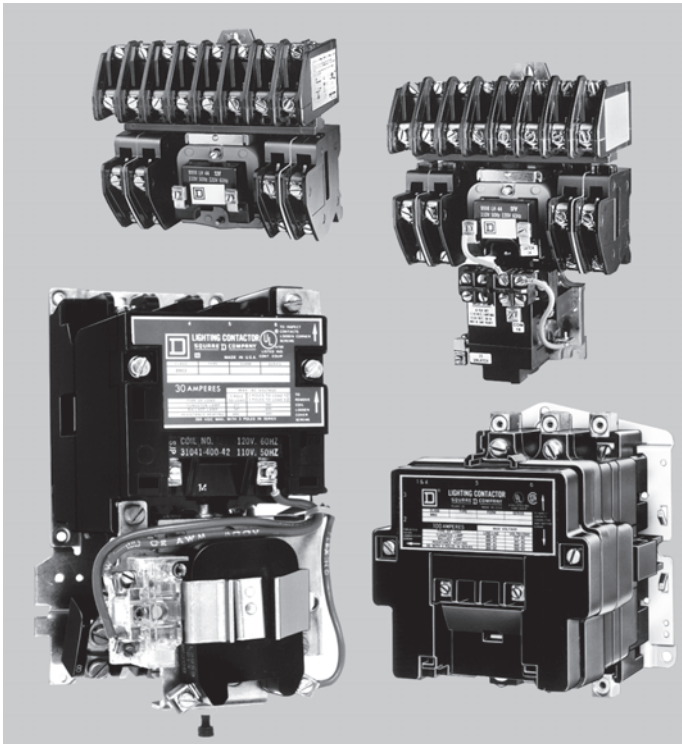


# Lighting Contactors

Catalog  
8903CT9701R11/15

2016

Class 8903



## CONTENTS

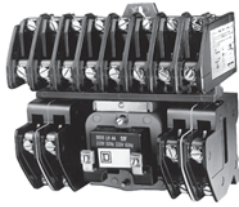
Multipole Lighting Contactors, Types L and LX .....	2
Multipole Lighting Contactors, Type S .....	4
Combination Lighting Contactors, Type S .....	6
Night-Master™ Outdoor Combination Lighting Contactors, Type S .....	8
Modifications .....	9
Ratings and Application Data .....	13
Approximate Dimensions .....	16

# Lighting Contactors

## Multipole Lighting Contactors, Type L and LX—Features and Selection

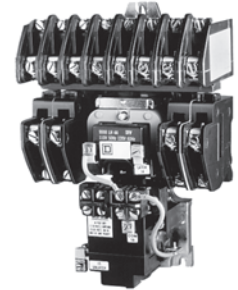
### Multipole Lighting Contactors, Type L and LX

#### Features



Type L

- 30 A fluorescent lighting rating, 20 A tungsten lighting rating
- Electrically and mechanically held
- 2–12 pole versions
- Field-convertible contacts with N.O. and N.C. indicators (8 N.C. contacts maximum [5])
- Silver-Cadmium-Oxide double break contacts



Type LX

For How-to-Order information, see Table 4 on page 3.

**NOTE:** When ordering contactors with 10 or more poles, the catalog number configuration is the number of normally open contacts, followed by a 0, then the number of normally closed contacts (for example: for 4 N.O. and 6 N.C. contacts on a 10-pole contactor, order 8903LG406V02).



File E78427  
CCN NRNT



File LR60905  
Class 3211 07

**Table 1: Multipole Lighting Contactors (50-60 Hz) (replace ●●● with the voltage code)**

Contact Ampere Ratings	No. of Poles	NEMA 1 General Purpose Enclosure	NEMA 1 Flush Mounting General Purpose Enclosure with Plaster Adjustment	NEMA 3R Rainproof Enclosure [1]	NEMA 4 & 4X Watertight, Dusttight, and Corrosion-Resistant Glass-Polyester Enclosure	NEMA 4 & 4X Watertight, Dusttight Brushed Stainless Steel Enclosure	NEMA 12/3R [2] Dusttight and Driptight Industrial Use Enclosure	Open Style [3]
		Type [4]	Type [4]	Type [4]	Type [4]	Type [4]	Type [4]	Type [4]
<b>Electrically Held [5]</b>								
30	2	LG20●●●	LF20●●●	LH20●●●	LWW20●●●	LW20●●●	LA20●●●	LO20●●●
	3	LG30●●●	LF30●●●	LH30●●●	LWW30●●●	LW30●●●	LA30●●●	LO30●●●
	4	LG40●●●	LF40●●●	LH40●●●	LWW40●●●	LW40●●●	LA40●●●	LO40●●●
	6	LG60●●●	LF60●●●	LH60●●●	LWW60●●●	LW60●●●	LA60●●●	LO60●●●
8		LG80●●●	LF80●●●	LH80●●●	LWW80●●●	LW80●●●	LA80●●●	LO80●●●
	10	LG1000●●●	LF1000●●●	LH1000●●●	LWW1000●●●	LW1000●●●	LA1000●●●	LO1000●●●
12	LG1200●●●	LF1200●●●	LH1200●●●	LWW1200●●●	LW1200●●●	LA1200●●●	LO1200●●●	
<b>Mechanically Held [5], [6]</b>								
30	2	LXG20●●●	LXF20●●●	—	LXWW20●●●	LXW20●●●	LXA20●●●	LXO20●●●
	3	LXG30●●●	LXF30●●●	—	LXWW30●●●	LXW30●●●	LXA30●●●	LXO30●●●
	4	LXG40●●●	LXF40●●●	—	LXWW40●●●	LXW40●●●	LXA40●●●	LXO40●●●
	6	LXG60●●●	LXF60●●●	—	LXWW60●●●	LXW60●●●	LXA60●●●	LXO60●●●
8		LXG80●●●	LXF80●●●	—	LXWW80●●●	LXW80●●●	LXA80●●●	LXO80●●●
	10	LXG1000●●●	LXF1000●●●	—	LXWW1000●●●	LXW1000●●●	LXA1000●●●	LXO1000●●●
12	LXG1200●●●	LXF1200●●●	—	LXWW1200●●●	LXW1200●●●	LXA1200●●●	LXO1200●●●	

**NOTE:** If a holding circuit contact is required for proper operation, order an additional pole.

[1] Cannot support control transformer forms.

[2] NEMA 12 enclosures can be field modified for outdoor non-corrosive and non-service entrance rated applications. See page 21 for more information.

[3] Separate enclosures are available for these devices. It may be possible to improve delivery by ordering an open style contactor and separate Class 9991 enclosure.

[4] Replace the three bullets (●●●) in the catalog number with the coil voltage code. Refer to the standard voltage codes listed in Table 3 on page 3. All lighting contactors come with separate control as standard.

[5] Factory conversion of N.O. contacts to N.C.: order by catalog number (for example, for 6 N.O. and 2 N.C. poles on an 8 pole contactor, order as 8903LG62V02). Versions are available from the factory with up to 12 N.C. poles for Type L (electrically held) or 2, 4, or 6 N.C. poles for Type LX (mechanically held). For field conversion, there is a maximum of 8 N.C. poles for Type L (electrically held) and a maximum of 6 N.C. poles for Type LX (mechanically held) contactors.

[6] When ordering Form C on mechanically held devices, you must also include Form R6.

# Lighting Contactors

## Multipole Lighting Contactors, Type L and LX—Power Pole Kits

### Power Pole Kits

The kits in Table 2 are used to add 30 A power poles to existing Type L contactors when additional circuits are required. Type L lighting contactors come with mounting brackets, so that adder poles may be mounted from the front by a single captive screw. Adder poles come standard with N.O. contacts which are convertible to N.C.

For How-to-Order information, see Table 4.

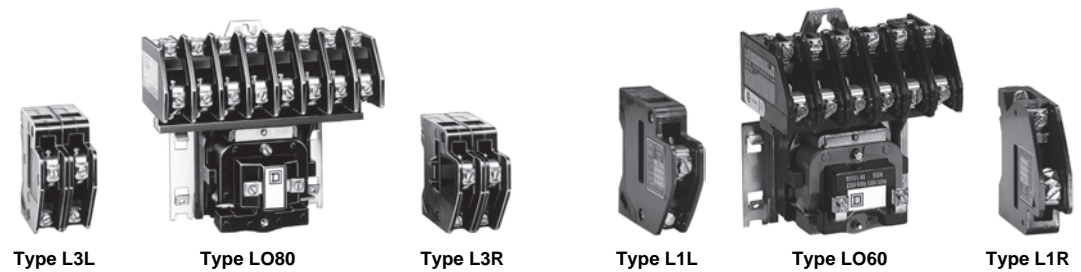
**NOTE:** 12 N.C. poles are only available with a 120 V coil (voltage code V02).

**Table 2: Power Poles for Type L or LX**

Power Pole Adder Kit [1]	Class 8903 Type	Can Only Be Added to Contactor Type [2]
Single Pole	L1L	LO60, LXO60, LO80, LXO80, LO1000, LXO1000
	L1R	
Double Pole	L3L	
	L3R	

[1] 8903LO (electrically held) devices can accommodate 10 or 12 N.C. contacts, use only 120 V, 60 Hz coils.

[2] LO60 and LXO60: add single-pole kits only, 1 on each side, for converting to 8-pole. To maintain proper operation, the contactor cannot be converted to more than 8 poles. LO80 and LXO80: use single-pole kits, 1 on each side, for converting to 10-pole and use two-pole kits, 1 on each side, for converting to 12 pole. LO1000 and LXO1000: remove the existing single-pole kit and install two-pole kits, 1 on each side for converting to 12-pole.



**Table 3: Coil Voltage Codes**

Voltage		Code
60 Hz	50 Hz	
24	—	V01
120	110	V02
208	—	V08
240	220	V03
277	—	V04
480	440	V06
Specify	Specify	V99

**Table 4: How to Order**

To Order Specify:	Catalog Number Example			
<ul style="list-style-type: none"> <li>• Class Number</li> <li>• Type Number</li> <li>• Voltage Code</li> <li>• Form(s)</li> </ul>	Class	Type	Voltage Code	Form(s)
		8903	LXG60	V04

Factory Modifications (Forms): Table 15 on page 9.

Replacement Coils: See *Digest* Section 16.

Replacement Contacts: See *Digest* Section 16.

# Lighting Contactors

## Multipole Lighting Contactors, Type S—Features and Selection



File E78427  
CCN NRNT



File LR60905  
(Open Devices Only)  
Class 3231 01

### Multipole Lighting Contactors, Type S

#### Features

- Electrically and mechanically held
- 30–800 A lighting ratings
- 2–5 pole versions (5 poles through 200 A)
- UL Listed short-circuit rating up to 100,000 A
- Factory wired controls and clearly marked termination points
- Quick ship on most items in 5–7 days

**Table 5: Multipole Lighting Contactors, Type S, 50–60 Hz (replace ●●● with the voltage code)**

Contact Ampere Ratings	No. of Poles	NEMA 1 General Purpose Enclosure	NEMA 1 Flush-Mounting General Purpose Enclosure with Plaster Adjustment	NEMA 3R Rainproof Enclosure [1]	NEMA 4 & 4X Watertight, Dusttight, and Corrosion-Resistant Glass-Polyester Enclosure	NEMA 4 & 4X Watertight and Dusttight Enclosure [2]	NEMA 12/3R [3] Dusttight and Driptight Industrial Use Enclosure	Open Style
		Type [4]	Type [4]	Type [4]	Type [4]	Type [4]	Type [4]	Type [4]
<b>Electrically Held [5]</b>								
30	2	SMG1●●●	SMF1●●●	SMH1●●●	SMW21●●●	SMW1●●●	SMA1●●●	SMO1●●● [6]
	3	SMG2●●●	SMF2●●●	SMH2●●●	SMW22●●●	SMW2●●●	SMA2●●●	SMO2●●● [6]
	4	SMG3●●●	SMF3●●●	SMH3●●●	SMW23●●●	SMW3●●●	SMA3●●●	SMO3●●● [6]
	5	SMG4●●●	SMF4●●●	SMH4●●●	SMW24●●●	SMW4●●●	SMA4●●●	SMO4●●● [6]
60	2	SPG1●●●	SPF1●●●	SPH1●●●	SPW21●●●	SPW1●●●	SPA1●●●	SPO1●●● [6]
	3	SPG2●●●	SPF2●●●	SPH2●●●	SPW22●●●	SPW2●●●	SPA2●●●	SPO2●●● [6]
	4	SPG3●●●	SPF3●●●	SPH3●●●	SPW23●●●	SPW3●●●	SPA3●●●	SPO3●●● [6]
	5	SPG4●●●	SPF4●●●	SPH4●●●	SPW24●●●	SPW4●●●	SPA4●●●	SPO4●●● [6]
100	2	SQG1●●●	SQF1●●●	SQH1●●●	SQW21●●●	SQW1●●●	SQA1●●●	SQO1●●● [6]
	3	SQG2●●●	SQF2●●●	SQH2●●●	SQW22●●●	SQW2●●●	SQA2●●●	SQO2●●● [6]
	4	SQG3●●●	—	SQH3●●●	—	SQW3●●●	SQA3●●●	SQO3●●● [6]
	5	SQG4●●●	—	SQH4●●●	—	SQW4●●●	SQA4●●●	SQO4●●● [6]
200	2	SVG1●●●	—	SVH1●●●	—	SVW1●●●	SVA1●●●	SVO1●●●
	3	SVG2●●●	—	SVH2●●●	—	SVW2●●●	SVA2●●●	SVO2●●●
	4	SVG3●●●	—	—	—	SVW3●●●	SVA3●●●	SVO3●●●
	5	SVG4●●●	—	—	—	SVW4●●●	SVA4●●●	SVO4●●●
300	2	SXG1●●●	—	—	—	SXW1●●●	SXA1●●●	SXO1●●●
	3	SXG2●●●	—	—	—	SXW2●●●	SXA2●●●	SXO2●●●
400 [7]	2	SYG1●●●	—	—	—	SYW1●●●	SYA1●●●	SYO1●●●
	3	SYG2●●●	—	—	—	SYW2●●●	SYA2●●●	SYO2●●●
600 [7]	2	SZG1●●●	—	—	—	SZW1●●●	SZA1●●●	SZO1●●●
	3	SZG2●●●	—	—	—	SZW2●●●	SZA2●●●	SZO2●●●
800 [7]	2	SJG1●●●	—	—	—	SJW1●●●	SJA1●●●	SJO1●●●
	3	SJG2●●●	—	—	—	SJW2●●●	SJA2●●●	SJO2●●●
<b>Mechanically Held [5]</b>								
30	2	SMG10●●●	SMF10●●●	—	SMW31●●●	SMW10●●●	SMA10●●●	SMO10●●● [6]
	3	SMG11●●●	SMF11●●●	—	SMW32●●●	SMW11●●●	SMA11●●●	SMO11●●● [6]
	4	SMG12●●●	SMF12●●●	—	SMW33●●●	SMW12●●●	SMA12●●●	SMO12●●● [6]
	5	SMG13●●●	SMF13●●●	—	SMW34●●●	SMW13●●●	SMA13●●●	SMO13●●● [6]
60	2	SPG10●●●	SPF10●●●	—	SPW31●●●	SPW10●●●	SPA10●●●	SPO10●●● [6]
	3	SPG11●●●	SPF11●●●	—	SPW32●●●	SPW11●●●	SPA11●●●	SPO11●●● [6]
	4	SPG12●●●	SPF12●●●	—	SPW33●●●	SPW12●●●	SPA12●●●	SPO12●●● [6]
	5	SPG13●●●	SPF13●●●	—	SPW34●●●	SPW13●●●	SPA13●●●	SPO13●●● [6]
100	2	SQG10●●●	SQF10●●●	—	SQW31●●●	SQW10●●●	SQA10●●●	SQO10●●● [6]
	3	SQG11●●●	SQF11●●●	—	SQW32●●●	SQW11●●●	SQA11●●●	SQO11●●● [6]
	4	SQG12●●●	—	—	—	SQW12●●●	SQA12●●●	SQO12●●● [6]
	5	SQG13●●●	—	—	—	SQW13●●●	SQA13●●●	SQO13●●● [6]
200	2	SVG10●●●	—	—	—	SVW10●●●	SVA10●●●	SVO10●●●
	3	SVG11●●●	—	—	—	SVW11●●●	SVA11●●●	SVO11●●●
	4	SVG12●●●	—	—	—	SVW12●●●	SVA12●●●	SVO12●●●
300	2	SXG13●●●	—	—	—	SXW13●●●	SXA13●●●	SXO13●●●
	3	SXG14●●●	—	—	—	SXW14●●●	SXA14●●●	SXO14●●●
400	2	SYG16●●●	—	—	—	SYW16●●●	SYA16●●●	SYO16●●●
	3	SYG17●●●	—	—	—	SYW17●●●	SYA17●●●	SYO17●●●
600	2	SZG18●●●	—	—	—	SZW18●●●	SZA18●●●	SZO18●●●
	3	SZG19●●●	—	—	—	SZW19●●●	SZA19●●●	SZO19●●●

**NOTE:** If a holding circuit contact is required for proper operation, order an additional contact.

[1] Cannot support control transformer forms.

[2] For contactor sizes 30–300 A, NEMA 4 and 4X enclosures are brush finished stainless steel. Sized 400–800 A are painted sheet steel.

[3] NEMA 12 enclosures can be field modified for outdoor non-corrosive and non-service entrance rated applications. See page 21 for more information.

[4] Replace the three bullets (●●●) in the catalog number with the coil voltage code. Refer to the standard voltage codes in Table 6.

[5] Lighting contactors come with separate control as standard—except electrically held 400, 600, and 800 A devices, which come with common control as standard.

[6] Delivery time might be improved by ordering an open style contactor and a separate Class 9991 enclosure. See “Separate Enclosures” in *Digest* Section 16.

[7] **Form F4T** comes standard; include the line voltage when ordering. Control voltage is 120 V @ 60 Hz.

## Lighting Contactors Multipole Lighting Contactors, Type S—Power Pole Kits

**Table 6: Coil Voltage Codes**

	Voltage		Code
	60 Hz	50 Hz	
24 <sup>[1]</sup>		—	V01
120		110	V02
208		—	V08
240		220	V03
277		—	V04 <sup>[2]</sup>
480		440	V06
Specify		Specify	V99

<sup>[1]</sup> 24 V coils are not available for 200–800 A devices. Contact your local Square D field sales office for additional information.

<sup>[2]</sup> For voltage code V04, when used on the electrically held 400 A contactor, you must select Form S (separate control).

### Power Pole Kits for Type S Only

A single-pole or double-pole kit can be added to any 2 or 3 pole, 30 A or 60 A, Type S lighting contactor to make a 4 or 5 pole device. Factory-assembled 4 and 5 pole contactors use the basic 3 pole device with a single-pole or double-pole kit installed. Only one power pole can be added per contactor. Sufficient room is provided in all enclosure styles for the addition of a power pole kit.

**Table 7: Poles for Type S Only**

Rating	Description	Class 9999 Type
30 A	One N.O.	SB6
	One N.C.	SB7
	One N.O. and One N.C.	SB8
	Two N.O.	SB9
	Two N.C.	SB10
60 A	One N.O.	SB21
	One N.C.	SB22 <sup>[1]</sup>
	One N.O. and One N.C.	SB23 <sup>[1]</sup>
	Two N.O.	SB24 <sup>[1]</sup>
	Two N.C.	SB25 <sup>[1]</sup>

<sup>[1]</sup> When a power pole is added to a 60 A contactor, a 4-pole coil is also required. Order from the Coil Table in Catalog 9999CT9701. 60 A power poles are suitable for use with copper or aluminum wire.

# Lighting Contactors

## Combination Lighting Contactors, Type S—Features and Selection

### Combination Lighting Contactors, Type S

#### Features

- Disconnect switch and circuit breaker versions
- Rugged flange-mounted handle
- Easy installation
- Less space occupied
- Increased operator protection
- Ample space for modifications
- Class R fuse clips standard
- Electrically and mechanically held
- 30–600 A



Combination lighting contactors combine switching and overcurrent protection by installing the branch-circuit protective device and lighting contactor in one enclosure. Combination lighting contactors are well suited for industrial, highway, and area lighting applications, or where a lighting circuit may have to be disconnected for periodic maintenance. They may also be used for resistance heating loads.

**Table 9: Features**

Contactor Ampere Rating	Fuse Clip Size (A)	Fuse Clip Spacing (V)	NEMA 1 General Purpose Enclosure	NEMA 4 & 4X <sup>[1]</sup> Watertight and Dusttight Stainless Steel Enclosure	NEMA 12/3R <sup>[2]</sup> Dusttight, Oiltight, Driptight Industrial Use Enclosure
			Type <sup>[3]</sup>	Type <sup>[3]</sup>	Type <sup>[3]</sup>
<b>Electrically Held<sup>[4]</sup></b>					
30	None	—	SMG60●●●	SMW60●●●	SMA60●●●
	30	600	SMG61●●●	SMW61●●●	SMA61●●●
	30	250	SMG62●●●	SMW62●●●	SMA62●●●
60	None	—	SPG60●●●	SPW60●●●	SPA60●●●
	60	600	SPG61●●●	SPW61●●●	SPA61●●●
	60	250	SPG62●●●	SPW62●●●	SPA62●●●
100	None	—	SQG60●●●	SQW60●●●	SQA60●●●
	100	600	SQG61●●●	SQW61●●●	SQA61●●●
	100	250	SQG62●●●	SQW62●●●	SQA62●●●
200	None	—	SVG60●●●	SVW60●●●	SVA60●●●
	200	600	SVG61●●●	SVW61●●●	SVA61●●●
	200	250	SVG62●●●	SVW62●●●	SVA62●●●
300	None	—	SXG60●●●	SXW60●●●	SXA60●●●
	400	600	SXG61●●●	SXW61●●●	SXA61●●●
	400	250	SXG62●●●	SXW62●●●	SXA62●●●
<b>Mechanically Held<sup>[4]</sup></b>					
30	None	—	SMG70●●●	SMW70●●●	SMA70●●●
	30	600	SMG71●●●	SMW71●●●	SMA71●●●
	30	250	SMG72●●●	SMW72●●●	SMA72●●●
60	None	—	SPG70●●●	SPW70●●●	SPA70●●●
	60	600	SPG71●●●	SPW71●●●	SPA71●●●
	60	250	SPG72●●●	SPW72●●●	SPA72●●●
100	None	—	SQG70●●●	SQW70●●●	SQA70●●●
	100	600	SQG71●●●	SQW71●●●	SQA71●●●
	100	250	SQG72●●●	SQW72●●●	SQA72●●●
200	None	—	SVG70●●●	SVW70●●●	SVA70●●●
	200	600	SVG71●●●	SVW71●●●	SVA71●●●
	200	250	SVG72●●●	SVW72●●●	SVA72●●●
300	None	—	SXG70●●●	SXW70●●●	SXA70●●●
	400	600	SXG71●●●	SXW71●●●	SXA71●●●
	400	250	SXG72●●●	SXW72●●●	SXA72●●●

**Table 8: Coil Voltage Codes**

Voltage		Code
60 Hz	50 Hz	
24 <sup>[1]</sup>	—	V01
120	110	V02
208	—	V08
240	220	V03
277	—	V04
480	440	V06
Specify	Specify	V99

<sup>[1]</sup> 24 V coils are not available for 200–800 A devices. Contact the local Square D field sales office for additional information.

<sup>[1]</sup> For NEMA 4 and 4X watertight, dusttight, and corrosion-resistant glass-polyester enclosures, add Form G18 (limited to 100 A max.). 400 and 600 A enclosures are painted sheet steel (NEMA Type 4 & 4X).

<sup>[2]</sup> NEMA 12 enclosures can be field modified for outdoor non-corrosive and non-service entrance rated applications. See “Separate Enclosures” in *Digest* Section 16 for more information.

<sup>[3]</sup> Replace the three bullets (●●●) in the catalog number with the coil voltage code. Refer to the standard voltage codes shown in Table 8.

<sup>[4]</sup> Lighting contactors come with separate control as standard.



# Lighting Contactors

## Combination Lighting Contactors, Type S—Features and Selection

**Table 10: Circuit Breaker—3-Pole, 50–60 Hz (replace ●●● with the voltage code)**

**Table 11:  
Coil Voltage Codes**

Voltage		Code
60 Hz	50 Hz	
24 <sup>[1]</sup>	—	V01
120	110	V02
208	—	V08
240	220	V03
277	—	V04
480	440	V06
Specify	Specify	V99

<sup>[1]</sup> 24 V coils are not available for 200–800 A devices. Contact the local Square D field sales office for additional information.



File E16151  
CCN NRNT

and



Contactor Ampere Rating	Circuit Breaker		NEMA 1 General Purpose Enclosure	NEMA 4 & 4X <sup>[1]</sup> Watertight and Dusttight Enclosure Stainless Steel (30-300 A)	NEMA 12/3R <sup>[2]</sup> Dusttight, Oiltight, Driptight, Industrial Use Enclosure
	Ampere Rating	Maximum Voltage	Type <sup>[3]</sup>	Type <sup>[3]</sup>	Type <sup>[3]</sup>
<b>Electrically Held <sup>[4]</sup></b>					
30	30	600	SMG81●●●	SMW81●●●	SMA81●●●
60	60	600	SPG81●●●	SPW81●●●	SPA81●●●
100	100	600	SQG81●●●	SQW81●●●	SQA81●●●
200	200	600	SVG81●●●	SVW81●●●	SVA81●●●
300	300	600	SXG81●●●	SXW81●●●	SXA81●●●
400	400	600	SYG81●●●	SYW81●●●	SYA81●●●
600	600	600	SZG81●●●	SZW81●●●	SZA81●●●
<b>Mechanically Held <sup>[4]</sup></b>					
30	30	600	SMG91●●●	SMW91●●●	SMA91●●●
60	60	600	SPG91●●●	SPW91●●●	SPA91●●●
100	100	600	SQG91●●●	SQW91●●●	SQA91●●●
200	200	600	SVG91●●●	SVW91●●●	SVA91●●●
300	300	600	SXG91●●●	SXW91●●●	SXA91●●●
400	400	600	SYG91●●●	SYW91●●●	SYA91●●●
600	600	600	SZG91●●●	SZW91●●●	SZA91●●●

<sup>[1]</sup> For NEMA 4 and 4X watertight, dusttight, and corrosion-resistant glass-polyester enclosures, add Form G18 (limited to 100 A max.). 400 and 600 A enclosures are painted sheet steel (NEMA 4 & 4X).

<sup>[2]</sup> NEMA 12 enclosures can be field modified for outdoor non-corrosive and non-service entrance rated applications. See “Separate Enclosures” in Digest Section 16 for more information.

<sup>[3]</sup> Replace the three bullets (●●●) in the catalog number with the coil voltage code. Refer to the standard voltage codes shown in Table 11.

<sup>[4]</sup> Lighting contactors come with separate control as standard.

For How-to-Order information, see Table 4 on page 3.

# Lighting Contactors

## Night-Master™ Combination Lighting Contactors—Features and Selection

### Night-Master™ Combination Lighting Contactors

**NIGHT-MASTER**



Long Version



Short Version

UL Approved for  
Serviced Entrance



File E16151  
CCN NRNT

The Class 8903 Night-Master outdoor combination lighting contactor is UL Listed for Service Entrance. This allows the contactor to be pole mounted when used to control lighting in remote locations such as parks, monuments, group sports facilities, and streets and highways.

Factory modifications such as photocells, time switches, key operated selector switches, and the combination of photocells and time switches (photocell on, time switch off) allow the Night-Master to be located in applications where manual operation of lights is not practical.

Night-Master comes in long and short versions in sizes 30–200 A. Most common modifications can be provided from the factory, or added in the field to the pre-drilled and pre-tapped panels.

Night-Master outdoor combination lighting contactors offer a disconnecting means, overcurrent protection, and a lighting contactor in one NEMA 3R rainproof enclosure. These combination units satisfy the requirements of the National Electrical Code and UL 508 for service entrance equipment.

#### Features

- Solid neutral—standard
- Grounding lug—standard
- Padlocking provisions
- Short and long versions available
- Electrically held Type S lighting contactor
- No need for separately mounted safety switches
- Additional panel space—eliminating the need for external mounting of time clocks
- Separate control—standard on all lighting contactors

**NOTE:** If a holding circuit contact is required for proper operation, order an additional auxiliary contact.

**Table 12: Disconnect Switch Type, 3-Pole (replace ●●● with the voltage code)**

Contactor Ampere Rating	Fuse Clip Size (A)	Fuse Clip Spacing (V)	Short Version, NEMA 3R		Long Version, NEMA 3R	
			Class 8903 Type [1]	Stainless Steel Class 8903 Type [1]	Class 8903 Type [1]	Stainless Steel Class 8903 Type [1]
30	30	600	SMC61●●●	SMH61●●●	SMC63●●●	SMH63●●●
	30	250	SMC62●●●	SMH62●●●	SMC64●●●	SMH64●●●
60	60	600	SPC61●●●	SPH61●●●	SPC63●●●	SPH63●●●
	60	250	SPC62●●●	SPH62●●●	SPC64●●●	SPH64●●●
100	100	600	SQC61●●●	SQH61●●●	SQC63●●●	SQH63●●●
	100	250	SQC62●●●	SQH62●●●	SQC64●●●	SQH64●●●
200	200	600	SVC61●●●	SVH61●●●	SVC63●●●	SVH63●●●
	200	250	SVC62●●●	SVH62●●●	SVC64●●●	SVH64●●●

[1] Replace the three bullets (●●●) in the catalog number with the coil voltage code. Refer to the standard voltage codes listed in Table 14.

**Table 14: Coil Voltage Codes**

Voltage		Code
60 Hz	50 Hz	
24 [1]	—	V01
120	110	V02
208	—	V08
240	220	V03
277	—	V04
480	440	V06
Specify	Specify	V99

[1] 24 V coils are not available for 200 A devices. Contact your local sales office for additional information.

**Table 13: Circuit Breaker Type, 3-Pole (replace ●●● with the voltage code)**

Contactor Ampere Rating	Circuit Breaker		Short Version		Long Version	
	Ampere Rating	Maximum Volts	Class 8903 Type 3R [1]	Class 8903 Type 3R Stainless Steel [1]	Class 8903 Type 3R [1]	Class 8903 Type 3R Stainless Steel [1]
30	30	600	SMC81●●●	SMH81●●●	SMC83●●●	SMH83●●●
60	60	600	SPC81●●●	SPH81●●●	SPC83●●●	SPH83●●●
100	100	600	SQC81●●●	SQH81●●●	SQC83●●●	SQH83●●●
200	200	600	SVC81●●●	SVH81●●●	SVC83●●●	SVH83●●●

[1] Replace the three bullets (●●●) in the catalog number with the coil voltage code. Refer to the standard voltage codes listed in Table 14.

For How-to-Order information, see Table 4 on page 3.



**Table 15: Lighting Contactor Forms (Factory Modifications)**

Description	Form Letter	NEMA Enclosure Type	Used On						Rating (A)							
			Standard		Combo		Night-Master 30–200 A	Type L 30	30	60	100	200	300	400, 600, 800		
			Elec.	Mech.	Elec.	Mech.									EH	MH
On-Off push button (momentary contact)	A3	Any	—	Y	—	Y	—	Y	Y	Y	Y	Y	Y	Y	Y	
On-Off push button (with holding circuit interlock)	A12	Any	Y	—	Y	—	Y	—	Y	Y	Y	Y	Y	Y	Y	
<b>Hand-Off-Auto selector switch.</b> To substitute a key operated selector switch, use Form C33 and specify positions, legend marking, and key removal. This form must be used with another selector switch form (example: CC33).	C	1	Y	Y [1]	Y	Y [1]	—	Y	Y	Y	Y	Y	Y	Y	Y	
	C	3R, 4, 12	Y	Y [1]	Y	Y [1]	Y	Y	Y	Y	Y	Y	Y	Y	Y	
<b>On-Off selector switch.</b> To substitute a key operated selector switch, use Form C33 and specify positions, legend marking, and key removal. This form must be used with another selector switch form (example: C33C6).	C6	1	Y	Y	Y	Y	—	Y	Y	Y	Y	Y	Y	Y	Y	
	C6	3R, 4, 12	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Control circuit fuse (1 fuse)	F	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Control circuit fuses (2 fuses)	F4	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
<b>Control circuit transformer, standard capacity, 50/60 Hz [2]</b>																
<b>Primary fuses</b>	<b>Secondary fuses</b>	<b>Transformer capacity</b>														
2	0	Standard	F4T	1, 4, 12	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y [3]	Y [4]
2	1	Standard	FF4T	1, 4, 12	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y [3]	Y [4]
2	1	100 VA Additional	FF4T11	1, 4, 12	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y [3]	Y [3]	Y [4]
2	1	200 VA Additional	FF4T12	1, 4, 12	Y	Y	Y	Y	Y	Y	Y [3]	Y	Y	Y [3]	Y [3]	Y [4]
2	1	300 VA Additional	FF4T13	1, 4, 12	Y	Y	Y	Y	Y	Y	Y	Y [3]	Y [3]	Y [3]	Y [3]	Y [4]
Noise reduced enclosure and shock mounted panel	G4	Any	—	Y	—	—	—	—	Y	Y	Y	Y	Y	Y	Y	Y
Addition of photoelectric receptacle	G10	1 [5], 12/3R	Y	—	Y	—	Y	—	Y	Y	Y	Y	Y	Y	Y	Y
Addition of photoelectric receptacle with photocell	G101	1 [5], 12/3R	Y	—	Y	—	Y	—	Y	Y	Y	Y	Y	Y	Y	Y
Addition of photoelectric receptacle and relay (R6) [6]	G10R6	1 [5], 12	—	Y	—	Y	—	—	Y	Y	Y	Y	Y	Y	Y	Y
	G101R6	1 [5], 12	—	Y	—	Y	—	—	Y	Y	Y	Y	Y	Y	Y	Y
Addition of terminal blocks (other than standard). The designation xx represents the number of terminals needed. Available in multiples of 5 only.																
Wired	G56xx	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Unwired	G50xx	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Addition of 24-hour time clock (120–277 V only)	K14	1, 4, 12	Y	Y	Y	Y	—	—	Y	Y	Y	Y	Y	Y	Y	Y
Addition of 24-hour time clock w/day omission (120–277 V)	K141	1, 4, 12	Y	Y	Y	Y	—	—	Y	Y	Y	Y	Y	Y	Y	Y
Addition of 7-day time clock (120–277 V)	K142	1, 4, 12	Y	Y	Y	Y	—	—	Y	Y	Y	Y	Y	Y	Y	Y
Addition of 24-hour time clock (120–277 V only)	K14	3R	—	—	—	—	Y	—	—	Y	Y	Y	Y	—	—	—
Addition of 24-hour time clock w/skip day (120–277 V)	K141	3R	—	—	—	—	Y	—	—	Y	Y	Y	Y	—	—	—
Addition of 7-day time clock (120–277 V)	K142	3R	—	—	—	—	Y	—	—	Y	Y	Y	Y	—	—	—
Addition of solid neutral terminal block	N	1, 4, 12	Y	Y	Y	Y	Standard	Standard	Y	Y	Y	Y	Y	Y	Y	Y
Red pilot light	P1	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red push-to-test pilot light	P21	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Interlock needed for pilot light—one for each additional pilot light [7]		Any	Y	Y	Y	Y	Y	Y	[8]	Y	Y	Y	Y	Y	Y	Y
Two-wire interface for mechanically held [6]	R6	Any	—	Y	—	Y	—	—	Y	Y	Y	Y	Y	Y	Y	Y
Addition of undervoltage and overvoltage relay	R46	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Three wire control for long distance applications [6]	R62	Any	—	Y	—	Y	—	—	Y	Y	Y	Y	Y	Y	Y	Y
Auxiliary contacts (replace ** with the number of N.O. + N.C. contacts)	X**	Any	Y	Y	Y	Y	Y	Y	[8]	Y	Y	Y	Y	Y	Y	Y
Addition of DC coil to Type L (7 poles max)	Y48	Any	Y	—	—	—	—	—	Y	—	—	—	—	—	—	—
Auxiliary electrical interlock installed on disconnect switch or circuit breaker operating mechanism	Y74	Any	—	—	Y	Y	Y	Y	—	Y	Y	Y	Y	Y	Y	Y
Coil transient suppressor (120 Vac only)	Y145	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	—	—	—
Addition of lightning arrester	Y1532	Any	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Substitute copper only lugs for standard	Y157	Any	Y	Y	Y	Y	Y	Y	—	—	Y	Y	Y	Y	Y	Y

[1] When ordering **Form C** on mechanically held devices, you must also include **Form R6**.  
 [2] Transformer voltage codes (see Table 16 on page 10).  
 [3] Single primary voltage must be specified using the codes shown in Table 16.  
 [4] Mechanically held only. Electrically held device has a control circuit requiring a 120 V secondary, therefore, a transformer is supplied. The transformer comes wired to L1 and L2 unless **Form S** is called for. It is furnished with two primary and one secondary fuse.  
 [5] Photocell mounted on a NEMA 1 enclosure is designed for indoor areas which rely on natural light. Addition of the photocell does not make the enclosure suitable for outdoor (NEMA 3R) installations.  
 [6] Available for 24 V, 120 V, 240 V, 277 V, and 480 V applications only.  
 [7] Do not use Form X for an interlock wired in series with a pilot light, but do specify how the pilot light and interlock are to be wired into the circuit.  
 [8] Electrically held, 20 A multipole contactors cannot add interlocks. Additional poles can be used for the same function, however. Mechanically held contactors (Type LX) provide one double-throw auxiliary contact (or status contact) as standard.

# Lighting Contactors

## Factory Modifications (Forms)—Selection

**NOTE:** If a UL label is required, consult the Customer Care Center at 1-888-778-2733. Some Forms **are not** UL Listed.

Standard Equipment dimensions and enclosure construction may not apply when certain special features are added. Such cases should be referred to the factory with a complete description when precise dimensions are required.

**Table 16: Voltage Codes**

Voltage at 60 Hz (primary–secondary)	Code	Order Example			
120–24	V89	You have device 8903SMG2V02. V02 means that you need a coil voltage of 120-60/110-50, wired for separate control.			
208–120	V84				
240–24	V82	You want to add Form FF4T, with transformer voltages of 480 V primary, 120 V secondary. The new and complete Class, Type, Voltage Code, and Form number are:			
240–120	V80				
277–120	V85	<b>Class</b>	<b>Type</b>	<b>Voltage Code</b>	<b>Form</b>
480–24	V83	8903	SMG2	V81	FF4T
480–120	V81				
480–240	V87				
600–120	V86				

**Table 17: Lighting Contactor Field Modification Kits**

Description	Types L, LX		Type S					Form No.
	30 A	30 A	60 A	100 A	200 A	300 A	400, 600, 800 A	
	Kit Type	Kit Type	Kit Type	Kit Type	Kit Type	Kit Type	Kit Type	
<b>Auxiliary Contacts</b>								
1 N.O. LH or RH Mounting	—	9999SX6	9999SX6	9999SX6	9999SX6	9999SX6	9999SX6	X
1 N.C. LH or RH Mounting	—	9999SX7	9999SX7	9999SX7	9999SX7	9999SX7	9999SX7	
1 N.C. & 1 N.O. Isolated LH or RH	—	9999SX8	9999SX8	9999SX8	9999SX8	9999SX8	9999SX8	
1 N.O. Overlapping LH or RH	—	9999SX9	9999SX9	9999SX9	9999SX9	9999SX9	9999SX9	
1 N.C. Overlapping LH or RH	—	9999SX10	9999SX10	9999SX10	9999SX10	9999SX10	9999SX10	
<b>Control Circuit Fuse Holder</b>								
Single Fuse Unit	9999LLX and 9999SFR3	9999SFR3	9999SFR3	9999SFR3	9999SFR3	9999SFR3	9999SFR3	F
Two Fuse Unit	9999LLX and 9999SFR4	9999SFR4	9999SFR4	9999SFR4	9999SFR4	9999SFR4	9999SFR4	F4
<b>Transformers [1]</b>	9070TF50	9070TF100	9070TF100	9070TF150	9070TF300	9070TF500	9070TF750	T
<b>Oversized Enclosures (Non-Combo)</b>								
NEMA 1	9991SDG3	9991SDG3	9991SDG3	—	—	—	—	—
NEMA 4	9991SDW3	9991SDW3	9991SDW3	—	—	—	—	—
NEMA 12	9991SDA3	9991SDA3	9991SDA3	—	—	—	—	—
<b>Standard Enclosures</b>								
NEMA 1—Surface Mount	9991LXG1	9991SCG7[2]	9991SDG7[2]	9991SFG8	9991SFG4	9991SGG8	—	—
NEMA 3R	9991SDH1	9991SCH2	9991SDH1	9991SEH1	9991SFH1	—	—	—
NEMA 4—Standard	9991SDW1	9991SCW1	9991SDW1	—	—	—	—	—
NEMA 4—With 2 Cvr Mtd. Clsng Plts	9991SDW11	9991SCW11	9991SDW11	9991SEW11	—	—	—	—
NEMA 4X—Glass Polyester	9991SDW20	9991SCW20	9991SDW20	—	—	—	—	—
NEMA 12	9991SDA11	9991SCA11	9991SDA11	9991SEA11	—	—	—	—
NEMA 1—Flushmount—Complete	—	—	—	9991SEF11	—	—	—	—
NEMA 1—Flush Mount Parts	—	—	—	—	—	—	—	—
FLUSH PARTS	—	—	—	—	—	—	—	—
Standard—Elec. held	9991SDF13	9991SCF11	9991SDF11	—	—	—	—	—
Standard—Mech. held	9991SDF13	9991SCF13	9991SDF13	—	—	—	—	—
Mounting Strap	9991SDF2	9991SCF2	9991SDF2	—	—	—	—	—
Pull Box	9991SDF1	9991SCF1	9991SDF1	—	—	—	—	—
<b>Internal Operator Mounting Bracket</b>	3010215901	3010215901	3010215901	3010215901	3010215901	3010215901	3010215901	G53
<b>Solid Neutral</b>	9999SN1	9999SN1	9999SN1	9999SN1	9999SN2	9999SN2	9999SN3 [3]	N
<b>Combination Lighting Contactor Disconnect Interlock Kit</b>								
Breaker Type	—	—	—	—	—	—	—	Y74
1-Pole	—	9999R26	9999R26	9999R26	9999R26	9999R26	9999R26	
2-Pole	—	9999R27	9999R27	9999R27	9999R27	9999R27	9999R27	
Disconnect Type	—	—	—	—	—	—	—	
1-Pole	—	9999TC11	9999TC10	9999TC10	9999R8	9999R35	9999R26	Y1532
2-Pole	—	9999TC21	9999TC20	9999TC20	9999R9	9999R36	9999R27	
<b>Lightning Arrestor</b>								
175 Vac to Ground Max 2 or 3 wire Grounded	SDSA1175	SDSA1175	SDSA1175	SDSA1175	SDSA1175	SDSA1175	SDSA1175	Y1532
650 Vac to Ground Max 3 or 4 wire Grounded	SDSA3650	SDSA3650	SDSA3650	SDSA3650	SDSA3650	SDSA3650	SDSA3650	

[1] Complete the control transformer Class and Type with the voltage code from section 14 in the current *Digest*.

[2] For electrically held only.

[3] Limited to 400 and 600A versions. 800A is a factory modification only.

**Table 18: Voltage Codes**

**NOTES:**

- If a UL label is required, consult the Customer Care Center at 1-888-778-2733. Some Forms are not UL Listed.
- Standard Equipment dimensions and enclosure construction may not apply when certain special features are added. Such cases should be referred to the factory with a complete description when precise dimensions are required.

Voltage at 60 Hz (primary–secondary)	Code
120–24	V89
208–120	V84
240–24	V82
240–120	V80
277–120	V85
480–24	V83
480–120	V81
480–240	V87
600–120	V86

Ordering Example			
Class	Type	Voltage Code	Form
8903	SMG2	V81	FF4T

You have device 8903SMG2V02. V02 means that you need a coil voltage of 120-60/110-50, wired for separate control. You want to add Form FF4T, with transformer voltages of 480 V primary, 120 V secondary. The new and complete Class, Type, Voltage Code, and Form number are:

# Lighting Contactors

## Field Modifications—Cover-Mounted Control Units

### Cover-Mounted Control Units

**Table 19: Mechanically Held**

Description	Form No.	Kit						
		Type LX	Type S					
		30 A	30 A	60 A	100 A	200 A	300 A	400, 600, 800 A
Push Button (On-Off) NEMA 1 Enclosure	A3	9999BLX	[1]	9001KA2	9001KA2	9001KA2	9001KA2	9001KA2
		9999LXPB		9999SA3 [2]	9999SA3 [2]	9999SA3 [2]	9999SA3 [2]	9999SA3 [2]
NEMA 3R, 4, or 12 Enclosure	A3	9001KA2	9001KA2	9001KA2	9001KA2	9001KA2	9001KA2	9001KA2
		9999SA3 [2]	9999SA3 [2]	9999SA3 [2]	9999SA3 [2]	9999SA3 [2]	9999SA3 [2]	9999SA3 [2]
Selector Switch (2 Position) NEMA 1 Enclosure	C6	9999BLX	9001KN244	9001KN244	9001KN244	9001KN244	9001KN244	9001KN244
		9999LXS	9001KS11BH1	9001KS11BH1	9001KS11BH1	9001KS11BH1	9001KS11BH1	9001KS11BH1
NEMA 3R, 4, or 12 Enclosure	C6	9001KN244	9001KN244	9001KN244	9001KN244	9001KN244	9001KN244	9001KN244
		9001KS11BH1	9001KS11BH1	9001KS11BH1	9001KS11BH1	9001KS11BH1	9001KS11BH1	9001KS11BH1
Selector Switch (3 Position) NEMA 1 Enclosure (must include two-wire control relay, Form R6)	C	9999BLX	9001KN260	9001KN260	9001KN260	9001KN260	9001KN260	9001KN260
		9999SC2						
NEMA 3R, 4, or 12 Enclosure	C	9001KN260	9001KS46BH2	9001KS46BH2	9001KS46BH2	9001KS46BH2	9001KS46BH2	9001KS46BH2
		9001KS46BH2						
Two Wire Control Relay (Form R6) [3]	R6	9999RLX CA2SK11... [4]	8501XO11	8501XO11	8501XO11	8501XO11	8501XO11	8501XO11

[1] No field installed kit available.

[2] Mechanically held contactors need two distinct signals to operate. An N.O. contact block must be added to the Class 9999 Type SA3 push button kit.

[3] Form R6 available for 24 V, 120 V, 240 V and 277 V only.

[4] Replace the bullets (\*\*\*) with the voltage code in Table 21.

**Table 20: Electrically Held**

Description	Enclosure	Form No.	Kit						
			Type L	Type S					
			30 A	30 A	60 A	100 A	200 A	300 A	400, 600, 800 A
Pilot Lights (Red and Green)	NEMA 1	P1	9999SP28R	9999SP2R	9999SP3R	9999SP28R [1]	9999SP28R [1]	9999SP28R [1]	9999SP28R
	NEMA 3R, 4, or 12		9999SP28R	9999SP28R	9999SP28R				
Push Buttons [2]	NEMA 1	A12	9999BLX	9999SA10	9999SA10	9999SA3	9999SA3	9999SA3	9999SA3
	NEMA 3R, 4, or 12		9999SA3	9999SA3	9999SA3	9999SA3	9999SA3	9999SA3	9999SA3
Selector Switch (2 Position)	NEMA 1	C6	9999BLX	9999SC22	9999SC22	9999SC22	9001KN24	9001KN244	9001KN244
	NEMA 3R, 4, or 12		9999SC229	9999SC22	9999SC22	9999SC22	9001KS11BH1	9001KS11BH1	9001KS11BH1
Selector Switch (3 Position)	NEMA 1	C	9999BLX	9999SC2	9999SC2	9999SC8	9999SC8	9999SC8	9999SC8
	NEMA 3R, 4, or 12		9999SC2	9999SC2	9999SC2	9999SC8	9999SC8	9999SC8	9999SC8

[1] The coil voltage must be the same as the pilot light rating. Kit contains one Class 9001 Type KP1R6, 120 V/60 Hz red pilot light control unit. For other voltages, refer to the Class 9001 Type KP products in *Digest* Section 19.

[2] Requires holding circuit interlock for Type S or additional power pole on Type L devices.

**Table 21: CA2SK11... Voltage Codes**

AC Coil (50/60) Hz	Voltage Code
24V	B7
120V	G7
240V	U7
277V	W7

## Ratings and Application Data

### Application of Lighting Contactors

Lighting contactors have evolved from the need for more than simple on-off manual control of lights. Often the application requires remote control of lighting from some distant location. This control may or may not be in addition to a master control station at a central location. Certain applications include the use of automatic control by time clocks or photoelectric cells.

Square D lighting contactors offer a time-proven design for better electrical and mechanical performance. They are used wherever reliable, convenient, and economical control of indoor and outdoor lighting is required. Typical installations include:

- parking lots
- industrial plants
- office buildings
- theaters and auditoriums
- hospitals and institutions
- shopping centers
- stadiums
- airports

### Tungsten Lamp Loads

Tungsten lamps have a positive resistance characteristic (resistance to the flow of electric current increases as its operating temperature increases), so they exhibit an increase in resistance when the lamp is energized. These lamps have a high inrush current of up to 18 times the normal current, resulting from the low cold resistance of the tungsten. Examples of tungsten lamps include incandescent, iodine, quartz-iodine, and infrared.

### Ballast Lighting Loads

A ballast lighting load consists of electric discharge (vapor) lamps. All types of vapor lamps possess a negative resistance characteristic. The resistance within the lamp decreases with an increase in current and vice-versa. Without some form of current limiting device in the electric circuit, the current rises quickly until lamp failure occurs. This current limiting element is known as the ballast. A ballast is an impedance used to stabilize the current in a vapor lamp. It increases in resistance as current through it increases, and decreases in resistance as current decreases. Thus it tends to maintain a constant current. Types of ballast lighting include high intensity discharge (HID) lamps (mercury vapor, metal halide, and high pressure sodium) and fluorescent lamps.

### Resistance Loads

Square D lighting contactors are fully rated for resistance loads up to 600 V. They can be used on resistance-type boilers, electric furnaces, electric water heaters, and snow-melting cables and panels.

### Motor Loads

These loads consist of motors having an inrush current, or locked-rotor current, of approximately six times the full-load current. Square D Type S lighting contactors are fully rated for motor loads and have a horsepower rating equal to the equivalent NEMA Size motor contactor.

### Lighting Contactors for Energy Management

Lighting contactors should be an integral part of any energy management system. They help conserve energy consumption and reduce utility bills by providing three types of control. Lighting contactors offer both centralized and remote control of lighting. Circuits can be turned on and off from a number of remote locations in addition to a master control station. They also offer selective switching of lights. Selective switching is the control of one or more individual lighting circuits, independent of the other circuits. This design allows the potential for turning on only the amount of lighting that is actually

# Lighting Contactors

## Ratings and Application Data—Lighting Contactors

needed. Lighting contactors can provide automatic control to insure that lights will be turned off when not needed. There are a number of devices that, when used with lighting contactors, offer a convenient and reliable method of automatically controlling lighting loads: program time clock, photoelectric cell, programmable controller, and demand controller.

### Installation of Lighting Contactors

For new installations, lighting contactors can either be installed right into the lighting panelboard, or in their own enclosure next to or remote from the panelboard. In existing applications where the lighting control system is being updated, lighting contactors can be installed in their own enclosure next to a lighting panelboard.

### Compression Lugs

The Square D™ brand Versa-Crimp® compression lugs for Type S lighting contactors, 100–800 A, are available factory installed (Form Y157-4). They are suitable for both copper and aluminum wire. One VCEL lug (one or two on the 400 and 600 A devices) is required for each line or load terminal. Each Class 9999 Type AI hardware kit includes mounting hardware for three terminals, line or load side. For example, to install compression lugs on a 300 A 3-pole device, line and load sides, order six VCEL-060-12H1 lugs and two Class 9999 Type AI11 hardware kits.

### Maximum Voltage Rating

When selecting lighting contactors, consider the maximum voltage rating of the device in addition to its current rating. Table 22 lists the maximum AC voltage ratings of Types L and S lighting contactors for ballast, tungsten, and resistance loads. Lighting contactors also have DC ratings (see Table 23).

### Current Ratings

All Class 8903 lighting contactors are fully rated for tungsten, ballast, and resistance loads. This means that a contactor can be used to control a load up to its full nameplate rating. Derating of the contactor (the standard practice with circuit breakers and fuses) is not necessary.

**Table 22: AC Voltage Ratings**

Load Type	Connections							
	Types L & LX 30 A		Type SM 30 A		Types SP, SQ, SV, SX 60–300 A		Types SY, SZ, SJ 400–800 A	
	1 Pole to Load	2 Poles to Load on 1-phase and 3 Poles to Load on 3-phase	1 Pole to Load	2 Poles to Load on 1-phase and 3 Poles to Load on 3-phase	1 Pole to Load	2 Poles to Load on 1-phase and 3 Poles to Load on 3-phase	1 Pole to Load	2 Poles to Load on 1-phase and 3 Poles to Load on 3-phase
Tungsten	20 A 277 Vac	480 Vac	277 Vac	480 Vac	277 Vac	480 Vac	—	—
Ballast	277 Vac [1]	480 Vac [1]	347 Vac	600 Vac	347 Vac	600 Vac	347 Vac	600 Vac
Resistance	600 Vac	600 Vac	600 Vac	600 Vac	600 Vac	600 Vac	600 Vac	600 Vac
Control Circuit (Coil) Voltage	Type L 12–600 Vac; 24, 32, 48, 115/125, 230/250 Vdc Type LX 24–600 Vac		24–600 Vac		24–600 Vac Type SP 24–600 Vac Types SQ, SV 120–600 Vac Type SX		120–600 Vac	

[1] Types L and LX contactors also have a ballast lamp rating of 15 A 347 Vac when connected 1-pole-to-load, and 600 Vac when connected 2-poles-to-load on 1-phase and 3-poles-to-load on 3-phase.

600 A devices are derated to 540 A for resistance heating loads when aluminum wire is used.

**Table 23: DC Voltage Ratings for Tungsten Lamp or Resistance Loads Only**

Type of Load	Types L, LX 20 A	Type SM 30 A	Types SP, SQ, SV, SX 60–300 A	Types SY, SZ, SJ 400–800 A
DC	2 Poles in Series	125 Vdc	125 Vdc	250 Vdc
	3 Poles in Series	250 Vdc	210 Vdc	250 Vdc

Table 24 lists the maximum SCCR of the **component** when protected by any circuit breaker or fuse. However, if the maximum component SCCR is 100 kA, for example, and a 25 kA rated circuit breaker is used, then the system rating is 25 kA—the circuit breaker becomes the weakest link.



## Lighting Contactors Ratings and Application Data—Lighting Contactors

The minimum requirements for the enclosure size and construction apply to individual contactors. Refer to the individual contactor's instruction bulletin for these details.

**Table 24: Contactors Protected by Fusible Disconnect Switches**  
Ratings apply to circuits with voltages no greater than those listed.

Catalog Number	Ampere Rating	Maximum Circuit Breaker Size [1]	MaximumSCCR (kA)	Maximum Fuse Size	Maximum SCCR (kA)
8903/LX	20, 30	30	100	30 [2]	100
8903SM	30	70	100	60	100
8903SP	60	100	100	100	100
8903SQ	100	150	100	200	100
8903SV	200	225	100	200 [3]	100
8903SX	300	400	100	400	100
8903SY	400	800	65	600	100
8903SZ	600	800	65	600	100
8903SJ	800	1200	30	1600	30

[1] When protected by any circuit breaker, including thermal-magnetic and magnetic-only.

[2] When protected by any Class RK5, RK1, T, or J fuse.

[3] When protected by any Class T or J fuse.

**Table 25: Kilowatt Ratings [1]**

Voltage	Lighting Contactor Size							
	30 A	60 A	100 A	200 A	300 A	400 A	600 A	800 A
200 Vac	10.3	20.7	34.6	69.2	103.9	138.5	207.8	277.1
230 Vac	11.9	23.9	39.8	79.6	119.5	159.3	239.0	318.7
380 Vac	19.7	39.4	65.8	131.6	197.4	263.2	394.9	526.5
460 Vac	23.9	47.8	79.6	159.3	239.0	318.6	478.0	637.4
575 Vac	30.0	60.0	99.0	199.0	299.0	398.4	597.6	796.7

[1] Resistance heating only (three-phase system).

**Table 26: Motor Load Ratings**

Lighting Contactor Size (A)	Has Same Hp Ratings As Equivalent NEMA Size Contactor
30	NEMA Size 1
60	NEMA Size 2
100	NEMA Size 3
200	NEMA Size 4
300	NEMA Size 5
400	—
600	NEMA Size 6
800	NEMA Size 7

**Lighting Contactors**  
**Approximate Dimensions—Open Style**

**Approximate Dimensions**

These dimensions are approximate. For precise dimensions, contact the Customer Care Center at 1-888-778-2733.

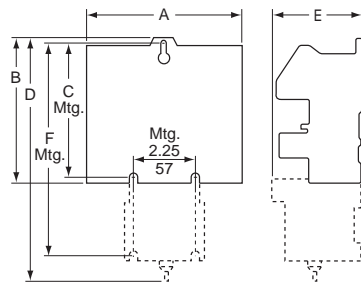
**Open Style**

**Table 27: Open Style, Types L, LX, and S**

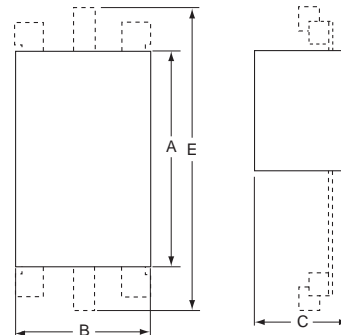
Ampere Rating	Electrically Held							Mechanically Held						
	Type	No. of Poles	Dimensions, in. (mm)					Type	Dimensions, in. (mm)					
			A	B	C	D	E		A	B	C	D	E	F
30	LO	2-4	2.88 (73)	5 (127)	4.62 (117)	—	3.12 (79)	LXO	2.88 (73)	—	—	8.81 (224)	3.25 (83)	7.70 (196)
		6	4.25 (108)	5 (127)	4.62 (117)	—	3.12 (79)		4.25 (108)	—	—	8.81 (224)	3.25 (83)	7.70 (196)
		8-12	5.63 (143)	5 (127)	4.62 (117)	—	3.12 (79)		5.63 (143)	—	—	8.81 (224)	3.25 (83)	7.70 (196)
30	SMO	2-3	4.34 (110)	3.22 (82)	4.22 (107)	—	—	SMO	7.15 (182)	3.79 (96)	4.68 (119)	—	—	—
		4-5	4.34 (110)	4.25 (108)	4.22 (107)				7.15 (182)	4.54 (116)	4.68 (119)			
60	SPO	2-3	5.33 (135)	4.31 (110)	4.94 (125)	—	—	SPO	8.25 (210)	4.61 (117)	5.23 (133)	—	—	—
		4-5	6.22 (158)	5.61 (143)	4.94 (125)				8.70 (221)	5.90 (150)	5.23 (133)			
100	SQO	2-3	7.09 (180)	5.45 (139)	6.50 (165)	—	—	SQO	10.13 (257)	5.94 (151)	6.72 (171)	—	—	—
		4-5	7.82 (199)	9.75 (248)	6.50 (165)				10.56 (268)	9.75 (248)	6.72 (171)			
200	SVO	2-3	9.14 (232)	6.00 (152)	6.50 (165)	—	—	SVO	11.35 (293)	6.00 (152)	6.72 (171)	—	—	—
		4, 5 [1]	9.14 (232)	9.75 (248)	6.50 (165)				11.55 (293)	9.75 (248)	6.72 (171)			
300	SXO	2-3	12.31 (313)	8.66 (220)	8.74 (222)	—	—	SXO	12.31 (313)	8.66 (220)	10.50 (267)	—	—	—
400	SYO	2-3	—	12.33 (313)	9.00 (229)	—	27.78 (706)	SYO	—	8.66 (220)	10.50 (267)	—	21.00 (533)	—
600	SZO							SZO						
800	SJO	2-3	—	12.33 (313)	11.94 (303)	—	42.70 (1085)	—	—	—	—	—	—	—

[1] 5 pole, electrically held only.

**Figure 1: Open Style, Types L and LX**



**Figure 2: Open Style, Type S**



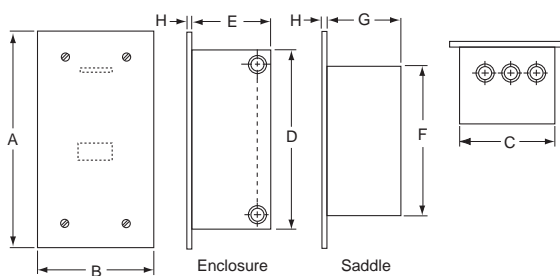


## Non-Combination Lighting Contactors

**Table 28: NEMA 1 Flush Mounted Non-Combination Lighting Contactors**

Ampere Rating	Type	Form(s)		Dimensions, in. (mm)						
				A	B	C	D	E	F	G
30	LF LXF	Standard, F, Y48, R6		15.19 (386)	8.94 (227)	7.63 (194)	12.88 (327)	5.44 (138)	10.94 (278)	5.13 (130)
		A3, A12, C, C6, T, P		24.00 (610)	17.50 (445)	15.00 (381)	19.25 (489)	7.12 (181)	—	—
30	SMF	Electrically Held	Standard, A12, C, C6, P, X	13.44 (341)	7.19 (183)	5.88 (149)	11.13 (283)	4.75 (121)	9.19 (233)	4.50 (114)
		Mechanically Held	Standard, X							
		Electrically Held	T, N	24.00 (610)	17.50 (445)	15.00 (381)	19.25 (489)	5.75 (146)	—	—
		Mechanically Held	A3, C, C6, T, N, P, R6							
60	SPF	Electrically Held	Standard, A12, C, C6, P, X	15.19 (386)	8.94 (227)	7.63 (194)	12.88 (327)	5.44 (138)	10.94 (278)	5.13 (130)
		Mechanically Held	Standard, X							
		Electrically Held	T, N	24.00 (610)	17.50 (445)	15.00 (381)	19.25 (489)	5.75 (146)	—	—
		Mechanically Held	A3, C, C6, T, N, P, R6							
100	SQF	With or Without Any Forms		31.00 (787)	16.75 (425)	14.25 (362)	26.25 (667)	8.00 (203)	—	—

**Figure 3: NEMA 1 Flush Mounted Non-Combination Lighting Contactors**



# Lighting Contactors

## Approximate Dimensions—Non-Combination

Table 29: NEMA 1 Non-Combination Lighting Contactors, Electrically and Mechanically Held

Rating (A)	Type	No. of Poles	Form(s)	Fig.	Dimensions, in. (mm)														
					A	B	C	D	E	F	G	H	I	J	K	L			
30	LG, LXG	Any	Standard, A3, A12, C, C6, F, P, R6, Y48	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)			
			P, T	5	11.88 (302)	11.88 (302)	7.44 (189)	9.75 (248)	1.06 (27)	1.06 (27)	9.75 (248)	1.06 (27)	1.06 (27)	0.31 (8)	—	—			
			K14, K141, K142	4	16.00 (406)	22.00 (559)	7.38 (188)	8.00 (203)	1.00 (25)	20.00 (508)	1.00 (25)	1.00 (25)	14.00 (356)	7.38 (188)	1.00 (25)	7.00 (178)			
30	SMG	2-5	Electrically Held	Standard, A12, C, C6, P, X	4	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)	—	—		
			Mechanically Held	Standard, X															
			Electrically Held	T	4	6.34 (161)	15.88 (403)	5.19 (132)	14.38 (365)	4.66 (118)	0.28 (7)	0.75 (19)	0.84 (21)	—	—	—	—		
			N																
			Mechanically Held	T, N, R6	5	14.88 (378)	14.12 (359)	7.56 (192)	12.75 (324)	1.06 (27)	1.06 (27)	12.00 (305)	1.06 (27)	1.06 (27)	0.31 (8)	—	—		
			A3, C, C6, P																
60	SPG	2-3	Electrically Held	Standard, A12, C, C6, P, X	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)		
		4-5	Electrically Held	Standard, A12, C, C6, P, X	5	8.12 (206)	14.12 (359)	9.73 (247)	6.00 (152)	1.06 (27)	1.06 (27)	12.00 (305)	1.06 (27)	1.06 (27)	0.31 (8)	—	—		
		2-5	Electrically and Mechanically Held	T, N, R6	5	14.88 (378)	14.12 (359)	7.56 (192)	12.75 (324)	1.06 (27)	1.06 (27)	12.00 (305)	1.06 (27)	1.06 (27)	0.31 (8)	—	—		
		2-5	Mechanically Held	Standard, A3, C, C6, P, X	5	8.12 (206)	14.12 (359)	9.73 (247)	6.00 (152)	1.06 (27)	1.06 (27)	12.00 (305)	1.06 (27)	1.06 (27)	0.31 (8)	—	—		
		100	SQG	2, 3 [1]	Electrically Held	Standard, A12, C, C6, F, P, X, T	5	11.25 (286)	25.15 (639)	8.99 (228)	8.60 (218)	1.25 (32)	1.25 (32)	22.32 (567)	1.42 (36)	1.42 (36)	0.44 (11)	—	—
Mechanically Held	Standard, F, X, T																		
2, 3	Electrically Held			N, R6, T, T10-T13 [2]	5	18.15 (461)	29.15 (740)	9.24 (234)	15.50 (394)	9.24 (234)	1.33 (34)	1.33 (34)	26.50 (673)	1.33 (34)	1.33 (34)	0.44 (11)	—	—	
	Mechanically Held			A3, C, C6, N, R6, T, T10-T13 [2]															
4, 5	Electrically Held			Standard, A12, C, C6, F, P, X	5	11.25 (286)	25.15 (639)	8.99 (228)	8.60 (218)	1.25 (32)	1.25 (32)	22.32 (567)	1.42 (36)	1.42 (36)	0.44 (11)	—	—		
	Mechanically Held			Standard, F, X															
	Electrically Held			[2]	5	18.15 (461)	29.15 (740)	9.24 (234)	15.50 (394)	9.24 (234)	1.33 (34)	1.33 (34)	26.50 (673)	1.33 (34)	1.33 (34)	0.44 (11)	—	—	
	Mechanically Held			A3, C, C6 [2]															
	Electrically Held			N, R6, T, T10-T13	5	22.15 (563)	39.15 (994)	10.24 (260)	19.50 (495)	1.33 (34)	1.33 (34)	36.50 (927)	1.33 (34)	1.33 (34)	0.44 (11)	—	—		
	200			SVG	All	Electrically and Mechanically Held	Standard and All Forms	5	22.15 (563)	39.15 (994)	10.24 (260)	19.50 (495)	1.33 (34)	1.33 (34)	36.50 (927)	1.33 (34)	1.33 (34)	0.44 (11)	—
300		SXG	All			Electrically and Mechanically Held	Standard and All Forms	5	17.21 (437)	44.21 (1123)	12.83 (325)	13.00 (330)	2.11 (54)	2.11 (54)	40.00 (1016)	2.11 (54)	2.11 (54)	0.56 (14)	—
	400 and 600			SYG, SZG	All	Electrically and Mechanically Held	Standard and All Forms	5	20.21 (513)	65.75 (1670)	13.10 (333)	11.00 (972)	4.61 (117)	4.61 (117)	64.50 (1638)	0.63 (16)	0.63 (16)	0.69 (18)	—
800	SJG	2-3	With or Without Any Forms	6	34.50 (876)	93.00 (2362)	23.50 (597)	Floor Mounting											

[1] Factory transformer only.

[2] All Type K Forms.

### NEMA 1 Non-Combination Lighting Contactor Dimensions—See Table 29

Figure 4:

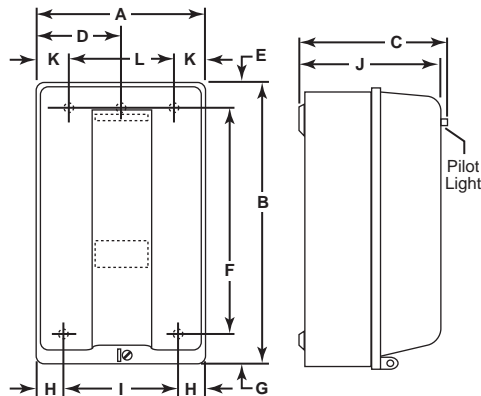


Figure 5:

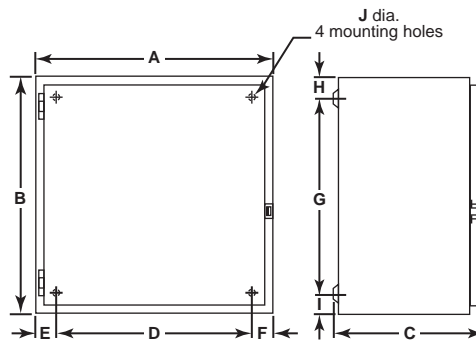
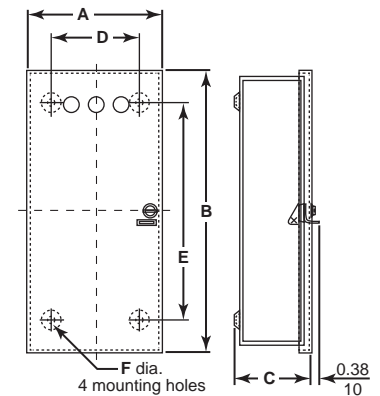


Figure 6:



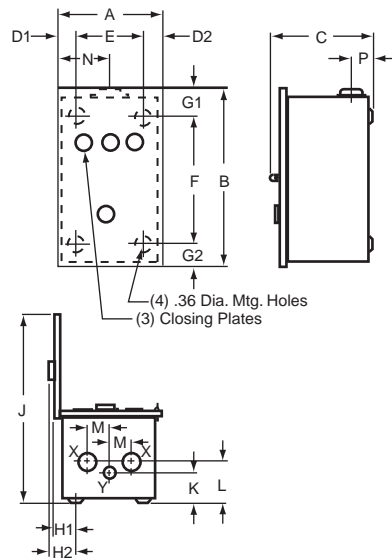
# Lighting Contactors

## Approximate Dimensions—Non-Combination

**Table 30: NEMA 3R Non-Combination Lighting Contactors (all pole arrangements)**

Ampere Rating	Type	A	B	C	D1	D2	E	F	G1	G2	H1	H2	J	K	L	M	N	P	Knockouts	
																			X	Y
30	SMH	8.83 (224)	12.30 (312)	7.12 (181)	1.39 (35)	1.44 (37)	6.00 (152)	7.50 (191)	2.64 (67)	2.16 (55)	2.08 (53)	2.62 (66)	14.28 (363)	1.37 (35)	1.37 (35)	1.88 (48)	4.38 (111)	1.83 (46)	0.50 0.75 1	0.50 0.75 1
30 60	LH SPH	9.83 (250)	16.30 (414)	8.62 (219)	1.39 (35)	1.44 (37)	7.00 (178)	11.50 (292)	2.64 (67)	2.16 (55)	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 1.50	0.50 0.75
100	SQH	12.83 (326)	25.30 (643)	8.62 (219)	1.39 (35)	1.44 (37)	10.00 (254)	20.50 (521)	2.64 (67)	2.16 (55)	2.08 (53)	2.62 (66)	19.78 (502)	1.31 (33)	1.94 (49)	2.44 (62)	6.38 (162)	1.83 (46)	1 1.25 2 2.50	0.50 0.75
200	SVH	12.83 (326)	40.30 (1024)	9.12 (232)	1.39 (35)	1.44 (37)	10.00 (254)	35.50 (902)	2.64 (67)	2.16 (55)	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 2.50	0.50 0.75

**Figure 7: NEMA 3R**



# Lighting Contactors

## Approximate Dimensions—Non-Combination

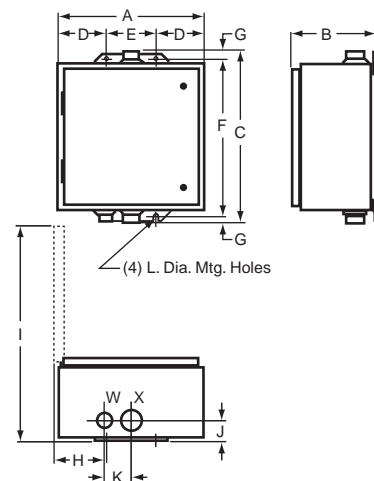
**Table 31: NEMA 4 and 4X (Stainless Steel) Non-Combination Lighting Contactors**

Ampere Rating	Type	No. of Poles	Form(s) <i>E.H. = Electrically Held</i> <i>M.H. = Mechanically Held</i>		Dimensions, in. (mm)													Hubs, in.		
					A	B	C	D	E	F	G	H	I	J	K	L	Bottom Only	Top & Bottom		
					W	X														
30	LW LXW	Any	Standard, F, R6, Y48		8.13 (206)	7.88 (200)	16.19 (411)	1.56 (40)	5.00 (127)	15.00 (381)	0.60 (15)	1.94 (49)	14.75 (375)	2.00 (51)	2.63 (67)	0.31 (8)	0.75	1.50		
			A3, A12, C, C6, P, T		12.62 (321)	7.81 (198)	14.69 (373)	2.56 (65)	7.50 (191)	13.50 (343)	0.63 (16)	3.38 (86)	18.44 (468)	1.69 (43)	2.31 (59)	0.31 (8)	0.75	1.0		
30	SMW	2-5	E.H.	Standard, A12, C, C6, P, X	6.38 (162)	7.13 (181)	13.19 (351)	1.56 (40)	3.25 (83)	12.00 (305)	0.63 (16)	1.91 (30)	11.81 (300)	1.63 (41)	2.31 (59)	0.31 (8)	0.75	1.0		
			M.H.	Standard, F, X																
			E.H.	T	12.63 (321)	7.11 (181)	14.69 (373)	2.56 (65)	7.50 (191)	13.50 (343)	0.63 (16)	3.19 (81)	18.50 (470)	1.64 (42)	2.31 (59)	0.31 (8)	0.75	1.0		
			E.H.	N, R6	14.88 (378)	7.25 (184)	16.31 (414)	2.56 (65)	9.75 (248)	15.00 (381)	0.63 (16)	3.19 (81)	20.88 (530)	2.06 (52)	2.63 (67)	0.31 (8)	0.75	1.50		
M.H.	A3, C, C6, T, N, P, R6																			
60	SPW	2-5	E.H.	Standard, A12, C, C6, P, X	8.13 (206)	7.88 (200)	16.19 (411)	1.56 (40)	5.00 (127)	15.00 (381)	0.60 (15)	1.94 (49)	14.75 (375)	2.00 (51)	2.63 (67)	0.31 (8)	0.75	1.50		
			M.H.	Standard, A3, C, C6, P, X																
			E.H.	T, N, R6	14.88 (378)	7.25 (184)	16.31 (414)	2.56 (65)	9.75 (248)	15.00 (381)	0.63 (16)	3.88 (98)	20.88 (530)	2.06 (52)	2.63 (67)	0.31 (8)	0.75	1.50		
			M.H.	A3, C, C6, T, N, P, R6																
100	SQW	2, 3	E.H.	Standard, A12, C, C6, F, N, R6, P, T, T10-13, X	18.15 (461)	8.77 (223)	32.21 (818)	3.08 (78)	12.00 (305)	30.50 (775)	0.61 (15)	3.67 (93)	26.71 (678)	2.58 (66)	3.19 (81)	0.44 (11)	0.75	2.50		
			M.H.	Standard, A3, C, C6, F, N, P, R6, T, T10-13, X																
			E.H.	Standard, A12, C, C6, F, P [1]	18.15 (461)	8.77 (223)	32.21 (818)	3.08 (78)	12.00 (305)	30.50 (775)	0.61 (15)	3.67 (93)	26.71 (678)	2.58 (66)	3.19 (81)	0.44 (11)	0.75	2.50		
			M.H.	Standard, A3, C, C6, P [1]																
		E.H.	N, R6, T, T10-13	22.15 (563)	9.77 (248)	42.21 (1072)	3.08 (78)	16.00 (406)	40.50 (1029)	0.61 (15)	3.67 (93)	31.71 (805)	2.33 (59)	2.88 (73)	0.44 (11)	0.75	2.50			
		M.H.	N, R6, T, T10-13																	
		200	SVW	All	E.H. and M.H.	Standard and All Forms	22.15 (563)	9.77 (248)	42.21 (1072)	3.08 (78)	16.00 (406)	40.50 (1029)	0.61 (15)	3.67 (93)	31.71 (805)	2.33 (59)	2.88 (73)	0.44 (11)	0.75	2.50
		300	SXW	All	E.H. and M.H.	Standard and All Forms	17.21 (437)	12.63 (321)	47.21 (1199)	4.11 (104)	9.00 (229)	46.00 (1168)	0.61 (15)	4.59 (117)	28.32 (719)	3.11 (79)	5.75 (146)	0.56 (14)	0.75	3.50
400, 600	SYW, SZW	All	E.H. and M.H.	Standard and All Forms	20.21 (513)	12.13 (308)	65.21 (1656)	4.11 (104)	12.00 (305)	64.00 (1626)	0.61 (15)	4.59 (117)	30.82 (783)	2.67 (68)	4.50 (114)	0.56 (14)	0.75 [2]	Two 3.0 [2]		
800	SJW	2-3	With or Without Any Forms		34.50 (876)	23.50 (597)	101.00 (2565)	Floor Mounting												

[1] All K forms.

[2] X hub is 0.25 in. left of center. W hub shown is another X hub. K dimension is the distance between two X hubs. Actual W hub is located 3.187 in. to the right of the X hub shown.

**Table 32: NEMA 4 & 4X**



# Lighting Contactors

## Approximate Dimensions—Non-Combination

NEMA 12 enclosures can be field modified for outdoor non-corrosive and non-service entrance rated applications:

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

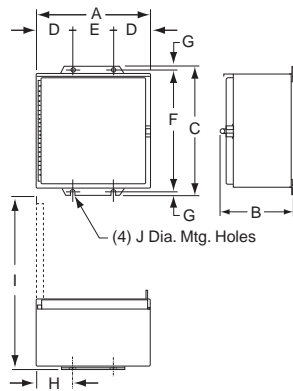
**Table 33: NEMA 12/3R Non-Combination Lighting Contactors**

Ampere Rating	Type	No. of Poles	Forms <i>E.H. = Electrically Held</i> <i>M.H. = Mechanically Held</i>		Dimensions, in. (mm) [1]									
					A	B	C	D	E	F	G	H	I	J
30	LA LXA	Any	Standard, F, R6, Y48		8.13 (206)	8.50 (216)	15.75 (400)	1.56 (40)	5.00 (127)	15.00 (381)	0.31 (8)	2.13 (54)	14.75 (375)	0.31 (8)
			A3, A12, C, C6, P, T		14.88 (378)	7.88 (200)	16.00 (406)	2.56 (65)	9.75 (248)	15.00 (381)	0.5 (13)	3.66 (93)	21.25 (540)	0.31 (8)
30	SMA	2-5	E.H.	Standard, A12, C, C6, P, X	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)
			M.H.	Standard, F, P, X										
			E.H.	T	11.88 (302)	7.75 (197)	13.50 (343)	2.56 (65)	6.75 (171)	12.75 (324)	0.38 (10)	3.66 (93)	18.12 (460)	0.31 (8)
			M.H.	A3, C, C6, T, N, P, R6										
60	SPA	2-5	E.H.	Standard, A12, C, C6, P, X	8.13 (206)	9.28 (236)	16.00 (406)	1.56 (40)	5.00 (127)	15.00 (381)	0.50 (13)	3.66 (93)	15.38 (391)	0.31 (8)
			M.H.	Standard, A3, C, C6, P, X										
			E.H.	T, N, R6	14.88 (378)	7.88 (200)	15.75 (400)	2.56 (65)	9.75 (248)	15.00 (381)	0.38 (10)	3.66 (93)	21.25 (540)	0.31 (8)
			M.H.	A3, C, C6, T, N, P, R6										
100	SQA	2, 3	E.H.	Standard, A12, C, C6, F, N, R6, P, T, T10-13, X	18.15 (461)	9.24 (234)	31.50 (800)	3.08 (78)	12.00 (305)	30.50 (775)	0.50 (13)	3.67 (93)	26.71 (678)	0.44 (11)
			M.H.	Standard, A3, C, C6, F, N, P, R6, T, T10-13, X										
		4, 5	E.H.	Standard, A12, C, C6, F, N, P [2]	22.15 (563)	10.24 (260)	41.50 (1054)	3.08 (78)	16.00 (406)	40.50 (1029)	0.50 (13)	3.67 (93)	31.71 (805)	0.44 (11)
			M.H.	Standard, A3, C, C6, P [2]										
			E.H.	N, R6, T, T10-13 [2]	22.15 (563)	10.24 (260)	41.50 (1054)	3.08 (78)	16.00 (406)	40.50 (1029)	0.50 (13)	3.67 (93)	31.71 (805)	0.44 (11)
			M.H.	N, R6, T, T10-13 [2]										
200	SVW	All	E.H. and M.H.	Standard and All Forms	22.15 (563)	10.24 (260)	41.50 (1054)	3.08 (78)	16.00 (406)	40.50 (1029)	0.50 (13)	3.67 (93)	31.71 (805)	0.44 (11)
300	SXW	All	E.H. and M.H.	Standard and All Forms	17.21 (437)	13.33 (339)	47.00 (1193)	4.11 (104)	9.00 (229)	46.00 (1168)	0.50 (13)	4.59 (117)	28.32 (719)	0.56 (14)
400, 600	SYW, SZW	All	E.H. and M.H.	Standard and All Forms	20.21 (513)	12.13 (308)	65.00 (1651)	4.11 (104)	12.00 (305)	64.00 (1626)	0.50 (13)	5.31 (135)	30.87 (784)	0.69 (18)
800	SJW	2-3	With or Without Any Forms		93.00 (2362)	34.50 (876)	23.50 (597)	Floor Mounting						

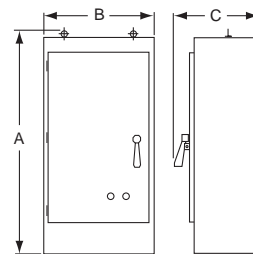
[1] See Figure 8 for all dimensions except 800 A; for 800 A dimensions, see Figure 9.

[2] All Type K Forms using Class 9001 Type K control units.

**Figure 8: NEMA 12/3R, 30-600 A**



**Figure 9: NEMA 12/3R, 800 A**



# Lighting Contactors

## Approximate Dimensions—Combination

### Combination Lighting Contactors

Dimensions are the same for Form F4T (standard control transformer), Form F4T11 (100 VA extra capacity), and Form F4T12 (200 VA extra capacity).

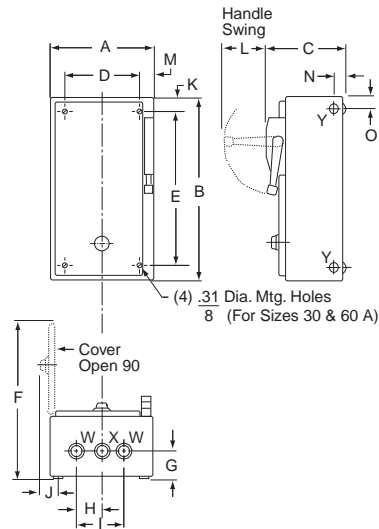
**Table 34: NEMA 1 Combination Lighting Contactors, 30–60 A**

Ampere Rating	Type	Dimensions, in. (mm) (see Figure 10)														Top & Bottom, in.		Sides, in.	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	W	X	Y
30	SMG6-, 8-	9.50 (241)	22.50 (572)	8.37 (213)	6.38 (162)	20.50 (521)	14.68 (373)	1.81 (46)	1.69 (43)	3.37 (86)	3.38 (86)	1.06 (27)	3.25 (83)	2.18 (55)	1.25 (32)	0.87 (22)	0.50–0.75	0.50–0.75	0.50
	SMG7-, 9-	13.75 (349)	23.00 (584)	8.36 (212)	10.63 (270)	21.00 (533)	20.07 (510)	1.87 (47)	1.88 (48)	3.76 (96)	2.06 (52)	1.06 (27)	3.25 (83)	2.18 (55)	1.25 (32)	0.87 (22)	0.50–0.75	0.50–0.75	0.50
60	SPG6-, 8-	10.50 (267)	26.00 (660)	9.62 (244)	7.37 (187)	24.00 (610)	17.00 (432)	2.12 (54)	2.00 (51)	4.00 (102)	2.06 (52)	1.06 (27)	3.25 (83)	2.18 (55)	1.25 (32)	0.87 (22)	1.0–1.25	0.50–0.75	0.50
	SPG7-, 9-	15.00 (381)	28.75 (730)	9.62 (244)	11.62 (295)	26.25 (667)	21.50 (546)	2.18 (55)	2.00 (51)	4.00 (102)	2.56 (65)	1.31 (33)	3.25 (83)	2.18 (55)	1.25 (32)	0.87 (22)	1.0–1.25	0.50–0.75	0.50

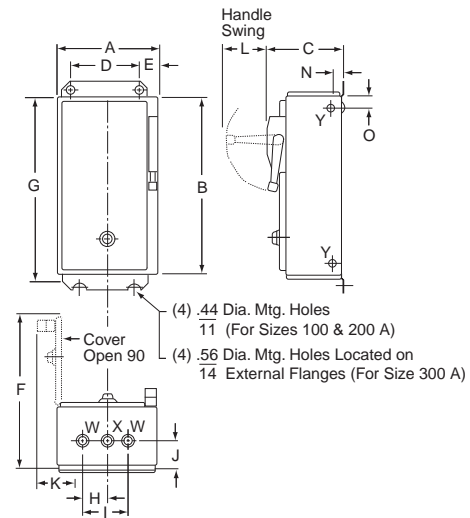
**Table 35: NEMA 1 Combination Lighting Contactors, 100–600 A**

Ampere Rating	Type	Dimensions, in. (mm) (see Figure 11)														Top & Bottom, in.		Sides, in.			
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	W	X	Y		
100	SQG6-, 7-, SQG81, 91	15.25 (387)	39.50 (1003)	10.60 (269)	9.25 (235)	3.00 (76)	22.68 (576)	41.00 (1041)	2.69 (68)	5.38 (137)	2.83 (72)	3.74 (95)	5.00 (127)	—	1.21 (31)	0.90 (23)	1.–1.25 2.–2.50	0.50–0.75	0.50		
200	SVG6-, 7-, SVG81, 91	16.00 (406)	50.00 (1270)	10.68 (271)	10.00 (254)	3.00 (76)	23.68 (601)	51.50 (1308)	2.69 (68)	5.38 (137)	2.83 (72)	3.74 (95)	5.00 (127)	—	1.21 (31)	0.90 (23)	2.50	0.50–0.75	0.50		
200	SXG6-, 7-	20.00 (508)	75.00 (1905)	14.37 (365)	12.00 (305)	4.00 (102)	29.43 (748)	77.00 (1956)	3.19 (81)	—	3.52 (89)	7.00 (178)	9.25 (235)	—	—	—	0.50–0.75	3.00	—		
	SXG81, 91	20.00 (508)	63.00 (1600)	14.37 (365)	12.00 (305)	4.00 (102)	27.43 (697)	65.00 (1651)	3.19 (81)	—	3.52 (89)	7.00 (178)	5.00 (127)	—	—	—	0.50–0.75	3.00	—		
400	SYG81, 91	36.00 (914)	90.00 (2286)	17.00 (432)	Floor Mounting Enclosure														—	—	—
600	SZG81, 91																		—	—	—

**Figure 10: NEMA 1, 30–60 A**



**Figure 11: NEMA 1, 100–600 A**



# Lighting Contactors Approximate Dimensions—Combination

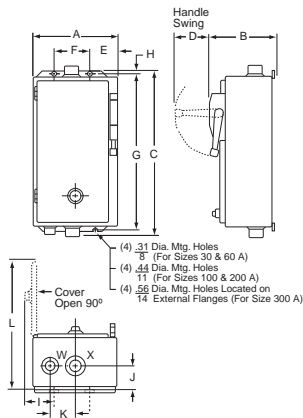
**Table 36: NEMA 4, 4X Combination Lighting Contactors**

Ampere Rating	Type	Dimensions, in. (mm)												Hubs, in.	
		A	B	C	D	E	F	G	H	I	J	K	L	W	X
30	SMW6-, 8-	9.50 (241)	8.36 (212)	24.76 (629)	3.25 (83)	2.50 (64)	4.50 (114)	23.50 (597)	0.63 (16)	3.00 (76)	1.62 (41)	2.31 (59)	14.31 (363)	0.75	1.0
	SMW7-, 9-	13.75 (349)	8.36 (212)	25.26 (642)	3.25 (83)	4.75 (121)	4.25 (108)	24.00 (610)	0.63 (16)	5.25 (133)	1.62 (41)	2.31 (59)	20.14 (512)	0.75	1.0
60	SPW6-, 8-	10.50 (267)	9.61 (244)	28.26 (718)	3.25 (83)	2.50 (64)	5.50 (140)	27.00 (686)	0.63 (16)	3.00 (76)	2.00 (51)	2.63 (67)	16.56 (421)	0.75	1.50
	SPW7-, 9-	15.00 (381)	9.61 (244)	31.01 (788)	3.25 (83)	5.38 (137)	4.25 (108)	29.75 (756)	0.63 (16)	5.88 (149)	2.00 (51)	2.63 (67)	21.06 (535)	0.75	1.50
100	SQW6-, 7- SQW81, 91	15.25 (387)	10.60 (269)	41.76 (1061)	5.00 (127)	2.50 (64)	10.25 (260)	40.50 (1028)	0.63 (16)	3.24 (82)	2.61 (66)	3.19 (81)	22.18 (563)	0.75	2.50
200	SVW6-, 7- SVW81, 91	16.00 (406)	10.56 (268)	52.26 (1327)	5.00 (127)	2.50 (64)	11.00 (279)	51.00 (1295)	0.63 (16)	3.24 (82)	2.61 (66)	3.19 (81)	23.00 (584)	0.75	2.50
300	SXW6-, 7- SXW81, 91	20.00 (508)	14.21 (361)	78.12 (1984)	9.25 (235)	4.00 (102)	12.00 (305)	77.00 (1956)	0.56 (14)	4.77 (121)	2.96 (75)	3.50 (89)	29.43 (748)	0.75	3.50
	SYW81, 91	20.00 (508)	14.21 (361)	66.12 (1679)	5.00 (127)	4.00 (102)	12.00 (305)	65.00 (1651)	0.56 (14)	4.77 (121)	2.96 (75)	3.50 (89)	27.43 (697)	0.75	3.50
400	SZW81, 91	36.00 (914)	17.71 (450)	98.00 (2489)	Floor Mounting Enclosure									—	—

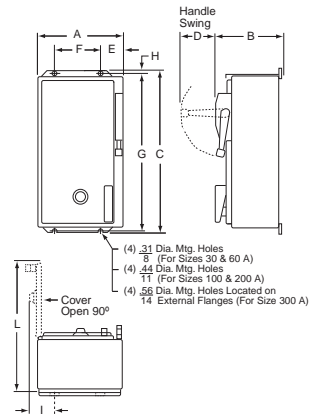
**Table 37: NEMA 12/3R Combination Lighting Contactors**

Ampere Rating	Type	Dimensions, in. (mm)										
		A	B	C	D	E	F	G	H	I	J	
30	SMA6-, 8-	9.50 (241)	8.36 (212)	24.26 (616)	3.25 (83)	2.50 (64)	4.50 (114)	23.50 (597)	0.38 (10)	3.25 (83)	14.31 (363)	
	SMA7-, 9-	13.75 (349)	10.10 (257)	24.76 (629)	3.25 (83)	4.75 (121)	4.25 (108)	24.00 (610)	0.38 (10)	5.50 (140)	22.00 (559)	
60	SPA6-, 8-	10.50 (267)	9.61 (244)	27.76 (705)	3.25 (83)	2.50 (64)	5.50 (140)	27.00 (686)	0.38 (10)	3.25 (83)	16.56 (421)	
	SPA7-, 9-	15.00 (381)	10.98 (279)	30.51 (775)	3.25 (83)	5.38 (137)	4.25 (108)	29.75 (756)	0.38 (10)	6.13 (156)	23.43 (595)	
100	SQA6-, 7- SQA81, 91	15.25 (387)	10.59 (259)	42.00 (1067)	5.00 (127)	3.00 (76)	9.25 (235)	41.00 (1041)	0.50 (13)	3.75 (95)	22.31 (567)	
200	SVA6-, 7- SVA81, 91	16.00 (406)	10.52 (267)	52.50 (1334)	5.00 (127)	3.00 (76)	10.00 (254)	51.50 (1308)	0.50 (13)	3.75 (95)	23.00 (584)	
300	SXA6-, 7- SXA81, 91	20.00 (508)	14.21 (361)	78.00 (1981)	9.25 (235)	4.00 (102)	12.00 (305)	77.00 (1956)	0.50 (13)	7.75 (197)	29.43 (748)	
	SYA81, 91	20.00 (508)	14.21 (361)	66.00 (1676)	5.00 (127)	4.00 (102)	12.00 (305)	65.00 (1651)	0.50 (13)	7.75 (197)	27.43 (697)	
400	SZA81, 91	36.00 (914)	17.71 (450)	90.00 (2286)	Floor Mounting Enclosure							
600	SZA81, 91				Floor Mounting Enclosure							

**Figure 12: NEMA 4**



**Figure 13: NEMA 12/3R**



**Lighting Contactors**  
**Approximate Dimensions—Night-Master™**

**Night-Master™ Outdoor Lighting Contactors**

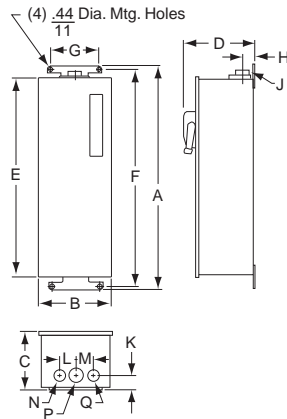
**Table 38: Night-Master Outdoor Lighting Contactors (Short Version), NEMA 3R**

Ampere Rating	Description	Type	A	B	C	D	E	F	G	H	Conduit J	K	L	M	Knockouts		
															N	P	Q
30	Disconnect Switch Type	SMC61, 62	23.50 (597)	15.00 (381)	8.42 (214)	10.50 (267)	19.00 (483)	22.38 (568)	7.00 (178)	2.18 (55)	1.50 (38)	2.13 (54)	2.13 (54)	2.13 (54)	0.50– 0.75	1.0–1.25 1.50	0.50– 0.75
	Circuit Breaker Type	SMC81															
60	Disconnect Switch Type	SPC61, 62	34.53 (877)	20.00 (508)	8.42 (214)	10.50 (267)	30.04 (763)	33.41 (849)	7.00 (178)	2.18 (55)	2.0 (2.50)	2.68 (68)	2.68 (68)	3.44 (87)	0.50– 0.75	1.0–1.25 2.0–2.50	1.0–1.25 1.5–2.0
	Circuit Breaker Type	SPC81															
100	Disconnect Switch Type	SQC61, 62	42.53 (1080)	20.00 (508)	8.42 (214)	10.42 (265)	38.04 (966)	41.41 (1052)	7.00 (178)	2.18 (55)	2.0 (2.50)	2.68 (68)	2.68 (68)	3.44 (87)	0.50– 0.75	1.0–1.25 2.0–2.50	1.0–1.25 1.5–2.0
	Circuit Breaker Type	SQC81															
200	Disconnect Switch Type	SVC61, 62	56.37 (1432)	19.00 (483)	9.12 (232)	10.53 (267)	52.00 (1321)	55.25 (1403)	7.00 (178)	2.18 (55)	2.50 (64)	2.68 (68)	2.69 (68)	3.44 (87)	0.50– 0.75	1.0–1.25 2.0–2.50	1.0–1.25 1.5–2.0
	Circuit Breaker Type	SVC81															

**Table 39: Night-Master Outdoor Lighting Contactors (Long Version), NEMA 3R**

Ampere Rating	Description	Type	A	B	C	D	E	F	G	H	Conduit J	K	L	M	Knockouts		
															N	P	Q
30	Disconnect Switch Type	SMC63, 64	38.88 (987)	15.00 (381)	8.42 (214)	10.42 (265)	34.38 (873)	37.76 (959)	7.00 (178)	2.18 (55)	1.50 (38)	2.13 (54)	2.13 (54)	2.13 (54)	0.50– 0.75	1.0–1.25 1.50	0.50–0.75
	Circuit Breaker Type	SMC83															
60	Disconnect Switch Type	SPC63, 64	42.53 (1080)	20.00 (508)	8.42 (214)	10.42 (265)	38.04 (966)	41.41 (1052)	7.00 (178)	2.18 (55)	2.0 (2.50)	2.68 (68)	2.68 (68)	3.44 (87)	0.50– 0.75	1.0–1.25 2.0–2.50	1.0–1.25 1.5–2.0
	Circuit Breaker Type	SPC83															
100	Disconnect Switch Type	SQC63, 64	56.37 (1432)	19.00 (483)	9.12 (232)	10.53 (267)	52.00 (1321)	55.25 (1403)	7.00 (178)	2.18 (55)	2.50 (64)	2.68 (68)	2.69 (68)	3.44 (87)	0.50– 0.75	1.0–1.25 2.0–2.50	1.0–1.25 1.5–2.0
	Circuit Breaker Type	SQC83															
200	Disconnect Switch Type	SVC63, 64	56.37 (1432)	19.00 (483)	9.12 (232)	10.53 (267)	52.00 (1321)	55.25 (1403)	7.00 (178)	2.18 (55)	2.50 (64)	2.68 (68)	2.69 (68)	3.44 (87)	0.50– 0.75	1.0–1.25 2.0–2.50	1.0–1.25 1.5–2.0
	Circuit Breaker Type	SVC83															

**Figure 14: Night-Master**



**Schneider Electric USA, Inc.**  
 800 Federal Street  
 Andover, MA 01810 USA  
 888-778-2733  
 www.schneider-electric.us

Schneider Electric, Square D, and Night-Master are trademarks and the property of Schneider Electric SE, its subsidiaries, and affiliated companies. All other trademarks are the property of their respective owners.  
 8903CT9701R11/15 Replaces 8903CT9701, 01/1998  
 © 1998–2016 Schneider Electric All Rights Reserved