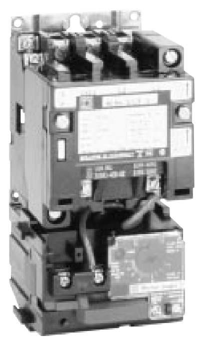
Full Voltage Contactors and Starters — NEMA
Application Data – Class 8502, 8536

Type SCO2
Size 1, 3-Pole Contactor

Type SCO3
Size 1, 3-Pole Starter



Starter with MOTOR LOGIC

Starter with Melting Alloy

AC MAGNETIC CONTACTORS CLASS 8502

General Information

Class 8502 Type S magnetic contactors are used to switch heating loads, capacitors, transformers, and electric motors where overload protection is separately provided. Class 8502 contactors are available in NEMA Sizes 00-7. Type S contactors are designed for operation at 600 Volts, AC 50-60 Hertz.

Holding Circuit Contact

A normally open holding circuit contact for three wire control is provided on all contactors as standard. Sizes 00-2 contactors use a Class 9999 SX11 auxiliary contact as the holding circuit contact. Sizes 3-7 contactors use a Class 9999 SX6 auxiliary contact as the holding circuit contact. See Class 9999 for the holding circuit contact electrical ratings. On Size 00-1 single phase contactors, a power pole is used as the holding circuit contact and therefore has the same rating as the power contacts.

Enclosures

Class 8502 magnetic contactors are available in the following enclosures:

- NEMA Type 1 General Purpose
- NEMA Type 4 & 4X Watertight and Dusttight Stainless Steel
- NEMA Type 4X Watertight, Dusttight, and Corrosion Resistant Glass — Polyester
- NEMA Type 7 & 9 Bolted and Spin-Top for Hazardous Locations
- NEMA Type 12 Dusttight and Driptight for Industrial Use

The NEMA Type 4 & 4X stainless steel enclosure (Sizes 0-5) has a brushed finish. For an electropolished finish, specify Form G16 and add 15% to the price of the standard device.

Also, NEMA Type 12 devices are available UL Listed for use in Class II, Division 2, Group G and Class III, Divisions 1 and 2 locations. Request Form G21, no additional charge.

Separate enclosures are available, see Class 9991.

AC MAGNETIC STARTERS CLASS 8536

General Information

Class 8536 Type S magnetic starters are used for full voltage starting and stopping AC squirrel cage motors. Motor overload protection is provided by melting alloy type thermal overload relays. Class 8536 starters are available in NEMA Sizes 00-7. Type S starters are designed for operation at 600 Volts AC, 50-60 Hertz.

Holding Circuit Contact

A normally open holding circuit contact for three wire control is provided on all contactors as standard. Sizes 00-2 contactors use a Class 9999 SX11 auxiliary contact as the holding circuit contact. Sizes 3-7 contactors use a Class 9999 SX6 auxiliary contact as the holding circuit contact. See Class 9999 for the holding circuit contact electrical ratings.

Overload Relays with Melting Alloys

Class 8536 Type S Sizes 00-6 starters are provided with a melting alloy thermal overload relay as standard. Interchangeable thermal units are available in standard trip (Class 20) Sizes 00-6, quick trip (Class 10) Sizes 00-4, and slow trip (Class 30) Sizes 00-3. Single-phase starters use one thermal unit, 3-phase starters use three thermal units.

Class 8536 Size 7 starters are provided with solid state Motor Logic which has selectable trip Class10/20, Ground fault detection, and Communication capabilities for future enhancement. The solid state overload relay is ambient insensitive and features phase loss, phase unbalance and over-current protection.

MOTOR LOGIC™ Solid State Overload Relay (SSOLR)

Solid state overload relays are available for Sizes 00 – 7 starters. These ambient insensitive overload relays provide phase loss protection, phase unbalance protection and a LED power indicator. For additional information, see the Class 9065 catalog section. To order Type S starters with solid state overload relays, see Factory Modification (FORMS).

Bimetallic overload relays are also available for Sizes 0-6. Ambient Compensated and Non-compensated versions are supplied with manual and automatic reset, trip current adjustment, and an alarm contact on Sizes 0-2. For additional information, see the Class 9065 catalog section. To order Type S starters with bimetallic overload relays, see Factory Modifications (FORMS).

Enclosures

Class 8536 magnetic starters are available in the following enclosures.

- NEMA Type 1 General Purpose Enclosure
- NEMA Type 3R Rainproof, Sleet Resistant for Outdoor Use
- NEMA Type 4 & 4X Watertight and Dusttight
- NEMA Type 4X Watertight, Dusttight, and Corrosion Resistant Glass – Polyester
- NEMA Type 7 & 9 Bolted and Spin-Top for Hazardous Locations
- NEMA Type 9 Bolted for Hazardous Locations
- NEMA Type 12 Dusttight and Driptight for Industrial Use

The NEMA Type 4 & 4X stainless steel enclosure (Sizes 0-5) has a brushed finish. For an electropolished finish, specify Form G16 and add 15% to the price of the standard device. Sizes 6 & 7 are painted sheet steel and are rated NEMA 4 ONLY.

Also NEMA Type 12 devices are available UL Listed for use in Class II, Division 2, Group G and Class III, Divisions 1 and 2 locations. Specify Form G21, no additional charge.

Separate enclosures are available, see Class 9991.

Coil Voltages

AC coils are available for application on 50-60 Hertz. NEMA Sizes 00-5 are supplied with coils that are designed to operate satisfactorily on line voltages of 85% – 110% of rated voltage. NEMA Size 6 and 7 contactors are supplied with a DC coil operated by a solid state rectifier circuit that is powered by an AC source.

Please note that **Voltage Codes** have been added to the Type designations in order to improve customer service. It is necessary to include the Voltage Code when ordering contactors and starters. Also, 120 Volt Polyphase contactors and starters will be wired for separate control.

Auxiliary Contacts

Additional auxiliary contacts may be added to Type S contactors. See Page 15 for maximum number of auxiliary units and Form designations for factory installed auxiliary contacts.

Type S Accessories

Additional accessories such as power poles, pneumatic timer attachments, and cover mounted control stations are available as factory or field modifications.

Full Voltage Starters — NEMA
Selection – Class 8536

3-Pole Polyphase—600 Volt AC Max. 50/60 Hz—Three Thermal Units Required

NEMA Size	Continuous Current Ratings	Motor Volts	Max. HP	∗ Coil Voltage	Open Type	NEMA Type 1 General Purpose Enclosure	NEMA Type 4 & 4X Watertight, Dusttight Brushed Stainless Steel Enclosure (Size 0-5)♦	NEMA Type 4X Watertight, Dusttight, Corrosion-Resistant Glass-Polyester Enclosure
					Type	Type	Type	Type
00	9	Separate Control†		120	SAO12V02S	SAG12V02S	Use Size 0	Use Size 0
		200	1½	208	SAO12V08	SAG12V08		
		230	1½	240	SAO12V03	SAG12V03		
		460	2	480	SAO12V06	SAG12V06		
		575	2	600	SAO12V07	SAG12V07		
0	18	Separate Control†		120	SBO2V02S	SBG2V02S	SBW12V02S	SBW22V02S
		200	3	208	SBO2V08	SBG2V08	SBW12V08	SBW22V08
		230	3	240	SBO2V03	SBG2V03	SBW12V03	SBW22V03
		460	5	480	SBO2V06	SBG2V06	SBW12V06	SBW22V06
		575	5	600	SBO2V07	SBG2V07	SBW12V07	SBW22V07
1	27	Separate Control†		120	SCO3V02S	SCG3V02S	SCW13V02S	SCW23V02S
		200	7½	208	SCO3V08	SCG3V08	SCW13V08	SCW23V08
		230	7½	240	SCO3V03	SCG3V03	SCW13V03	SCW23V03
		460	10	480	SCO3V06	SCG3V06	SCW13V06	SCW23V06
		575	10	600	SCO3V07	SCG3V07	SCW13V07	SCW23V07
2	45	Separate Control†		120	SDO1V02S	SDG1V02S	SDW11V02S	SDW21V02S
		200	10	208	SDO1V08	SDG1V08	SDW11V08	SDW21V08
		230	15	240	SDO1V03	SDG1V03	SDW11V03	SDW21V03
		460	25	480	SDO1V06	SDG1V06	SDW11V06	SDW21V06
		575	25	600	SDO1V07	SDG1V07	SDW11V07	SDW21V07
3	90	Separate Control†		120	SEO1V02S	SEG1V02S	SEW11V02S	SEW21V02S
		200	25	208	SEO1V08	SEG1V08	SEW11V08	SEW21V08
		230	30	240	SEO1V03	SEG1V03	SEW11V03	SEW21V03
		460	50	480	SEO1V06	SEG1V06	SEW11V06	SEW21V06
		575	50	600	SEO1V07	SEG1V07	SEW11V07	SEW21V07
4	135	Separate Control†		120	SFO1V02S	SFG1V02S	SFW11V02S	SFW21V02S
		200	40	208	SFO1V08	SFG1V08	SFW11V08	SFW21V08
		230	50	240	SFO1V03	SFG1V03	SFW11V03	SFW21V03
		460	100	480	SFO1V06	SFG1V06	SFW11V06	SFW21V06
		575	100	600	SFO1V07	SFG1V07	SFW11V07	SFW21V07
5	270	Separate Control†		120	SGO1V02S	SGG1V02S	SGW11V02S	. . .
		200	75	208	SGO1V08	SGG1V08	SGW11V08	
		230	100	240	SGO1V03	SGG1V03	SGW11V03	
		460	200	480	SGO1V06	SGG1V06	SGW11V06	
		575	200	600	SGO1V07	SGG1V07	SGW11V07	
6	540	Separate Control†		120	SHO2V02S	SHG2V02S	SHW2V02S	. . .
		200	150	208	SHO2V08	SHG2V08	SHW2V08	
		230	200	240	SHO2V03	SHG2V03	SHW2V03	
		460	400	480	SHO2V06	SHG2V06	SHW2V06	
		575	400	600	SHO2V07	SHG2V07	SHW2V07	
7	810	Separate Control†		120	SJO2V02S	SJG2V02S	SJW2V02S	. . .
		200	—	208	SJO2V08	SJG2V08	SJW2V08	
		230	300	240	SJO2V03	SJG2V03	SJW2V03	
		460	600	480	SJO2V06	SJG2V06	SJW2V06	
		575	600	600	SJO2V07	SJG2V07	SJW2V07	

♦ Size 6 and 7 are rated NEMA Type 4 only.
† 120 Volt Polyphase starters are wired for separate control.
∗ Coil voltage code must be specified to order this product. Refer to standard coil voltage codes listed in selection table above or additional standard voltage codes below and insert as shown in the HOW TO ORDER block.

Coil Voltage Codes

Voltage		Code
60 Hz	50 Hz	
24▲	. . .	VO1
120	110	VO2
208	. . .	VO8
240	220	VO3
480	440	VO6
600	550	VO7
Specify	Specify	V99

▲ 24 V coils are not available on Sizes 4-7. On Sizes 00-3, where 24 V coils are available, Form S (separate control) must be specified.

File E78351
CCN NLDX

File LR60905
Class 3211-04

IEC 947-4-1
Sizes 00-5 only

How to Order:

To Order Specify:	*Catalog Number*			
• Class Number • Type Number • Coil Voltage Code • Form(s)	Class	Type	Coil Voltage Code	Form(s)
	8536	SBA2	VO2	P1S

Factory Modifications (FORMS) ....Refer to Catalog 9999CT9701
Application Data .... Pages 13-16
Dimensions .... Pages 17-20
Separate Enclosures (Class 9991) ....Refer to Catalog 9999CT9701
Replacement Parts (Class 9998) ....Refer to Catalog 9999CT9701
Type S Accessories (Class 9999) ....Refer to Catalog 9999CT9701

NEMA Size	Load Volts	Maximum Horsepower Rating – Nonplugging and Nonjogging Duty		Maximum Horsepower Rating – Plugging and Jogging Duty †		Continuous Current Rating, Amperes – 600 Volt Max.	Service – Limit Current Rating, Amperes ∗	Tungsten and Infrared Lamp Load, Amperes – 250 Volts Max. ★	Resistance Heating Loads, KW – Other Than Infrared Lamp Loads ‡		KVA Rating for Switching Transformer Primaries at 50 or 60 Cycles: Transformers Having Inrush Currents (Worst Case Peak) of Not More Than 20 Times Peak of Continuous Current Rating		KVA Rating for Switching Transformer Primaries at 50 or 60 Cycles: Transformers Having Inrush Currents (Worst Case Peak) of Over 20 Through 40 Times Peak of Continuous Current Rating		3 Phase Rating for Switching Capacitors ●
		Single Phase	Poly-Phase	Single Phase	Poly-Phase				Single Phase	Poly-Phase	Single Phase	Poly-Phase	Single Phase	Poly-Phase	KVAR
00	115	½	. . .	. . .	. . .	9	11	5	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	200	. . .	1½	. . .	. . .	9	11	5	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	230	1	1½	. . .	. . .	9	11	5	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	380	. . .	1½	. . .	. . .	9	11	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	460	. . .	2	. . .	. . .	9	11	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	575	. . .	2	. . .	. . .	9	11	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
0	115	1	. . .	½	. . .	18	21	10	. . .	. . .	0.6	. . .	0.3	. . .	. . .
	200	. . .	3	. . .	1½	18	21	10	. . .	. . .	. . .	1.8	. . .	0.9	. . .
	230	2	3	1	1½	18	21	10	. . .	. . .	1.2	2.1	0.6	1.0	. . .
	380	. . .	5	. . .	1½	18	21	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	460	. . .	5	. . .	2	18	21	. . .	. . .	. . .	2.4	4.2	1.2	2.1	. . .
	575	. . .	5	. . .	2	18	21	. . .	. . .	. . .	3.0	5.2	1.5	2.6	. . .
1	115	2	. . .	1	. . .	27	32	15	3	5	1.2	. . .	0.6	. . .	. . .
	200	. . .	7½	. . .	3	27	32	15	. . .	9.1	. . .	3.6	. . .	1.8	. . .
	230	3	7½	2	3	27	32	15	6	10	2.4	4.3	1.2	2.1	. . .
	380	. . .	10	. . .	5	27	32	. . .	. . .	16.5	. . .	. . .	. . .	. . .	. . .
	460	. . .	10	. . .	5	27	32	. . .	12	20	4.9	8.5	2.5	4.3	. . .
	575	. . .	10	. . .	5	27	32	. . .	15	25	6.2	11.0	3.1	5.3	. . .
1P	115	3	. . .	1½	. . .	36	42	24	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	230	5	. . .	3	. . .	36	42	24	. . .	. . .	. . .	. . .	. . .	. . .	. . .
2	115	3	. . .	2	. . .	45	52	30	5	8.5	2.1	. . .	1.0	. . .	. . .
	200	. . .	10	. . .	7½	45	52	30	. . .	15.4	. . .	6.3	. . .	3.1	. . .
	230	7½	15	5	10	45	52	30	10	17	4.1	7.2	2.1	3.6	8
	380	. . .	25	. . .	15	45	52	. . .	. . .	28	. . .	. . .	. . .	. . .	. . .
	460	. . .	25	. . .	15	45	52	. . .	20	34	8.3	14	4.2	7.2	16
	575	. . .	25	. . .	15	45	52	. . .	25	43	10.0	18	5.2	8.9	20
3	115	. . .	. . .	. . .	. . .	90	104	60	10	17	4.1	. . .	2.0	. . .	. . .
	200	. . .	25	. . .	15	90	104	60	. . .	31	. . .	12	. . .	6.1	. . .
	230	. . .	30	. . .	20	90	104	60	20	34	8.1	14	4.1	7.0	27
	380	. . .	50	. . .	30	90	104	. . .	. . .	56	. . .	. . .	. . .	. . .	. . .
	460	. . .	50	. . .	30	90	104	. . .	40	68	16	28	8.1	14	53
	575	. . .	50	. . .	30	90	104	. . .	50	86	20	35	10	18	67
4	200	. . .	40	. . .	25	135	156	120	. . .	45	. . .	20	. . .	10	. . .
	230	. . .	50	. . .	30	135	156	120	30	52	14	23	6.8	12	40
	380	. . .	75	. . .	50	135	156	. . .	. . .	86.7	. . .	. . .	. . .	. . .	. . .
	460	. . .	100	. . .	60	135	156	. . .	60	105	27	47	14	23	80
	575	. . .	100	. . .	60	135	156	. . .	75	130	34	59	17	29	100
5	200	. . .	75	. . .	60	270	311	240	. . .	91	. . .	41	. . .	20	. . .
	230	. . .	100	. . .	75	270	311	240	60	105	27	47	14	24	80
	380	. . .	150	. . .	125	270	311	. . .	. . .	173	. . .	. . .	. . .	. . .	. . .
	460	. . .	200	. . .	150	270	311	. . .	120	210	54	94	27	47	160
	575	. . .	200	. . .	150	270	311	. . .	150	260	68	117	34	59	200
6♦	200	. . .	150	. . .	125	540	621	480	. . .	182	. . .	81	. . .	41	. . .
	230	. . .	200	. . .	150	540	621	480	120	210	54	94	27	47	160
	380	. . .	300	. . .	250	540	621	. . .	. . .	342	. . .	. . .	. . .	. . .	. . .
	460	. . .	400	. . .	300	540	621	. . .	240	415	108	188	54	94	320
	575	. . .	400	. . .	300	540	621	. . .	300	515	135	234	68	117	400
7♦	230	. . .	300	. . .	. . .	810	932	. . .	180	315	. . .	. . .	. . .	. . .	240
	460	. . .	600	. . .	. . .	810	932	. . .	360	625	. . .	. . .	. . .	. . .	480
	575	. . .	600	. . .	. . .	810	932	. . .	450	775	. . .	. . .	. . .	. . .	600

Tables and footnotes are taken from NEMA Standards.

† Ratings shown are for applications requiring repeated interruptions of stalled motor current or repeated closing of high transient currents encountered in rapid motor reversal, involving more than five openings or closings per minute and more than ten in a ten-minute period, such as plug-stop, plug-reverse or jogging duty. Ratings apply to single speed and multi-speed controllers.

∗ Per NEMA Standards paragraph ICS 2-321.20, the service-limit current represents the maximum ms current, in amperes, which the controller may be expected to carry for protracted periods in normal service. At service-limit current ratings, temperature rises may exceed those obtained by testing the controller at its continuous current rating. The ultimate trip current of over-current (overload) relays or other motor protective devices shall not exceed the service-limit current ratings of the controller.

★ FLUORESCENT LAMP LOADS – 300 VOLTS AND LESS – The characteristics of fluorescent lamps are such that it is not necessary to derate Class 8502 contactors below their normal continuous current rating. Class 8903 contactors may also be used with fluorescent lamp loads. For controlling tungsten and infrared lamp loads, and resistance heating loads, Class 8903 ac lighting contactors are recommended. These contactors are specifically designed for such loads and are applied at their full rating as listed in the Class 8903 Section.

‡ Ratings apply to contactors which are employed to switch the load at the utilization voltage of the heat producing element with a duty which requires continuous operation of not more than five openings per minute. Class 8903 Types L and S lighting contactors are rated for resistance heating loads.

● When discharged, a capacitor has essentially zero impedance. For repetitive switching by contactor, sufficient impedance should be connected in series to limit inrush current to not more than 6 times the contactor rated continuous current. In many installations, the impedance of connecting conductors may be sufficient for this purpose. When switching to connect additional banks, the banks already on the line may be charged and can supply additional available short-circuit current which should be considered when selecting the impedance to limit the current. The ratings for capacitor switching above assume the following maximum available fault currents: NEMA Size 2-3: 5,000 A RMS Sym.; NEMA Size 4-5: 10,000 A RMS Sym.; NEMA Size 6-7: 18,000 A RMS Sym. If available fault current is greater than these values, connect sufficient impedance in series as noted in the previous paragraph.

♦ See Page 16 regarding operation rates for Size 6 & 7.

The motor ratings in the above table are NEMA standard ratings and apply only when the code letter of the motor is the same as or occurs earlier in the alphabet than is shown in the table below. Motors having code letters occurring later in the alphabet may require a larger controller. Consult local Square D field office.

Motor HP Rating	Maximum Allowable Motor Code Letter
1½-2	L
3-5	K
7½ & above	H

CLASS 8502 AND 8536 APPLICATION DATA

Power Contact Ratings

All contactors and starters are rated in accordance with NEMA standards. The ratings shown in the price tables are for normal service. For complete data on power contact ratings, refer to Page 13.

Short Circuit Protection

According to the National Electrical Code branch circuit overcurrent protection must be provided for each contactor or starter. For starters refer to instructions furnished with the thermal unit selection table. For contactors (Class 8502 or 8702) provide branch circuit overcurrent protection in accordance with the National Electrical Code, except do not exceed the maximum protective device ratings in table below.

NEMA Size	Maximum Voltage	Class K5, RK5 or RK1 Fuse (Ampere)	Class J or T Fuse (Ampere)	Inverse-Time Circuit Breaker (Ampere)
00	600 250	10 12	15	15
0	600 250	20 25	30	20 35
1	600 250	30 40	60	40 60
2	600 250	60	100	80 90
3	600 250	100 125	200	125 150
4	600	200	400	225
5	600	400	600	400
6	600	600	1200∗	800
7	600	600	1600∗	1200

∗ Class L Fuse only.

Capacitor Switching

The kilovar ratings of enclosed, three phase contactors used as switches for capacitor loads, when only one load appears on the secondary of a distribution system are shown in the table on Page 13.

Coil Burden▲

NEMA Size	No. of Poles	Inrush VA		Sealed VA		Sealed Watts	
		50 Hertz	60 Hertz	50 Hertz	60 Hertz	50 Hertz	60 Hertz
00	2-3	. . .	165	. . .	33	. . .	6
0 & 1	1-5	232	245	26	27	7.7	7.8
2	2 & 3	296	311	36	37	12	14
	4 & 5	429	438	37	38		
3	2-3	676	700	47	46	15	14
	4-5	1260	1185	89	85	23.4	22
4	2-5	. . .	973	. . .	81	. . .	25
5	2-3	2970	2970	250	212	42	39
6★	2-3	1495	1780	56	48	27	32
7★	2-3	. . .	1960	. . .	59	. . .	36

▲ Mean values.
★ Size 6 and 7 have a DC coil. The values shown are for the AC input to the DC power supply that provides power to the coil.

Maintenance of Equipment

Class 9998 Repair Parts Kits are available for all Class 8502 contactors and Class 8536 starters. Service bulletins with a complete list of replaceable parts are supplied with all enclosed devices. Separate bulletins can be ordered and are listed along with the appropriate contact parts kit.

Device				Service Bulletin	Replacement Contacts Class 9998 Type
NEMA Type	Type	Series	No. of Poles		
00	SA	A	2-3	362AS	SL2
		B	2-3	556AS	SJ1
0	SB	A & B	1-3 4 5	277AS 277AS & 250AS 277AS & 250AS	SL2 SL12 (1)SL12 & (1)SL22 or (1)SL2 & (2)SL22
1	SC	A & B	1-3 4 5	278AS 278AS & 250AS 278AS & 250AS	SL3 SL13 (1)SL13 & (1)SL22 or (1)SL3 & (2)SL22
1P	SC	A	2	278AS	SL3
2	SD	A	2-3 4 5	279AS 279AS & 293AS 279AS & 293AS	SL4 SL14 (1)SL14 & (1)SL24 or (1)SL4 & (2)SL24
3	SE	A	2 3 4 5	305AS 305AS 326AS 326AS	SL6 SL7 (2)SL6 (1)SL6 & (1)SL7
4	SF	A	2 3 4 5	306AS 306AS 326AS 326AS	SL8 SL9 (2)SL8 (1)SL8 & (1)SL9
5	SG	A	2 3	328AS 328AS	SL10 SL11
6	SH	A	2 3	342AS 342AS	SL25 SL26
		B	2 3	370AS 370AS	SL25 SL26
7	SJ	A	2 3	397AS	SL30 SL31

Terminals

NEMA Size	Type	Power Terminals		Control Terminals	
		Type of Lug	Wire Sizes∗ Min.-Max.	Type of Lug	Wire Sizes∗ Min.-Max.
00, 0 & 1	SA, SB & SC	Pressure Wire	#14-#8	Pressure Wire	#16-#12
2	SD	Box Lug	#14-#4	Pressure Wire	#16-#12
3	SE	Box Lug	#14-1/0	Pressure Wire	#16-#12
4	SF	Box Lug	#8-250 kcmil	Pressure Wire	#16-#12
5	SG	Box Lug	#4-500 kcmil	Pressure Wire	#16-#12
6	SH	Parallel Groove	One or two 250-500 kcmil per phase	Pressure Wire	#16-#12
7	SJ	Parallel Groove	One to four 250-500 kcmil per phase	Pressure Wire	#16-#12

∗ Solid or stranded copper wire.

Auxiliary Units

Auxiliary contacts, power poles, and timer attachments can be added by the factory or in the field on all Type S starters and contactors. The table below shows the maximum number of auxiliary units **(in addition to the holding circuit contact)** that can be added to a given size starter or contactor. In addition, it is possible to add a second internal contact on NEMA Size 0, 1, and 2 contactors and starters.

NEMA Size	Type	No. of Poles of Basic Contactor	Maximum Number of External Auxiliary Units (In addition to holding circuit contact)
00	SA	2-3	4 single circuit auxiliary contacts (N.O. or N.C.) if second internal auxiliary contact is not used.
0, 1 & 2	SB SC SD	1, 2 or 3	4 single circuit auxiliary contacts (N.O. or N.C.)
			3 single circuit auxiliary contacts (N.O. or N.C.) plus 1 attached timer (ON or OFF delay).
			2 single circuit auxiliary contacts (N.O. or N.C.) plus 1 power pole adder (1 or 2 poles, N.O. or N.C.).
			1 attached timer (ON or OFF delay) plus 1 power pole adder (1 or 2 poles, N.O. or N.C.) plus 1 auxiliary contact.
		4 or 5	2 single circuit auxiliary contacts (N.O. or N.C.) 1 timer attachment plus 1 auxiliary contact.
3, 4 & 5	SE SF SG	2-5 (Size 3 & 4)	4 single circuit auxiliary contacts (N.O. or N.C.)
			2 single circuit (Sizes 3 & 4) or 3 single circuit (Size 5) auxiliary contacts plus 1 attached timer (ON or OFF delay).
		2-3 (Size 5)	2 single circuit auxiliary contacts (N.O. or N.C.) plus 1 NEMA Size 0-1 or Size 2 power pole adder (1 or 2 poles, N.O. or N.C.)
6 & 7	SH SJ	2-3	4 single circuit auxiliary contacts (N.O. or N.C.)
			3 single circuit auxiliary contacts (N.O. or N.C.) plus 1 attached timer (ON or OFF delay).
			2 single circuit auxiliary contacts (N.O. or N.C.) plus 1 NEMA Size 0-1 or Size 2 power pole adder (1 or 2 poles, N.O. or N.C.)

Factory Installed Auxiliary Contacts

Additional auxiliary contacts may be factory or field added to any Type S contactor or starter. See table above for maximum number of auxiliary units. The table below lists the Form designations for factory installed electrical contacts.

See Class 9999 for field modification kits.

Form Number of Additional Auxiliary Contacts

When ordering factory installed auxiliary contacts, the Form designations listed should be used.

Number of N.O. Contacts	Number of N.C. Contacts	Form Number
0	1	X01
	2	X02
	3	X03
	4	X04
1	0	X10
	1	X11
	2	X12
	3	X13
2	0	X20
	1	X21
	2	X22
3	0	X30
3	1	X31
4	0	X40

Control Circuit Transformers

Class 9070 Type T machine tool control transformers are normally used when it is necessary to provide a lower voltage to the control circuit. This transformer with fused protection may be ordered from the factory by specifying Form F4T. The addition of a transformer often requires the use of a larger enclosure. The table below shows the transformer selection for given sized starters and contactors with or without auxiliary units.

NEMA Size	Type	No. of Poles	Auxiliary Units	Transformer Class 9070 Type
0 & 1	SB SC	1-3	With max. of 2 auxiliary contacts	T50
			With timer and maximum of 1 auxiliary contact	
			With 3 or 4 auxiliary contacts with timer and 2 or 3 auxiliary contacts	T100
0 & 1	SB SC	4 & 5	With or without auxiliary contacts or timer	T100
0 & 1 Mechanically Interlocked Devices	SB SC	1-5	With or without attachments	T100
2	SD	2-5	With or without attachments	T100
3	SE	2-3	With or without attachments	GO3†
3	SE	4 & 5	With or without attachments	T300
4	SF	2-5	With or without attachments	T300
5	SG	2-3	Any	T500
6, 7	SH, SJ	2-3	Any	‡

† Class 8502 & 8536 Type S, Size 3 standard NEMA Type 1, 4 and 12 enclosures have space for field mounting a fused control circuit transformer. A Class **9070 Type GFT3** transformer and fuse block kit is available for Form F4T requirements in a NEMA Type 1 enclosure. NEMA Type 4 and 12 enclosures utilize a Class 9070 T150 transformer and a Class 9999 SF4 fuse block.

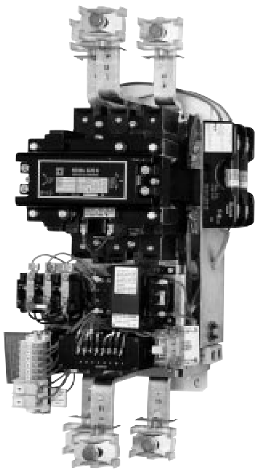
‡ A Class 9070 transformer is an integral part of the Size 6 and Size 7 control circuit providing 120 volt control circuit voltage as standard.

Power Poles

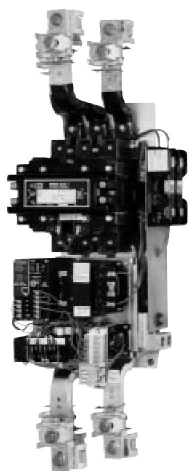
Single or double circuit power pole adders may be factory or field installed on 2 and 3 pole Type S contactors and starters. The table below lists the Form designation for factory installed power pole adders. Only one power pole adder may be installed per contactor.

Type	NEMA Size	Class 9999 Type	Form Designation
1 N.O.	0, 1	SB6	Y428
	2	SB11	Y436
1 N.C.	0, 1	SB7	Y429
	2	SB12	Y437
1 N.O., 1 N.C.	0, 1	SB8	Y435
	2	SB13	Y440
2 N.O.	0, 1	SB9	Y430
	2	SB14	Y438
2 N.C.	0, 1	SB10	Y434
	2	SB15	Y439

Full Voltage Contactors and Starters — NEMA
Application Data – Class 8502, 8536



Size 6 Starter 8536 SH



Size 7 Starter 8536 SJ

Size 6 Type SH and Size 7 Type SJ Contactors and Starters

Size 6 Type SH and Size 7 Type SJ contactors and starters have a DC coil operated by a solid state rectifier circuit mounted on the device and powered from an ac source. The Size 6 and 7 are equipped as standard with a fused control circuit transformer (Form F4T) rated 240/480-120 volts 60 hertz, 220/440-110 volts 50 hertz. The purpose of this transformer is to provide an isolated 120 volts 60 hertz, 110 volts 50 hertz, supply for the control circuit. Size 6 and 7 devices may be ordered for other system voltages by specifying the voltage and frequency desired.

Operation Rates

Continuous operation rate: 3 operations/minute maximum. Jogging or Plugging Duty: 15 operations/minute – 3 minutes maximum.

Field conversion for other system voltages is accomplished by one of the following methods, NOT BY THE USUAL PRACTICE OF CHANGING THE COIL:

1. If the factory wiring is indicated as being for 480 volts 60 hertz, 440 volts 50 hertz, conversion to 240 volts 60 hertz, 220 volts 50 hertz, can be accomplished by reconnecting the control transformer as illustrated on instruction sheet supplied with the controller. This is the same method that would be used on Class 9070 control circuit transformers.

   Conversion to any other voltage requires replacement of the control transformer. For other system voltages: i.e. 208, 277, 380, 600 volts, a new transformer with single voltage primary must be selected from table at right. Control transformer connections are illustrated on the instruction sheet supplied with the controller.
2. If the factory wiring is indicated as being for any voltage other than 480 volts 60 hertz, 440 volts 50 hertz, conversion to any other voltage requires replacement of the control transformer. Refer to table at right.
3. The standard transformer supplied may be used to power a maximum of five Class 9001 Type K illuminated operators powered with transformer type light modules. When extra capacity to power control relays or other inductive loads is required, a second transformer must be added. Extra capacity can be purchased as Form F4T with additions in 100 VA increments.
4. Standard controllers are wired for common control and are not convertible for operation of the control circuit from a separate source of supply voltage. Controllers designated Form S have special wiring designed for separate control. They are furnished with an isolating transformer, usually having a 120 volt primary and 120 volt secondary, that must not be bypassed. Form S controllers are not convertible for operation on common control.

The tables below give the replacement transformers for Type S Sizes 6 and 7 contactors and starters. To change voltages on these devices, coils are not changed, instead transformers with the desired voltage are changed.

Replacement Control Transformers for Type S Size 6

Voltage		Class 9070 Type
60 Hertz	50 Hertz	
240/480-120	220/440-110	EO3S2A
208-120	. . .	EO3S2B
277-120	. . .	EO3S2C
. . .	380-110	EO3S2D
600-120	550-110	EO3S2E
120-120	110-110	EO3S2F
240-120	220-110	EO3S2G

Replacement Control Transformers for Type S Size 7

Voltage		Class 9070 Type
60 Hertz	50 Hertz	
240/480-120	220/440-110	EO19S2A
208-120	. . .	EO19S2B
277-120	. . .	EO19S2C
. . .	380-110	EO19S2D
600-120	550-110	EO19S2E
120-120	110-110	EO19S2F
240-120	220-110	EO19S2G

Auxiliary Contacts

A N.O. holding circuit contact and a N.C. auxiliary contact are provided as standard. The holding circuit contact may or may not be required for either 3-wire or 2-wire control. Size 6 and 7 devices have an additional N.C. auxiliary contact which is wired in the coil control circuit. **DO NOT USE THIS N.C. CONTACT FOR ANY OTHER PURPOSE.**

Class 8502 Open Type

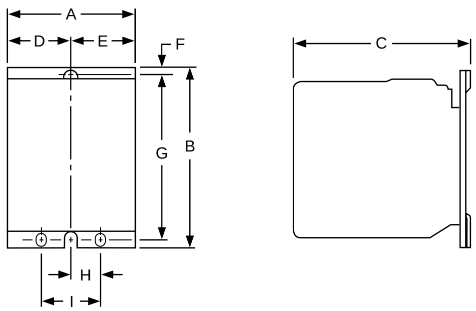


Figure 1

Class 8536 Open Type

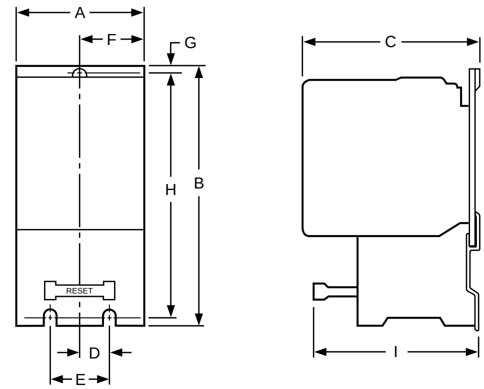
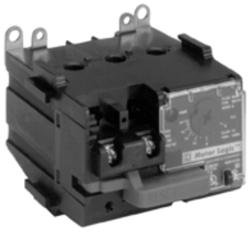


Figure 2

Class	NEMA Size	Type	No. of Poles	Fig. No.	Mtg. Screws	Dimensions – Inches/mm (Refer to Appropriate Figure)																		Wt (Lbs)
						A		B		C		D		E		F		G		H		I		
						IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	
	00	SAO	2-3	1	(2) #10	3.22	82	4.34	110	4.22	107	1.63	41	1.63	41	.22	6	3.94	100	. . .	. . .	. . .	. . .	4
	0 1	SBO SCO	1-3 4-5	1	(2) #10	3.22 4.25	82 108	4.34 4.34	110 110	4.22 4.22	107 107	1.63 1.63	41 41	1.63 2.63	41 67	.22 .22	6 6	3.94 3.94	100 100	. . . . . .	. . . . . .	. . . . . .	. . . . . .	4 4½
	2	SDO	2-3 4-5	1	(3) #10	4.94 5.63	125 143	5.13 5.13	130 130	4.94 4.94	125 125	2.16 2.16	55 55	2.16 3.47	55 88	.22 .22	6 6	4.59 4.59	117 117	.53 .53	13 13	1.06 1.06	27 27	6¾ 8¼
8502	3	SEO	2-3 4-5	1	(3) ¼" (3) 5/16"	5.47 9.75	139 248	7.09 7.88	180 200	6.50 6.50	165 165	1.88 3.94	48 100	3.59 5.81	91 148	.31 .31	8 8	6.03 7.00	153 178	3.25 4.53	83 115	4.75 9.06	121 230	14 22
	4	SFO	2-3 4-5	1	(3) 5/16" (3) 5/16"	6.00 9.75	152 248	8.19 8.19	208 208	6.50 6.50	165 165	2.06 3.94	52 100	3.94 5.81	100 148	.31 .31	8 8	7.00 7.00	178 178	3.59 4.53	91 115	5.31 9.06	135 230	18 22
	5	SGO	2-3	1	(3) ½"	8.66	220	12.31	313	8.75	222	3.25	83	5.81	148	.63	16	11.13	283	4.75	121	7.25	184	45
	6	SHO	2-3	1	(3) ½"	12.34	313	28.06	713	9.00	229	3.53	90	5.78	147	5.06	129	18.56	471	4.75	121	7.25	184	80
	7	SJO	2-3	1	(3) ½"	12.34	313	37.25	946	10.88	276	3.53	90	5.78	147	7.22	183	22.38	568	4.75	121	7.25	184	135
	00, 0, 1, 1P	SAO-SCO	2-3	2	(3) #10	3.50	89	6.77	172	4.22	107	.50	13	1.00	25	1.61	41	.20	5	6.25	159	3.97	101	5
	0, 1	SBO-SCO	4	2	(3) #10	4.53	115	6.77	172	4.22	107	.50	13	1.00	25	2.66	68	.20	5	6.25	159	3.97	101	5½
	2	SDO	2-3 4	2	(3) #10	4.31 5.63	109 143	7.81 7.81	198 198	4.94 4.94	125 125	.50 .50	13 13	1.00 1.00	25 25	2.16 3.47	55 88	.20 .20	5 5	7.34 7.34	186 186	4.06 4.06	103 103	7¾ 9¼
8536	3	SEO	2-3 4	2	(3) ¼" (3) 5/16"	5.47 9.75	139 248	11.09 12.13	282 308	6.50 6.50	165 165	.88 1.81	22 46	1.75 1.75	44 44	3.59 5.81	91 148	.31 .31	8 8	10.19 11.19	259 284	5.75 5.75	146 146	17 25
	4	SFO	3 4	2	(3) 5/16" (3) 5/16"	6.00 9.75	152 248	12.88 12.88	327 327	6.50 6.50	165 165	1.81 1.81	46 46	1.75 1.75	44 44	3.94 5.91	100 150	.31 .31	8 8	11.19 11.19	284 284	5.75 5.75	146 146	22 25
	5	SGO	3	2	(3) ½"	8.56	217	17.56	446	8.75	222	4.75	121	7.25	184	5.38	137	.63	16	16.38	416	6.00	152	62
	6	SHO	3	2	(3) ½"	12.34	313	28.06	713	9.00	229	4.75	121	7.25	184	5.78	147	5.06	129	18.56	471	8.69	221	85
	7	SJO	3	2	(3) ½"	12.34	313	37.25	946	10.88	276	4.75	121	7.25	184	5.78	147	7.22	183	22.38	568	9.00	229	140

Contactors and Starters
Type S, NEMA-style
Variants – Motor Logic® Overload Relay



H10

Variants – Motor Logic solid-state overload relays

Type	For use on: Class	For use on: Enclosure Type	Description	Overload relay range	Suffix to the starter reference *(1)*	Weight kg (lb)
Motor Logic solid state overload relays (no additional auxiliary contact)	8536, 8736	Open, NEMA 1, NEMA 12	Base unit, trip class 10	*(2)*	**H10**	–
			Base unit, trip class 20	*(2)*	**H20**	–
			Feature unit	*(2)*	**H30**	–
Motor Logic solid state overload relays (with additional auxiliary contact)	8536, 8736	Open, NEMA 1, NEMA 12	Base unit, trip class 10	*(2)*	**H11**	–
			Base unit, trip class 20	*(2)*	**H21**	–
			Feature unit	*(2)*	**H31**	–

*(1) Example: **8536 SAO 12 V01 H10**.*
(2) Standard current ranges, depending on contactor size:

Size	00	0	1	2	3	4	5	6	7
Current ranges A	3…9	6…18	9…27	15…45	30…90	40…135	90…270	180…540 *(3)*	270…810 *(4)*

(3) Only available with feature unit.
(4) Only available with feature unit with auxiliary contact.

Associations

Contactor Size	Trip type	Motor Logic solid-state overload relays: No auxiliary contact	With auxiliary contact	No auxiliary contact	With auxiliary contact	No auxiliary contact	With auxiliary contact	No auxiliary contact	With auxiliary contact	No auxiliary contact	With auxiliary contact
00		Size 00C (3–9 A)		Size 00B (1.5–4.5 A)							
	Class 10	**H10**	**H11**	**H108**	**H118**						
	Class 20	**H20**	**H21**	**H208**	**H218**						
	Class 10/20 (selectable)	**H30**	**H31**	**H308**	**H318**						
0		Size 0 (6–18 A)		Size 00C (3–9 A)		Size 00B (1.5–4.5 A)					
	Class 10	**H10**	**H11**	**H109**	**H119**	**H108**	**H118**				
	Class 20	**H20**	**H21**	**H209**	**H219**	**H208**	**H218**				
	Class 10/20 (selectable)	**H30**	**H31**	**H309**	**H319**	**H308**	**H318**				
1		Size 1 (9–27 A)		Size 0 (6–18 A)		Size 00C (3–9 A)		Size 00B (1.5–4.5 A)			
	Class 10	**H10**	**H11**	**H100**	**H110**	**H109**	**H119**	**H108**	**H118**		
	Class 20	**H20**	**H21**	**H200**	**H210**	**H209**	**H219**	**H208**	**H218**		
	Class 10/20 (selectable)	**H30**	**H31**	**H300**	**H310**	**H309**	**H319**	**H308**	**H318**		
2		Size 2 (15–45 A)		Size 1 (9–27 A)		Size 0 (6–18 A)		Size 00C (3–9 A)		Size 00B (1.5–4.5 A)	
	Class 10	**H10**	**H11**	**H101**	**H111**	**H100**	**H110**	**H109**	**H119**	**–**	**–**
	Class 20	**H20**	**H21**	**H201**	**H211**	**H200**	**H210**	**H209**	**H219**	**–**	**–**
	Class 10/20 (selectable)	**H30**	**H31**	**H301**	**H311**	**H300**	**H310**	**H309**	**H319**	**H308**	**H318**
3		Size 3 (30–90 A)									
	Class 10	**H10**	**H11**								
	Class 20	**H20**	**H21**								
	Class 10/20 (selectable)	**H30**	**H31**								
4		Size 4 (45–135 A)		Size 3 (30–90 A)							
	Class 10	**H10**	**H11**	**H103**	**H113**						
	Class 20	**H20**	**H21**	**H203**	**H213**						
	Class 10/20 (selectable)	**H30**	**H31**	**H303**	**H313**						
5		Size 5 (90–270 A)									
	Class 10	**H10**	**H11**								
	Class 20	**H20**	**H21**								
	Class 10/20 (selectable)	**H30**	**H31**								

Available codes

Not available

General, characteristics:
pages 1/4 and 1/5

Dimensions:
pages 1/14 to 1/17

Variants – Operators

Description	For use on: Class	For use on: Enclosure type	Colour/Marking	Suffix to the contactor or starter reference *(1)*	Weight kg (lb)
Push buttons	8502, 8536	NEMA 1, 12	"Start-Stop"	**A**	–
	8702, 8736	NEMA 1, 12	"Forward-Reverse-Stop"	**A1**	–
			"High-Low-Stop"	**A2**	–
Pilot lights without operating interlock *(2)*	8502, 8536, 8702, 8736	NEMA 1	Red	**P1**	–
			Green	**P2**	–
			Amber	**P3**	–
			Clear	**P4**	–
Push-to-test pilot lights without operating interlock *(2)*	8502, 8536, 8702, 8736	NEMA 12	Red	**P21**	–
			Green	**P22**	–
			Amber	**P23**	–
			Clear	**P24**	–
			Yellow	**P25**	–
LED pilot lights	8502, 8536, 8702, 8736	NEMA 1	Red	**P51**	–
			Green	**P52**	–
			Yellow	**P55**	–
Special wiring	8502, 8536, 8702, 8736	NEMA 1	Red/"Off"	**P71**	–
			Green/"On"	**P72**	–
Selector switches	8502, 8536, 8702, 8736	NEMA 1, NEMA 12	"Hand-Off-Auto"	**C**	–
	8702, 8736	NEMA 1, NEMA 12	"On-Off"	**C6**	–
			"Forward-Off-Reverse"	**C14**	–
			"Forward-Reverse"	**C20**	–

Variants – Transformers

Description	For use on: Class	For use on: Enclosure type	Functions	Suffix to the contactor or starter reference *(1)*	Weight kg (lb)
Separate control circuit	8502, 8536, 8702, 8736	NEMA 1, 12	Specify voltage and frequency	**S**	–
Fused control circuit without transformer	8502, 8536, 8702, 8736	NEMA 1, 12	One fuse	**F**	–
			Two fuses	**F4**	–
Control circuit transformers standard capacity (50/60 Hz) *(3)*	8502, 8536, 8702, 8736	NEMA 1, 12	Fuses: 2 (primary), 0 (secondary)	**F4T** *(4)*	–
			Fuses: 2 (primary), 1 (secondary)	**FF4T**	–
			Fuses: 1 (primary), 2 (secondary) *(5)*	**F1F10T**	–
			Fuses: 2 (primary), 2 (secondary)	**F4F10T**	–
Additional capacity (50/60 Hz) Two fuses in primary *(3)*	8502, 8536, 8702, 8736	NEMA 1, 12	100 VA additional capacity	**F4T11** *(6)*	–
			200 VA additional capacity	**F4T12** *(6)*	–
Additional capacity (50/60 Hz) Two fuses in primary and one fuse in secondary *(3)*	8502, 8536, 8702, 8736	NEMA 1, 12	100 VA additional capacity	**FF4T11**	–

*(1) Example: **8536 SAG 12 V01 A P1 P2**. All suffixes are listed in alphanumeric order after the voltage code.*
(2) Unless otherwise requested, the standard practice is to wire the red pilot light to indicate that the device is energized. No additional auxiliary contact is required. Also, standard practice is to wire the green pilot light to indicate that the device is de-energized. An additional normally closed auxiliary contact is required; please consult your regional sales office.
(3) Control circuit transformer selection table:

Primary-secondary	120-24 *(7)*	208-120	240-24 *(7)*	240-120	277-120	480-24 *(7)*	480-120	480-240	600-120
60 Hz	V89	V84	V82	V80	V85	V83	V81	V87	V86

*Example: **8536 SAG 12 V81 F4T A P1 P2**.*
(4) Not available with 24 V secondary on Size 3. Select appropriate transformer with secondary fuse protection. See transformer selection table.
(5) Single phase with one leg earthed, or earthed 3-phase applications only.
(6) Not available with 24 V secondary. Select appropriate transformer with secondary fuse protection. See transformer selection table for 24 V secondary restrictions.
(7) 24 V coils are not available on Sizes 4–7.

General, characteristics:
pages 1/4 and 1/5

Dimensions:
pages 1/14 to 1/17

Contactors and Starters
Type S, NEMA-style
Variants

Variants – Auxiliary contacts

Description	For use on		Number of contacts				Suffix to the contactor or starter reference	Weight kg (lb)
	Class	Enclosure type	Forward contactor		Reverse contactor			
			N/O	N/C	N/O	N/C		
Auxiliary contacts for non-reversing contactors and non-reversing starters *(1)*	8502, 8536	NEMA 1, NEMA 12	–	1			**X01**	–
				2			**X02**	–
				3			**X03**	–
				4			**X04**	–
			1	–			**X10**	–
				1			**X11**	–
				2			**X12**	–
				3			**X13**	–
			2	–			**X20**	–
				1			**X21**	–
				2			**X22**	–
			3	–			**X30**	–
				1			**X31**	–
			4	–			**X40**	–
Auxiliary contacts standard no additional auxiliary contacts for reversing contactors and reversing starters	8702, 8736	NEMA 1, NEMA 12	1	–	–	–	**X1000**	–
			–	1	–	–	**X0100**	–
			2	–	–	–	**X2000**	–
			1	1	–	–	**X1100**	–
			–	2	–	–	**X0200**	–
			–	–	1	–	**X0010**	–
			1	–	1	–	**X1010**	–
			–	1	1	–	**X0110**	–
			2	–	1	–	**X2010**	–
			1	1	1	–	**X1110**	–
			–	2	1	–	**X0210**	–
			–	–	–	1	**X0001**	–
			1	–	–	1	**X1001**	–
			–	1	–	1	**X0101**	–
			2	–	–	1	**X2001**	–
			1	1	–	1	**X1101**	–
			–	2	–	1	**X0201**	–
			–	–	2	–	**X0020**	–
			1	–	2	–	**X1020**	–
			–	1	2	–	**X0120**	–
			2	–	2	–	**X2020**	–
			1	1	2	–	**X1120**	–
			–	2	2	–	**X0220**	–
			–	–	1	1	**X0011**	–
			1	–	1	1	**X1011**	–
			–	1	1	1	**X0111**	–
			2	–	1	1	**X2011**	–
			1	1	1	1	**X1111**	–
			–	2	1	1	**X0211**	–
			–	–	–	2	**X0002**	–
			1	–	–	2	**X1002**	–
			–	1	–	2	**X0102**	–
			2	–	–	2	**X2002**	–
			1	1	–	2	**X1102**	–
			–	2	–	2	**X0202**	–

(1) Maximum number of external auxiliary units (in addition to holding circuit contact):

Class 8502/8536/8702/8736	Maximum number
●●●● SA	4 N/O or N/C, if second internal auxiliary contact is not used
●●●● SB/SC/SD	4 N/O or N/C
	2 N/O or N/C plus 1 power-pole adder (single- or 2-pole, N/O or N/C)
	1 attached timer plus 1 power-pole adder (single- or 2-pole, N/O or N/C) plus 1 auxiliary contact
●●●● SE/SF/SG (Size 3 and Size 4)	4 N/O or N/C
●●●● SE/SF/SG (Size 5)	2 N/O or N/C plus 1 NEMA Size 0–1 or Size 2 power-pole adder (single- or 2-pole, N/O or N/C)
●●●● SH/SJ	4 N/O or N/C
	2 N/O or N/C plus 1 NEMA Size 0–1 or Size 2 power-pole adder (single- or 2-pole, N/O or N/C)

General, characteristics:
pages 1/4 and 1/5

Dimensions:
pages 1/14 to 1/17