAGED REPLACEMENT CONTACT KITS FOR COMMERCIAL AND DOMESTIC PRESSURE, FLOAT AND VACUUM SWITCHES

Equipment To Be Serviced	Class 9998 Type	Price
Obsolete "A" Types Classes 9013, 9016, 9017, 9036 2 Pole Devices Only ▲ ●	PC-1	\$37.00
Obsolete "G" Types (Pre-Series C) Class 9013, 9036, 9037 ●	PC-2	21.50
Obsolete 9016 GVG-1 (Pre-Series C) ●	PC-5	40.00
Class 9013 Type FYG ●	PC-7	10.50
Class 9013 Type HHG, HSG ●	PC-9	9.00
Class 9013 Type FSG ● †	PC-10	7.00
Obsolete Class 9036 Type FG-1 ● †	PC-10	7.00
Obsolete Class 9037 Types FG, HG-1, HG-2, CG, HSG-1, 2, HFG ● †	PC-10	7.00
Class 9036 Type DG, DR, DW	PC-15	14.50
Obsolete Class 9037 Types HEG, HSG-3, 4	PC-15	14.50
Class 9037 Types DG, EG, ER, EW; HG, HR, HW Types 3 thru 12	PC-15	14.50

Equipment To Be Serviced	Class 9998 Type	Price
Class 9038 all types (2 Kits Required)	PC-15	\$14.50
Class 9013 Types HHG-Y, HSG-Y, HSW-Y ●	PC-17	12.50
Class 9013 Type G Series C Above with Form H Above with Form R	PC-205 PC-206 PC-207	22.00
Class 9016 Type GVG, Series C	PC-207	22.00
Class 9036 GG Series C Above with Form H	PC-205 PC-206	22.00
Class 9036 GR, GW, Series C Above with Form H Above with Form R	PC-205 PC-206 PC-207	22.00
Class 9037 GG Series C Above with Form H	PC-205 PC-206	22.00
Class 9037 GR, GW, Series C Above with Form H	PC-207 PC-206	22.00

▲ Contacts are 2 pole; diaphragm fits Type AS only. For 3 pole contacts and other diaphragms, see table below.

● These kits also contain replacement diaphragm for pressure switch.

† For devices manufactured after June 30, 1965 (date code 365 and later) only. For switches mfd. prior to July 1, 1965 (date code 265 and prior) replace the complete device.

D7D DISCOUNT

ADDITIONAL CONTACT AND DIAPHRAGM PARTS			
Description	Services These Devices	Part No.	Price
3-Pole Replacement Contact Kit	OBS. 9013, 9016, 9017 Type "A"	1256-M22-G1	\$21.00*
Replacement Bellows	9016 BS	1423-D71-G2	40.00Δ
Replacement Diaphragm	9013 GH, GS Series C	9998 PC-208	2.50
Replacement Diaphragm	9013 GM Series C	9998 PC-209	3.50
Replacement Diaphragm	OBS. 9013, 9017 GH, GS Series B	65133-563-50	6.10
Replacement Diaphragm	OBS. 9013 GM Pre-Series C	1056-D56-X1	5.00
Replacement Diaphragm	OBS. 9013, 9017 GH, GS Pre-Series B	2554-D30-X1	1.50
Replacement Diaphragm	9016 AM, BM	4204-L2-G1	8.25
Replacement Diaphragm	9016 GVG Series C	9998 PC-210	8.00
Replacement Diaphragm	OBS. 9016 GVG Pre-Series C	2821-D2-G1	7.75
Replacement Diaphragm	OBS. 9013, 9017 AH	(Qty 2) 1113-X4	5.50
Replacement Diaphragm	OBS. 9013, 9018 AM	1056-D56-X1	5.00
Replacement Diaphragm	OBS. 9013, 9018 AL	1112-X6	4.50
Replacement Diaphragm	OBS. 9013, 9017, 9018 AS	1522-D45-X1	1.50
Replacement Diaphragm	OBS. 9016 ASG, ASR, ASW	1109-X39	8.50
Replacement Diaphragm	OBS. 9014	1522-D45-X1	1.50
Replacement Diaphragm	OBS. 9018 B	1112-X6	4.50

* D7D Discount
Δ D14Δ Discount

D7C DISCOUNT

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