NEMA Contactors and Starters

Separate Enclosures, Coil Modification Kits, Replacement Parts, and Accessories

Catalog
9999CT9701R08/17

2017

Class 9991, 9998, 9999

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Type SCA11
NEMA 12 Enclosure

Type SCW11
NEMA 4 Enclosure

Type SCH2
NEMA 3R Enclosure

Type SCW21
NEMA 4X Enclosure

Separate enclosures can be used with open style devices for field assembly of enclosed controls. These enclosures, plus the open style components, are equivalent to a factory-assembled device. Separate enclosures are to be used only with the equipment listed below:

- **NEMA 4 and 12, Class 9991 Separate Enclosures for Type S devices**
  Standard devices come with closing plates. See the selection chart below for the specific number of closing plates on various enclosures. For applications requiring enclosures without closing plates, consult your local Schneider Electric representative.
- **NEMA 3R Enclosures** for field assembly of equipment for outdoor applications
  Standard devices come with three closing plates, a reset mechanism, and a predrilled panel. For conduit connection to the top of these enclosures, select watertight hubs from *Digest* Section 16 in accordance with applicable code requirements. Square D™ brand NEMA 12 enclosures can also be modified for outdoor use. For details, refer to the NEMA 12 enclosure modification information on page 4.

  NOTE: Not for use in high-corrosive outdoor locations or sea coast environments.
- **NEMA 4X Enclosures for Type S devices, Sizes 0–2 and 30–60 A**
  Standard devices come without closing plates. Cover-mounted control units for NEMA 4X separate enclosures are available as a factory modification only.

Cover-mounted control units, Class 9001 Type K or Type SK, can easily be installed into the openings when the closing plates are removed from NEMA 4, 12, and 3R enclosure covers. Refer to Table 37 on page 13.

Table 1: Equipment Used with Separate Enclosures

For Use With		Enclosure Classification						
		NEMA Size or Ampere Rating	NEMA 4X Glass-Polyester	NEMA 4 [1] Stainless Steel		NEMA 12/3R		NEMA 3R
Class	Types (All Pole Arrangements)		Type	Type	Number of Closing Plates	Type [2]	Number of Closing Plates	Type
Manual Starters								
2510	MBO, MCO	M0, M1, M1P	MW1 [3]	MW11	—	MA1	—	—
Magnetic Contactors								
8502 [4]	SAO, SBO, SCO	00, 0, 1	SCW20	SCW11	2	SCA11	2	SCH2
	SDO	2	SDW20	SDW11	2	SDA11	2	SDH1
	SEO	3	—	SEW11	3	SEA11	3	SEH1
	SFO	4	—	SFW11	3	SFA11	3	SFH1
Magnetic Starters								
8536	SAO, SBO, SCO	00, 0, 1	SCW21	SCW11	2	SCA11	2	SCH2
	SDO	2	SDW21	SDW11	2	SDA11	2	SDH1
	SEO	3	—	SEW11 [5]	3	SEA11 [5]	3	SEH1
	SFO	4	—	SFW11 [5]	3	SFA11	3	SFH1
Lighting Contactors, Non-Combination, Electrically and Mechanically Held								
8903 [4]	LO, LXO	20 A	SDW20	SDW11	2	SDA11	2	SDH1
	SMO	30 A	SCW20 [6]	SCW11	2	SCA11	2	SCH2
	SPO	60 A	SCW20 [6]	SDW11	2	SDA11	2	SDH1
	SQO	100 A	—	SEW11	3	SEA11	3	SEH1
	SVO	200 A	—	—	—	—	—	SFH1
Reversing and Two-Speed, Horizontally Arranged Contactors and Starters								
8702 [4] 8736	SBO, SCO SDO	0, 1 2	—	SCW12 SDW12	3	SCA12 SDA12	3	— —
8810	SBO & SCO	0, 1	—	SCW13	3	SCA13	3	—

[1] The standard cabinet has a brushed finish.
[2] NEMA 12 enclosures for Type S devices can be field modified for outdoor non-corrosive and non–service entrance rated applications. See page 4 for more information.
[3] Type MBO, Size M0 only.
[4] For contactors, replace the reset assembly with a proper closing plate: for NEMA 4, use 9001K52; for NEMA 3R and 12, use 9001K51. Class 9991 Types SCW20 and SDW20 are designed for contactors only; reset closing plates are not required.
[5] The enclosure is suitable for starters with melting alloy overload relays or solid-state overload relays only.
[6] For electrically held devices only.

Table 2: How to Order

To Order, Specify	Catalog Number	
• Class Number • Type Number	**Class**	**Type**
	9991	SCA11

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Flush-Mounting General Purpose separate enclosures include the following provisions for cover-mounted control units:

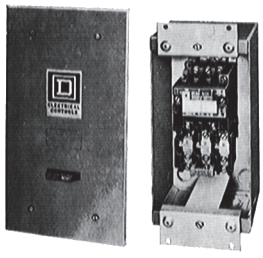
- Type S Sizes 0–2, or 30–60 A: knock-outs in the cover for field assembly of one Class 9999 push button or selector switch kit and one Class 9999 pilot light kit. See page 13.
- Type S Size 3, or 100 A: three closing plates for installation of Class 9001 Type K oiltight control units. For enclosure dimensions, see page 8.

The **NEMA 1 General Purpose** separate enclosures listed in Table 5—when used with open style components—are equivalent to a standard factory assembled control device.

Table 3: Flush Mounting Selection

For Use With		NEMA Size or Ampere Rating	Flush Mounting General Purpose (Components)			
			Flush Plates		Mounting Strap	Pullbox
Class	Types (All Pole Arrangements)		Standard	Stainless Steel [1]		
			Type	Type	Type	Type
Manual Contactors						
2510	MBO & MCO	M0 M1 M1P	MF1	(includes pullbox and plaster adjustment)		
			MF2	(includes mounting strap but not pullbox)		
Magnetic Contactors						
8502 [2]	SBO & SCO	0, 1	SCF11	SCF12	SCF2	SCF1
	SDO	2	SDF11	SDF12	SDF2	SDF1
	SEO	3	SEF11	(enclosure complete)		
Magnetic Starters						
8536	SBO & SCO	0, 1	SCF11	SCF12	SCF2	SCF1
	SDO	2	SDF11	SDF12	SDF2	SDF1
Lighting Contactors, Non-Combination, Electrically and Mechanically Held						
8903 [2]	LO, LXO	20 A	SDF13	—	SDF2	SDF1
	SMO 1–4	30 A	SCF11	—	SCF2	SCF1
	SMO 10–13	30 A	SCF13	—	SCF2	SCF1
	SPO 1–4	60 A	SDF11	—	SDF2	SDF1
	SPO 10–13	60 A	SDF13	—	SDF2	SDF1
	SQO 1–13	100 A	SEF11	(enclosure complete)		

Type SCG8, NEMA 1 Enclosure



Flush Mounting Starter Pullbox and Mounting Strap with Plaster Adjustment Feature

Table 4: How to Order

To Order, Specify:	Catalog Number	
• Class Number • Type Number	Class	Type
	9991	DPG1

[1] The standard cabinet has a brushed finish.

[2] For contactors, replace the reset assembly with a proper closing plate. For flush mounting, use Class 9999 Type SG2—except for Class 9991 Type SDF11, which requires a Class 9001 Type K51 or K11 closing plate. Class 9991 Type SEF11 is designed for contactors only; reset closing plates are not required.

Table 5: NEMA 1 Selection

For Use With			NEMA 1 Class 9991
Class	Type	Number of Poles	Type
2510	F and K	All	EN1
	M-Sizes M0 and M1	All	MG1
	M-Size M1P	All	MG2
8501	CO	All	UE1
	XO	2–12, 2–4 with attachments	UE7
	XDO	2–8 without attachments	
8502	SAO, SBO, SCO	2–4	SCG7
	SDO	2–4	SDG7
	SEO	2–4	SEG7
	SFO	2–4	SFG8
8536	SAO, SBO, SCO	2–4	SCG8
	SDO	2–4	SDG8
	SEO	2–4	SEG8 [1]
	SFO	2–4	SFG8 [1]
	SGO	3	SGG8 [1], [2]
8702, 8736	SAO,SBO, SCO	All	SCG9 [3]
	SDO	All	SDG9 [3]
8903	LO, LXO	All	LXG1 [4]
	SMO	All	SCG7 [5]
	SPO	All	SDG7 [5]
	SQO	All	SFG8
	SVO	All	SFG4
8910	DP	1–2	DPG1
	DPA12, 13, 22, 23, 32, 33, 42, 43	2–3	DPG1
	DPA14, 24, 34, 44, 52, 53	2–4	DPG2
	DPA62, 63	2–3	DPG3
	DPA72, 73, 92, 93	2–3	DPG4
8911	DPSO13, 23, 33, 43	3	DPSG1
	DPSO53	3	DPSG2
9050	AO (Single Head)	All	UE6
	HO	All	UE6
9070	EO51, EO61, EO71, K750, K1000	—	SDG4
	EO2, EO3, EO4, EO15, EO16, EO18, EO19, T75, T100, T150, T200, T250, T300, T350, T500	—	LG1
	EO1, EO17, T50	—	UE7

[1] The enclosure is suitable **only** for starters with melting alloy or solid-state overload relays (SSOLRs). For SSOLR on Sizes 3-4, the reset extender kit (9999ER4) must be used.

[2] Series B starter enclosure.

[3] For horizontally arranged Class 8702 contactors, replace the reset assembly with a Class 9001 Type K51 closing plate.

[4] If cover-mounted control units are required, select an oversize enclosure as listed in Table 9 on page 5.

[5] For electrically held contactors only.

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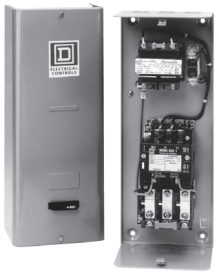
Addition of Control Circuit Transformer—Oversize NEMA 1, 4, and 12/3R Enclosures

Type SCW4
NEMA 4 Enclosure

NEMA Contactors and Starters: Class 8502 or 8536, Type S, NEMA Size 0, 1, 1P, or 2
The Class 9991 oversize enclosures listed in Table 6 accept an open-style contactor or starter, along with a fused control-circuit transformer (Form F4T), for field assembly of enclosed controllers. Knock-outs in the cover of the Class 9991 Type SCG1 enclosure provide for field addition of Class 9999 rectangular cover-mounted control units. All other Class 8502 and 8536 enclosures include a panel with space and drilling for an open-style device and a fused control-circuit transformer. In addition, each cover includes three closing plates for easy installation of Class 9001 Type K or SK control units.

Lighting Contactors: Class 8903 Type L and LX (20 A) and Type S (30 and 60 A)
Oversize enclosures for open-style electrically and mechanically held lighting contactors include a drilled panel with space for the following: an open-style contactor, a fused control-circuit transformer (Form F4T), and an auxiliary relay for use with single-pole pilot devices (Form R6). When an auxiliary relay is required, use a Class 8501 Type XO11 relay. Three closing plates come standard for easy installation of Class 9001 Type K or SK control units.

NOTE: If a Form F4T control transformer (with or without cover control units) is required on a Class 8903 Type SMO, 30 A, electrically held lighting contactor, then a Class 9991 Type SCG1, NEMA 1 separate enclosure can also be used.



Type SCG1
with Starter, Transformer, and Fuse Block Installed

Table 6: Oversize Enclosure and Transformer Selection

For Use With				Class 9991 Enclosure			Recommended Class 9070 Transformer Selection					Fuse Block [1]
							Standard		Extra Capacity			
Class	Type	NEMA Size or Rating (A)	No. of Poles	NEMA 1	NEMA 4 [2]	NEMA 12/3R [3]			100 VA	150 VA	300 VA	
				Type	Type	Type	Type	VA	Type	Type	Type	
Magnetic Contactors and Starters												
8502, 8536 [4]	SAO,SBO & SCO	00, 0, & 1	1–3	SCG1 [1]	SCW4	SCA4	T50	50 VA	T100 [5]	T150 [5]	—	Class 9999 Type SFR4
			4–5				T100 [5]	100 VA	—	T150 [5]	—	
	SDO	2	2–5	SDG4	SDW4	SDA4	T100	100 VA	—	T150	T300	
Lighting Contactors, Non-Combination												
8903	LO, LXO	20 A	All	SDG3	SDW3	SDA3	T50	50 VA	—	—	—	
							T50	50 VA	T100 [5]	T150 [5]	—	
	SMO [6]	30 A	1–3				T100 [5]	100 VA	—	T150 [5]	—	
			4–5				T100	100 VA	—	T150	T300	
	SPO [6]	60 A	2–5									

[1] The Class 9991 Type SCG1 enclosure comes standard with a Class 9999 Type SF4 fuse block.
[2] The standard cabinet has a brushed finish. For electropolished finish, specify Form G16.
[3] NEMA 12 modified for outdoor use (see below).
[4] For contactors (Class 8502), a separate closing plate is provided with each enclosure to replace the reset mechanism—with the exception of Class 9991 Type SCG1, which requires a separate reset closing plate, Class 9999 Type SG2.
[5] For mounting an SCG1 enclosure, a Class 9991 Type S1 adapter bracket is also required.
[6] Mechanically held.

NEMA 12 Enclosures Modified for Outdoor Applications
(Do not use in salt air or corrosive environments)
Field Modifications for NEMA 3 dusttight, raintight, and sleet resistant outdoor applications include: Watertight conduit hubs or equivalent provision for watertight connection at the conduit entrance shall be used.
Field Modifications for NEMA 3R dusttight, rainproof, and sleet resistant outdoor applications include:

1. Watertight conduit hubs or an equivalent provision for watertight connection at the conduit entrance, when the conduit enters at a level higher than the lowest live part, shall be used.
2. Drain holes of 1/8 in. diameter must be added to the bottom of the enclosure.

Table 7: Control Unit Selection Table

Class 9999 Type	Control Function	Kit Contents	
		Class & Type	Description
SA3	Start-Stop Push Button	1–9001 KR1B 1–9001 KR1R 1–9001 KN201 1–9001 KN202 2–9001 KA1	Start Operator Stop Operator Start Legend Plate Stop Legend Plate Contact Block
SC8	Hand-Off-Auto Selector Switch	1–9001 KS43B 1–9001 KN260 1–9001 KA1	Selector Operator Switch Hand-Off-Auto Legend Plate Contact Block
SP28R	Pilot Light (120 V)	1–9001 KP1R31	Red Pilot Light

Class 9001 Type K oiltight/watertight control units can easily be installed in separate enclosures (NEMA 4, 12, and oversize Type 1) that include closing plates. When installing control units, simply remove the closing plates and install the proper Class 9001 Type K components.

Convenient control unit kits, complete with assembled and pre-wired operators for quick installation, are available as Class 9999 field modification kits. See Table 7 for kit contents. As an alternative, Class 9001 Type SK, NEMA 4X corrosion-resistant control units can be used.

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Table 8: NEMA 1 General Purpose Enclosures (Standard)

Class 9991 Type No.	For Use With				Fig. No.	Mounting Screws	Dimensions, in. (mm)												Weight (lb)
	Class	Type	NEMA Size or A Rating	No. of Poles			A	B	C	D	E	F	G	H	I	J	K	L	
LXG1	8903	LO, LXO	20 A	2–12	1	—	7.81 (198)	12.69 (322)	6.03 (153)	—	1.09 (28)	10.50 (267)	1.09 (28)	1.09 (28)	5.63 (143)	5.75 (146)	1.09 (28)	5.63 (143)	8
DPG1	8910	DP	20–40 A	1–2	1	(4) #10	4.85 (123)	8.5 (216)	4.03 (102)	2.42 (62)	0.109 (3)	5.75 (146)	0.531 (13)	0.92 (23)	3.00 (76)	3.75 (95)	—	—	2
		DPA		1–3															
SCG7	8903	SMO (E.H.)	30 A	All	1	(3) #10	6.00 (152	10.00 (254	5.28 (134)	3.00 (76)	0.88 (22)	8.13 (206)	1.00 (25)	0.94 (24)	4.13 (105)	5.00 (127)	—	—	4
	8502	SAO	00	2–3															
		SBO SCO	0 1	All															
SCG8	8536	SAO	00	2–3					5.56 (141)										
		SBO SCO	0 1	All															
DPG2	8910	DP	—	—															
DPSG1	8911	DPS	—	—															
SDG7	8903	SPO (E.H.)	60 A	2–12	1	(4) 1/4"	7.81 (198	12.69 (322	6.03 (153)	—	1.09 (28)	10.50 (267)	1.09 (28)	1.09 (28)	5.63 (143)	5.75 (146)	1.09 (28)	5.63 (143)	8
	8502	SDO	2	All															
SDG8	8536	SDO	2	All					6.31 (160)										
DPG3	8910	DPA	—	—															
DPSG2	8911	DPS	—	—															
SEG7	8502	SEO	3	All	1	(4) 3/8"	11.44 (286	21.81 (554	8.00 (203)	—	1.53 (39)	18.75 (476)	1.53 (39)	1.53 (39)	8.38 (213)	7.75 (197)	1.53 (39)	8.38 (213)	23
SEG8	8536	SEO	3	All															
	8911	DPSG63 to 93	—	All															
DPG4	8910	DPA	—	—					8.38 (213)										
SFG8	8502	SFO	4	All	2	(4) 7/16"	11.25 (286	25.15 (639	8.99 (228)	8.60 (218)	1.25 (32)	1.25 (32)	22.31 (567)	1.42 (36)	0.44 (11)	—	—	—	34
	8536	SFO	4	All															
	8903	SQO (E.H. & M.H.)	100 A	All															
SCG9	8702 [1]	SBO, SCO	2	All	2	(4) 5/16"	11.88 (302	11.88 (302	7.41 (188)	9.75 (248)	1.06 (27)	1.06 (27)	9.75 (248)	1.06 (27)	0.31 (8)	—	—	—	16
	8922	ETBC20, ETBC36	—																
SDG9	8702 [1]	SCO	2	All	2	(4) 5/16"	14.88 (378	14.13 (359	7.56 (192)	12.75 (324)	1.06 (27)	1.06 (27)	12.00 (305)	1.06 (27)	0.31 (8)	—	—	—	24
	8922	ETBC60	—																

[1] Standard enclosure has space for a fused control transformer, Form F4T, on Sizes 0–2.

Table 9: NEMA 1—General Purpose Enclosures (Oversize)

Class 9991 Type No.	For Use With				Fig. No.	Mounting Screws	Dimensions, in. (mm)									Weight (lb)
	Class	Type	NEMA Size or Ampere Rating	No. of Poles			A	B	C	D	E	F	G	H	I	
SDG3	8903	LO, LXO SMO (M.H.) SPO (Form F4T)	20 A 30 A 60 A	All	2	(4) 5/16"	14.88 (378)	14.13 (359)	7.56 (192)	12.75 (324)	1.06 (27)	1.06 (27)	12.00 (305)	1.06 (27)	0.31 (8)	15
SDG4	8502	SDO (Form F4T)	2	All												21
	8536	SDO (Form F4T)	2	All					7.66 (194)							
	9070	EO51, EO61, EO71, T750, T1000	—	—					7.56 (192)							
SCG1	8502	SBO, SCO (Form F4T)	0, 1	All	3	(4) 9/32"	6.34 (161)	15.88 (403)	5.19 (132)	4.66 (118)	0.84 (21)	14.38 (365)	0.75 (19)	0.28 (7)	0.35 (9)	SCG1
	8536	SBO, SCO (Form F4T)	0, 1	All												
	8903	SMO (E.H.) (Form F4T)	30 A	All												

Figure 1

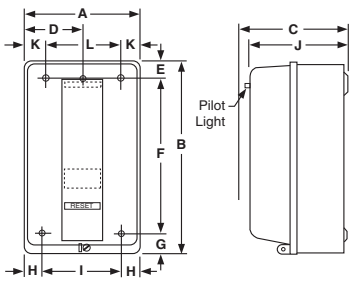


Figure 2

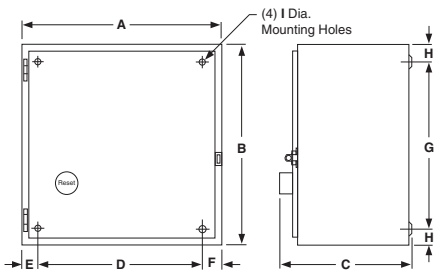
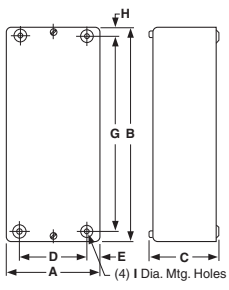


Figure 3



Dimensions in. (mm)

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Table 10: NEMA 1 General Purpose Enclosures—see Figure 4

Class 9991 Type No.	For Use With			Dimensions, in. (mm)							Dia.	K.O., in.		Weight (lb)
	Class	Type	No. of Poles	A	B	C	D	E	F	G	H	J	L	
UE1 [1]	8501	CO	All	3.63 (92)	5.28 (134)	3.31 (84)	1.88 (48)	3.63 (92)	1.06 (27)	1.50 (38)	0.25 in. [1]	0.5 0.75	0.5 0.75	2
UE6	8910	H, J, K, L & M	All	4.91 (125)	5.75 (146)	5.53 (140)	3.50 (89)	4.38 (111)	1.56 (40)	2.00 (51)	0.28 in.	0.5 0.75 1 1.25	0.5 0.75	2
	9050	AO (single head)	All											
		HO	All											
UE7	8501	XO	2–12, 2–4 with attachments	4.87 (125)	7.79 (196)	7.53 (191)	3.50 (89)	6.38 (162)	1.31 (33)	1.88 (48)	#10	0.5 0.75	0.5 0.75	4
		XDO	2–8											
	9070	EO1, EO17, T25, & T50	—											
LG1 [2]	9070	EO2, EO3, EO4, EO15, EO16, EO18, EO19, K75, K100, K150, K200, K250, K300, K350, & K500	—	7.53 (191)	9.78 (248)	5.91 (150)	6.13 (155)	8.38 (213)	1.31 (33)	1.88 (48)	0.28 in.	0.5 0.75 1 [2]	0.5 0.75 1 [2]	10

[1] Class 9991 UE1 has only three mounting holes: two in the bottom as shown in Figure 4, and one centered at the top.
[2] Class 9999 LG1 has three knockouts, top and bottom.

Table 11: NEMA 3R—Rainproof and Sleet-Resistant Enclosures—see Figure 5

Class 9991 Type No.	For Use With				Dimensions, in. (mm)																K.O., in.	
	Class	Type	NEMA Size or A Rating	No. of Poles	A	B	C	D1	D2	E	F	G1	G2	H1	H2	J	K	L	M	N	P	X	Y
SCH2	8502 8536	SBO, SCO	0, 1	All	8.83 (224)	12.30 (312)	7.12 (181)	1.39 (35)	1.44 (37)	6.00 (152)	7.50 (191)	2.61 (66)	2.19 (56)	2.08 (53)	2.62 (66)	14.28 (363)	1.37 (35)	1.37 (35)	1.88 (48)	4.38 (111)	1.83 (46)	0.5 0.75 1	0.5 0.75 1
	8903	SMO	30 A																				
SDH1	8502 8536	SDO	2	All	9.83 (250)	16.30 (414)	6.62 (219)	1.39 (35)	1.44 (37)	7.00 (178)	11.50 (192)	2.61 (66)	2.19 (56)	2.08 (53)	2.62 (66)	16.78 (426)	1.31 (33)	1.75 (44)	2.13 (54)	4.88 (124)	1.83 (46)	1 1.25 1.5	0.5 0.75
	8903	LO LXO	20 A																				
	8903	SPO	60 A																				
SEH1	8502 8536	SEO	3	All	12.63 (326)	25.30 (643)	8.62 (219)	1.39 (35)	1.44 (37)	10.00 (254)	20.60 (521)	2.61 (66)	2.19 (56)	2.08 (53)	2.62 (66)	19.78 (502)	1.31 (33)	2.31 (59)	2.69 (68)	6.38 (162)	1.83 (46)	1 1.25 2 2.5	0.5 0.75
	8903	SQO	100 A																				
SFH1	8502 8536	SFO	4	All	12.63 (326)	40.30 (1024)	9.12 (232)	1.39 (35)	1.44 (37)	10.00 (254)	35.50 (902)	2.61 (66)	2.19 (56)	2.08 (53)	2.62 (66)	20.28 (515)	1.31 (33)	2.31 (59)	2.69 (68)	6.38 (162)	1.83 (46)	1 1.25 2 2.5	0.5 0.75
	8903	SVO	200 A	2–3																			

Figure 4

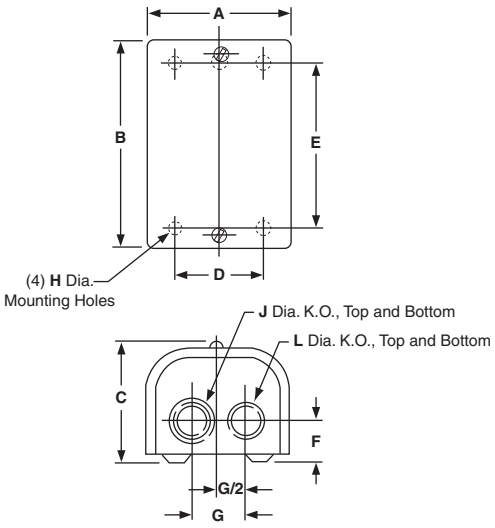

Figure 5

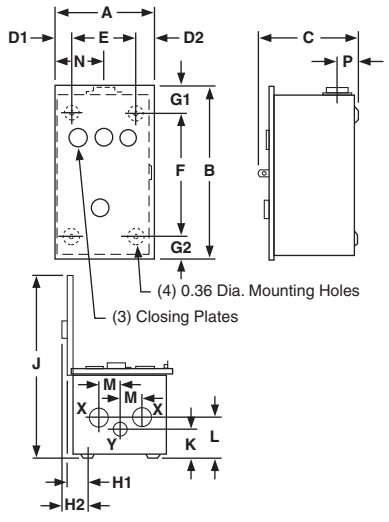

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Table 12: NEMA 4X—Watertight and Corrosion Resistant Enclosures—see Figure 6

Class 9991 Type No.	For Use With				Dimensions, in. (mm)												Hub Dia., in.		Weight (lb)
	Class	Type	NEMA Size or A Rating	No. of Poles	A	B	C	D	E	F	G	H	I	J	K	L	W [1]	X [2]	
SCW20	8903	SMO (E.H.)	30 A	All	6.50 (165)	6.44 (164)	12.13 (308)	0.75 (19)	5.00 (127)	8.25 (210)	1.69 (43)	3.34 (85)	10.06 (256)	1.31 (33)	2.13 (54)	0.31 (8)	0.75	1	7
	8502	SBO, SCO	0, 1	All															
SCW21	8536	SBO, SCO	0, 1	All															
SDW20	8903	LO, LXO	20 A	All	8.50 (216)	7.06 (179)	13.88 (352)	0.75 (19)	7.00 (178)	10.50 (267)	1.69 (43)	3.91 (99)	11.94 (303)	1.63 (41)	2.38 (60)	0.31 (8)	0.75	1.5	13
	8903	SPO (E.H.)	60 A	All															
	8502	SDO	2	All															
SDW21	8536	SDO	2	All															

Table 13: NEMA 4—Watertight Enclosures (Standard)—see Figure 6

Class 9991 Type No.	For Use With				Dimensions, in. (mm)												Hub Dia., in.		Weight (lb)
	Class	Type	NEMA Size or A Rating	No. of Poles	A	B	C	D	E	F	G	H	I	J	K	L	W [1]	X [2]	
SCW11	8903	SMO	30 A	All	6.38 (162)	7.13 (181)	13.19 (335)	1.56 (40)	3.25 (83)	12.00 (305)	0.59 (15)	1.88 (48)	11.78 (299)	1.63 (41)	2.31 (59)	0.31 (8)	0.75	1	12
	8502	SBO, SCO	0, 1	All															
	8536	SBO, SCO	0, 1	All	6.38 (162)	7.81 (198)	13.19 (335)	1.56 (40)	3.25 (83)	12.00 (305)	0.59 (15)	1.88 (48)	11.78 (299)	1.63 (41)	2.31 (59)	0.31 (8)			
SDW11	8903	LO, LXO	20 A	All	8.13 (206)	7.88 (200)	16.19 (411)	1.56 (40)	5.00 (127)	15.00 (381)	1.09 (28)	1.94 (49)	14.75 (375)	2.00 (51)	2.63 (67)	0.31 (8)	0.75	1.5	18
	8903	SPO	60 A	All															
	8502	SDO	2	All															
	8536	SDO	2	All	8.13 (206)	8.56 (217)	16.19 (411)	1.56 (40)	5.00 (127)	15.00 (381)	1.09 (28)	2.88 (73)	14.75 (375)	2.00 (51)	2.63 (67)	0.31 (8)			
SEW11	8903	SQO	100 A	All	18.15 (461)	8.77 (223)	32.21 (818)	3.08 (78)	12.00 (305)	30.50 (775)	0.86 (22)	3.67 (93)	26.71 (678)	2.58 (66)	3.19 (81)	0.44 (11)	0.75	2.5	51
	8502	SEO	3	All															
	8536	SEO	3	All	18.15 (461)	9.58 (243)	32.21 (818)	3.08 (78)	12.00 (305)	30.50 (775)	0.86 (22)	4.48 (114)	26.71 (678)	2.58 (66)	3.19 (81)	0.44 (11)			
SFW11	8536	SFO	4	All															
	8502	SFO	4	All	18.15 (461)	8.77 (223)	32.21 (818)	3.08 (78)	12.00 (305)	30.50 (775)	0.86 (22)	3.67 (93)	26.71 (678)	2.58 (66)	3.19 (81)	0.44 (11)			

Table 14: NEMA 4—Watertight Enclosures (Oversize)—see Figure 7

Class 9991 Type No.	For Use With				Dimensions, in. (mm)												Hub Dia., in.		Weight (lb)
	Class	Type	NEMA Size or A Rating	No. of Poles	A	B	C	D	E	F	G	H	I	J	K	L	W [1]	X [2]	
SCW2	8702 8736	SCO	1	All	12.63 (321)	7.81 (198)	14.69 (373)	2.56 (65)	7.50 (191)	13.50 (343)	0.59 (15)	3.88 (98)	18.41 (468)	1.66 (42)	2.31 (59)	0.31 (8)	0.75	1	23
SCW3	8810	SBO SCO	0 1	All															19
SCW4	8502 8536	SBO, SCO (Form F4T)	0, 1	All															24
SDW2	8702 8736	SDO	2	All	14.88 (378)	7.25 (184)	16.19 (411)	2.56 (65)	9.75 (248)	15.00 (381)	0.38 (10)	3.88 (98)	20.88 (530)	1.72 (44)	2.63 (67)	0.31 (8)	0.75	1.5	25
SDW3	8903	LO, LXO SMO, SPO (Form F4T)	20 A 30 A 60 A	All															29
SDW4	8502 8536	SDO (Form F4T)	2	All															28

[1] Bottom Only. [2] Top and Bottom.

Figure 6

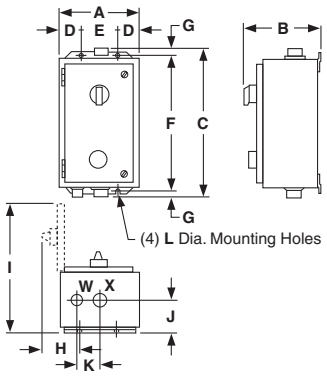
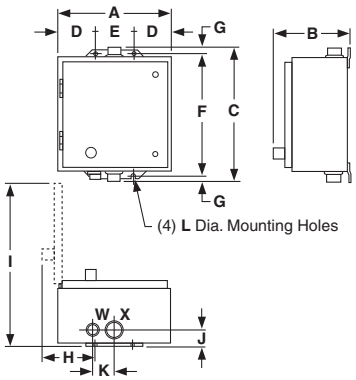


Figure 7



Dimensions in. (mm)

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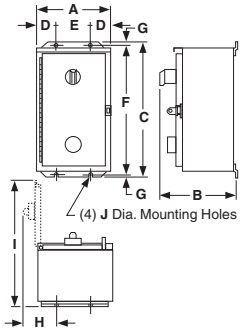

Figure 8

Table 15: NEMA 12/3R—Dusttight and Driptight Enclosures (Standard)—See Figure 8

Class 9991 Type No.	For Use With			No. of Poles	Dimensions, in. (mm)										Weight (lb)
	Class	Type	NEMA Size or A Rating		A	B	C	D	E	F	G	H	I	J	
SCA11	8502	SBO, SCO	0, 1	All	6.38 (162)	8.53 (217)	12.75 (324)	1.56 (40)	3.25 (83)	12.00 (305)	0.38 (10)	3.56 (90)	12.50 (318)	0.31 (8)	10
	8536	SBO, SCO	0, 1	All											
	8903	SMO	30 A	All											
SDA11	8502	SDO	2	All	8.13 (206)	9.28 (236)	16.00 (406)	1.56 (40)	5.00 (127)	15.00 (381)	0.50 (13)	3.56 (90)	15.38 (391)	0.31 (8)	15
	8536	SDO	2	All											
	8903	LO, LXO	20 A	All											
	8903	SPO	60 A	All											
SEA11	8903	SQO	100 A	All	18.15 (461)	9.24 (235)	31.50 (800)	3.08 (78)	12.0 (305)	30.50 (775)	0.50 (13)	3.67 (93)	26.71 (678)	0.44 (11)	51
	8502	SEO	3	All											
	8536	SEO	3	All	18.15 (461)	9.58 (243)	31.50 (800)	3.08 (78)	12.0 (305)	30.50 (775)	0.50 (13)	4.48 (114)	26.71 (678)	0.44 (11)	
SFA11	8536	SFO	4	All											
	8502	SFO	4	All	18.15 (461)	9.24 (235)	31.50 (800)	3.08 (78)	12.0 (305)	30.50 (775)	0.50 (13)	3.67 (93)	26.71 (678)	0.44 (11)	

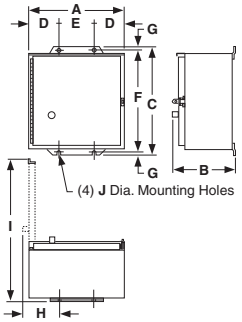

Figure 9

Table 16: NEMA 12/3R—Dusttight and Driptight Enclosures (Oversize)—See Figure 9

Class 9991 Type No.	For Use With			No. of Poles	Dimensions, in. (mm)										Weight (lb)
	Class	Type	NEMA Size or A Rating		A	B	C	D	E	F	G	H	I	J	
SCA2	8702 8736	SCO	1	All	11.88 (302	7.75 (197	13.5 (343	2.56 (65	6.75 (171	12.75 (324	0.38 (10	3.66 (93	18.13 (460	0.31 (8)	17
SCA3	8810	SBO SCO	0 1	All											18
SCA4	8502 8536	SBO, SCO (Form F4T)	0, 1	All											19
SDA2	8702 8736	SDO	2	All	14.88 (378	7.88 (200	16.00 (406	2.56 (65	9.75 (248	15.00 (381	0.50 (13	3.66 (93	21.25 (540	0.31 (8)	24
SDA3	8903	LO, LXO SMO, SPO (Form F4T)	20 A 30 A 60 A	All											27
SDA4	8502 8536	SDO (Form F4T)	2	All											27

Table 17: Flush Mounting General Purpose Enclosures—see Figure 10

Class 9991 Type No.	For Use With			No. of Poles	Dimensions, in. (mm)								Weight (lb)
	Class	Type	NEMA Size or A Rating		A	B	C	D	E	F	G	H	
SDF13 (w/SDF1 & SDF2)	8903	LO, LXO	20 A	All	15.19 (386)	8.94 (227)	7.63 (194)	12.88 (327)	5.44 (138)	10.94 (278)	5.13 (130)	0.38 (10)	17
SCF11 (w/SCF1 & SCF2)	8502	SBO, SCO	0, 1	All	13.44 (341)	7.19 (183)	5.88 (149)	11.13 (283)	4.75 (121)	9.19 (233)	4.50 (114)	0.38 (10)	10
	8536	SBO, SCO	0, 1	All									
	8903	SMO (E.H.)	30 A	All									
SDF11 (w/SDF1 & SDF2)	8502	SDO	2	All	15.19 (386)	8.94 (227)	7.63 (194)	12.88 (327)	5.44 (138)	10.94 (278)	5.13 (130)	0.38 (10)	17
	8536	SDO	2	All									
	8903	SPO (E.H.)	60 A	All									
SEF11	8502	SEO	3	All	31.00 (787)	16.75 (425)	14.25 (362)	26.25 (667)	8.00 (203)	—	—	0.18 (5)	48
	8903	SQO	100 A	All									

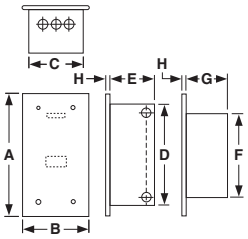

Figure 10

Dimensions **in. (mm)**

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Table 18: Replacement AC Magnet Coils for Magnetic Contactors and Starters (See Table 21 on page 10 for the listing of mechanically held unlatch coils)

Equipment To Be Serviced				Coil Prefix, or Class and Type	Hz	Suffix Number (the complete coil part number consists of the prefix or the Class and Type, followed by the suffix)												Coil VA	
Device	Size	Type	Poles			24 V	110–115 V	120 V	208 V	220 V	240 V	277 V	380 V	440 V	480 V	550 V	600 V	In-rush	Sealed
Coils for Present Design Magnetic Contactors and Starters Classes 8502, 8536, 8538, 8539, 8606, 8630, 8640, 8647, 8650, 8651, 8702, 8736, 8738, 8739, 8810, 8811, 8812, 8903, 8910 and 8940 (except NP)	30 A	L	2–6	9998L	60 50	23 24	— 44	44 45	50 52	— 53	53 54	55 —	— 60	— 62	62 63	— 65	65 66	150 140	30 30
			8–12	9998LH	60 50	23 24	— 44	44 45	50 —	— 53	53 54	55 —	— 60	— 62	62 —	— 65	65 —	180 170	35 35
		LX (Latch)	2–4	9998L	60 50	23 24	— 44	44 45	50 52	— 53	53 54	55 —	— 60	— 62	62 63	— 65	65 66	150 140	— —
			6–12	9998LH	60 50	23 24	— 44	44 45	50 —	— 53	53 54	55 —	— 60	— 62	62 —	— 65	65 —	180 170	— —
	00	SA (Series B)	All	9998SAC	60 50	23 —	— 45	45 —	52 —	— 54	54 —	55 —	59 —	— 62	62 —	— 65	65 —	165 —	33 —
	00 0, 1, 1–P & 30 A	SA (Series A) SB, SC & SM	All	31041-400	60 50	20 22	— 42	42 43	48 —	— 51	51 53	52 —	56 57	58 60	— 60	61 62	62 64	245 232	27 26
	2 & 60 A	SD & SP	2–3	31063-409	60 50	16 17	— 38	38 39	44 —	— 47	47 48	49 —	53 54	— 57	57 —	— 60	60 61	311 296	37 36
			4–5	31063-400	60 50	16 17	— 38	38 39	44 —	— 47	47 48	49 —	53 54	— 57	57 —	— 60	60 61	438 429	38 37
	3 & 100 A	DPA12_, SE, SQ & SYD138	2–3	31074-400	60 50	16 17	— 38	38 39	44 —	— 47	47 48	49 —	53 54	— 57	57 —	— 60	60 61	700 678	46 47
			4–5	31091-400	60 50	— —	— 38	38 39	44 —	— 47	47 48	49 —	53 54	— 57	57 58	— 60	60 61	1185 1260	85 89
	4 & 200 A	SF, SV & SYD230	All	31091-400	60 50	— —	— 38	38 39	44 —	— 47	47 48	49 —	53 54	— 57	57 58	— 60	60 61	1185 1260	85 89
	5 & 300 A	SG, SX & SYD368 Series A	All	31096-400	60 50	— —	— 09	09 10	15 —	— 18	18 —	19 —	21 22	— 24	24 —	— 29	29 30	2970 2970	212 250
		SG, SX & SYD368 Series B	All	31096-320	60 50	— —	50 50	50 50	51 —	52 52	52 52	53 —	54 54	55 55	55 55	— —	— —	1300 —	14 —
	6 & 7	SH & SJ	2–3	Coil Part Number 3110440050 (All System Voltages)														1780	48
	400, 600 & 800 A	SY, SZ, SJ (Electrically Held)																1960	59
		SY, SZ, SJ (Mechanically Held)	2–3	31104-418	60 50	— —	— 09	09 —	15 —	— 18	18 —	19 —	— —	— 24	24 —	— 29	29 —	1530 1250	— —

NEMA Size 5 E-Coil Modification Kit

These kits are for use with devices of the following Classes: 8502, 8536, 8538, 8539, 8606, 8630, 8640, 8647, 8650, 8651, 8702, 8736, 8738, 8739, 8810, 8811, 8812, 8910, and 8903.

The kits include the following:

- E-coil
- Armature
- Bottom magnet
- 15 A, 600 V fuse and holder (Class 9999SFR)
- Instruction manual

Table 19: Coil Modification Kits

Description	Catalog Number
120 V	9998SG120
480 V	9998SG480
277 V	9998SG277
208 V	9998SG208
240 V	9998SG240
380 V	9998SG380

Table 20: How to Order

To Order, Specify	Catalog Number
Coil Prefix and Suffix	31063-409-38
Class and Type plus Suffix	9998L23

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Table 21: Replacement AC Magnet Coils for Relays, Timers, and Contactors

Equipment To Be Serviced			Coil Prefix, or Class and Type	Hz	Suffix Number (the complete coil part number consists of the prefix or the Class and Type, followed by the suffix)												Coil VA	
Device	Type	Poles			24 V	110–115 V	120 V	208 V	220 V	240 V	277 V	380 V	440 V	480 V	550 V	600 V	In-rush	Sealed
Classes 8501 and 9050																		
8501 (Relays)	X	All	9998X [1]	60 50	23 24	— 44	44 —	51 52	52 53	53 —	55 —	— —	— 62	62 —	— 65	65 —	148 143	23 25
9050 (Timer)	A	All	2959-S49-	60 50	W25A W25B	W31B W32A	W32A W32B	W34A W34B	W34B W35A	W35A W35B	W35B W36A	— —	W37B W38A	W38A W38B	W38B W39A	W39A W39B	74 68	17 17
	B [2]	All	31017-400-	60 50	33 34	— —	54 55	61 —	61 63	63 64	65 —	— —	70 72	72 73	73 75	75 76	165 155	27 27
Mechanically Held *Unlatch* Coils—Class 8903 (for *latch* coils, see Table 18 on page 9)																		
8903 (Lighting Contactors)	LX	All	9998LX	60 50	23 —	— 44	44 —	51 —	— 53	53 —	55 —	— —	— 62	62 —	— 65	65 —	25 —	— —
	SM, SP	All	2959-S13	60 50	W23B W24B	— W30B	W30B W31B	W33A —	— W33B	W33B W34B	W34A —	— W36A	— W36B	W36B —	— W37B	W37B —	80 —	— —
	SQ, SV, SX, SY, SZ	All	31096-416	60 50	03 —	— 09	09 —	15 —	— 18	18 —	20 —	— 22	— 24	24 —	— 28	28 —	550 —	— —
	SJ	All	31123-403	60 50	03 —	— 09	09 —	15 —	— 18	18 —	20 —	— 22	— 24	24 —	— 28	28 —	2100 —	— —

[1] To order an unlatch coil, add letter L to the Type number and letter B to the suffix number. Example: For a 120 V 60 Hz unlatch coil, order Class 9998 Type X**L**44**B**.
[2] Series C (double pole) and Series E (single pole).

Table 22: Replacement DC Magnet Coils for Magnetic Relays and Timers

Equipment To Be Serviced			Coil Prefix, or Class and Type	Suffix Number (the complete coil part number consists of the prefix or the Class and Type, followed by the suffix)													Coil Burden (Watts)
Class	Type	Poles		6 V	12 V	18 V	24 V	32 V	48 V	64 V	72 V	90 V	110 V	115/ 125 V	220 V	230/ 250 V	
8501 (Relays)	XD	All	9998 XD	19	28	34	37	40	46	49	52	55	—	58	—	67	18
	XDL	—	9998 XDL	19	28	34B	37B	40B	46B	49B	52B	55B	—	58B	—	67B	50
	XUD	All	9998 XUD	19	28	—	37	—	46	—	—	—	—	58 [1]	—	67 [1]	16
9050 (Timers)	C	—	31018-400-	22	31	—	40	—	49	—	—	—	—	61	—	70	14
	H	—	4491S1	W21	W24	—	W27	—	W30	—	—	—	—	W34	—	W37	14

[1] Not dual voltage rated; 250 Vdc only.

Table 23: Replacement Coil for 8903 Panel Board Lighting Contactors

Class	Type	Replacement Solenoid	Catalog Number
8903	PB	120 V	9998PBV02
		208 V	9998PBV08
		240/277 V	9998PBV39
		480 V	9998PBV28

Table 24: How to Order

To Order, Specify	Catalog Number	
	Class	Type
• Class Number • Type Number	9998	PBV02

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Class 9998 replacement parts kits are available for servicing Square D relays, contactors, and starters as well as pressure, vacuum, and float switches. Each kit contains the necessary movable and stationary contacts, contact springs (when required), and additional hardware needed to service the devices listed below. When servicing devices with more poles than the corresponding kit contains, you may need to order an additional kit.

NOTE: Contact springs are built into the contact carrier, and are not available for NEMA Size 3 and above.

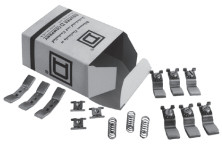

Table 25: Magnetic Contactor and Starter Contact Kits

Present Designs—NEMA, Type S Contactors

Equipment To Be Serviced			No. of Poles in Kit	Class 9998 Parts Kit Type No.
Class	Type	NEMA Size		
8502 8536 8538 8539 8547 8549 8606 8630 8640 8647 8702 8736 8738 8739 8810 8811 8812 8940	SA (Series B)	00	3	SJ1
	SB	0	3 4	SL2 SL12
	SB, SC (Power Pole Adder)	0 & 1	1	SL22
	SC	1 & 1P 1	3 4	SL3 SL13
	SD	2	3 4	SL4 SL14
	SD (Power Pole Adder)	2	1	SL24
	SE	3	2 3	SL6 SL7
	SF	4	2 3	SL8 SL9
	SG	5	2 3	SL10 SL11
	SH	6	2 3	SL25 SL26
	SJ	7	2 3	SL30 SL31

Lighting Contactors

Equipment To Be Serviced			No. of Poles in Kit	Class 9998 Parts Kit Type No.
Class	Type	Rating (A)		
8903	L (Series C) & LX (Series B)	30 A	4	RA5B
	SM	30 A	3 4	SL3 SL13
	SP	60 A	3 4	SL4 SL14
	SQ	100 A	2 3	SL6 SL7
	SV	200 A	2 3	SL8 SL9
	SX	300 A	2 3	SL10 SL11
	SY	400 A	2 3	SL25 SL26
	SZ	600 A	2 3	SL32 SL33
	SJ	800 A	2 3	SL30 SL31
	PBM, PBP	30, 60 A	2	PB2
	PBN, PBQ	75, 100 A		
	PBM, PBP	30, 60 A	3	PB3
	PBN, PBQ	75, 100 A		
	PBR, PBV, PBW	150, 200, 225 A	2	PB14
	PBR, PBV, PBW	150, 200, 225 A	3	PB15

Obsolete Designs

Equipment To Be Serviced			No. of Poles in Kit	Class 9998 Parts Kit Type No.
Class	Type	NEMA Size		
8502 & 8536 [1]	SA (Series A)	00	3 4	SL2 SL12
8903	LL, L (Series A, B) & LX (Series A)	20 A	4	RA5

Table 26: How to Order

To Order, Specify	Catalog Number	
	Class	Type
• Class Number • Type Number	9998	SL6

[1] Includes reversing, two speed, and similar devices.

Table 27: Manual Starter Contact Kits

Equipment To Be Serviced			No. of Poles in Kit	Class 9998 Parts Kit Type No.
Class	Type	NEMA Size		
2510 Manual Starters	M-, T-	M-0	3	ML1
		M-1 & M-1P	3	ML2

Table 28: Replacement Control Transformers (150 VA) Class 8502, 8536 Type S Size 6

Voltage		Part Number
60 Hz	50 Hz	
240/480–120	220/440–110	3110451250
208–120	—	3110451252
277–120	—	3110451253
—	380–110	3110451254
600–120	550–110	3110451251
120–120	110–110	3110451255
240–120	220–110	3110451256

Table 29: Replacement Control Transformers (200 VA) Class 8502/8536 Type S, Size 7

Voltage		Part Number
60 Hz	50 Hz	
240/480–120	220/440–110	3112350150
208–120	—	3112350152
277–120	—	3112350153
—	380–110	3112350154
600–120	550–110	3112350151
120–120	110–110	3112350155
240–120	220–110	3112350156

Table 30: Class 8910, 8911, and 8965 Replacement Contact Kits

Device To Be Serviced				Class 9998	
Class 8910 Type	Class 8911 Type	Class 8965 Type	Series	1-Pole Type No.	3-Pole Type No.
SYD138	—	—	—	—	SL27
SYD230	—	—	—	—	SL28
SYD368	—	—	—	—	SL29
DPA_50A	DPSO5_	DPR5_	A, B	DRC5	—
DPA_60 [1]	DPSO6_	DPR6_	A, B	DRC6	—
DPA_75A	DPSO7_	—	A	DRC7	—
DPA_90A	DPSO9_	—	A	DRC9	—

Table 31: Class 8965 Replacement Contact Kits

Device Type	Device Series	Class 9998 Kit Type	Device Series	Class 9998 Kit Type
DPR53 DPR63	A A	DRC5 (single-pole kit) DRC6 (single-pole kit)	—	—
RO10	A & B	RA10	C	RA14
RO11	A & B	RA11	C	RA15
RO12	A & B	RA12	C	RA16
RO13	A & B	RA13	C	RA17

[1] For Class 8911, 60 A starter, use the 9998DRC7 contact kit.

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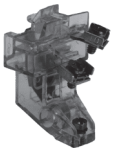


Class 9998 Type SO1

Table 33: Contact Units for Melting Alloy Style Overload Relays

One normally closed contact, Class 9998 Type SO1, is provided in each overload relay block on Type S starters, Sizes 00–6. (On the Size 5, Series A, a normally closed contact was provided with each of the three overload relay blocks). The Class 9998 Type SO1 contact unit listed below is provided as standard in each Class 9065 Type M melting alloy overload relay. Contact modules can be easily replaced and are identified in Table 33. 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 Types SO4 and SO5.

Magnetic Starter			Description	Parts Kit Number
NEMA Size	Type	Series		
00–4, 6 00–6	SA–SF, SH SA–SH	A B	Standard N.C. contact unit	Class 9998 Type SO1 [1]
5	SG	A	Standard N.C. contact unit	31102–514–50
			N.C. and N.O. alarm (three point) contact unit	31102–514–51

[1] The Type SO1 is also the replacement contact unit for Class 9065 Type M melting alloy overload relays.

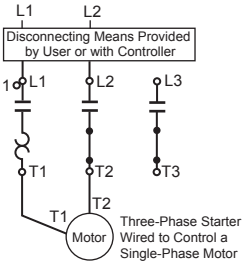
Overload Contact Unit
Part No. 31102–514–50

Table 34: Class 9998 Type UB Universal Baseplate

A universal baseplate may be used to retrofit a Square D Type S NEMA starter into an application that is currently using a competitor's NEMA starter. The universal baseplate is a metal plate that attaches to the panel in the location of the starter to be replaced. The Type S starter then mounts to the baseplate. It is available for NEMA Sizes 00–4, and mounting screws are provided with each plate.

The universal baseplate adapter allows the Type S starter to replace the following competitor's starters.

Competitor's Starter	NEMA Size			
	Type UB01	Type UB02	Type UB03	Type UB04
Allen-Bradley 509	0, 1	2	3	4
Allen-Bradley 709	1	2	3	4
Cutler Hammer Freedom Series	00, 0, 1	2	3	4
Furnas ESP100	0, 1	2	3	4
Furnas INNOVA	0, 1	2	3	4
General Electric CR306	00, 0, 1	2	3	4



Melting Alloy Overload
Relay Jumper Strap Kits

Table 35: 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 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		Class 9998 Kit Type Number
	Size	Type	
All	00, 0, 1, 2, 5 (Series B), and M0 & M1	SA, SB, SC, SD, SG, and M & T (Manual)	SO31
	3, 4	SE, SF	SO32
	5 (Series A)	SG	None Available

Table 36: How to Order

To Order, Specify	Catalog Number	
	Class	Type
• Class Number • Type Number	9998	UB02

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Cover-Mounted Control Units

With the Class 9999 cover-mounted control unit kits, you can field install push buttons, selector switches, and pilot lights into the enclosure cover of a NEMA 1, 3R, 4, or 12 Type S contactor or starter. Knockouts or removable closing plates are furnished with many enclosure covers for convenient field installation of control units. Kits include leads and clearly illustrated instructions. The Class 9999 cover-mounted control unit kits are identical to the factory-installed units.

NOTE: No field modification kits are available for the polyester enclosures.

Table 37: Cover-Mounted Control Unit Selection (6–600 V, 50–60 Hz), Class 9999

For Use With				NEMA 1 Kit Class 8538, 8539, or 8903 Pre-Series K						NEMA 1 and 12/3R Kit Class 8538, 8539, or 8903 Series K and Later [1]			NEMA 4/4X Kit (Stainless) [1]		
Class	Type	NEMA Size or Rating (A)	No. of Poles	Red or Green Pilot Light[2]		Push Button		Selector Switch		Red or Green Pilot Light	Push Button	Selector Switch	Red or Green Pilot Light	Push Button	Selector Switch
				With Control Transformer (Form F4T)	Standard	Start-Stop	On-Off	Hand-Off-Auto	On-Off	120 V 60 Hz	Start-Stop or On-Off	Hand-Off-Auto	120 V 60 Hz	Start-Stop or On-Off	Hand-Off-Auto
				Type	Type	Type	Type	Type	Type	Type	Type	Type	Type	Type	Type
8502 8536	SA, SB, SC	00, 0, 1, 1P	All	SP28R [3]	SP2R	SA2	SA10	SC2	SC22	SP28R [2], [3] (incandescent) SPL28R (LED–Red) SPL28G (LED–Green)	SA3 [5]	SC8	SP29R [2], [3] (incandescent) SPL29R (LED–Red) SPL29G (LED–Green)	SA13	SC9
	SD	2	All	SP28R [3]	SP3R										
	SE	3	2–3	SP28R [3]	SP4R										
			4–5	SP28R [3]	SP5R										
	SF	4	All	SP28R [3]	SP28R [3]	SA3	SA3	SC8	—						
	SG–SJ	5–7	All	SP28R [3]	SP28R [3]										
8538 8539 8702 8736	SB, SC	0, 1	All	SP12R	SP12R	SA2	SA10	SC2	SC22						
	SD	2	All	SP13R	SP13R										
	SE	3	All	SP14R	SP14R										
	SF	4	All	SP15R	SP15R										
	SG–SJ	5–7	All	SP28R [3]	SP28R [3]	SA3	SA3	SC8	—						
8903 (Electrically Held)	L	20 A	All	SP28R [3]	—	—	SA10 [4]	—	SC22[4]						
	SM	30 A	All	SP28R [3]	SP2R	SA2 [5]	SA10 [5]	SC2	SC22						
	SP	60 A	All	SP28R [3]	SP3R										
	SQ	100 A	All	SP28R [3]	SP28R [3]	SA3 [5]	SA3 [5]	SC8	—						
	SJ, SV, SX, SY, SZ	200–800 A	All	SP28R [3]	SP28R [3]	SA3 [5]	SA3 [5]	SC8	—						

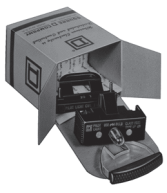
[1] User-made openings are required in order to field install these modification kits on standard Class 8502 and 8536 Type S NEMA Size 0–2, and Class 8903 Size 30–60 A, NEMA 4 and 12 enclosures.
[2] Each pilot light kit contains one red and one green lens cap.
[3] The pilot light rating must match the coil voltage. The listed kit contains one 120 Vac, 60 Hz red pilot light control unit, 9001KP1R31. For other voltages, refer to the 9001KP pilot light selection tables in Section 19 of the *Digest*.
[4] To mount a control unit in a NEMA 1 enclosure, a 9999LX bracket is also required.
[5] Also requires an N.O. auxiliary contact for the holding circuit contact when used on Class 8903 electrically held lighting contactors.

Table 38: NEMA 1 Enclosure Closing Plates

For Use With				Description	Type
Class	Type	Type S Contactor NEMA Size	Lighting Contactor Ampere Rating		
8502, 8536, 8903	SA–SE or SM–SP	00–3	30–60 A	For Pilot Light or Reset—Slip-on Cover, NEMA 1 Enclosure	SG2
				For Push Button or Selector Switch—Slip-on Cover, NEMA 1 Enclosure	SG3
8538, 8539 pre-Series K	SB–SF	0–4	—	For Push Button or Selector Switch—Hinged Cover, NEMA 1 Enclosure	SG1
				For Pilot Light—Hinged Cover, NEMA 1 Enclosure	SG2
8538, 8539 Series J and later	SB–SF	0–4	—	Push Button or Pilot Light, NEMA Combination Starter	Class9001 Type K51
8903	SM–SV	—	30–400 A	Combination Lighting Contactor	

Table 39: How to Order

To Order, Specify	Catalog Number	
	Class	Type
• Class Number • Type Number	9999	SP29R


9999SP2R

9999SA2

9999SC2

9999SA3

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Auxiliary Contacts for Manual and Magnetic Contactors and Starters

Internal Contacts

Internal Auxiliary Contact

The **Class 9999 Type SX11** internal contact kit is a replacement unit for the N.O. holding circuit contact that comes standard on Type S Size 00–2 three-phase starters and contactors. The **Class 9999 Type SX12** is a replacement unit for the N.C. electrical contact that comes standard on Type S, Size 00–2 mechanically interlocked devices (for example, Class 8736 reversing starters). Internal contacts are also used on Class 2510 Type M and T manual starters. The internal contacts can be used for other applications as long as the electrical rating is not exceeded. See Table 40 for electrical ratings.

External Contacts

External Single-Circuit Auxiliary Contact

The **Class 9999 Type SX6** external auxiliary contact comes standard as the N.O. holding circuit contact on Type S Size 3–7 starters and contactors. Additional auxiliary contacts can be added to Type S contactors, starters, and lighting contactors. These contacts mount on either side of the basic contactor, and are available with convertible or non-convertible contacts. The convertible contacts can be changed from N.O. to N.C. or vice versa in the field. The non-convertible contacts are fixed, either N.O. or N.C.

To determine the number of auxiliary contacts that can be added to each Type S contactor or starter, refer to the Class 8536 (non-reversing starter) or Class 8736 (reversing starter) section of the *Digest*.

See Table 40 for electrical ratings.

Table 40: Maximum Ratings for Type S Auxiliary Contacts and Timers

Class 9999 Type No.	Contact Ratings				Class 9999 Type No.	Contact Ratings			
	Vac	AC Only (35% Power Factor)		Continuous		Vac	AC Only (35% Power Factor)		Continuous
		Make	Break				Make	Break	
SX11, SX12	≤120	30 A	3 A	3 A	SX6–SX10 SX13–SX17	≤120	60 A	6 A	10 A
	120–600	3600 VA	360 VA	3 A		120–600	7200 VA	720 VA	10 A

Table 41: Type S Contactors and Starters

For Use With		Kit Description	Class 9999 Type No.
Type	NEMA Size		
SA–SJ	00–7	External—Field Convertible 1 N.O. Contact 1 N.C. Contact 1 N.O. and 1 N.C. Isolated Contacts 1 N.O. Overlapping Contact 1 N.C. Overlapping Contact	 SX6 SX7 SX8 SX9 [1] SX10 [1]
SA–SJ	00–7	External—Non-Convertible 1 N.O. Contact 1 N.C. Contact 1 N.O. and 1 N.C. Isolated Contacts 1 N.O. Overlapping Contact 1 N.C. Overlapping Contact	 SX13 SX14 SX15 SX16 [1] SX17 [1]
SA–SD	00–2	Internal—Non-Convertible 1 N.O. Contact 1 N.C. Contact	 SX11 [2] SX12 [2]

Table 42: Class 8965 Reversing/Hoist Contactors—Auxiliary Contacts

Device To Be Serviced	Auxiliary Contact Kit		
Class 8965 Type No.	Contact Arrangement	Type of Connector	Class 9999 Type No.
DPR	1 N.O.	Screw/ Quick Connect	D10
	1 N.C.		D01
	1 N.O./1 N.C.		D11
	2 N.O.		D20
RO2 & RG2 RO10 Form X1 RO11 Form X1	1 N.O. each side	Slip-on	R10
RO3 & RG3 RO10 Form X2 RO11 Form X2	1 N.C. each side		R11
RO5 & RG5 RO12 Form X1 RO13 Form X1	1 N.O. each side	Screw	R12
RO6 & RG6 RO12 Form X2 RO13 Form X2	1 N.C. each side		R13

[1] Types SX9 and SX10 or Types SX16 and SX17 must be used together and mounted on the same side of the contactor. They are suitable for applications where it is necessary for a normally open contact to overlap a normally closed contact.
[2] Types SX11 and SX12 are not applicable on NEMA Size 3 or larger. Internal contacts can also be used on Class 2510 Types M and T manual starters.

Table 43: How to Order

To Order, Specify	Catalog Number	
	Class	Type
• Class Number • Type Number	9999	R11

Table 44: Class 8910 and 8911 Definite Purpose Contactors and Starters—Auxiliary Contacts

Definite Purpose Device	Auxiliary Contact Kit, Class 9999		
	Contact Arrangement	20–90 A Series B, and Series C after date code 1401	20–40 A Series C before date code 1401
Contactor Class 8910 Type DPA	1 N.O.	D10	DD10
	1 N.C.	D01	DD01
Starter Class 8911 Type DPS	1 N.O./1 N.C.	D11	DD11
	2 N.O.	D20	DD20

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Motor Logic™ Solid-State Overload Relay Accessories

These Class 9999 accessories are for the Class 9065 Motor Logic solid-state overload relay (SSOLR).

Table 45: Isolated Auxiliary Contacts for Motor Logic Overload Relays

Overload relay auxiliary contacts are available factory installed or in kit form for field installation on Motor Logic overload relays. These contacts can be used for isolated alarm contact applications.

For Use With		Parts Kit Description	Class 9999 Type Number
Class and Type	NEMA Size [1]		
8536 SA–SJ	00B through 7	N.O. or N.C. Auxiliary Contact (Field Convertible)	AC04
9065 SS, SR, SF, ST	00B through 7		

Table 46: DIN Adapter

The DIN adapter mounts the Motor Logic overload relay to a 35 mm DIN rail.

For Use With		Parts Kit Description	Class 9999 Type Number
Class and Type	NEMA Size [1]		
9065 SS or SF	00B, 00C, 0, and 1	DIN Adapter	DA01

Table 47: Lug–Lug and Lug Extender Kits

Standard overload relays, Sizes 00B, 00C, 0, and 1 (Class 9065 Type SS and SF), come without lugs.

- A Class 9999 Type LL0 lug–lug kit can be field installed on separately mounted overload relays.
- A Class 9999 Type LB0 lug extender kit is designed for retrofit starter applications. This kit allows the lugs to be in the same location as for the Class 9065 melting alloy overload relay, eliminating the need for additional wire length.

For Use With		Parts Kit Description	Class 9999 Type Number
Class and Type	NEMA Size [1]		
9065 SS or SF	00B, 00C, 0, and 1	Lug–Lug Kit for separate mounting	LL0
		Lug Extender Kit for retrofitting existing Type S NEMA starters	LB0

Table 48: Remote Reset Module

The remote reset module can easily be field installed on SSOLRs. This module allows the overload relay to be reset from a remote location.

For Use With		Parts Kit Description	Class 9999 Type Number
NEMA Size [1]	Class and Type		
00B through 7	8536 SA–SJ	Remote Reset Module (120 Vac power required)	RR04
	9065 SS, SR, SF, ST		
3 and 4	8536 SE–SF	Top Mounting Bracket (to mount the remote reset module on the top of the overload relay)	RB34
	9065 SS, SR, SF, ST		

[1] Sizes 00B and 00C are not actual NEMA sizes. These designations differentiate the lower FLA of these devices from the NEMA Size 00 Motor Logic SSOLR.

Table 49: How to Order SSOLR Accessories

To Order, Specify	Catalog Number	
• Class Number • Type Number	Class	Type
	9999	AC04

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Class 9999 Type SB6 Single Power Pole Adder

Class 9999 Type SB9 Double Power Pole Adder

Table 50: Power Pole Adders

One single- or double-circuit power pole kit can be field added to a Size 0–2, basic two- or three-pole Type S contactor or starter, or to a 30–60 A lighting contactors. See the table below for selection. The ratings for these power pole adders correspond to the NEMA contact ratings found in Section 16 of the *Digest*. A two- or three-pole contactor or starter will accept only one single- or double-circuit unit. A power pole cannot be used on four- or five-pole devices or on mechanically interlocked devices.

Adding a power pole to a Size 2 or 60 A device requires a coil change. Select a 4–5 pole coil from the selection tables on page 9, or specify Form Y118 as noted in the footnote below. When adding a Size 0–2 power pole kit to a Size 3–7 or 100–800 A device, an adapter bracket (Class 9999 Type SBT1) is required.

The Class 9999 Types SB6–SB15 power pole kits are suitable for use with copper wire only. Types SB21–25 come with lugs suitable for copper and aluminum wire.

Power Pole Adder Kit Description	For Use with Type S NEMA Contactors		For Use with Lighting Contactor		Power Pole Adder Kit
	Type	Size	Type	Size	Class 9999 Type No.
One N.O. power pole adder	SB, SC	0, 1	SM	30 A	SB6
	SD	2	—	—	SB11 [1]
	—	—	SP	60 A	SB21 [1]
One N.C. power pole adder	SB, SC	0, 1	SM	30 A	SB7
	SD	2	—	—	SB12 [1]
	—	—	SP	60 A	SB22 [1]
One N.O. and one N.C. power pole adder	SB, SC	0, 1	SM	30 A	SB8
	SD	2	—	—	SB13 [1]
	—	—	SP	60 A	SB23 [1]
Two N.O. power pole adders	SB, SC	0, 1	SM	30 A	SB9
	SD	2	—	—	SB14 [1]
	—	—	SP	60 A	SB24 [1]
Two N.C. power pole adders	SB, SC	0, 1	SM	30	SB10
	SD	2	—	—	SB15 [1]
	—	—	SP	60 A	SB25 [1]
Adapter bracket	SE–SJ	3–7	SQ–SZ & SJ	100–800 A	SBT1

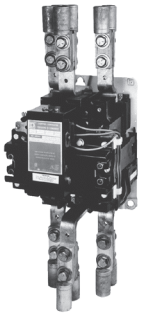
[1] To order a Size 2 or a 60 A power pole kit complete with a new starter coil, specify Form Y118, the voltage, and the frequency (for example, Class 9999 Type SB11 Form Y118, 120 V, 60 cycles.)

Table 51: Compression Lugs

A Class 9999 Type AL hardware kit is required to install Versa-Crimp™ compression lugs on Class 8903 Type S, 100–800 A lighting contactors. The lugs are suitable for both copper and aluminum wire.

One VCEL lug is required for each line or load terminal. Each Class 9999 Type AL hardware kit includes mounting hardware for 3 terminals, line or load side.

Example: To install compression lugs on a 300 A three-pole device, line and load sides, order six VCEL–060–12H1 lugs and two Class 9999 Type AL11 hardware kits.



Class 8903 with Compression Lugs Installed

For Use With		Versa-Crimp Catalog Number	Wire Range	Hardware Kit Class 9999 Type Number
Rating	Class 8903 Type Number			
100 A	SQ	VCEL–021–14S1	8–1/0 AWG Al/Cu	None Required
200 A	SV	VCEL–022–516H1	1–2/0 AWG Al/Cu	2-Pole: AL13 3-Pole: AL14 4-Pole: AL15
		VCEL–024–516H1	2/0–4/0 AWG Al/Cu	
		VCEL–030–516H1	4–300 MCM Al/Cu	
300 A	SX	VCEL–050–12H1	2/0–500 MCM Al/Cu	AL11
		VCEL–060–12H1	400–600 MCM Al 400–500 MCM Cu	
		VCEL–075–12H1	500–750 MCM Al 500 MCM Cu	
400 A or 600 A	SY or SZ	VCEL–060–12H2 [1]	400–600 MCM Al 400–50 0MCM Cu	AL12
		VCEL–075–12H2 [1]	500–750 MCM Al 500 MCM Cu	
800 A	SJ	Available only as a factory modification. Order **Form Y1574**. Specify wire size up to 750 MCM Al or 500 MCM Cu and number of terminals.		

[1] One or two lugs may be mounted on each terminal.

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Table 58: Control Circuit Fuse Holder

Description (fuses not included)	**Class 9999, Type No.**
Single-Fuse Unit	SF3
Single-Fuse Unit for Class CC Fuse	SFR3
Two-Fuse Unit	SF4
Two-Fuse Unit for Class CC Fuses	SFR4

The control circuit fuse holder is for use on Type S contactors and starters, Sizes 00–7, when one or two control circuit fuses ≤600 V are required. The Type **SF3** and **SF4** fuse holders accept standard 600 V Bussmann® Type KTK or equivalent fuses (13/32 x 1-1/2"), 6 A maximum. The **SFR3** and **SFR4** accept Class CC 600 V Bussmann Type KTK–R or equivalent fuses only.

Table 59: Transient Suppression Module

Description	**Class 9999 Type Number**
For Sizes 00–2	ST1
For Sizes 3–5	ST2

The transient suppression module is for use where the transient voltage (generated when opening the coil circuit) interferes with the proper operation of nearby integrated or solid-state control circuits. The module consists of an RC circuit and is designed to suppress the coil voltage transients to approximately 200% of peak coil supply voltage. The module is wired across the coil for Type S devices, Sizes 00–5, and is designed for coil voltages of 120 V only.

Table 61: Isolated Alarm Contacts for Melting Alloy Overload Relays

Magnetic Starter		**Description**	**Class 9999 Parts Kit Type No.**
NEMA Size	**Type**		
00–6 [1]	SA–SH	N.O. Isolated Alarm Contact Plus Standard N.C. Overload Contact	SO4
		N.C. Isolated Alarm Contact Plus Standard N.C. Overload Contact	SO5

[1] Isolated alarm contacts cannot be added in the field to the Type SG, Size 5, series A starter. Current transformers and a Size 1 overload block must be used. For factory installation specify **Form Y342**.

Isolated overload relay alarm contacts are available factory installed or in kit form for field installation in Type S, NEMA Size 00–6 [1] starters and Class 9065 Types M and S melting alloy overload relays.

The Type S, NEMA Size 7 device uses a solid-state overload relay, which has isolated alarm contacts as a standard feature. The alarm contacts allow the starter to be used in applications that require isolated contacts, such as inputs to a computer.

Class 9999 Types SO4 and SO5 modules are interchangeable with the standard module (Class 9998 Type SO1) and may be installed on starters already in service. The case is made of clear plastic (polycarbonate) to allow for visual inspection of contacts.

Table 62: Tie Point Terminal Block

Magnetic Contactor or Starter		**Class 9999 Type Number**
NEMA Size	**Type**	
00–4	SA–SF	T7

The tie point terminal block provides easy wiring of a Hand-Off-Auto selector switch or Start-Stop push buttons with separate control. The T7 terminal block requires no panel space. It simply snaps on Type S, Size 00–4 contactors and starters by two tabs, and is secured to the left hand coil terminal.

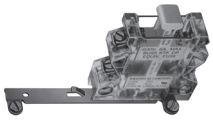
Table 63: Solid Neutral

Number of Lugs	**Wire Capacity Per Lug (Cu/Al)**	**Class 9999 Type Number**
4	14 AWG – 2/0 AWG	SN1
3	(1) 4 AWG – 600 MCM or (2) 1/0 AWG – 250 MCM	SN2
3 (Dual)	(2) 2 AWG – 600 MCM	SN3
2 (Dual)	(2) 6 AWG – 350 MCM	SN4

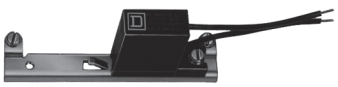
Solid neutral—The Class 9999 Type SN kit can be used on Class 8903 Type S lighting contactors and other controllers where field addition of a solid neutral is required. Each kit has lugs suitable for both copper and aluminum wire. The kit mounts with two screws.

Table 64: How to Order

To Order, Specify	**Catalog Number**	
• Class Number • Type Number	**Class**	**Type**
	9999	ST2



Fuse Kit
Class 9999 Type SF4



Class 9999 Type ST1
Transient Suppression Module

Tie Point Terminal Block

Isolated Alarm Contact
Type SO4

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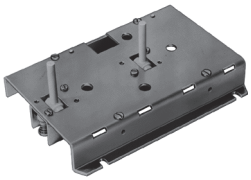
Mechanical Interlock



Type SM1

General: Type S contactors or starters can be mechanically interlocked so that only one device is energized at a time. The mechanical interlock is an interference (non-jamming) type, locking at the beginning of the stroke of any starter or contactor.

Type S Sizes 00–2: The mechanical interlock is mounted on the underside of the reversing baseplate. Two pins extend from the mechanical interlock through openings in the baseplate and engage the contact carrier of each contactor. Two styles of mechanical interlocks are used: one version for three-pole contactors, and another version for four- or five-pole contactors.

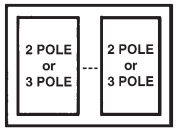
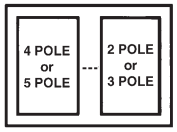
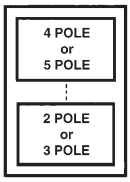
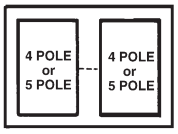
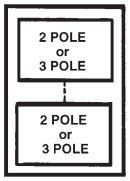
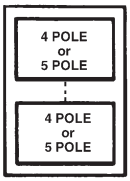
> **NOTE:** When adding a power pole to the left-hand side of an existing Size 0–2 three-pole reversing contactor, a new mechanical interlock must also be installed. When added to the right-hand side only, the power pole will not be mechanically interlocked with the left-hand contactor.

Type S Sizes 3–4: The mechanical interlock is separate from the mounting pan on Sizes 3–4. Cams on the mechanical interlocks are operated by the contact carrier of each contactor. The mechanical interlock is attached to the underside of the two contactor baseplates on Sizes 3–4.

Type SM12

Table 65: Mechanical Interlock for Two Contactors

The following mechanical interlock kits can be used to interlock 2–5 pole contactors. Mechanical interlocks for horizontal and vertical arrangement are listed in various pole arrangements.

Mechanical Interlock Arrangements			Contactor NEMA Size	Kit, Class 9999 Type Number
			00, 0, 1	SM1
			0, 1	SM2
			0, 1	SM3
			0, 1	SM4
Horizontal Type SM1 for Size 00–1 Type SM6 for Size 2 Type SM12 for Sizes 3–4	Horizontal Type SM2 [1] for Size 0 or 1 Type SM7 for Size 2 Type SM12 for Sizes 3–4	Vertical Type SM2 [1] for Size 0 or 1 Type SM10 for Size 2 Type SM11 for Size 3 Type SM13 for Size 4	0, 1	SM5
			2	SM6
			2	SM7
			2	SM8
			2	SM9
			2	SM10
			3	SM11
			3, 4	SM12
			4	SM13
Horizontal Type SM3 for Size 0 or 1 Type SM8 for Size 2 Type SM12 for Sizes 3–4	Vertical Type SM4 for Size 0 or 1 Type SM9 for Size 2 Type SM11 for Size 3 Type SM13 for Size 4	Vertical Type SM5 for Size 0 or 1 Type SM11 for Size 3 Type SM13 for Size 4		

[1] The Type SM2 interlock is factory assembled for horizontal mounting but can easily be converted to vertical mounting. Conversion instructions are included.

Overload Relay Mounting Bracket

Table 66: Overload Relay Mounting Bracket

Mechanical interlocks, Types SM1–SM10 for Sizes 00–2 devices, use overload relay mounting brackets to support the overload relay portion of the starter.

Kit Description	Class 9999 Type Number
Bracket for one overload relay used with horizontal mechanical interlocks, Types SM1–SM10	SO11
Bracket for two overload relays used with vertical mechanical interlocks, Types SM2, SM4, SM5, SM9, and SM10	SO12

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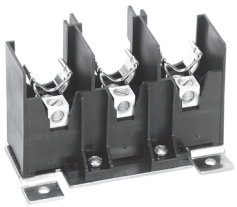

Class 9422 Type TC33
Fuse Block

Fuse Clip Kits

Table 67: Class 9422 Replacement Fuse Clip Kits

A Class 9422 fuse clip kit can convert the following non-fusible devices to fusible: Sizes 0–2, Type S combination starters, Class 8538 (Series D and newer) and Class 8738 (Series E and newer); and 30–60 A lighting contactors, Class 8903 (Series C and newer). Both fusible and non-fusible combination devices have the same size enclosure in NEMA 1, 4, and 12 construction, which permits this conversion. The 9422 fuse clip kits contain line and load fuse clips, load base, and fuse pullers.

For Use On		Disconnect Rating (A)	NEMA Class H, K, J, R Fuses			NEMA Class R Fuses
Type S NEMA Combo Starter Size	Lighting Contactor Ampere Rating		Fuse Clip Ratings (A) 250 V Max.	Fuse Clip Ratings (A) 600 V Max.	Class and Type	Rejection Kit Catalog Number [1]
0, 1	30 A	30	0–30	—	9422TC30 [2]	RFK03
			31–60	0–30	9422TC33 [2]	RFK06
2	60 A	60	31–60	0–30	9422TC33	RFK06
			—	31–60	9422TD63	RFK06H

[1] This is the full catalog number. No Class Number is required.
[2] When using the kit with a 9422 FTCN or FTCF disconnect switch in Class 8538 or 8738 combination starters, remove and discard the metal base plate.

Table 68: How to Order

Specify	Catalog Number	
• Class	Class	Type
• Type	9999	R6

Table 69: Class 9999 Replacement Fuse Clip Kits (8538 Pre-Series D, 8738 Pre-Series E)

For Use On		Disconnect Rating (A)	NEMA Class H Fuses			NEMA Class R Fuses			NEMA Class J Fuses	
Type S Combo NEMA Size	Lighting Contactor Rating (A)		Fuse Clip Ratings (A) 250 V Max.	Fuse Clip Ratings (A) 600 V Max.	Type	Fuse Clip Ratings (A) 250 V Max.	Fuse Clip Ratings (A) 600 V Max.	Type	Fuse Clip Ratings (A) 600 V Max.	Type
0, 1	30 A	30	0–30 — 31–60	— 0–30 0–30	S1 S2 S2	0–30 — 31–60	— 0–30 0–30	SR1 SR2 SR2	— 0–30 0–30	— SJ2 SJ2
2	60 A	60	31–60 —	0–30 31–60	S2 S3	31–60 —	0–30 31–60	SR2 SR3	0–30 31–60	SJ2 SJ3
3	100 A	100	61–100 101–200	61–100 —	S4 [1] S5 [1]	61–100 101–200	61–100 —	SR4 [2] SR4 [2]	61–100 —	SJ4 —
4	200 A	200	101–200	101–200	S5 [1]	101–200	101–200	SR4 [2]	—	—
5	300 A	400	—	—	—	201–400	201–400	SR5 [2]	—	—
6	400, 600 A	600	—	—	—	401–600	401–600	SR5 [2]	—	—

[1] Cannot be used in Series B or newer 8538 devices.
[2] Fuse clips are not included in the Type SR4 and SR5 kits. On new installations, Class 9999 Type S fuse clips must also be purchased. Three non-removable pins are included and can be installed only in the latest production devices, which have a hole in the lower fuse clips.

Table 70: Class 9999 Auxiliary Contact Kits for Disconnect Switches and Circuit Breakers

For Use On		Kit, Class 9999 Type	
Class	Type	SPDT	DPDT
8538, 8738	SB, SC (Series C)	R45	R46
8539, 8739	SB, SC, SD, SE, SF, SG	R26	R27
8538	SBA, SCA, SBG, SCG (Series K)	TC11	TC21
8738	SBA, SCA, SBG, SCG (Series K)	TC10	TC20
8538	SB [1], SC [1], SD [1] (Series B)	R6	R7
8538	SBAS8, SCAS8, SBGS8, SCGS8 (Series K)	TC10	TC20
8538, 8738	SD (Series C)	R43	R44
8538	SDA, SDA [1], SDG, SDG [1] (Series K)	TC10	TC20
8738	SDA, SDG (Series K)	TC10	TC20
8538, 8738	SE (Series B and C)	R41	R42
8538, 8738	SE, SF (Series A)	R8	R9
8538, 8738	SF (Series B and C)	R39	R40
8538, 8738	SG	R35	R36
Disconnect Switches			
9422	BTCF, BTCN, BTDF, BTEF, BTEN	TC11	TC21
9422	TCF, TCN, TDF, TDN, TEF, TEN	TC10	TC11
9422	TF	R8	R9
Circuit Breaker Operating Mechanisms			
9421	LF, LK, LL, LM, LN, LP, LR, LT, LW	R47	R48
9422	RM, RN, RP, RQ, RR, RT	R26	R27
9422	CFA, CKA, CLA, CSF, CMP	R26	R27

[1] Class 8538 Type numbers ending in suffix **S8**.

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