

GREENLEE® Motor Protectors 3-Phase

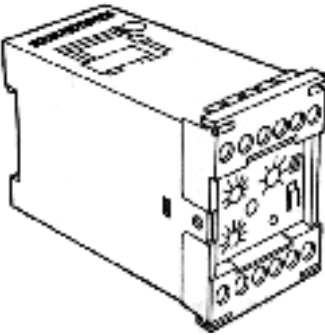
DIN rail mount protectors feature adjustable voltage ranges, adjustable time delay reset from 20 to 300 seconds, and user selectable automatic and manual restart options. 4½"×2¼"×2¾".

Motor Protectors

No.	UPC	Volts	Adj. Volt. Rge. Under	Adj. Volt. Rge. Over
5745-240	34535	240	140-240	180-280
5745-480	34536	480	300-500	360-560

Accessories

No.	Desc.
5745M	DIN Rail for Mounting

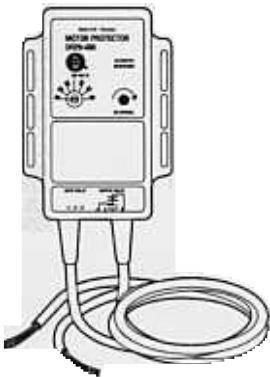


GREENLEE® Motor Protectors 3-Phase

For use on Delta and Wye systems to protect against phase loss or reversal, undervoltage, voltage imbalance. Voltage range is adjustable.

Dim., in.

No.	UPC	Volts	L	H
5729-240		160-240	6	1¾
5729-480		300-480	6	1¾



ALLEN-BRADLEY Bulletin 509 - Full Voltage Starters 3Ø



Open Type w/o Enclosure



Type 1 General Purpose Enclosure

M

Designed for full voltage starting of polyphase squirrel cage motors. NEMA sizes 00 thru 9. May be operated by remote control with push buttons, float switches, thermostats, pressure switches, snap switches, limit switches or any other suitable two or three wire pilot device. Available with Bulletin 592 eutectic alloy overload relays as well as solid-state overloads.

Conform to NEMA/EEMAC ICS 2, UL 508, CSA 22.2, No. 14, ABS 4/5.115 and USCG 46 CFR 111.70 standards.

UL Listed; CSA Certified. CE marked per EN 60947. American Bureau of Shipping approved.

When ordering, select voltage suffix (6th character of part number) code from table to complete number. Default code is D (115-120V).

Voltage Suffix Codes

Volts	Common Control 50 Hz	Common Control 60 Hz	Separate Control w/o Transformer 50 Hz	Separate Control w/o Transformer 60 Hz
24		...	K	J
110-115		...	S*	...
115-120		D†

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Volts	Common Control 50 Hz	Common Control 60 Hz	Separate Control w/o Transformer 50 Hz	Separate Control w/o Transformer 60 Hz
200-208	...	H	...	...
220-230	P	...	...	...
230-240	...	A	...	...
240	T	...	...	...
277	...	...	...	...
380	N	...	...	F
380-400	KN	...	...	...
415	I	U	...	...
440-460	Q	...	...	...
460-480	...	B	...	...
500	M	...	...	...
550	R	...	...	...
575-600	...	C	...	...

*Optimized for 110V-115V, but can be used at 120V, 60 Hz nominal.

†Optimized for 115V-120V 60 Hz, but can be used at 110V, 50 Hz nominal.

The catalog numbers listed below are incomplete. Select two overload relay codes from table below to complete catalog number. The first code will denote the high speed overload relay and second code will denote the low speed overload relay. Example 520E-AHA becomes 520E-AHA-A2B-A2B.

Catalog No. Overload Relay Codes - SMP-1 - Class 20

Use With NEMA Sizes	Full Load Current Range	Overload Relay Code
0, 1	.19-.60	A2B
0, 1	.32-1.00	A2C
0, 1	1.00-2.90	A2D
0, 1	1.60-5.00	A2E
0, 1	3.70-12.00	A2F
0, 1, 2	5.70-18.00	A2G
1, 2	12.00-38.00	A2H
2, 3	14.00-45.00	A2J
3, 4	23.00-75.00	A2K
3, 4	66.00-110.00	A2L
4	57.00-180.00	A2M

Separate Controls - 120V

No.	UPC	NEMA Size	Cont. Amp Rating	hp Rating 200V	hp Rating 230V	hp Rating 50 Hz 380V-415V	hp Rating 460V-575V
Open Type w/o Enclosure							
509-TOD		00	9	1½	1½	2	2
509-AOD		0	18	3	3	5	5
509-BOD		1	27	7½	7½	10	10
509-COD		2	45	10	15	25	25
509-DOD		3	90	25	30	50	50
509-EOD		4	135	40	50	100	75
509-FOD		5	270	75	100	200	150
509-GOD		6	540	...	...	...	...
509-HOD		7	810	...	...	...	...
509-JOD		8	1215	...	...	...	...
509-KOD		9	2250	...	...	...	...
Type 1 - General Purpose Enclosure - Surface Mounting							
509-TAD		00	9	1½	1½	2	2
509-AAD		0	18	3	3	5	5
509-BAD		1	27	7½	7½	10	10
509-EAD		4	135	...	...	...	...
509-FAD		5	270	...	...	...	...
509-GAD		6	540	...	...	...	...
509-HAD		7	810	...	...	...	...
509-JAD		8	1215	...	...	...	...
509-KAD		9	2250	...	...	...	...
Type 3R/12 Rainproof - Dusttight - Industrial Use Enclosure							
509-AJD		0	18	3	3	5	5
509-BJD		1	27	7½	7½	10	10
509-CJD		2	45	...	...	...	...
509-DJD		3	90	...	...	...	...
509-EJD		4	135	...	...	...	...
509-FJD		5	270	...	...	...	...
509-GJD		6	540	...	...	...	...
509-HJD		7	810	...	...	...	...
509-JJD		8	1215	...	...	...	...
509-KJD		9	2250	...	...	...	...
Type 4 - Watertight Enclosure - Stainless Steel							
509-ACD		0	18	3	3	5	5
509-BCD		1	27

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No.	UPC	NEMA Size	Cont. Amp Rating	hp Rating 200V	hp Rating 230V	hp Rating 50 Hz 380V-415V	hp Rating 460V-575V
509-CCD		2	45	...	...
509-DCD		3	90	...	...
509-ECD		4	135	...	...
509-FCD		5	270	...	...
509-GCD		6	540	...	...
509-HCD		7	810	...	...
509-JCD		8	1215	...	...
509-KCD		9	2250	...	...

Type 4X - Watertight - Corrosion-Resistant Enclosure - Fiberglass Reinforced Polyester

509-ASD		0	18	...	...
509-BSD		1	27	...	...
509-CSD		2	45	...	...

Full Voltage Starters - 3Ø - 3 Pole

No.	UPC	NEMA Size	Cont. Amp Rating	Motor Volts	Starter Coil Volts	hp Rating Single Ø	hp Rating 3 Ø
Open Type w/o Enclosure							
509-TOH		0	9	200	208		1½
509-TOA		0	9	230	240		1½
509-TOB		0	9	460	480		2
509-TOC		0	9	575	600		2
509-AOH		0	18	200	208	2	3
509-AOA		0	18	230	240		3
509-AOB		0	18	460	480		5
509-AOC		0	18	575	600		5
509-BOH		1	27	200	208		7½
509-BOA		1	27	230	240	3	7½
509-BOB		1	27	460	480		10
509-BOC		1	27	575	600		10
509-COH		2	45	200	208		10
509-COA		2	45	230	240	7½	15
509-COB		2	45	460	480		25
509-COC		2	45	575	600		25
509-DOH		3	90	200	208		25
509-DOA		3	90	230	240		30
509-DOB		3	90	460	480		50
509-DOC		3	90	575	600		50
509-EOH		4	135	200	208		40
509-EOA		4	135	230	240		50
509-EOB		4	135	460	480		100
509-EOC		4	135	575	600		100
509-FOH		5	270	200	208		75
509-FOA		5	270	230	240		100
509-FOB		5	270	460	480		200
509-FOC		5	270	575	600		200
509-HOA		7	810	230	240		300
509-HOB		7	810	460	480		600
509-HOC		7	810	575	600		600
509-JOA		8	1215	230	240		240
509-JOB		8	1215	460	480		480
509-JOC		8	1215	575	600		600
509-KOA		9	2250	230	240		240
509-KOB		9	2250	460	480		480
509-KOC		9	2250	575	600		600

Type 1 - General Purpose Enclosure - Surface Mounting

509-TAH		0	9	200	208	...	1½
509-TAA		0	9	230	240	1	1½
509-TAB		0	9	460	480	...	2
509-TAC		0	9	575	600	...	2
509-AAH		0	18	200	208	...	3
509-AAA		0	18	230	240	2	3
509-AAB		0	18	460	480	...	5
509-AAC		0	18	575	600	...	5
509-BAH		1	27	200	208	...	7½
509-BAA		1	27	230	240	3	7½
509-BAB		1	27	460	480	...	10
509-BAC		1	27	575	600	...	10
509-CAH		2	45	200	208	...	10
509-CAA		2	45	230	240	7½	15
509-CAB		2	45	460	480	...	25
509-CAC		2	45	575	600	...	25
509-DAH		3	90	200	208	...	25
509-DAA		3	90	230	240	...	30
509-DAB		3	90	460	480	...	50
509-DAC		3	90	575	600	...	50
509-EAH		4	135	200	208	...	40
509-EAA		4	135	230	240	...	50
509-EAB		4	135	460	480	...	100
509-EAC		4	135	575	600	...	100
509-FAH		5	270	200	208	...	75

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No.	UPC	NEMA Size	Cont. Amp Rating	Motor Volts	Starter Coil Volts	hp Rating Single Ø	hp Rating 3 Ø
509-FAA		5	270	230	240		100
509-FAB		5	270	460	480		200
509-FAC		5	270	575	600		200
509-GAH		6	540	200	208		150
509-GAA		6	540	230	240		200
509-GAB		6	540	460	480		400
509-GAC		6	540	575	600		400
509-HAA		7	810	230	240		300
509-HAB		7	810	460	480		600
509-HAC		7	810	575	600		600
509-JAA		8	1215	230	240		450
509-JAB		8	1215	460	480		900
509-JAC		8	1215	575	600		900
509-KAA		9	2250	230	240		1600
509-KAB		9	2250	460	480		1600
509-KAC		9	2250	575	600		1600
Type 3R/12 Rainproof - Dusttight - Industrial Use Enclosure							
509-AJH		0	18	200	208		3
509-AJA		0	18	230	240	2	3
509-AJB		0	18	460	480		5
509-AJC		0	18	575	600		5
509-BJH		1	27	200	208		7½
509-BJA		1	27	230	240	3	7½
509-BJB		1	27	460	480		10
509-BJC		1	27	575	600		10
509-CJH		2	45	200	208		10
509-CJA		2	45	230	240	7½	15
509-CJB		2	45	460	480		25
509-CJC		2	45	575	600		25
509-DJH		3	90	200	208		25
509-DJA		3	90	230	240		30
509-DJB		3	90	460	480		50
509-DJC		3	90	575	600		50
509-EJH		4	135	200	208		40
509-EJA		4	135	230	240		50
509-EJB		4	135	460	480		100
509-EJC		4	135	575	600		100
509-FJH		5	270	200	208		75
509-FJA		5	270	230	240		100
509-FJB		5	270	460	480		200
509-FJC		5	270	575	600		200
509-GJH		6	540	200	208		150
509-GJA		6	540	230	240		200
509-GJB		6	540	460	480		400
509-GJC		6	540	575	600		400
509-HJA		7	810	230	240		300
509-HJB		7	810	460	480		600
509-HJC		7	810	575	600		600
509-JJA		8	1215	230	240		450
509-JJB		8	1215	460	480		900
509-JJC		8	1215	575	600		900
509-KJA		9	2250	230	240		1600
509-KJB		9	2250	460	480		1600
509-KJC		9	2250	575	600		1600
Type 4 - Watertight Enclosure - Stainless Steel							
509-ACH		0	18	200	208		3
509-ACA		0	18	230	240	2	3
509-ACB		0	18	460	480		5
509-ACC		0	18	575	600		5
509-BCH		1	27	200	208		7½
509-BCA		1	27	230	240	3	7½
509-BCB		1	27	460	480		10
509-BCC		1	27	575	600		10
509-CCH		2	45	200	208		10
509-CCA		2	45	230	240	7½	15
509-CCB		2	45	460	480		25
509-CCC		2	45	575	600		25
509-DCH		3	90	200	208		25
509-DCA		3	90	230	240		30
509-DCB		3	90	460	480		50
509-DCC		3	90	575	600		50
509-ECH		4	135	200	208		40
509-ECA		4	135	230	240		50
509-ECB		4	135	460	480		100
509-ECC		4	135	575	600		100
509-FCH		5	270	200	208		75
509-FCA		5	270	230	240		100
509-FCB		5	270	460	480		200
509-FCC		5	270	575	600		200
509-GCH		6	540	200	208		150
509-GCA		6	540	230	240		200
509-GCB		6	540	460	480		400
509-GCC		6	540	575	600		400
509-HCA		7	810	230	240		300
509-HCB		7	810	460	480		600
509-HCC		7	810	575	600		600
509-JCA		8	1215	230	240		450

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No.	UPC	NEMA Size	Cont. Amp Rating	Motor Volts	Starter Coil Volts	hp Rating Single Ø	hp Rating 3 Ø
509-JCB		8	1215	460	480		900
509-JCC		8	1215	575	600		900
509-KCA		9	2250	230	240		800
509-KCB		9	2250	460	480		1600
509-KCC		9	2250	575	600		1600
Type 4X - Watertight - Corrosion-Resistant Enclosure - Fiberglass Reinforced Polyester							
509-ASH		0	18	200	208	..	3
509-ASA		0	18	230	240	2	3
509-ASB		0	18	460	480		5
509-ASC		0	18	575	600		5
509-BSH		1	27	200	208	..	7½
509-BSA		1	27	230	240	3	7½
509-BSB		1	27	460	480		10
509-BSC		1	27	575	600		10
509-CSH		2	45	200	208	...	10
509-CSA		2	45	230	240	7½	15
509-CSB		2	45	460	480		25
509-CSC		2	45	575	600		25

ALLEN-BRADLEY Push Button Accessories

For mounting in Bulletin 500-509 covers.

No.	UPC	Size	Desc.
"Start-Stop" Push Button			
599-PB00		00	Cover Mount, For Bulletin 500-509, NEMA 1
599-PB02		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1
599-PB34		3	Cover Mount, For Bulletin 500-509, NEMA 1
Selector Switch			
599-SS00		00	Cover Mount, For Bulletin 500-509, NEMA 1
599-SS02		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1
1481-N54		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1, 240V, 60 Hz, Red Lens
1481-N55		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1, 480V, 60 Hz, Red Lens
1481-N48		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1, 600V, 60 Hz, Red Lens
1481-N57A		0-1-2, 3	Cover Mount, For Bulletin 500-509, NEMA 1, 120V, 60 Hz, Red Lens
1481-N51A		0-1-2, 3	Cover Mount, For Bulletin 500-509, NEMA 1, 240V, 60 Hz, Red Lens
599-SS34		3, 4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 480V, 60 Hz, Red Lens
1481-N59		3, 4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 600V, 60 Hz, Red Lens
1481-N60		3, 4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 120V, 60 Hz, Red Lens
1481-N62		3, 4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 240V, 60 Hz, Red Lens
1481-N57B		4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 480V, 60 Hz, Red Lens
1481-N51B		4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 600V, 60 Hz, Red Lens
Pilot Light			
599-PL00D		00	Cover Mount, For Bulletin 500-509, NEMA 1, 120V, 60 Hz, Red Lens
599-PL00A		00	Cover Mount, For Bulletin 500-509, NEMA 1, 240V, 60 Hz, Red Lens
599-PL00B		00	Cover Mount, For Bulletin 500-509, NEMA 1, 480V, 60 Hz, Red Lens
599-PL00C		00	Cover Mount, For Bulletin 500-509, NEMA 1, 600V, 60 Hz, Red Lens
599-PL02D		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1, 120V, 60 Hz, Red Lens
599-PL02A		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1, 240V, 60 Hz, Red Lens
599-PL02B		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1, 480V, 60 Hz, Red Lens
599-PL02C		0-1-2	Cover Mount, For Bulletin 500-509, NEMA 1, 600V, 60 Hz, Red Lens
1481-N52A120		0-1-2, 3	Flange Mount, For Bulletin 512-513, NEMA 1, 120V, 60 Hz, Red Lens
1481-N52A240		0-1-2, 3	Flange Mount, For Bulletin 512-513, NEMA 1, 240V, 60 Hz, Red Lens
1481-N52A480		0-1-2, 3	Flange Mount, For Bulletin 512-513, NEMA 1, 480V, 60 Hz, Red Lens
1481-N52A600		0-1-2, 3	Flange Mount, For Bulletin 512-513, NEMA 1, 600V, 60 Hz, Red Lens
1481-N56A120R		0-1-2, 3, 4, 5	Flange Mount, For Bulletin 505-509-513, NEMA 7, 9, Unilock, 120V, 60 Hz, Red Lens-110V, 50 Hz
1481-N56A120G		0-1-2, 3, 4, 5	Flange Mount, For Bulletin 505-509-513, NEMA 7, 9, Unilock, 120V, 60 Hz, Green Lens-110V, 50 Hz
1481-NX1		0-1-2, 3, 4, 5	Flange Mount, For Bulletin 505-509-513, NEMA 7, 9, Unilock, 240V, 60 Hz-220V, 50 Hz
1481-NX2		0-1-2, 3, 4, 5	Flange Mount, For Bulletin 505-509-513, NEMA 7, 9, Unilock, 480V, 60 Hz-440V, 50 Hz
1481-NX3		0-1-2, 3, 4, 5	Flange Mount, For Bulletin 505-509-513, NEMA 7, 9, Unilock, 600V, 60 Hz-550V, 50 Hz
599-PL34D		3, 4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 120V, 60 Hz, Red Lens
599-PL34A		3, 4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 240V, 60 Hz, Red Lens
599-PL34B		3, 4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 480V, 60 Hz, Red Lens
599-PL34C		3, 4, 5	Cover Mount, For Bulletin 500-509, NEMA 1, 600V, 60 Hz, Red Lens
1481-N52B120		3, 4, 5	Flange Mount, For Bulletin 512-513, NEMA 1, 120V, 60 Hz, Red Lens
1481-N52B240		4, 5	Flange Mount, For Bulletin 512-513, NEMA 1, 240V, 60 Hz, Red Lens
1481-N52B480		4, 5	Flange Mount, For Bulletin 512-513, NEMA 1, 480V, 60 Hz, Red Lens
1481-N52B600		4, 5	Flange Mount, For Bulletin 512-513, NEMA 1, 600V, 60 Hz, Red Lens



ALLEN-BRADLEY

Bulletin 500 - Fusing Kits

Rejection Type - For Contactors and Starters



Designed to accept one Class "CC" Bussman KTK-R or equivalent fuse with 200,000A interrupting capacity and reject all others. Fuse holders may be mounted on each contactor or starter in any one of four auxiliary contact pockets available. Bracket for panel mounting also included.

No. 599-FR04. Single pole fuse holder: contactor, starter or panel mount 6A max. at 600V rejection type.

No. 1491-R162. Two pole fuse holder: pole mount 30A max. at 600V rejection type.

No.	UPC	NEMA Size
599-FR04		0-5
1491-R162		0-5

ALLEN-BRADLEY

Control Circuit Transformers



For providing reduced voltage for control circuits in control panels. 60 Hz.

Bulletin 500 Transformers. Products from 50 VA through 500 VA supplied with attached secondary fuse block which also includes secondary fuse.

Bulletin 100 Transformers. Products from 50 VA through 500 VA supplied with attached primary and secondary fuse block which also includes secondary fuse.

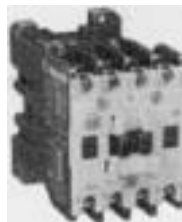
No.	UPC	Cont. VA
Bulletin 500 - Primary 208V, Secondary 120V		
1497-N1		75
Primary 240/480V, Secondary 120V		
1497-N2*		75
1497-N16*		130
1497-N5*		200
1497-N8*		250
1497-N11*		350
1497-N19*		500
1497-N27*		50
1497-N34*		750
1497-N37		1000
1497-N40		1500
1497-N43		2000
Primary 240/480V, Secondary 24V		
1497-N46		50
1497-N49		75
1497-N52		130
1497-N55		200
1497-N58		250
1497-N61		350
1497-N64		500
Bulletin 100 - Primary 240/480V, Secondary 120V		
1497-N27P		50
1497-N2P		75

*Also rated 220/440V primary, 110V secondary 50/60 Hz.

ALLEN-BRADLEY

Bulletin 100 - IEC Contactors

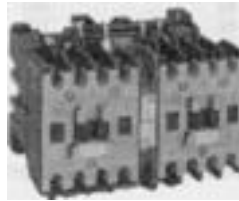
AC Operated



100-A09



100-A38



104-A09

Guarded terminals. Wire terminal lugs. Dual terminal markings. Top and side mounting auxiliary contacts, timers, latches, surge suppressors and mechanical/electrical interlocks. Normally open auxiliary contact with same electrical ratings as main power contact. Provide highly flexible grouping of world acceptable devices when combined with Bulletin 193 SMP or bimetallic overload relays, auxiliary contacts, timers, interlocks, suppressors and DIN mounting rail.

UL Listed File No. E3125, Guide No. NLDX. CSA Certified File No. LR1234. CE Marked per EU Low Voltage Directive 73/23/EEC 93/68/EEC.

When ordering, specify 110V at 50 Hz or 120V at 60 Hz.

No.	UPC	Max. Amps
Nonreversing		
100-A09ND3*		9
100-A12ND3*		12
100-A18ND3*		18
100-A24ND3*		24
100-A30ND3		30
100-A38ND3		38
100-A45ND3		45
100-A60ND3		60
100-A75ND3		75
100-B60ND3†		608
Reversing		
104-A09ND3*		9
104-A12ND3*		12
104-A18ND3*		18
104-A24ND3*		24
104-A30ND3		30
104-A45ND3		45
104-A60ND3		60
104-A75ND3		75
104-B180ND3†		180

*Four main poles same rating. Right hand pole normally used as auxiliary.

†Includes terminal pads with bolt and nut for connection of bus bars or crimp type connectors. Includes normally open auxiliary contact rated specifically for auxiliary circuits and one additional normally closed auxiliary contact.

‡Includes terminal pads with bolt and nut for connection of bus bars or crimp type connectors. Includes normally open auxiliary contact rated specifically for auxiliary circuits.

ALLEN-BRADLEY

Bulletin 800T Push Button Switches

NEMA Type 4/13 - Momentary Contact - 30.5 mm

Electrical Specifications

Dielectric strength 2200V for one minute and 1300V for one minute Logic Reed. Electrical design life cycles 1,000,000 at max. rated load and 200,000 at max. rated load Logic Reed. Nonilluminated.

Mechanical Specifications

Vibration 10-2000 Hz. 1.52 mm displacement (peak-to-peak) max./10G max. (except logic reed). Shock ½ cycle sine wave for 11 milliseconds greater than or equal to 25G (contact fragility) and no damage at 100G. Degree of protection NEMA Type 1/4/12/13; Watertight/Oiltight IEC 529 IP 66/65. Mechanical design life cycles: push buttons momentary, nonilluminated 10,000,000 min.; momentary, illuminated 250,000 min.; push-pull/twist to release 250,000 min. Selector switches non-illuminated 1,000,000 min.; illuminated: 200,000 min.; potentiometers 100,000 min.; all other devices 200,000 min. Contact operation: shallow, mini and low voltage contact blocks: slow, double make and break logic reed and sealed switch contact blocks single break magnetic. Typical operating forces: operators without contact blocks flush, extended, standard mushroom, jumbo plastic mushroom 2 lbs. max.; jumbo and extended aluminum mushroom head 3.95 lbs. max.; maintained selector switch 3.6 in./lbs. max.; spring return selector switches 3.6 in./lbs. to stop, 0.2 in./lbs. to return. Illuminated push buttons and push-to-test pilot lights 5 lbs. max. Two-position push-pull 7.5 lbs. max. push or pull. Three-position push-pull 8 lbs. max. push to in position or pull to center position (15 lbs. max. pull to out position). Twist-to-release or push-pull 9 lbs. max. push or pull; 30 in./oz. max. twist, 6 in./oz. min. return. Potentiometer rotational torque 3 in./oz. to 12 in./oz. Stopping torque 12 in./lbs. min. Contact blocks: 800T-XA 1 lb.; Logic Reed: 1 lb. max.; sealed switch: 3 lbs. max. at 0.205" plunger travel.

Environmental Specifications

Operating temperature range 14°F to 131°F (-10° to 55°C). Storage temperature range -40°F to 185°F (-40°C to 85°C). Operating temperatures at -10°C based on absence of freezing moisture and liquids. Humidity 50% at 104°F (40°C). Watertight. Oiltight.

UL Listed File: E14840, E10314. Guide NKCRCM NOIV. CSA Certified LR1234, LR11924. CE Compliant IEC 947-5.



Flush Head

No.	UPC	Button Color	Contact Type
800T-A1		Green	...
800T-A2		Black	...
800T-A1D1		Green	1 NO
800T-A2D1		Black	1 NO
800T-A1D2		Green	1 NC
800T-A2D2		Black	1 NC
800T-A1A		Green	1 NO-1 NC
800T-A2A		Black	1 NO-1 NC
800T-A1B		Green	2 NO-2 NC
800T-A2B		Black	2 NO-2 NC
800T-A3A		Orange	1 NO-1 NC
800T-A7A		Blue	1 NO-1 NC
800T-A9A		Yellow	1 NO-1 NC

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Extended Head

No.	UPC	Button Color	Contact Type
800T-B1		Green	
800T-B2		Black	
800T-B6		Red	
800T-B1D1		Green	1 NO
800T-B2D1		Black	1 NO
800T-B6D1		Red	1 NO
800T-B1D2		Green	1 NC
800T-B2D2		Black	1 NC
800T-B6D2		Red	1 NC
800T-B1A		Green	1 NO-1 NC
800T-B2A		Black	1 NO-1 NC
800T-B6A		Red	1 NO-1 NC
800T-B9A		Yellow	1 NO-1 NC
800T-B1B		Green	2 NO-2 NC
800T-B2B		Black	2 NO-2 NC
800T-B6B		Red	2 NO-2 NC



Mushroom Head

No.	UPC	Button Color	Contact Type
800T-D1	Green	
800T-D2	Black	
800T-D6	Red	
800T-D1D1	Green	1 NO
800T-D2D1	Black	1 NO
800T-D1D2	Green	1 NC
800T-D2D2	Black	1 NC
800T-D1A	Green	1 NO-1 NC
800T-D2A	Black	1 NO-1 NC
800T-D6A	Red	1 NO-1 NC
800T-D1JA*	Green	1 NO-1 NC
800T-D6D1	Red	1 NO
800T-D1D2	Green	1 NC
800T-D2D2	Black	1 NC
800T-D6D2	Red	1 NC
800T-D6JA*	Red	1 NO-1 NC
800T-D6JD2*	Red	1 NC
800T-D9A	Yellow	1 NO-1 NC
800T-D1B	Green	2 NO-2 NC
800T-D2B	Black	2 NO-2 NC
800T-D6B	Red	2 NO-2 NC

*Jumbo plastic mushroom head.



Flush/Green - Extended/Red

No.	UPC	Contact Arrangement Type	Upper Button	Lower Button
800T-FB16A	1 NO-1 NC	Flush/ Green	Extended/ Red



Flush/Green - Mushroom/Red

No.	UPC	Contact Type	Upper Button	Lower Button
800T-FC16A	1 NO-1 NC	Flush/ Green	Mushroom/ Red
800T-FC16F	2 NO-2 NC	Flush/ Green	Mushroom/ Red

ALLEN-BRADLEY

Selector Switches

Bulletin 800T - NEMA Type 4/13 - Watertight - Oiltight



Standard Knob Operator



Knob Lever Operator



Metal Wing Lever Operator



Cylinder Lock Operator

M

Mounting hole 30.5 mm. Two-position. Nonilluminated. Dielectric strength 2200V for one minute and 1300V for one minute Logic Reed. Electrical design life cycles 1,000,000 at max. rated load. Vibration 10 Hz to 2000 Hz. 1.52 mm displacement (peak-to-peak) max./10G max. except Logic Reed. Shock 1/2 cycle sine wave for 11 milliseconds greater than or equal to 25G (contact fragility) and no damage at 100G. Degree of protection NEMA type 1/4/12/13; Watertight/Oiltight IEC 529 IP 66/65. Mechanical design life cycles: push buttons momentary, nonilluminated 10,000,000 min.; momentary, illuminated 250,000 min.; push-pull/twist to release 250,000 min.; selector switches nonilluminated 1,000,000 min.; illuminated 200,000 min.; potentiometers 100,000 min.; all other devices 200,000. Contact operation: shallow, mini and low voltage contact blocks slow, double make and break; Logic Reed and sealed switch contact blocks single break magnetic.

Typical operating forces: operators without contact blocks flush, extended, standard mushroom, jumbo plastic mushroom 2 lbs. max.; jumbo and extended aluminum mushroom head 3.95 lbs. max.; maintained selector switch 3.6" lbs. max. Spring return selector switch 3.6" lbs. to stop, 0.2" lbs. to return. Illuminated push buttons and push-to-test/pilot lights 5 lbs. max. two-position push-pull 7.5 lbs. max. push or pull. Three-position push-pull 8 lbs. max. push to in position or pull to center position. Twist-to-release or push-pull 9 lbs. max. push or pull. 30" oz. max. twist, 6" min. return. Potentiometer: rotational torque 3" oz. to 12" oz.; stopping torque 12" lbs. min. Contact blocks: 800T-XA 1 lb., Logic Reed 1 lb. max.; sealed switch 3 lb. max. at .205" plunger travel. Operating temperature range 14°F to 131°F (-10°C to 55°C). Storage temperature range -40° to 185°F (-40°C to 85°C). Operating temperatures at -10°C based on absence of freezing moisture and liquids. Humidity 50% at 104°F.

UL Listed File Nos.: E14840, E10314; Guide NKCR, NOIV. CSA Certified LR1234, LR11924. CE Compliant IEC: 947-5.

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Contact Ratings

Max. Operational Volts Ue	Utilization Category IEC	Utilization Category NEMA	Rated Operational Currents Volts Ue	Rated Operational Currents Make	Rated Operational Currents Break
Standard Contacts					
AC 600	AC-15	A600	120-600 72-120 24-72	7200 VA 60A 60A	720 VA 10A
DC 600	DC-13	Q600	28-600 24-28	69 VA 2.5A	69 VA 2.5A
Sealed Switch Contacts					
AC 600	AC-15	B600	120-600 0-120	3600 VA 30A	360 VA 3A
DC 600	DC-13	P300	24-300 0-24	138 VA 5A	138 VA 5.0A
Snap Action Contacts					
AC 300*			120-300 24-72	7200 VA 60A	720 VA 10A
DC 250			230-250 115-125	.2A .4A	.2A .4A
Time Delay Contacts					
AC 120†			120	3600 VA	360 VA

*Contact rating designation A300.
†Contact rating designation B150.

Selector Switches

No.	UPC	Contact	Side	Contact Type	Desc.
Standard Knobs					
800T-H2D1		A	White	1 N.O.	Maintained
800T-H4D1		A	White	1 N.O.	Spring Ret. From Left
800T-H5D1		A	White	1 N.O.	Spring Ret. From Right
800T-H2A		AB	White	1 N.O.	Maintained
800T-H4A		AB	White	1 N.C.	Spring Ret. From Left
800T-H5A		AB	White	1 N.C.	Spring Ret. From Right
800T-H2B		ABAB	White	2 N.O.	Maintained
800T-H4B		ABAB	Black	2 N.C.	Spring Ret. From Left
800T-H5B		ABAB	White	2 N.O.	Spring Ret. From Right
800T-H2H			Black	2 N.C.	Spring Ret. From Right
800T-H5H			White	3 N.O.	Maintained
800T-H4H			Black	3 N.C.	Spring Ret. From Right
800T-H2C			White	3 N.O.	Spring Ret. From Left
800T-H5C			Black	3 N.C.	Spring Ret. From Right
800T-H4C			White	4 N.O.	Maintained
800T-H5C			Black	4 N.C.	Spring Ret. From Right
800T-H4C			White	4 N.O.	Spring Ret. From Left
800T-H2D2			Black	4 N.C.	Spring Ret. From Right
800T-H5D2			White	1 N.C.	Maintained
800T-H4D2			White	1 N.C.	Spring Ret. From Right
800T-H2A2			White	1 N.C.	Spring Ret. From Left
800T-H5A2			Black	2 N.O.	Maintained
800T-H4A2			White	2 N.O.	Spring Ret. From Right
800T-H2A4			Black	2 N.O.	Spring Ret. From Left
800T-H5A4			White	2 N.C.	Maintained
800T-H4A4			Black	2 N.C.	Spring Ret. From Right
800T-H5A4			White	2 N.C.	Spring Ret. From Left
800T-H4A4			Black	2 N.C.	Spring Ret. From Right
Knob Levers					
800T-H17D1		A	White	1 N.O.	Maintained
800T-H18D1		A	White	1 N.O.	Spring Ret. From Left
800T-H19D1		A	White	1 N.O.	Spring Ret. From Right
800T-H17A		AB	White	1 N.O.	Maintained
800T-H18A		AB	White	1 N.C.	Spring Ret. From Left
800T-H19A		AB	White	1 N.O.	Spring Ret. From Right

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No.	UPC	Contact	Side	Contact Type	Desc.
800T-H17B		ABAB	White	2 N.O.	Maintained
			Black	2 N.C.	
800T-H18B		ABAB	White	2 N.O.	Spring Ret. From Left
			Black	2 N.C.	
800T-H19B		ABAB	White	2 N.O.	Spring Ret. From Right
			Black	2 N.C.	
800T-H17H			White	3 N.O.	Maintained
			Black	3 N.C.	
800T-H19H			White	3 N.O.	Spring Ret. From Right
			Black	3 N.C.	
800T-H18H			White	3 N.O.	Spring Ret. From Left
			Black	3 N.C.	
800T-H17C			White	4 N.O.	Maintained
			Black	4 N.C.	
800T-H19C			White	4 N.O.	Spring Ret. From Right
			Black	4 N.C.	
800T-H18C			White	4 N.O.	Spring Ret. From Left
			Black	4 N.C.	
800T-H17D2			White	1 N.C.	Maintained
800T-H19D2			White	1 N.C.	Spring Ret. From Right
800T-H18D2			White	1 N.C.	Spring Ret. From Left
800T-H17A2			White	2 N.O.	Maintained
			Black		
800T-H19A2			White	2 N.O.	Spring Ret. From Right
			Black		
800T-H18A2			White	2 N.O.	Spring Ret. From Left
			Black		
800T-H17A4			White	2 N.C.	Maintained
			Black		
800T-H19A4			White	2 N.C.	Spring Ret. From Right
			Black		
800T-H18A4			White	2 N.C.	Spring Ret. From Left
			Black		
Wing Levers					
800T-HG11D1		A	White	1 N.O.	Maintained
800T-HG15D1		A	White	1 N.O.	Spring Ret. From Left
800T-HG16D1		A	White	1 N.O.	Spring Ret. From Right
800T-HG11A		AB	White	1 N.O.	Maintained
				1 N.C.	
800T-HG11B		ABAB	White	2 N.O.	Maintained
			Black	2 N.C.	
800T-HG15B		ABAB	White	2 N.O.	Spring Ret. From Left
			Black	2 N.C.	
800T-HG16B		ABAB	White	2 N.O.	Spring Ret. From Right
			Black	2 N.C.	
800T-HG11H			White	3 N.O.	Maintained
			Black	3 N.C.	
800T-HG16H			White	3 N.O.	Spring Ret. From Right
			Black	3 N.C.	
800T-HG15H			White	3 N.O.	Spring Ret. From Left
			Black	3 N.C.	
800T-HG11C			White	4 N.O.	Maintained
			Black	4 N.C.	
800T-HG16C			White	4 N.O.	Spring Ret. From Right
			Black	4 N.C.	
800T-HG15C			White	4 N.O.	Spring Ret. From Left
			Black	4 N.C.	
800T-HG11D2			White	1 N.C.	Maintained
800T-HG16D2			White	1 N.C.	Spring Ret. From Right
800T-HG15D2			White	1 N.C.	Spring Ret. From Left
800T-HG11A2			White	2 N.O.	Maintained
			Black		
800T-HG16A2			White	2 N.O.	Spring Ret. From Right
			Black		
800T-HG15A2			White	2 N.O.	Spring Ret. From Left
			Black		
800T-HG11A4			White	2 N.C.	Maintained
			Black		
800T-HG16A4			White	2 N.C.	Spring Ret. From Right
			Black		
800T-HG15A4			White	2 N.C.	Spring Ret. From Left
			Black		
Cylinders - Lock In Left					
800T-H48				No Con- tacts	Spring Ret. From Left
800T-H31A		AB	White	1 N.O.	Maintained
				1 N.C.	
800T-H48A		AB	White	1 N.O.	Spring Ret. From Right
				1 N.C.	
800T-H31B		ABAB	White	2 N.O.	Maintained
			Black	2 N.C.	
800T-H48B		ABAB	White	2 N.O.	Spring Ret. From Right
			Black	2 N.C.	
800T-H31H			White	3 N.O.	Maintained
			Black	3 N.C.	

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No.	UPC	Contact	Side	Contact Type	Desc.
800T-H48H	White	3 N.O.	Spring Ret. From Right
			Black	3 N.C.	
800T-H31C	...	...	White	4 N.O.	Maintained
			Black	4 N.C.	
800T-H48C	...	...	White	4 N.O.	Spring Ret. From Right
			Black	4 N.C.	
800T-H31D1	...	...	White	1 N.O.	Maintained
800T-48D1	...	...	White	1 N.O.	Spring Ret. From Right
800T-H31D2	...	...	White	1 N.C.	Maintained
800T-H48D2	...	...	White	1 N.C.	Spring Ret. From Right
800T-H31A2	...	...	White	2 N.O.	Maintained
			Black		
800T-H48A2	...	...	White	2 N.O.	Spring Ret. From Right
			Black		
800T-H31A4	...	...	White	2 N.C.	Maintained
			Black		
800T-H48A4	...	...	White	2 N.C.	Spring Ret. From Right
			Black		
Cylinders - Lock In Right					
800T-32A	AB	AB	White	1 N.O.	Maintained
				1 N.C.	
800T-H42A	...	...	White	1 N.O.	Spring Ret. From Left
				1 N.C.	
800T-H32B	ABAB	ABAB	White	2 N.O.	Maintained
			Black	2 N.C.	
800T-H42B	ABAB	ABAB	White	2 N.O.	Spring Ret. From Left
			Black	2 N.C.	
800T-H32H	...	...	White	3 N.O.	Maintained
			Black	3 N.C.	
800T-H42H	...	...	White	3 N.O.	Spring Ret. From Left
			Black	3 N.C.	
800T-H32C	...	...	White	4 N.O.	Maintained
			Black	4 N.C.	
800T-H42C	...	...	White	4 N.O.	Spring Ret. From Left
			Black	4 N.C.	
800T-H32D1	...	...	White	1 N.O.	Maintained
800T-H42D1	...	...	White	1 N.O.	Spring Ret. From Left
800T-H32D2	...	...	White	1 N.C.	Maintained
			Black		
800T-H42D2	...	...	White	1 N.C.	Spring Ret. From Left
			Black		
800T-H32A2	...	...	White	2 N.O.	Maintained
			Black		
8005-H42A2	...	...	White	2 N.O.	Spring Ret. From Left
			Black		
800T-32A4	...	...	White	2 N.C.	Maintained
			Black		
800T-42A4	...	...	White	2 N.C.	Spring Ret. From Left
			Black		
Cylinders - Lock In Both Left & Right					
800T-H33				No Contacts	Maintained
800T-H33A			White	1 N.O.	Maintained
				1 N.C.	
800T-H33B			White	2 N.O.	Maintained
			Black	2 N.C.	
800T-H33H			White	3 N.O.	Maintained
			Black	3 N.C.	
800T-H33C			White	4 N.O.	Maintained
			Black	4 N.C.	
800T-H33D1			White	1 N.O.	Maintained
800T-H33D2			White	1 N.C.	Maintained
			Black		
800T-H33A2			White	2 N.O.	Maintained
			Black		
800T-H33A4			White	2 N.C.	Maintained
			Black		
Coin Slot					
800T-H6A			White	1 N.O.	Maintained
				N.C.	
800T-H8A			White	1 N.O.	Spring Ret. From Right
				1 N.C.	
800T-H7A			White	1 N.O.	Spring Ret. From Left
				1 N.C.	
800T-H6B			White	2 N.O.	Maintained
			Black	2 N.C.	
800T-H8B			White	2 N.O.	Spring Ret. From Right
			Black	2 N.C.	
800T-H7B			White	2 N.O.	Spring Ret. From Left
			Black	2 N.C.	
800T-H6H			White	3 N.O.	Maintained
			Black	3 N.C.	
800T-H8H			White	3 N.O.	Spring Ret. From Right
			Black	3 N.C.	

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No.	UPC	Contact	Side	Contact Type	Desc.
800T-H7H			White	3 N.O.	Spring Ret. From Left
800T-H6C			Black	3 N.C.	
			White	4 N.O.	Maintained
800T-H8C			Black	4 N.C.	
			White	4 N.O.	Spring Ret. From Right
800T-H7C			Black	4 N.C.	
			White	4 N.O.	Spring Ret. From Left
800T-H6D1			Black	4 N.C.	
800T-H8D1			White	1 N.O.	Maintained
800T-H7D1			White	1 N.O.	Spring Ret. From Right
800T-H6D2			White	1 N.O.	Spring Ret. From Left
800T-H8D2			White	1 N.C.	Maintained
800T-H7D2			White	1 N.C.	Spring Ret. From Right
800T-H6A2			White	1 N.C.	Spring Ret. From Left
			Black	2 N.O.	Maintained
800T-H8A2			White	2 N.O.	Spring Ret. From Right
800T-H7A2			Black	2 N.O.	
			White	2 N.O.	Spring Ret. From Left
800T-H6A4			Black	2 N.C.	Maintained
			White	2 N.C.	
800T-H8A4			Black	2 N.C.	Spring Ret. From Right
			White	2 N.C.	
800T-H7A4			Black	2 N.C.	Spring Ret. From Left
			White		
			Black		

ALLEN-BRADLEY

Selector Switches

Nonilluminated - Watertight - Oiltight - Bulletin 800T

NEMA style. Mounting hole 30.5 mm. Heavy industrial stations and operators. Red lamp.

Electrical Specifications.

Dielectric strength 2200V for one minute and 1300V for one minute Logic Reed. Electrical design life cycles 1,000,000 at max. rated load and 200,000 at max. rated load Logic Reed.

Mechanical Specifications.

Vibration 10 Hz to 2000 Hz. 1.52 mm displacement peak-to-peak max./10G max. except Logic Reed. Shock 1/2 cycle sine wave for 11 milliseconds greater than or equal to 25G (contact fragility) and no damage at 100G. Degree of protection NEMA Type 1/4/12/13; Watertight/Oiltight IEC 529 IP 66/65. Mechanical design life cycles: push buttons momentary, nonilluminated 10,000,000 min.; momentary, illuminated 250,000 min.; push-pull/twist to release 250,000 min.; selector switches non-illuminated 1,000,000 min.; illuminated 200,000 min.; potentiometers 100,000 min.; all other devices 200,000 min.

Contact operation: shallow, mini and low voltage contact blocks slow, double make and break; Logic Reed and sealed switch contact blocks single break magnetic. Typical operating forces: operators without contact blocks flush, extended, standard mushroom, jumbo plastic mushroom 2 lbs. max.; jumbo and extended aluminum mushroom head 3.95 lbs. max.; maintained selector switch 3.6 in./lbs. max.; spring return selector switches 3.6 in./lbs. to stop, 0.2 in./lbs. to return; illuminated push buttons and push-to-test pilot lights 5 lbs. max.; 2-position push-pull 7.5 lbs. max. push or pull. 3-position push-pull 8 lbs. max. push to in position or pull to center position (15 lbs. max. pull to out position); twist-to-release or push-pull 9 lbs. max. push or pull; 30 in./oz. max. twist, 6 in./oz. min. return; potentiometer rotational torque 3 in./oz. to 12 in./oz., stopping torque 12 in./lbs. min.; contact blocks 800T-XA 1 lb.; Logic Reed 1 lb. max., sealed switch 3 lbs. max. at 0.205" plunger travel.

Environmental Specifications.

Operating temperature range 14°F to 131°F (-10°C to 55°C). Storage temperature range -40°F to 185°F (-40°C to 85°C). Operating temperatures at -10°C based on absence of freezing moisture and liquids. Humidity 50% at 104°F.

UL Listed File E14840, E10314, Guide NKCR, NOIV. CSA Certified LR1234, LR11924. CE Compliant IEC 947-5.



Standard Knob

No.	UPC	Contact Type	Desc.
3-Position Selector Switches			
800T-J2A	1 NO-1 NC	Maintained
800T-J4A	1 NO-1 NC	Spring Ret. From Left
800T-J5A	1 NO-1 NC	Spring Ret. From Right
800T-J91A	1 NO-1 NC	Spring Ret. From Left & Rt.
800T-J2B	2 NO-2 NC	Maintained
800T-J4B	2 NO-2 NC	Spring Ret. From Left
800T-J5B	2 NO-2 NC	Spring Ret. From Right
800T-J91B	2 NO-2 NC	Spring Ret. From Left & Rt.
800T-J2H	3 NO-3 NC	Maintained
800T-J4H	3 NO-3 NC	Spring Ret. From Left
800T-J5H	3 NO-3 NC	Spring Ret. From Right
800T-J91H	3 NO-3 NC	Spring Ret. From Left & Rt.
800T-J2C	4 NO-4 NC	Maintained
800T-J4C	4 NO-4 NC	Spring Ret. From Left
800T-J5C	4 NO-4 NC	Spring Ret. From Right
800T-J91C	4 NO-4 NC	Spring Ret. From Left & Rt.

4-Position Selector Switches

800T-N2KF4B	2 NO-2 NC
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Knob Lever

No.	UPC	Contact Type	Desc.
3-Position Selector Switches			
800T-J17A	1 NO-1 NC	Maintained
800T-J18A	1 NO-1 NC	Spring Ret. From Left
800T-J19A	1 NO-1 NC	Spring Ret. From Right

No.	UPC	Contact Type	Desc.
800T-J20A	1 NO-1 NC	Spring Ret. From Left & Rt.
800T-J17B	2 NO-2 NC	Maintained
800T-J18B	2 NO-2 NC	Spring Ret. From Left
800T-J19B	2 NO-2 NC	Spring Ret. From Right
800T-J20B	2 NO-2 NC	Spring Ret. From Left & Rt.
800T-J17H	3 NO-3 NC	Maintained
800T-J18H	3 NO-3 NC	Spring Ret. From Left
800T-J19H	3 NO-3 NC	Spring Ret. From Right
800T-J20H	3 NO-3 NC	Spring Ret. From Left & Rt.
800T-J17C	4 NO-4 NC	Maintained
800T-J18C	4 NO-4 NC	Spring Ret. From Left
800T-J19C	4 NO-4 NC	Spring Ret. From Right
800T-J20C	4 NO-4 NC	Spring Ret. From Left & Rt.

4-Position Selector Switches

800T-N17KF4B	2 NO-2 NC
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Coin Slot

No.	UPC	Contact Type	Desc.
800T-J6A	1 NO-1 NC	Maintained
800T-J7A	1 NO-1 NC	Spring Ret. From Left
800T-J8A	1 NO-1 NC	Spring Ret. From Right
800T-J10A	1 NO-1 NC	Spring Ret. From Left & Rt.
800T-J6B	2 NO-2 NC	Maintained
800T-J7B	2 NO-2 NC	Spring Ret. From Left
800T-J8B	2 NO-2 NC	Spring Ret. From Right
800T-J10B	2 NO-2 NC	Spring Ret. From Left & Rt.
800T-J6H	3 NO-3 NC	Maintained
800T-J7H	3 NO-3 NC	Spring Ret. From Left
800T-J8H	3 NO-3 NC	Spring Ret. From Right
800T-J10H	3 NO-3 NC	Spring Ret. From Left & Rt.
800T-J6C	4 NO-4 NC	Maintained
800T-J7C	4 NO-4 NC	Spring Ret. From Left
800T-J8C	4 NO-4 NC	Spring Ret. From Right
800T-J10C	4 NO-4 NC	Spring Ret. From Left & Rt.

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Metal Wing Lever - 3 Position Selector Switch

No.	UPC	Contact Type	Desc.
800T-JG11A	1 NO-1 NC	Maintained
800T-JG15A	1 NO-1 NC	Spring Ret. From Left
800T-J16A	1 NO-1 NC	Spring Ret. From Right
800T-JG141A	1 NO-1 NC	Spring Ret. From Left & Rt.
800T-JG11B	2 NO-2 NC	Maintained
800T-JG15B	2 NO-2 NC	Spring Ret. From Left
800T-JG16B	2 NO-2 NC	Spring Ret. From Right
800T-JG141B	2 NO-2 NC	Spring Ret. From Left & Rt.
800T-JG11H	3 NO-3 NC	Maintained
800T-JG15H	3 NO-3 NC	Spring Ret. From Left
800T-JG16H	3 NO-3 NC	Spring Ret. From Right
800T-JG141H	3 NO-3 NC	Spring Ret. From Left & Rt.
800T-JG11C	4 NO-4 NC	Maintained
800T-JG15C	4 NO-4 NC	Spring Ret. From Left
800T-JG16C	4 NO-4 NC	Spring Ret. From Right
800T-JG141C	4 NO-4 NC	Spring Ret. From Left & Rt.



Cylinder Lock - 3 Position Selector Switch

No.	UPC	Contact Type	Desc.
Lock On Left			
800T-J41A	1 NO-1 NC	Maintained
800T-J69A	1 NO-1 NC	Spring Ret. From Right
800T-J41B	2 NO-2 NC	Maintained
800T-J69B	2 NO-2 NC	Spring Ret. From Right
800T-J41H	3 NO-3 NC	Maintained
800T-J69H	3 NO-3 NC	Spring Ret. From Right
800T-J41C	4 NO-4 NC	Maintained
800T-J69C	4 NO-4 NC	Spring Ret. From Right
Lock In Center			
800T-J42A	1 NO-1 NC	Maintained
800T-J50A	1 NO-1 NC	Spring Ret. From Left

No.	UPC	Contact Type	Desc.
800T-J38A	1 NO-1 NC	Spring Ret. From Right
800T-J631A	1 NO-1 NC	Spring Ret. From Left & Rt.
800T-J42B	2 NO-2 NC	Maintained
800T-J50B	2 NO-2 NC	Spring Ret. From Left
800T-J38B	2 NO-2 NC	Spring Ret. From Right
800T-J631B	2 NO-2 NC	Spring Ret. From Left & Rt.
800T-J42H	3 NO-3 NC	Maintained
800T-J50H	3 NO-3 NC	Spring Ret. From Left
800T-J38H	3 NO-3 NC	Spring Ret. From Right
800T-J631H	3 NO-3 NC	Spring Ret. From Left & Rt.
800T-J42C	4 NO-4 NC	Maintained
800T-J50C	4 NO-4 NC	Spring Ret. From Left
800T-J38C	4 NO-4 NC	Spring Ret. From Right
800T-J631C	4 NO-4 NC	Spring Ret. From Left & Rt.

Lock On Right

800T-J43A	.....	1 NO-1 NC	Maintained
800T-J52A	.....	1 NO-1 NC	Spring Ret. From Left
800T-J43B	.....	2 NO-2 NC	Maintained
800T-J52B	.....	2 NO-2 NC	Spring Ret. From Left
800T-J43H	.....	3 NO-3 NC	Maintained
800T-J52H	.....	3 NO-3 NC	Spring Ret. From Left
800T-J43C	.....	4 NO-4 NC	Maintained
800T-J52C	.....	4 NO-4 NC	Spring Ret. From Left

Lock All Positions

800T-J44A	.....	1 NO-1 NC	Maintained
800T-J51A	.....	1 NO-1 NC	Spring Ret. From Left
800T-J73A	.....	1 NO-1 NC	Spring Ret. From Right
800T-J44B	.....	2 NO-2 NC	Maintained
800T-J51B	.....	2 NO-2 NC	Spring Ret. From Left
800T-J73B	.....	2 NO-2 NC	Spring Ret. From Right
800T-J44H	.....	3 NO-3 NC	Maintained
800T-J51H	.....	3 NO-3 NC	Spring Ret. From Left
800T-J73H	.....	3 NO-3 NC	Spring Ret. From Right
800T-J44C	.....	4 NO-4 NC	Maintained
800T-J51C	.....	4 NO-4 NC	Spring Ret. From Left
800T-J73C	.....	4 NO-4 NC	Spring Ret. From Right

ALLEN-BRADLEY

Pilot Light Units

Bulletin 800T - Oiltight - Watertight - Illuminated



NEMA Type 4/13. Mounting hole 30.5 mm.

No.	UPC	Lamp Type	Volts AC/DC	Color
Pilot Lights				
800T-Q10R	68952	Incand.	Full Volt.	120 Red
800T-Q10G	68935	Incand.	Full Volt.	120 Green
800T-Q10A	18953	Incand.	Full Volt.	120 Amber
800T-Q10B	.....	Incand.	Full Volt.	120 Blue
800T-Q10C	.....	Incand.	Full Volt.	120 Clear
800T-Q10W	.....	Incand.	Full Volt.	120 White
800T-Q24R	19023	Incand.	Full Volt.	24 Red
800T-Q24G	18976	Incand.	Full Volt.	24 Green
800T-Q24A	18972	Incand.	Full Volt.	24 Amber
800T-P16R	68524	Incand.	Trans.	120 Red
800T-P16G	68512	Incand.	Trans.	120 Green
800T-P16A	13947	Incand.	Trans.	120 Amber
800T-QH10R	.....	LED	Full Volt.	120 Red
800T-QH10G	.....	LED	Full Volt.	120 Green
800T-QH10A	.....	LED	Full Volt.	120 Amber
800T-QH24R	.....	LED	Full Volt.	24 Red
800T-QH24G	.....	LED	Full Volt.	24 Green
800T-QH24A	.....	LED	Full Volt.	24 Amber
800T-PL16R	33340	LED	Trans.	120 Red
800T-PL16G	28978	LED	Trans.	120 Green
800T-PL16A	24313	LED	Trans.	120 Amber

Push-To-Test Pilot Lights

800T-QT10R	18946	Incand.	Full Volt.	120 Red
800T-QT10G	18945	Incand.	Full Volt.	120 Green
800T-QT10A	18943	Incand.	Full Volt.	120 Amber
800T-QT24R	18952	Incand.	Full Volt.	24 Red
800T-QT24G	68913	Incand.	Full Volt.	24 Green
800T-QT24A	68907	Incand.	Full Volt.	24 Amber
800T-PT16R	68241	Incand.	Trans.	120 Red
800T-PT16G	68235	Incand.	Trans.	120 Green
800T-PT16A	13946	Incand.	Trans.	120 Amber
800T-QTH10R	.....	LED	Full Volt.	120 Red
800T-QTH10G	.....	LED	Full Volt.	120 Green
800T-QTH10A	.....	LED	Full Volt.	120 Amber
800T-QTH24R	.....	LED	Full Volt.	24 Red
800T-QTH24G	.....	LED	Full Volt.	24 Green
800T-QTH24A	.....	LED	Full Volt.	24 Amber
800T-PTL16R	.....	LED	Trans.	120 Red
800T-PTL16G	66184	LED	Trans.	120 Green
800T-PTL16A	.....	LED	Trans.	120 Amber

Dual Input

800T-PD10R	.....	Incand.	Full Volt.	120 Red
800T-PD10G	.....	Incand.	Full Volt.	120 Green
800T-PD10A	.....	Incand.	Full Volt.	120 Amber
800T-PD24R	.....	Incand.	Full Volt.	24 Red
800T-PD24G	.....	Incand.	Full Volt.	24 Green
800T-PD24A	28971	Incand.	Full Volt.	24 Amber
800T-PDT16R	24310	Incand.	Trans.	120 Red
800T-PDT16G	42353	Incand.	Trans.	120 Green
800T-PDT16A	11736	Incand.	Trans.	120 Amber

CUTLER-HAMMER

Contactors

Freedom Series - Nonreversing - NEMA Rated



NEMA Size 0 - Open Type



NEMA Size 3 - Open Type

AC. 600V maximum.

Products shown here are for reference only. They can be sold by the locally authorized distributor.

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2-Pole (1-Phase) - Open Type - Series CN

No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp 1/3	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15AN2AB	77708	00	9	115	...	...	120
CN15AN2EB	77712	00	9	200	...	...	208
CN15AN2BB	77709	00	9	230	1	1 1/2	240
CN15AN2CB	77710	00	9	460	...	2	480
CN15AN2DB	77711	00	9	575	...	2	600
CN15BN2AB	77743	0	18	115	1	...	120
CN15BN2EB	77747	0	18	200	...	3	208
CN15BN2BB	77744	0	18	230	2	3	240
CN15BN2CB	77745	0	18	460	...	5	480
CN15BN2DB	77746	0	18	575	...	5	600
CN15DN2AB	97350	1	27	115	2	...	120
CN15DN2EB	99979	1	27	200	...	7 1/2	208
CN15DN2BB	97351	1	27	230	3	7 1/2	240
CN15DN2CB	98141	1	27	460	...	10	480
CN15DN2DB	99978	1	27	575	...	10	600
CN15GN2AB	97354	2	45	115	3	...	120
CN15GN2EB	00034	2	45	200	...	10	208
CN15GN2BB	98153	2	45	230	7 1/2	15	240
CN15GN2CB	98154	2	45	460	...	25	480
CN15GN2DB	00033	2	45	575	...	25	600
CN15KN2A	61877	3	90	115	...	...	120
CN15KN2E	10333	3	90	200	...	25	208
CN15KN2B	61878	3	90	230	...	30	240
CN15KN2C	61879	3	90	460	...	50	480
CN15KN2D	.....	3	90	575	...	50	600
CN15NN2A	61880	4	135	115	...	...	120
CN15NN2E	.....	4	135	200	...	40	208
CN15NN2B	.....	4	135	230	...	50	240
CN15NN2C	61882	4	135	460	...	100	480
CN15NN2D	.....	4	135	575	...	100	600
CN15SN2A	62252	5	270	115	...	...	120
CN15SN2E	75568	5	270	200	...	75	208
CN15SN2B	.....	5	270	230	...	100	240
CN15SN2C	R368A	5	270	460	...	200	480
CN15SN2D	.....	5	270	575	...	200	600
CN15TN2A	.....	6	540	115	...	...	120
CN15TN2E	.....	6	540	200	...	150	208
CN15TN2B	.....	6	540	230	...	200	240
CN15TN2C	.....	6	540	460	...	400	480
CN15TN2D	.....	6	540	575	...	400	600

2-Pole (1-Phase) - Enclosed Type - NEMA 1 - Series CN

No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp 1/3	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15AG2AB	00	9	115	...	...	120
CN15AG2EB	00	9	200	...	1 1/2	208
CN15AG2BB	00	9	230	1	1 1/2	240
CN15AG2CB	00	9	460	...	2	480
CN15AG2DB	00	9	575	...	2	600
CN15BG2AB	0	18	115	1	...	120
CN15BG2EB	0	18	200	...	3	208
CN15BG2BB	0	18	230	2	3	240
CN15BG2CB	0	18	460	...	5	480
CN15BG2DB	0	18	575	...	5	600
CN15DG2AB	1	27	115	2	...	120
CN15DG2EB	1	27	200	...	7 1/2	208
CN15DG2BB	1	27	230	3	7 1/2	240
CN15DG2CB	1	27	460	...	10	480
CN15DG2DB	1	27	575	...	10	600
CN15GG2EB	2	45	200	...	10	208
CN15GG2BB	2	45	230	7 1/2	15	240
CN15GG2CB	2	45	460	...	25	480
CN15GG2DB	2	45	575	...	25	600
CN15KG2E	3	90	200	...	25	208
CN15KG2B	3	90	230	...	30	240
CN15KG2C	3	90	460	...	50	480
CN15KG2D	3	90	575	...	50	600
CN15NG2A	4	135	115	...	...	120
CN15NG2E	4	135	200	...	40	208
CN15NG2B	4	135	230	...	50	240
CN15NG2C	4	135	460	...	100	480
CN15NG2D	4	135	575	...	100	600
CN15SG2A	5	270	115	...	...	120
CN15SG2E	5	270	200	...	75	208
CN15SG2B	5	270	230	...	100	240
CN15SG2C	5	270	460	...	200	480
CN15SG2D	5	270	575	...	200	600
CN15TG2A	6	540	115	...	...	120
CN15TG2E	6	540	200	...	150	208
CN15TG2B	6	540	230	...	200	240
CN15TG2C	6	540	460	...	400	480
CN15TG2D	6	540	575	...	400	600



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2-Pole (1-Phase) - Enclosed Type - Series ECN

No.	UPC	Desc.	NEMA Size	Cont. Rating Amps	Motor Volts	Max. Rating hp	Magnet Coil Volts
ECN01A1A2A		General Purpose	00	9	115	...	120
ECN01A1E2A		General Purpose	00	9	...	...	208
ECN01A1B2A		General Purpose	00	9	230	...	240
ECN01A1C2A		General Purpose	00	9	...	...	480
ECN01A1D2A		General Purpose	00	9	...	...	600
ECN0101A2A		General Purpose	0	18	115	1	120
ECN0101E2A		General Purpose	0	18	...	...	208
ECN0101B2A		General Purpose	0	18	230	2	240
ECN0101C2A		General Purpose	0	18	...	...	480
ECN0101D2A		General Purpose	0	18	...	...	600
ECN0111A2A		General Purpose	1	27	115	2	120
ECN0111E2A		General Purpose	1	27	...	...	208
ECN0111B2A		General Purpose	1	27	230	3	240
ECN0111C2A		General Purpose	1	27	...	...	480
ECN0111D2A		General Purpose	1	27	...	...	600
ECN0121A2A		General Purpose	2	45	115	3	120
ECN0121E2A		General Purpose	2	45	...	...	208
ECN0121B2A		General Purpose	2	45	230	7½	240
ECN0121C2A		General Purpose	2	45	...	...	480
ECN0121D2A		General Purpose	2	45	...	...	600
ECN0131A2A		General Purpose	3	90	115	7½	120
ECN0131E2A		General Purpose	3	90	...	...	208
ECN0131B2A		General Purpose	3	90	230	15	240
ECN0131C2A		General Purpose	3	90	...	...	480
ECN0131D2A		General Purpose	3	90	...	...	600
ECN0141A2A		General Purpose	4	135	...	...	120
ECN0141E2A		General Purpose	4	135	...	...	208
ECN0141B2A		General Purpose	4	135	...	...	240
ECN0141C2A		General Purpose	4	135	...	...	480
ECN0141D2A		General Purpose	4	135	...	...	600
ECN0151A2A		General Purpose	5	270	...	...	120
ECN0151E2A		General Purpose	5	270	...	...	208
ECN0151B2A		General Purpose	5	270	...	...	240
ECN0151C2A		General Purpose	5	270	...	...	480
ECN0151D2A		General Purpose	5	270	...	...	600
ECN0102A2A		Rainproof	0	18	115	1	120
ECN0102E2A		Rainproof	0	18	...	...	208
ECN0102B2A		Rainproof	0	18	230	2	240
ECN0102C2A		Rainproof	0	18	...	...	480
ECN0102D2A		Rainproof	0	18	...	...	600
ECN0112A2A		Rainproof	1	27	115	2	120
ECN0112E2A		Rainproof	1	27	...	...	208
ECN0112B2A		Rainproof	1	27	230	3	240
ECN0112C2A		Rainproof	1	27	...	...	480
ECN0112D2A		Rainproof	1	27	...	...	600
ECN0122A2A		Rainproof	2	45	115	3	120
ECN0122E2A		Rainproof	2	45	...	...	208
ECN0122B2A		Rainproof	2	45	230	7½	240
ECN0122C2A		Rainproof	2	45	...	...	480
ECN0122D2A		Rainproof	2	45	...	...	600
ECN0132A2A		Rainproof	3	90	115	7½	120
ECN0132E2A		Rainproof	3	90	...	...	208
ECN0132B2A		Rainproof	3	90	230	15	240
ECN0132C2A		Rainproof	3	90	...	...	480
ECN0132D2A		Rainproof	3	90	...	...	600
ECN0142A2A		Rainproof	4	135	...	...	120
ECN0142E2A		Rainproof	4	135	...	...	208
ECN0142B2A		Rainproof	4	135	...	...	240
ECN0142C2A		Rainproof	4	135	...	...	480
ECN0142D2A		Rainproof	4	135	...	...	600
ECN0152A2A		Rainproof	5	270	...	...	120
ECN0152E2A		Rainproof	5	270	...	...	208
ECN0152B2A		Rainproof	5	270	...	...	240
ECN0152C2A		Rainproof	5	270	...	...	480
ECN0152D2A		Rainproof	5	270	...	...	600
ECN0104A2A		Watertight & Dusttight Stainless Steel	0	18	115	...	120
ECN0104E2A		Watertight & Dusttight Stainless Steel	0	18	...	...	208
ECN0104B2A		Watertight & Dusttight Stainless Steel	0	18	230	2	240
ECN0104C2A		Watertight & Dusttight Stainless Steel	0	18	...	...	480
ECN0104D2A		Watertight & Dusttight Stainless Steel	0	18	...	...	600
ECN0114A2A		Watertight & Dusttight Stainless Steel	1	27	115	2	120
ECN0114E2A		Watertight & Dusttight Stainless Steel	1	27	...	...	208
ECN0114B2A		Watertight & Dusttight Stainless Steel	1	27	230	3	240
ECN0114C2A		Watertight & Dusttight Stainless Steel	1	27	...	...	480
ECN0114D2A		Watertight & Dusttight Stainless Steel	1	27	...	...	600
ECN0124A2A		Watertight & Dusttight Stainless Steel	2	45	115	3	120
ECN0124E2A		Watertight & Dusttight Stainless Steel	2	45	...	...	208
ECN0124B2A		Watertight & Dusttight Stainless Steel	2	45	230	7½	240
ECN0124C2A		Watertight & Dusttight Stainless Steel	2	45	...	...	480
ECN0124D2A		Watertight & Dusttight Stainless Steel	2	45	...	...	600
ECN0134A2A		Watertight & Dusttight Stainless Steel	3	90	115	7½	120
ECN0134E2A		Watertight & Dusttight Stainless Steel	3	90	...	...	208
ECN0134B2A		Watertight & Dusttight Stainless Steel	3	90	230	15	240
ECN0134C2A		Watertight & Dusttight Stainless Steel	3	90	...	...	480
ECN0134D2A		Watertight & Dusttight Stainless Steel	3	90	600
ECN0144A2A		Watertight & Dusttight Stainless Steel	4	135	120

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No.	UPC	Desc.	NEMA Size	Cont. Rating Amps	Motor Volts	Max. Rating hp	Magnet Coil Volts
ECN0144E2A		Watertight & Dusttight Stainless Steel	4	135			208
ECN0144B2A		Watertight & Dusttight Stainless Steel	4	135			240
ECN0144C2A		Watertight & Dusttight Stainless Steel	4	135			480
ECN0144D2A		Watertight & Dusttight Stainless Steel	4	135			600
ECN0154A2A		Watertight & Dusttight Stainless Steel	5	270			120
ECN0154E2A		Watertight & Dusttight Stainless Steel	5	270			208
ECN0154B2A		Watertight & Dusttight Stainless Steel	5	270			240
ECN0154C2A		Watertight & Dusttight Stainless Steel	5	270			480
ECN0154D2A		Watertight & Dusttight Stainless Steel	5	270			600
ECN0108A2A		Dusttight Industrial	0	18	115	1	120
ECN0108E2A		Dusttight Industrial	0	18			208
ECN0108B2A		Dusttight Industrial	0	18	230	2	240
ECN0108C2A		Dusttight Industrial	0	18			480
ECN0108D2A		Dusttight Industrial	0	18			600
ECN0118A2A		Dusttight Industrial	1	27	115	2	120
ECN0118E2A		Dusttight Industrial	1	27			208
ECN0118B2A		Dusttight Industrial	1	27	230	3	240
ECN0118C2A		Dusttight Industrial	1	27			480
ECN0118D2A		Dusttight Industrial	1	27			600
ECN0128A2A		Dusttight Industrial	2	45	115	3	120
ECN0128E2A		Dusttight Industrial	2	45			208
ECN0128B2A		Dusttight Industrial	2	45	230	7½	240
ECN0128C2A		Dusttight Industrial	2	45			480
ECN0128D2A		Dusttight Industrial	2	45			600
ECN0138A2A		Dusttight Industrial	3	90	115	7½	120
ECN0138E2A		Dusttight Industrial	3	90			208
ECN0138B2A		Dusttight Industrial	3	90	230	15	240
ECN0138C2A		Dusttight Industrial	3	90			480
ECN0138D2A		Dusttight Industrial	3	90			600
ECN0148A2A		Dusttight Industrial	4	135			120
ECN0148E2A		Dusttight Industrial	4	135			208
ECN0148B2A		Dusttight Industrial	4	135			240
ECN0148C2A		Dusttight Industrial	4	135			480
ECN0148D2A		Dusttight Industrial	4	135			600
ECN0158A2A		Dusttight Industrial	5	270			120
ECN0158E2A		Dusttight Industrial	5	270			208
ECN0158B2A		Dusttight Industrial	5	270			240
ECN0158C2A		Dusttight Industrial	5	270			480
ECN0158D2A		Dusttight Industrial	5	270			600

3-Pole (3-Phase) - Open Type - Series CN

No.	UPC	NEMA Size	Cont. Amps	Motor Volts	1Ø Max. Rating hp	3Ø Max. Rating hp	60 Hz Magnet Coil Volts
CN15AN3AB	77715	00	9	115	½	...	120
CN15AN3EB	77719	00	9	200	...	1½	208
CN15AN3BB	77716	00	9	230	1	1½	240
CN15AN3CB	77717	00	9	460	...	2	480
CN15AN3DB	77718	00	9	575	...	2	600
CN15BN3AB	77750	0	18	115	1	...	120
CN15BN3EB	77754	0	18	200	...	3	208
CN15BN3BB	77751	0	18	230	2	3	240
CN15BN3CB	77752	0	18	460	...	5	480
CN15BN3DB	77753	0	18	575	...	5	600
CN15DN3AB	97352	1	27	115	2	...	120
CN15DN3EB	02678	1	27	200	...	7½	208
CN15DN3BB	98142	1	27	230	3	7½	240
CN15DN3CB	02677	1	27	460	...	10	480
CN15DN3DB	.....	1	27	575	...	10	600
CN15GN3AB	97355	2	45	115	3	...	120
CN15GN3EB	02684	2	45	200	...	10	208
CN15GN3BB	02682	2	45	230	7½	15	240
CN15GN3CB	.....	2	45	460	...	25	480
CN15GN3DB	.....	2	45	575	...	25	600
CN15KN3A	60391	3	90	115	...	...	120
CN15KN3E	67149	3	90	200	...	25	208
CN15KN3B	61889	3	90	230	...	30	240
CN15KN3C	62243	3	90	460	...	50	480
CN15KN3D	.....	3	90	575	...	50	600
CN15NN3A	60413	4	135	115	...	...	120
CN15NN3E	70105	4	135	200	...	40	208
CN15NN3B	62247	4	135	230	...	50	240
CN15NN3C	62248	4	135	460	...	100	480
CN15NN3D	02956	4	135	575	...	100	600
CN15SN3A	60417	5	270	115	...	...	120
CN15SN3E	68963	5	270	200	...	75	208
CN15SN3B	64314	5	270	230	...	100	240
CN15SN3C	62251	5	270	460	...	200	480
CN15SN3D	68764	5	270	575	...	200	600
CN15TN3A	.....	6	540	115	...	...	120
CN15TN3E	.....	6	540	200	...	150	208
CN15TN3B	.....	6	540	230	...	200	240
CN15TN3C	6	540	460	...	400	480
CN15TN3D	6	540	575	...	400	600
CN15UN3A	7	810	115	120



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No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15UN3E		7	810	200			208
CN15UN3B		7	810	230			240
CN15UN3C		7	810	460			480
CN15UN3D		7	810	575			600
CN15VN3A		8	1215	115			120
CN15VN3E		8	1215	200		400	208
CN15VN3B		8	1215	230		450	240
CN15VN3C		8	1215	460		900	480
CN15VN3D		8	1215	575		900	600

3-Pole (3-Phase) - Enclosed Type - NEMA 1 - Series CN

No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15AG3AB		00	9	115	1/3		120
CN15AG3EB		00	9	200		1 1/2	208
CN15AG3BB		00	9	230	1	1 1/2	240
CN15AG3CB		00	9	460		2	480
CN15AG3DB		00	9	575		2	600
CN15BG3AB		0	18	115			120
CN15BG3EB		0	18	200		3	208
CN15BG3BB		0	18	230	2	3	240
CN15BG3CB		0	18	460		5	480
CN15BG3DB		0	18	575		5	600
CN15DG3AB		1	27	115	2		120
CN15DG3EB		1	27	200		7 1/2	208
CN15DG3BB		1	27	230	3	7 1/2	240
CN15DG3CB		1	27	460		10	480
CN15DG3DB		1	27	575		10	600
CN15GG3AB		2	45	115	3		120
CN15GG3EB		2	45	200		10	208
CN15GG3BB		2	45	230	7 1/2	15	240
CN15GG3CB		2	45	460		25	480
CN15GG3DB		2	45	575		25	600
CN15KG3A		3	90	115			120
CN15KG3E		3	90	200		25	208
CN15KG3B		3	90	230		30	240
CN15KG3C		3	90	460		50	480
CN15KG3D		3	90	575		50	600
CN15NG3A		4	135	115			120
CN15NG3E		4	135	200		40	208
CN15NG3B		4	135	230		50	240
CN15NG3C		4	135	460		100	480
CN15NG3D		4	135	575		100	600
CN15SG3A		5	270	115			120
CN15SG3E		5	270	200		75	208
CN15SG3B		5	270	230		100	240
CN15SG3C		5	270	460		200	480
CN15SG3D		5	270	575		200	600
CN15TG3A		6	540	115			120
CN15TG3E		6	540	200		150	208
CN15TG3B		6	540	230		200	240
CN15TG3C		6	540	460		400	480
CN15TG3D		6	540	575		400	600
CN15UG3A		7	810	115			120
CN15UG3E		7	810	200		200	208
CN15UG3B		7	810	230		300	240
CN15UG3C		7	810	460		600	480
CN15UG3D		7	810	575		600	600
CN15VG3A		8	1215	115			120
CN15VG3E		8	1215	200		400	208
CN15VG3B		8	1215	230		450	240
CN15VG3C		8	1215	460		900	480
CN15VG3D		8	1215	575		900	600

3-Pole (3-Phase) - Enclosed Type - Series ECN

No.	UPC	Desc.	NEMA Size	Cont. Rating Amps	Motor Volts	30 Max. Rating hp	Magnet Coil Volts
ECN01A1A3A		General Purpose	00	9			120
ECN01A1E3A		General Purpose	00	9	200	1 1/2	208
ECN01A1B3A		General Purpose	00	9	230	1 1/2	240
ECN01A1C3A		General Purpose	00	9	460	2	480
ECN01A1D3A		General Purpose	00	9	575	2	600
ECN0101A3A		General Purpose	0	18			120
ECN0101E3A		General Purpose	0	18	200	3	208
ECN0101B3A		General Purpose	0	18	230	3	240
ECN0101C3A		General Purpose	0	18	460	5	480
ECN0101D3A		General Purpose	0	18	575	5	600

Products shown here are for reference only. They can be sold by the locally authorized distributor.

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No.	UPC	Desc.	NEMA Size	Cont. Rating Amps	Motor Volts	3Ø Max. Rating hp	Magnet Coil Volts
ECN0111A3A		General Purpose	1	27	200	7½	120
ECN0111E3A		General Purpose	1	27	230	7½	208
ECN0111B3A		General Purpose	1	27	230	7½	240
ECN0111C3A		General Purpose	1	27	460	10	480
ECN0111D3A		General Purpose	1	27	575	10	600
ECN0121A3A		General Purpose	2	45	200	10	120
ECN0121E3A		General Purpose	2	45	230	15	208
ECN0121B3A		General Purpose	2	45	230	15	240
ECN0121C3A		General Purpose	2	45	460	25	480
ECN0121D3A		General Purpose	2	45	575	25	600
ECN0131A3A		General Purpose	3	90	200	10	120
ECN0131E3A		General Purpose	3	90	230	15	208
ECN0131B3A		General Purpose	3	90	230	15	240
ECN0131C3A		General Purpose	3	90	460	25	480
ECN0131D3A		General Purpose	3	90	575	25	600
ECN0141A3A		General Purpose	4	135	200	40	120
ECN0141E3A		General Purpose	4	135	230	50	208
ECN0141B3A		General Purpose	4	135	230	50	240
ECN0141C3A		General Purpose	4	135	460	100	480
ECN0141D3A		General Purpose	4	135	575	100	600
ECN0151A3A		General Purpose	5	270	200	75	120
ECN0151E3A		General Purpose	5	270	230	100	208
ECN0151B3A		General Purpose	5	270	230	100	240
ECN0151C3A		General Purpose	5	270	460	200	480
ECN0151D3A		General Purpose	5	270	575	200	600
ECN0102A3A		Rainproof	0	18	200	3	120
ECN0102E3A		Rainproof	0	18	230	3	208
ECN0102B3A		Rainproof	0	18	230	3	240
ECN0102C3A		Rainproof	0	18	460	5	480
ECN0102D3A		Rainproof	0	18	575	5	600
ECN0112A3A		Rainproof	1	27	200	7½	120
ECN0112E3A		Rainproof	1	27	230	7½	208
ECN0112B3A		Rainproof	1	27	230	7½	240
ECN0112C3A		Rainproof	1	27	460	10	480
ECN0112D3A		Rainproof	1	27	575	10	600
ECN0122A3A		Rainproof	2	45	200	10	120
ECN0122E3A		Rainproof	2	45	230	15	208
ECN0122B3A		Rainproof	2	45	230	15	240
ECN0122C3A		Rainproof	2	45	460	25	480
ECN0122D3A		Rainproof	2	45	575	25	600
ECN0132A3A		Rainproof	3	90	200	25	120
ECN0132E3A		Rainproof	3	90	230	30	208
ECN0132B3A		Rainproof	3	90	230	30	240
ECN0132C3A		Rainproof	3	90	460	50	480
ECN0132D3A		Rainproof	3	90	575	50	600
ECN0142A3A		Rainproof	4	135	200	40	120
ECN0142E3A		Rainproof	4	135	230	50	208
ECN0142B3A		Rainproof	4	135	230	50	240
ECN0142C3A		Rainproof	4	135	460	100	480
ECN0142D3A		Rainproof	4	135	575	100	600
ECN0152A3A		Rainproof	5	270	200	75	120
ECN0152E3A		Rainproof	5	270	230	100	208
ECN0152B3A		Rainproof	5	270	230	100	240
ECN0152C3A		Rainproof	5	270	460	200	480
ECN0152D3A		Rainproof	5	270	575	200	600
ECN0104A3A		Watertight & Dusttight Stainless Steel	0	18	200	3	120
ECN0104E3A		Watertight & Dusttight Stainless Steel	0	18	230	3	208
ECN0104B3A		Watertight & Dusttight Stainless Steel	0	18	230	3	240
ECN0104C3A		Watertight & Dusttight Stainless Steel	0	18	460	5	480
ECN0104D3A		Watertight & Dusttight Stainless Steel	0	18	575	5	600
ECN0114A3A		Watertight & Dusttight Stainless Steel	1	27	200	7½	120
ECN0114E3A		Watertight & Dusttight Stainless Steel	1	27	230	7½	208
ECN0114B3A		Watertight & Dusttight Stainless Steel	1	27	230	7½	240
ECN0114C3A		Watertight & Dusttight Stainless Steel	1	27	460	10	480
ECN0114D3A		Watertight & Dusttight Stainless Steel	1	27	575	10	600
ECN0124A3A		Watertight & Dusttight Stainless Steel	2	45	200	10	120
ECN0124E3A		Watertight & Dusttight Stainless Steel	2	45	230	15	208
ECN0124B3A		Watertight & Dusttight Stainless Steel	2	45	230	15	240
ECN0124C3A		Watertight & Dusttight Stainless Steel	2	45	460	25	480
ECN0124D3A		Watertight & Dusttight Stainless Steel	2	45	575	25	600
ECN0134A3A		Watertight & Dusttight Stainless Steel	3	90	200	25	120
ECN0134E3A		Watertight & Dusttight Stainless Steel	3	90	230	30	208
ECN0134B3A		Watertight & Dusttight Stainless Steel	3	90	230	30	240
ECN0134C3A		Watertight & Dusttight Stainless Steel	3	90	460	50	480
ECN0134D3A		Watertight & Dusttight Stainless Steel	3	90	575	50	600
ECN0144A3A		Watertight & Dusttight Stainless Steel	4	135	200	40	120
ECN0144E3A		Watertight & Dusttight Stainless Steel	4	135	230	50	208
ECN0144B3A		Watertight & Dusttight Stainless Steel	4	135	230	50	240
ECN0144C3A		Watertight & Dusttight Stainless Steel	4	135	460	100	480
ECN0144D3A		Watertight & Dusttight Stainless Steel	4	135	575	100	600
ECN0154A3A		Watertight & Dusttight Stainless Steel	5	270	200	75	120
ECN0154E3A		Watertight & Dusttight Stainless Steel	5	270	230	100	208
ECN0154B3A		Watertight & Dusttight Stainless Steel	5	270	230	100	240
ECN0154C3A		Watertight & Dusttight Stainless Steel	5	270	460	200	480
ECN0154D3A		Watertight & Dusttight Stainless Steel	5	270	575	200	600
ECN0108A3A		Dusttight Industrial	0	18	200	3	120
ECN0108E3A		Dusttight Industrial	0	18	230	3	208
ECN0108B3A		Dusttight Industrial	0	18	230	3	240



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No.	UPC	Desc.	NEMA Size	Cont. Rating Amps	Motor Volts	30 Max. Rating hp	Magnet Coil Volts
ECN0108C3A		Dusttight Industrial	0	18	460	5	480
ECN0108D3A		Dusttight Industrial	0	18	575	5	600
ECN0118A3A		Dusttight Industrial		27	...	...	120
ECN0118E3A		Dusttight Industrial		27	200	7½	208
ECN0118B3A		Dusttight Industrial		27	230	7½	240
ECN0118C3A		Dusttight Industrial		27	460	10	480
ECN0118D3A		Dusttight Industrial	1	27	575	10	600
ECN0128A3A		Dusttight Industrial	2	45	...	...	120
ECN0128E3A		Dusttight Industrial	2	45	200	10	208
ECN0128B3A		Dusttight Industrial	2	45	230	15	240
ECN0128C3A		Dusttight Industrial	2	45	460	25	480
ECN0128D3A		Dusttight Industrial	2	45	575	25	600
ECN0138A3A		Dusttight Industrial	3	90	...	...	120
ECN0138E3A		Dusttight Industrial	3	90	200	25	208
ECN0138B3A		Dusttight Industrial	3	90	230	30	240
ECN0138C3A		Dusttight Industrial	3	90	460	50	480
ECN0138D3A		Dusttight Industrial	3	90	575	50	600
ECN0148A3A		Dusttight Industrial	4	135	...	...	120
ECN0148E3A		Dusttight Industrial	4	135	200	40	208
ECN0148B3A		Dusttight Industrial	4	135	230	50	240
ECN0148C3A		Dusttight Industrial	4	135	460	100	480
ECN0148D3A		Dusttight Industrial	4	135	575	100	600
ECN0158A3A		Dusttight Industrial	5	270	...	...	120
ECM0158E3A		Dusttight Industrial	5	270	200	75	208
ECN0158B3A		Dusttight Industrial	5	270	230	100	240
ECN0158C3A		Dusttight Industrial	5	270	460	200	480
ECN0158D3A		Dusttight Industrial	5	270	575	200	600

4-Pole (3-Phase) - Open Type - Series CN

No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15AN4AB		00	9	115	½	...	120
CN15AN4EB		00	9	200	...	1½	208
CN15AN4BB		00	9	230	1	1½	240
CN15AN4CB		00	9	460	...	2	480
CN15AN4DB		00	9	575	...	2	600
CN15DN4AB		0	27	115	2	...	120
CN15DN4EB		0	27	200	...	7½	208
CN15DN4BB		0	27	230	3	7½	240
CN15DN4CB		0	27	460	...	10	480
CN15DN4DB		0	27	575	...	10	600
CN15GN4AB		1	45	115	3	...	120
CN15GN4EB		1	45	200	...	...	208
CN15GN4BB		1	45	230	7½	15	240
CN15GN4CB		1	45	460	...	25	480
CN15GN4DB		1	45	575	...	25	600

4-Pole (3-Phase) - Enclosed Type - NEMA 1 - Series CN

No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15AG4AB		00	9	115	½	...	120
CN15AG4EB		00	9	200	...	1½	208
CN15AG4BB		00	9	230	1	1½	240
CN15AG4CB		00	9	460	...	2	480
CN15AG4DB		00	9	575	...	2	600
CN15DG4AB		1	27	115	2	...	120
CN15DG4EB		1	27	200	...	7½	208
CN15DG4BB		1	27	230	3	7½	240
CN15DG4CB		1	27	460	...	10	480
CN15DG4DB		1	27	575	...	10	600
CN15GG4AB		2	45	115	3	...	120
CN15GG4EB		2	45	200	...	10	208
CN15GG4BB		2	45	230	7½	15	240
CN15GG4CB		2	45	460	...	25	480
CN15GG4DB		2	45	575	...	25	600

5-Pole (3-Phase) - Open Type - Series CN

No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15DN5AB		1	27	115	2	...	120
CN15DN5EB		1	27	200	...	7½	208
CN15DN5BB		1	27	230	3	7½	240

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No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15DN5CB		1	27	460		10	480
CN15DN5DB		1	27	575		10	600
CN15GN5AB		2	45	115	3		120
CN15GN5EB		2	45	200		10	208
CN15GN5BB		2	45	230		15	240
CN15GN5CB		2	45	460	7½	25	480
CN15GN5DB		2	45	575		25	600

5-Pole (3-Phase) - Enclosed Type - NEMA 1 - Series CN

No.	UPC	NEMA Size	Cont. Amps	Motor Volts	10 Max. Rating hp	30 Max. Rating hp	60 Hz Magnet Coil Volts
CN15DG5AB		1	27	115	2		120
CN15DG5EB		1	27	200		7½	208
CN15DG5BB		1	27	230	3	7½	240
CN15DG5CB		1	27	460		10	480
CN15DG5DB		1	27	575		10	600
CN15GG5AB		2	45	115	3		120
CN15GG5EB		2	45	200		10	208
CN15GG5BB		2	45	230	7½	15	240
CN15GG5CB		2	45	460		25	480
CN15GG5DB		2	45	575		25	600

CUTLER-HAMMER

Flange Control Kits

Freedom Series - 3Ø - Magnetic Nonreversing - IEC Rated



Start-Stop Push Button



Hand-Auto Selector Switch



Hand-Off-Auto Selector Switch

For on-the-job conversion of NEMA 1 (size L-N), 3R, 4/4X and 12 enclosed starters.

Auto-Off-Test Selector Switch. "Test" position momentary.

Standard Flange Control Kits

No.	UPC	Desc.
C400LG1		Start-Stop Push Button
C400LG2		Hand-Auto Selector Switch
C400LG3		Hand-Off-Auto Selector Switch
C400LG31		Auto-Off-Test Selector Switch
C400T1	11475	Start-Stop Push Button
C400T12	11478	Hand-Off-Auto Selector Switch
C400T13	11479	Start-Stop Selector Switch
C400T14	11480	On-Off Selector Switch



Start-Stop Push Button w/Pilot Light

Pilot Light Flange Control Kits

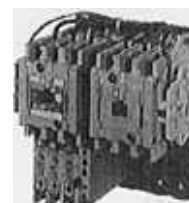
No.	UPC	Desc.	Volts/Hz
C400LG4A		Standard	120/60
C400LG4B		Standard	240/60
C400LG4C		Standard	480/60
C400LG4D		Standard	208/60
C400LG4E		Standard	380/50
C400LG4L		Standard	600/60
C400T9A		Standard	120/60
C400T9B		Standard	240/60
C400T9C		Standard	480/60
C400T9D		Standard	208/60
C400T9E		Standard	380/50
C400T9L		Standard	600/60
C400LG5A		Start/Stop Pushbutton	120/60
C400LG5B		Start/Stop Pushbutton	240/60
C400LG5C		Start/Stop Pushbutton	480/60
C400LG5D		Start/Stop Pushbutton	208/60
C400LG5E		Start/Stop Pushbutton	380/50
C400LG5L		Start/Stop Pushbutton	600/60
C400LG7A		Hand/Off/Auto Selector Switch	120/60
C400LG7B		Hand/Off/Auto Selector Switch	240/60
C400LG7C		Hand/Off/Auto Selector Switch	480/60
C400LG7D		Hand/Off/Auto Selector Switch	208/60
C400LG7E		Hand/Off/Auto Selector Switch	380/50
C400LG7L		Hand/Off/Auto Selector Switch	600/60
C400LG71A		Auto/Off/Test Selector Switch	120/60
C400LG71B		Auto/Off/Test Selector Switch	240/60
C400LG71C		Auto/Off/Test Selector Switch	480/60

No.	UPC	Desc.	Volts/Hz
C400LG71D		Auto/Off/Test Selector Switch	208/60
C400LG71E		Auto/Off/Test Selector Switch	380/50
C400LG71L		Auto/Off/Test Selector Switch	600/60

CUTLER-HAMMER

Freedom Series Starters

Reversing



Open Type

Full voltage. Manual or automatic reset overload relay. Max. 600V. 3-pole, 3Ø magnetic. Class ECN06.

Open Type

No.	UPC	Motor Volts	Max. HP Rating	Magnet Coil Volts 60 Hz
NEMA Size 00				
AN56ANOAC	97246	115	...	120*
AN56ANOEC	98052	200	1½	208
AN56ANOBC	98049	230	1½	240
AN56ANOCC	98050	460	2	480
AN56ANODC		575	2	600
NEMA Size 0				
AN56BNOAC	97248	115	..	120*
AN56BNOEC	99449	200	3	208
AN56BNOBC	98062	230	3	240
AN56BNOCC	98063	460	5	480
AN56BNODC	99448	575	5	600
NEMA Size 1				
AN56DNOAB	97250	115	...	120*
AN56DNOEB	99616	200	7½	208
AN56DNOBB	98128	230	7½	240

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No.	UPC	Motor Volts	Max. HP Rating	Magnet Coil Volts 60 Hz
AN56DN0CB	98129	460	10	480
AN56DN0DB	99615	575	25	600
NEMA Size 2				
AN56GN0AB	97253	115	...	120*
AN56GNOEB	00235	200	10	208
AN56GNOBB	00232	230	15	240
AN56GN0CB	98136	460	25	480
AN56GN0DB	00234	575	25	600
NEMA Size 3				
AN56KN0A	60390	15	...	120*
AN56KNOE	84179	200	25	208
AN56KN0B	62246	230	30	240
AN56KN0C	62617	460	50	480
AN56KN0D	.....	575	50	600
NEMA Size 4				
AN56NN0A	60412	115	...	120*
AN56NNOE	.....	200	40	208
AN56NN0B	62618	230	50	240
AN56NN0C	62619	460	100	480
AN56NN0D	.....	575	100	600
NEMA Size 5				
AN56SN0AB	97254	115	...	120*
AN56SNOEB	.....	200	75	208
AN56SN0BB	.....	230	100	240
AN56SN0CB	.....	460	200	480
AN56SN0DB	.....	575	200	600

*For separate 120V control circuit. For maximum HP at listed motor voltages, use rating of other starters of same size.

NEMA 1 - Enclosed Type - General Purpose NEMA 1				
No.	UPC	Motor Volts	Max. HP Rating	Magnet Coil Volts 60 Hz
NEMA Size 00				
ECN06A1AAA	97245	...	...	120†
ECN06A1EAA	98048	200	1½	208
ECN06A1BAA	98047	230	1½	240
ECN06A1CAA	99275	460	2	480
ECN06A1DAA	.....	575	2	600
NEMA Size 0				
ECN0601AAA	97247	...	...	120†
ECN0601EAA	99165	200	3	208
ECN0601BAA	98061	230	3	240
ECN0601CAA	99164	460	5	480
ECN0601DAA	.....	575	5	600
NEMA Size 1				
ECN0611AAA	97249	...	...	120†
ECN0611EAA	.....	200	7½	208
ECN0611BAA	98125	230	7½	240
ECN0611CAA	98126	460	10	480
ECN0611DAA	01728	575	10	600
NEMA Size 2				
ECN0621AAA	97252	...	...	120†
ECN0621EAA	01511	200	10	208
ECN0621BAA	01508	230	15	240
ECN0621CAA	98134	460	25	480
ECN0621DAA	01510	575	25	600
NEMA Size 3				
ECN0631AAA	62620	...	...	120†
ECN0631EAA	.....	200	25	208
ECN0631BAA	.....	230	30	240
ECN0631CAA	.....	460	50	480
ECN0631DAA	.....	575	50	600
NEMA Size 4				
ECN0641AAA	62623	...	...	120†
ECN0641EAA	.....	200	40	208
ECN0641BAA	62624	230	50	240
ECN0641CAA	62625	460	100	480
ECN0641DAA	.....	575	100	600
NEMA Size 5				
ECN0651AAA	.....	...	...	120†

No.	UPC	Motor Volts	Max. HP Rating	Magnet Coil Volts 60 Hz
ECN0651EAA	200	75	208
ECN0651BAA	230	100	240
ECN0651CAA	460	200	480
ECN0651DAA	575	200	600

†For separate 120V control circuit. For maximum HP at listed motor voltages, use rating of other starters of same size.

NEMA 3R - Rainproof				
No.	UPC	Motor Volts	Max. HP Rating	Magnet Coil Volts 60 Hz
NEMA Size 0				
ECN0602AAA	120†
ECN0602EAA	09410	200	3	208
ECN0602BAA	230	3	240
ECN0602CAA	460	5	480
ECN0602DAA	575	5	600
NEMA Size 1				
ECN0612AAA	120†
ECN0612EAA	99703	200	7½	208
ECN0612BAA	99620	230	7½	240
ECN0612CAA	99621	460	10	480
ECN0612DAA	575	25	600
NEMA Size 2				
ECN0622AAA	120†
ECN0622EAA	200	10	208
ECN0622BAA	230	15	240
ECN0622CAA	460	25	480
ECN0622DAA	575	25	600
NEMA Size 3				
ECN0632AAA	120†
ECN0632EAA	200	25	208
ECN0632BAA	230	30	240
ECN0632CAA	460	50	480
ECN0632DAA	575	50	600
NEMA Size 4				
ECN0642AAA	120†
ECN0642EAA	200	40	208
ECN0642BAA	230	50	240
ECN0642CAA	460	100	480
ECN0642DAA	575	100	600
NEMA Size 5				
ECN0652AAA	120†
ECN0652EAA	200	75	208
ECN0652BAA	230	100	240
ECN0652CAA	460	200	480
ECN0652DAA	575	200	600

†For separate 120V control circuit. For maximum HP at listed motor voltages, use rating of other starters of same size.

NEMA 4/4X - Watertight & Dusttight - Stainless Steel				
No.	UPC	Motor Volts	Max. HP Rating	Magnet Coil Volts 60 Hz
NEMA Size 0				
ECN0604AAA	.....	115	...	120\$
ECN0604EAA	.....	200	3	208
ECN0604BAA	.....	230	3	240
ECN0604CAA	.....	460	5	480
ECN0604DAA	.....	575	5	600
NEMA Size 1				
ECN0614AAA	62629	.....	...	120\$
ECN0614EAA	01954	200	7½	208
ECN0614BAA	99704	230	7½	240
ECN0614CAA	62631	460	10	480
ECN0614DAA	.....	575	25	600
NEMA Size 2				
ECN0624AAA	.....	.....	...	120\$
ECN0624EAA	.....	200	10	208
ECN0624BAA	.....	230	15	240

No.	UPC	Motor Volts	Max. HP Rating	Magnet Coil Volts 60 Hz
ECN0624CAA	460	25	480
ECN0624DAA	575	25	600
NEMA Size 3				
ECN0634AAA	120\$
ECN0634EAA	200	25	208
ECN0634BAA	230	30	240
ECN0634CAA	460	50	480
ECN0634DAA	575	50	600
NEMA Size 4				
ECN0644AAA	120\$
ECN0644EAA	200	40	208
ECN0644BAA	230	50	240
ECN0644CAA	460	100	480
ECN0644DAA	575	100	600
NEMA Size 5				
ECN0654AAA	120\$
ECN0654EAA	200	75	208
ECN0654BAA	230	100	240
ECN0654CAA	460	200	480
ECN0654DAA	575	200	600

\$For separate 120V control circuit. For maximum HP at listed motor voltages, use rating of other starters of same size.

NEMA 12 (3R) - Dusttight Industrial Ext. Reset				
No.	UPC	Motor Volts	Max. HP Rating	Magnet Coil Volts 60 Hz
NEMA Size 0				
ECN0608AAA	120*
ECN0608EAA	200	3	208
ECN0608BAA	230	3	240
ECN0608CAA	460	5	480
ECN0608DAA	575	5	600
NEMA Size 1				
ECN0618AAA	120*
ECN0618EAA	200	7½	208
ECN0618BAA	99459	230	7½	240
ECN0618CAA	01727	460	10	480
ECN0618DAA	575	25	600
NEMA Size 2				
ECN0628AAA	99931	.....	...	120*
ECN0628EAA	200	10	208
ECN0628BAA	230	15	240
ECN0628CAA	460	25	480
ECN0628DAA	575	25	600
NEMA Size 3				
ECN0638AAA	120*
ECN0638EAA	200	25	208
ECN0638BAA	230	30	240
ECN0638CAA	460	50	480
ECN0638DAA	575	50	600
NEMA Size 4				
ECN0648AAA	120*
ECN0648EAA	200	40	208
ECN0648BAA	230	50	240
ECN0648CAA	460	100	480
ECN0648DAA	575	100	600
NEMA Size 5				
ECN0658AAA	120*
ECN0658EAA	200	75	208
ECN0658BAA	230	100	240
ECN0658CAA	460	200	480
ECN0658DAA	575	200	600

*For separate 120V control circuit. For maximum HP at listed motor voltages, use rating of other starters of same size.

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Specifications

NEMA Size	HP
00	1½
0	5
1	10
2	25
3	50
4	75
5	150
6	300
7	600
8	900

CUTLER-HAMMER NEMA Contactors

Advantage - Full Voltage - Nonreversing



Nema Size 3

Full voltage, three phase, three-pole, non-reversing contactors that feature brownout protection, communications capability, higher contact force, and minimized bounce times. Small physical size. 120V magnet coil. 600V maximum. NEMA sizes, 1-5. Class ECA01.

Motor Volts	Max. hp Rating	Continuous Amps (Enclosed)
NEMA Size 1		
200	7½	27
230	7½	27
460	10	27
575	10	27
NEMA Size 2		
200	10	45
230	15	45
460	25	45
575	25	45
NEMA Size 3		
200	25	90
230	30	90
460	50	90
575	50	90
NEMA Size 4		
200	40	135
230	50	135
460	100	135
575	100	135
NEMA Size 5		
200	75	270
230	100	270
460	200	270
575	200	270

Open Type

No.	UPC	Coil Volts	Hz
NEMA Size 1			
W201K1CF		120	60
W201K1CN		110	50
NEMA Size 2			
W201K2CF		120	60
W201K2CN	63015	110	50

No.	UPC	Coil Volts	Hz
NEMA Size 3			
W201K3CF	63020	120	60
W201K3CN	63025	110	50
NEMA Size 4			
W201K4CF	63030	120	60
W201K4CN	63035	110	50
NEMA Size 5			
W201K5CF	63040	120	60
W201K5CN	63045	110	50

NEMA 3R

Rainproof

No.	UPC	Coil Volts	Hz
NEMA Size 1			
ECA0112F3A		120	60
ECA0112N3A		110	50
NEMA Size 2			
ECA0122F3A		120	60
ECA0122N3A		110	50
NEMA Size 3			
ECA0132F3A		120	60
ECA0132N3A		110	50
NEMA Size 4			
ECA0142F3A		120	60
ECA0142N3A		110	50
NEMA Size 5			
ECA0152F3A		120	60
ECA0152N3A		110	50

NEMA 4X

Watertight - Dusttight

Stainless Steel

No.	UPC	Coil Volts	Hz
NEMA Size 1			
ECA0114F3A		120	60
ECA0114N3A		110	50
NEMA Size 2			
ECA0124F3A		120	60
ECA0124N3A		110	50
NEMA Size 3			
ECA0134F3A		120	60
ECA0134N3A		110	50
NEMA Size 4			
ECA0144F3A		120	60
ECA0144N3A		110	50
NEMA Size 5			
ECA0154F3A		120	60
ECA0154N3A		110	50

NEMA 12

Dusttight Industrial

(NEMA 3R)

No.	UPC	Coil Volts	Hz
NEMA Size 1			
EAC0118F3A		120	60
ECA0118N3A		110	50
NEMA Size 2			
ECA0128F3A		120	60
ECA0128N3A		110	50
NEMA Size 3			
ECA0138F3A		120	60
ECA0138N3A		110	50

No.	UPC	Coil Volts	Hz
NEMA Size 4			
ECA0148F3A		120	60
ECA0148N3A		110	50
NEMA Size 5			
ECA0158F3A		120	60
ECA0158N3A		110	50

CUTLER-HAMMER

Starters

Freedom Series - Nonreversing - NEMA Rated



Open Type

Three-phase, magnetic, nonreversing, full voltage, 600V overload relay. Manual or automatic reset.

For use in applications requiring NEMA ratings. Meet or exceed NEMA standards ICS 2-1988. Steel mounting plate standard on all open type starters and wired for separate or common control.

Bimetallic Ambient Compensated Overload Relays. Available in three basic sizes for applications up to 900 hp. Feature selectable manual or automatic reset operation; interchangeable heater packs adjustable ±24% to match motor FLA and calibrated for 1.0 and 1.15 service factors and packs for smaller overload relay will mount in larger overload relay; load lugs are built into relay base; 1Ø protection, class 20 or class 10 trip time; overload trip indication; electrically isolated NO-NC contacts (pull RESET button to test); twin break, silver cadmium oxide contacts are conductive and provide resistance to welding and arc erosion; designed to 3,000,000 electrical operations at maximum hp ratings up through 25 hp at 600V.

The following holding circuit contacts supplied standard: 00-3, NO auxiliary contact block mounted on right hand side (on size 00, contact occupies fourth power pole position with no width increase); sizes 4-5, NO contact block on left side; sizes 6-7, 2 NO/2 NC contact block on top left; size 8, NO/NC contact block on top left back and NO on top right back.

NEMA 12 Starters. May be used in outdoor application with proper installation.

Open Type - 3-Pole

No.	UPC	NEMA Size	Motor Volts	3Ø Max. Rating hp	60 Hz Magnet Coil Volts
AN16ANOAC*	97141	00	115	...	120
AN16ANOEC	98044	00	200	1½	208
AN16AN0BC	97142	00	230	1½	240
AN16AN0CC	97143	00	460	2	480
AN16AN0DC	.....	00	575	2	600
AN16BNOAC*	.....	0	115	...	120
AN16BNOEC	02535	0	200	3	208
AN16BNOBC	97157	0	230	3	240
AN16BNOCC	97158	0	460	5	480
AN16BNODC	.....	0	575	5	600
AN16DNOAC*	1	115	...	120
AN16DNOEB	02561	1	200	7½	208
AN16DNOBB	97171	1	230	7½	240

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Table with columns: No., UPC, NEMA Size, Motor Volts, 30 Max. Rating hp, 60 Hz Magnet Coil Volts. Lists various motor models like AN16K000R, AN16K000B, etc.

*For separate 120V control circuit, use rating of motor listed motor voltages, use rating of other standards of same size. †Common control; for separate 120V control, insert letter "D" in 7th position of catalog number.

Enclosed Type NEMA 1 - General Purpose

Table with columns: No., UPC, NEMA Size, Motor Volts, 30 Max. Rating hp, 60 Hz Magnet Coil Volts. Lists models like ECH0501AAA, ECH0501EAA, etc.

Table with columns: No., UPC, NEMA Size, Motor Volts, 30 Max. Rating hp, 60 Hz Magnet Coil Volts. Lists models like AN16K000R, ECH0531AAA, etc.

‡At 1/2 max. 1/2 hp rating. §At 1/3 max. 1 hp rating. *At 1/3 max. 2 hp rating. **At 1/3 max. 3 hp rating. +At 1/3 max. 7 1/2 hp rating.

Enclosed Type NEMA 3R - Rainproof

Table with columns: No., UPC, NEMA Size, Motor Volts, 30 Max. Rating hp, 60 Hz Magnet Coil Volts. Lists models like ECH0502AAA, ECH0502EAA, etc.

Enclosed Type NEMA 4X Washproof & Dusttight - Stainless Steel

Table with columns: No., UPC, NEMA Size, Motor Volts, 30 Max. Rating hp, 60 Hz Magnet Coil Volts. Lists models like ECH0504AAA, ECH0504EAA, etc.

Enclosed Type NEMA 12

Dusttight Industrial Ext. Reset - (NEMA 3R)

Table with columns: No., UPC, NEMA Size, Motor Volts, 30 Max. Rating hp, 60 Hz Magnet Coil Volts. Lists models like ECH0508AAA, ECH0508EAA, etc.

CUTLER-HAMMER

NEMA Rated AC Contactors Electrically Held



20A Max.—Open Type

Designed to handle switching of tungsten (incandescent filament) or ballast (fluorescent and

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mercury arc) lamp loads as well as other non-motor (resistive) loads. Class ECL03.

Loads include ballast lamps of fluorescent, mercury vapor, sodium vapor and quartz at 600V max.; filament lamps of incandescent, infrared, sodium iodine and heating at 480V max.; resistance heating of radiant and convection heating, furnaces and ovens. Amp ratings based on max. load voltage of 480V for tungsten lamp applications & 600V for ballast or mercury vapor type applications.

Cover control includes start-stop and hand-off-auto only.

Contactors include an NO auxiliary contact mounted on right hand side (on 10A, 2 and 3 pole devices, auxiliary contact occupies fourth power pole position but there is no increase in width). 10A through 60A devices will accept additional auxiliary contacts on top and/or sides. 100A through 300A devices will accept side mounted auxiliaries only.

Open Type

No.	UPC	Max. Amp Rating	No. of Poles
CN35AN2()B	10	2
CN35AN3()B	10	3
CN35AN4()B	10	4
CN35BN2()B	20	2
CN35BN3()B	20	3
CN35BN4()B	20	4
CN35BN6()B	20	6
CN35BN9()B	20	9
CN35BN12()B	20	12
CN35DN2()B	30	2
CN35DN3()B	30	3
CN35DN4()B	30	4
CN35DN5()B	30	5
CN35DN6()B	30	6
CN35DN9()B	30	9
CN35DN12()B	30	12
CN35GN2()B	60	2
CN35GN3()B	60	3
CN35GN4()B*	60	4
CN35GN5()B*	60	5
CN35KN2()	100	2
CN35KN3()	100	3
CN35NN2()	200	2
CN35NN3()	200	3
CN35SN2()	300	2
CN35SN3()	300	3

*Additional power poles mounted on side(s) of contactor.

Enclosed Type

NEMA 1 General Purpose

No.	UPC	Max. Amps Rating	No. of Poles	Magnet Coil Volts
ECL03A1A2A	10	2	110/120
ECL03A1E2A	10	2	208
ECL03A1B2A	10	2	220/240
ECL03A1H2A	10	2	277
ECL03A1C2A	10	2	440/480
ECL03A1D2A	10	2	550/600
ECL03A1A3A	10	3	110/120
ECL03A1E3A	10	3	208
ECL03A1B3A	10	3	220/240
ECL03A1H3A	10	3	277
ECL03A1C3A	10	3	440/480
ECL03A1D3A	10	3	550/600
ECL03A1A4A	10	4	110/120
ECL03A1E4A	10	4	208
ECL03A1B4A	10	4	220/240
ECL03A1H4A	10	4	277
ECL03A1C4A	10	4	440/480
ECL03A1D4A	10	4	550/600
ECL03B1A2A	20	2	110/120
ECL03B1E2A	20	2	208
ECL03B1B2A	20	2	220/240
ECL03B1H2A	20	2	277
ECL03B1C2A	20	2	440/480
ECL03B1D2A	20	2	550/600
ECL03B1A3A	20	3	110/120
ECL03B1E3A	20	3	208
ECL03B1B3A	20	3	220/240

No.	UPC	Max. Amps Rating	No. of Poles	Magnet Coil Volts
ECL03B1H3A	20	3	277
ECL03B1C3A	20	3	440/480
ECL03B1D3A	20	3	550/600
ECL03B1A4A	20	4	110/120
ECL03B1E4A	20	4	208
ECL03B1B4A	20	4	220/240
ECL03B1H4A	20	4	277
ECL03B1C4A	20	4	440/480
ECL03B1D4A	20	4	550/600
ECL03B1A6A	20	6	110/120
ECL03B1E6A	20	6	208
ECL03B1B6A	20	6	220/240
ECL03B1H6A	20	6	277
ECL03B1C6A	20	6	440/480
ECL03B1D6A	20	6	550/600
ECL03B1A9A	20	9	110/120
ECL03B1E9A	20	9	208
ECL03B1B9A	20	9	220/240
ECL03B1H9A	20	9	277
ECL03B1C9A	20	9	440/480
ECL03B1D9A	20	9	550/600
ECL03B1A12A	20	12	110/120
ECL03B1E12A	20	12	208
ECL03B1B12A	20	12	220/240
ECL03B1H12A	20	12	277
ECL03B1C12A	20	12	440/480
ECL03B1D12A	20	12	550/600

NEMA 3R Rainproof

No.	UPC	Max. Amps Rating	No. of Poles	Magnet Coil Volts
ECL03A2A2A	10	2	110/120
ECL03A2E2A	10	2	208
ECL03A2B2A	10	2	220/240
ECL03A2H2A	10	2	277
ECL03A2C2A	10	2	440/480
ECL03A2D2A	10	2	550/600
ECL03A2A3A	10	3	110/120
ECL03A2E3A	10	3	208
ECL03A2B3A	10	3	220/240
ECL03A2H3A	10	3	277
ECL03A2C3A	10	3	440/480
ECL03A2D3A	10	3	550/600
ECL03A2A4A	10	4	110/120
ECL03A2E4A	10	4	208
ECL03A2B4A	10	4	220/240
ECL03A2H4A	10	4	277
ECL03A2C4A	10	4	440/480
ECL03A2D4A	10	4	550/600
ECL03B2A2A	20	2	110/120
ECL03B2E2A	20	2	208
ECL03B2B2A	20	2	220/240
ECL03B2H2A	20	2	277
ECL03B2C2A	20	2	440/480
ECL03B2D2A	20	2	550/600
ECL03B2A3A	20	3	110/120
ECL03B2E3A	20	3	208
ECL03B2B3A	20	3	220/240
ECL03B2H3A	20	3	277
ECL03B2C3A	20	3	440/480
ECL03B2D3A	20	3	550/600
ECL03B2A4A	20	4	110/120
ECL03B2E4A	20	4	208
ECL03B2B4A	20	4	220/240
ECL03B2H4A	20	4	277
ECL03B2C4A	20	4	440/480
ECL03B2D4A	20	4	550/600
ECL03B2A6A	20	6	110/120
ECL03B2E6A	20	6	208
ECL03B2B6A	20	6	220/240
ECL03B2H6A	20	6	277
ECL03B2C6A	20	6	440/480
ECL03B2D6A	20	6	550/600
ECL03B2A9A	20	9	110/120
ECL03B2E9A	20	9	208
ECL03B2B9A	20	9	220/240
ECL03B2H9A	20	9	277
ECL03B2C9A	20	9	440/480
ECL03B2D9A	20	9	550/600
ECL03B2A12A	20	12	110/120
ECL03B2E12A	20	12	208
ECL03B2B12A	20	12	220/240
ECL03B2H12A	20	12	277
ECL03B2C12A	20	12	440/480
ECL03B2D12A	20	12	550/600

NEMA 4X Watertight & Dusttight

		Stainless Steel			
No.	UPC	Max. Amps Rating	No. of Poles	Magnet Coil Volts	
ECL03A4A2A	10	2	110/120	
ECL03A4E2A	10	2	208	
ECL03A4B2A	10	2	220/240	
ECL03A4H2A	10	2	277	
ECL03A4C2A	10	2	440/480	
ECL03A4D2A	10	2	550/600	
ECL03A4A3A	10	3	110/120	
ECL03A4E3A	10	3	208	
ECL03A4B3A	10	3	220/240	
ECL03A4H3A	10	3	277	
ECL03A4C3A	10	3	440/480	
ECL03A4D3A	10	3	550/600	
ECL03A4A4A	10	4	110/120	
ECL03A4E4A	10	4	208	
ECL03A4B4A	10	4	220/240	
ECL03A4H4A	10	4	277	
ECL03A4C4A	10	4	440/480	
ECL03A4D4A	10	4	550/600	
ECL03B4A2A	20	2	110/120	
ECL03B4E2A	20	2	208	
ECL03B4B2A	20	2	220/240	
ECL03B4H2A	20	2	277	
ECL03B4C2A	20	2	440/480	
ECL03B4D2A	20	2	550/600	
ECL03B4A3A	20	3	110/120	
ECL03B4E3A	20	3	208	
ECL03B4B3A	20	3	220/240	
ECL03B4H3A	20	3	277	
ECL03B4C3A	20	3	440/480	
ECL03B4D3A	20	3	550/600	
ECL03B4A4A	20	4	110/120	
ECL03B4E4A	20	4	208	
ECL03B4B4A	20	4	220/240	
ECL03B4H4A	20	4	277	
ECL03B4C4A	20	4	440/480	
ECL03B4D4A	20	4	550/600	
ECL03B4A6A	20	6	110/120	
ECL03B4E6A	20	6	208	
ECL03B4B6A	20	6	220/240	
ECL03B4H6A	20	6	277	
ECL03B4C6A	20	6	440/480	
ECL03B4D6A	20	6	550/600	
ECL03B4A9A	20	9	110/120	
ECL03B4E9A	20	9	208	
ECL03B4B9A	20	9	220/240	
ECL03B4H9A	20	9	277	
ECL03B4C9A	20	9	440/480	
ECL03B4D9A	20	9	550/600	
ECL03B4A12A	20	12	110/120	
ECL03B4E12A	20	12	208	
ECL03B4B12A	20	12	220/240	
ECL03B4H12A	20	12	277	
ECL03B4C12A	20	12	440/480	
ECL03B4D12A	20	12	550/600	

NEMA 12 Dustight

Industrial

No.	UPC	max. Amps Rating	No. Of Poles	Magnet Coil Volts
ECL03A8A2A	10	2	110/120
ECL03A8E2A	10	2	208
ECL03A8B2A	10	2	220/240
ECL03A8H2A	10	2	277
ECL03A8C2A	10	2	440/480
ECL03A8D2A	10	2	550/600
ECL03A8A3A	10	3	110/120
ECL03A8E3A	10	3	208
ECL03A8B3A	10	3	220/240
ECL03A8H3A	10	3	277
ECL03A8C3A	10	3	440/480
ECL03A8D3A	10	3	550/600
ECL03A8A4A	10	4	110/120
ECL03A8E4A	10	4	208
ECL03A8B4A	10	4	220/240
ECL03A8H4A	10	4	277
ECL03A8C4A	10	4	440/480
ECL03A8D4A	10	4	550/600
ECL03B8A2A	20	2	110/120
ECL03B8E2A	20	2	208
ECL03B8B2A	20	2	220/240
ECL03B8H2A	20	2	277
ECL03B8C2A	20	2	440/480
ECL03B8D2A	20	2	550/600
ECL03B8A3A	20	3	110/120

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No.	UPC	max. Amps Rating	No. Of Poles	Magnet Coil Volts
ECL03B8E3A		20	3	208
ECL03B8B3A		20	3	220/240
ECL03B8H3A		20	3	277
ECL03B8C3A		20	3	440/480
ECL03B8D3A		20	3	550/600
ECL03B8A4A		20	4	110/120
ECL03B8E4A		20	4	208
ECL03B8B4A		20	4	220/240
ECL03B8H4A		20	4	277
ECL03B8C4A		20	4	440/480
ECL03B8D4A		20	4	550/600
ECL03B8A6A		20	6	110/120
ECL03B8E6A		20	6	208
ECL03B8B6A		20	6	220/240
ECL03B8H6A		20	6	277
ECL03B8C6A		20	6	440/480
ECL03B8D6A		20	6	550/600
ECL03B8A9A		20	9	110/120
ECL03B8E9A		20	9	208
ECL03B8B9A		20	9	220/240
ECL03B8H9A		20	9	277
ECL03B8C9A		20	9	440/480
ECL03B8D9A		20	9	550/600
ECL03B8ABA		20	12	110/120
ECL03B8EBA		20	12	208
ECL03B8BBA		20	12	220/240
ECL03B8HBA		20	12	277
ECL03B8CBA		20	12	440/480
ECL03B8DBA		20	12	550/600

Magnetic Coil Selection

Code Suffix	Coil Volts & Hz
A	120/60 or 110/50
L	380-415/50
B	240/60 or 220/50
N	550/50
C	480/60 or 440/50
T	24/60, 24/50
D	600/60 or 550/50
U	24/50
E	208/60
V	32/50
H	277/60
W	48/60
J	208-240/60
Y	48/50
K	240/50

†For 10A, 20A & 30A sizes only.

Note: When ordering, specify Cat. No plus suffix letter from magnet coil selection table.

CUTLER-HAMMER

Operators Assembled

30.5 mm. Oiltight. 4, 4X, 13 NEMA type. UL Listed.



Flush Button. Assembled with contact blocks.

Flush Button

No.	UPC	Contact Block Config.	Button Color
T23B	...	NO	Black
T23R	...	NO	Red
T23G	...	NO	Green
T23Y	...	NO	Yellow
T101-51	...	NC	Black
T102-51	...	NC	Red
T103-51	...	NC	Green
T104-51	...	NC	Yellow
T30B	...	NO-NC	Black
T30R	...	NO-NC	Red

No.	UPC	Contact Block Config.	Button Color
T30G		NO-NC	Green
T30Y		NO-NC	Yellow
T101-2		NO-NO	Black
T102-2		NO-NO	Red
T103-2		NO-NO	Green
T104-2		NO-NO	Yellow
T101-3		NC-NC	Black
T102-3		NC-NC	Red
T103-3		NC-NC	Green
T104-3		NC-NC	Yellow



Extended Button. Assembled with contact blocks.

Extended Button

No.	UPC	Contact Block Config.	Button Color
T25-B	NO	Black
T112-53	NO	Red
T25G	NO	Green
T25Y	NO	Yellow
T111-51	NC	Black
T25R	NC	Red
T113-51	NC	Green
T120-51	NC	Yellow
T31B	NO-NC	Black
T31R	NO-NC	Red
T31G	NO-NC	Green
T31Y	NO-NC	Yellow
T111-2	NO-NO	Black
T112-2	NO-NO	Red
T113-2	NO-NO	Green
T120-2	NO-NO	Yellow
T111-3	NC-NC	Black
T112-3	NC-NC	Red
T113-3	NC-NC	Green
T124-3	NC-NC	Yellow



Mushroom Head. Assembled with contact blocks.

Mushroom Head

No.	UPC	Contact Block Config.	Button Color
T26B	NO	Black
T122-53	NO	Red
T26G	NO	Green
T26Y	NO	Yellow
T121-51	NC	Black
T26R	NC	Red
T123-51	NC	Green
T124-51	NC	Yellow
T32B	NO-NC	Black
T32R	NO-NC	Red
T32G	NO-NC	Green
T32Y	NO-NC	Yellow
T121-2	NO-NO	Black
T122-2	NO-NO	Red
T123-2	NO-NO	Green
T124-2	NO-NO	Yellow
T121-3	NC-NC	Black
T122-3	NC-NC	Red
T123-3	NC-NC	Green
T124-3	NC-NC	Yellow



Jumbo Mushroom Head. Assembled with contact blocks.

Jumbo Mushroom Head

No.	UPC	Contact Block Config.	Button Color
T27B	NO	Black
T172-53	NO	Red
T27G	NO	Green
T27Y	NO	Yellow
T171-51	NC	Black
T27R	NC	Red
T173-51	NC	Green
T174-51	NC	Yellow
T33B	NO-NC	Black
T33R	NO-NC	Red
T33G	NO-NC	Green
T33Y	NO-NC	Yellow
T171-2	NO-NO	Black
T172-2	NO-NO	Red
T173-2	NO-NO	Green
T174-2	NO-NO	Yellow
T171-3	NC-NC	Black
T172-3	NC-NC	Red
T173-3	NC-NC	Green
T174-3	NC-NC	Yellow
T17213-53*	NO	Red
T29*	NC	Red
T33*	NO-NC	Red
T17213-2*	NO-NO	Red
T17213-3*	NC-NC	Yellow

*Engraved "Emergency Stop".

Selector Switch. Assembled. Add appropriate suffix for color.

Selector Switch - Color Selection Table

Code Letter	Desc.	Color
B	Std./Illuminated	Black
		Blue
R	Std./Illuminated	Red
G	Std./Illuminated	Green
W	Std./Illuminated	White
L	Std.	Blue
O	Std.	Orange
A	Illuminated	Amber
C	Illuminated	Clear



2 Position Maintained Switch

No.	UPC	Desc.	No. Position	No. Contact Blocks
T20K		Std.	2	
ED1117-K		Illumin.	2	
T20L		Std.	2	
ED1117-L		Illumin.	2	

Products shown here are for reference only. They can be sold by the locally authorized distributor.

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3 Position Maintained Switch

No.	UPC	Desc.	No. Position	No. Contact Blocks
Knob				
T21K		Std.	3	1
T22K		Std.	3	2
ED1117-2K		Illumin.	3	1
ED1117-3K		Illumin.	3	2
Lever				
T21L		Std.	3	1
T22L		Std.	3	2
ED1117-2L		Illumin.	3	1
ED1117-3L		Illumin.	3	2

4 Position Maintained Switch

No.	UPC	Desc.	No. Position	No. Contact Block
Knob				
T46K		Std.	4	2
ED1117-4K		Illumin.	4	2
Lever				
T46L		Std.	4	2
ED1117-4L		Illumin.	4	2

CUTLER-HAMMER

Proximity Sensors

Inductive - Plug-In - Complete - Limit Switch Type



Side Sensor

Ambient temperature range, -25°C to 70°C (-13°F to 158°F). Programmable outputs in sensor head. Viton gaskets. Switch operated diagnostic LED indicators. U.S. and DIN mounting dimensions. 1/2" NPT cable entry for conduit connection. Cast metal enclosure. NEMA rated 3, 3S, 4, 4X, 6, 6P, 12 and 13 enclosures.

UL Listed. CSA Certified. For Hazardous Locations Class I, Div. 2, Groups ABCD; Class II, Div. 2, Groups FG; Class III, Div. 2.

Shielded. Sensing range, 13 mm (.51").

Unshielded. Sensing range, 24 mm (.94").

Alternate Frequency. For side by side operation.

AC. NEMA D150 switch rating, 1A continuous. Switching rate, 15 operations per second.

DC. NEMA D150 switch rating, .6A continuous. Switching rate, 50 operations per second.

No. E51AL- 24V-120V AC NO or NC, 2-wire programmable.

No. E51CL- Standard 120V AC NO and NC, 3-wire complementary.

No. E51CN- 120V AC NO and NC, 3-wire complementary. Accept logic module.

No. E51PL- 10V-30V DC NO and NC, 3-wire complementary source (PNP).

No. E51NL- 10V-30V DC NO and NC, 3-wire complementary sink (NPN).

No.	UPC	Sensor Type	Sens. Dist. In.	Sens. Dist. mm	Freq.
Top Sensor					
E51ALT1	Shielded	.51	13	Standard
E51ALT2	Shielded	.51	13	Alternate
E51ALT5	Unshielded	.94	24	Standard
E51ALT6	Unshielded	.94	24	Alternate
E51CLT1	Shielded	.51	13	Standard
E51CLT2	Shielded	.51	13	Alternate
E51CLT5	Unshielded	.94	24	Standard
E51CLT6	Unshielded	.94	24	Alternate
E51CNT1	Shielded	.51	13	Standard
E51CNT2	Shielded	.51	13	Alternate
E51CNT5	Unshielded	.94	24	Standard
E51CNT6	Unshielded	.94	24	Alternate
E51PLT1	Shielded	.51	13	Standard
E51PLT2	Shielded	.51	13	Alternate
E51PLT5	Unshielded	.94	24	Standard
E51PLT6	Unshielded	.94	24	Alternate
E51NLT1	Shielded	.51	13	Standard
E51NLT2	Shielded	.51	13	Alternate
E51NLT5	Unshielded	.94	24	Standard
E51NLT6	Unshielded	.94	24	Alternate

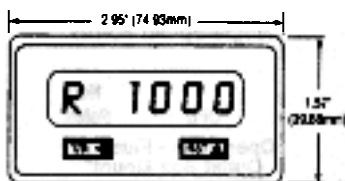
Side Sensor

E51ALS1	.....	Shielded	.51	13	Standard
E51ALS2	.....	Shielded	.51	13	Alternate
E51ALS5	.....	Unshielded	.94	24	Standard
E51ALS6	.....	Unshielded	.94	24	Alternate
E51CLS1	.....	Shielded	.51	13	Standard
E51CLS2	.....	Shielded	.51	13	Alternate
E51CLS5	.....	Unshielded	.94	24	Standard
E51CLS6	.....	Unshielded	.94	24	Alternate
E51CNS1	.....	Shielded	.51	13	Standard
E51CNS2	.....	Shielded	.51	13	Alternate
E51CNS5	.....	Unshielded	.94	24	Standard
E51CNS6	.....	Unshielded	.94	24	Alternate
E51PLS1	.....	Shielded	.51	13	Standard
E51PLS2	.....	Shielded	.51	13	Alternate
E51PLS5	.....	Unshielded	.94	24	Standard
E51PLS6	.....	Unshielded	.94	24	Alternate
E51NLS1	.....	Shielded	.51	13	Standard
E51NLS2	.....	Shielded	.51	13	Alternate
E51NLS5	.....	Unshielded	.94	24	Standard
E51NLS6	.....	Unshielded	.94	24	Alternate

CUTLER-HAMMER

Electronic Count Controls

Courier Series



0.43" display. Remote reset terminals. Combination of both flow totalization and rate monitoring. Alpha characters for process rates. Slide-on mounting clips. Protective seal gasket. DIN dimensions. Rear panel screw terminals. Front panel reset. Eurostyle case design. NEMA 4X.

No.	Desc.	Function
53300-400	8-Digit Totalizer	Count
53300-401	Add/Subtract -Solid State Input	Count, Scaling
53300-402	Add/Subtract Contact Input	Count, Scaling
53300-403	Quadrature Totalizer	Count, Scaling, Programmable Decimal
53300-404	1/Tau Ratemeter	Scaling, Rate, Programmable Decimal
53300-405	Totalizer/1/Tau Ratemeter	Count, Scaling, Rate, Programmable Decimal
53301-400*	8-Digit Totalizer	Count
53301-404*	1/Tau Ratemeter	Scaling, Rate, Programmable Decimal
53301-405*	Totalizer/1/Tau Ratemeter	Count, Scaling, Rate, Programmable Decimal

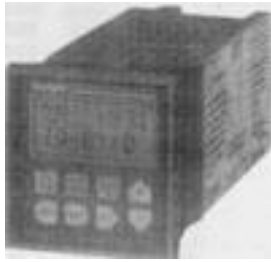
*Extended temperature range.



CUTLER-HAMMER

Indicators

Ambassador Series



2 lines of 8 characters. Alphanumeric, dot matrix, backlit LCD. Simultaneous view of 2 production parameters. Selectable rate averaging and zero time. 2 programmable alarms. UL Listed. CSA Certified.

Rate. 1/Tau rate indicator. Optional 0-10V analog output.

Rate/Ratio. Two independent 1/Tau rate indicators. Hi and Lo ratio alarms.

Rate/Ratio/Draw. Two independent 1/Tau rate indicators. Hi and Lo ratio alarms.

No.	UPC	Volts	Ratio Alarms	Rate-Meters	Output
Rate					
57150-400	10-15	...	1	...
57151-400	115	...	1	...
57152-400	230	...	1	...
57150-401	10-15	...	1	Analog
57151-401	115	...	1	Analog
57152-401	230	...	1	Analog
Rate/Ratio					
57150-402	10-15	2	2	...
57151-402	115	2	2	...
57152-402	230	2	2	...
57150-403	10-15	2	2	Analog
57151-403	115	2	2	Analog
57152-403	230	2	2	Analog
Rate/Ratio/Draw					
57150-404	10-15	2	2	...
57151-404	115	2	2	...
57152-404	230	2	2	...
57150-405	10-15	2	2	Analog
57151-405	115	2	2	Analog
57152-405	230	2	2	Analog

GE ED&C-CONTROL COMPONENTS

Manual Motor Starters



Open Type

Products shown here are for reference only. They can be sold by the locally authorized distributor.



NEMA Type 1



Combination Plate

For starting and stopping single-phase fractional horsepower motors. 25-60 Hz. Provisions available for overload protection but provide economical starter selection when no undervoltage protection is necessary.

Applications include grinders, fans, conveyors, mixers and blowers. Features include molded plastic switch housing for protection of starter mechanism, box terminals for easy access to wiring and small size. Overload heater not included.

1-Pole Forms. 1 hp maximum at 115V or 230V.

2-Pole Forms. 1 hp maximum at 115V or 230V. ¾ hp maximum at 277V.

Max. hp Ratings - AC or DC Continuous Carry - 16A

No.	Poles	AC				DC	
		32V	115V	230V	277V	115V	230V
CR101Y	1	1/2	1	1	...	1	1/2

Single-Speed Forms

No.	UPC	No. Poles	Oper. Type
Open Type - Flush or Outlet Box Mount*			
CR101Y	1	Toggle
CR101H	2	Toggle
CR101Y000K	1	Key
CR101H000K	2	Key
NEMA Type 1 - Surface Mount			
CR101Y1	1	Toggle
CR101H1	2	Toggle
CR101Y100K	1	Key
CR101H100K	2	Key
NEMA Type 1 - Surface Mount w/Ind. Light†			
CR101Y11	1	Toggle
CR101H11	2	Toggle
CR101Y110K	1	Key
CR101H110K	2	Key

*Include unmounted nameplate.

†Include 115/230V neon lamp. Not available at 277V.

Two-Speed - NEMA Type 1 Forms

No.	UPC	Ind. Lights‡	No. Poles
Surface Mount			
CR101Y600B	None	1
CR101Y610B	Two	1
CR101H600B	None	2
CR101H610B	Two	2
Flush-Plate - Gray			
CR101Y600A	None	1
CR101Y610A	Two	1
CR101H600A	None	2
CR101H610A	Two	2
Flush-Plate - Stainless Steel			
CR101Y608A	None	1
CR101Y618A	Two	1
CR101H608A	None	2
CR101H618A	Two	2

‡230V max.

Combination Device - NEMA Type 1 - Surface Mount

No.	UPC	No. Poles	Desc.
CR101H12	2	CR101H w/Hand-Auto Switch
CR101H13	2	Two CR101H

Combination Plates & Box. For combination units. Can be flush-mounted or used with a CR101X14 or other 2½" deep, two-gang box for general-purpose, surface-mounted installation.

Combination Plates & Box

No.	UPC	Desc.
CR101X10	w/Hand-Auto Switch
GR101X11§	w/Hand-Auto Switch & 115/230V Neon Indicating Light For Two CR101
CR101X12	Open Starters For Two CR101
CR101X13§	For Two CR101 Open Starters w/Two 115/230V Neon Indicating Lights
CR101X14	Box (Back) For Combination Forms

§To order with 277V rated indicating light add suffix -A to end of catalog number.

Enclosure Components. For single units. Painted gray or stainless steel. Flush-mounting.

Enclosure Components for Single Units

No.	UPC	Desc.
CR101X1	Flush Plate w/115/230V Ind. Light & Screws
CR101X1A	Flush Plate w/277V Ind. Light & Screws
CR101X2	Standard Flush Plate w/Screws
CR101X3	Locking Attachment for Toggle Operated Switches (Lock Not Included)
CR101X4	Cover Front w/115/230V Neon Ind. Light & Screws
CR101X4A	Cover Front w/277V Neon Ind. Light & Screws
CR101X5	Standard Cover (Front w/Screws)
CR101X6	Enclosure Back w/Screws (Surface Mount)
CR101X7	Stainless Steel Flush Plate w/115/230V Ind. Light & Screws*
CR101X7A	Stainless Steel Flush Plate w/277V Ind. Light & Screws*
CR101X8	Stainless Steel Flush Plate w/Screws*

*Available up to 5 gang size.

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Accessory Heaters

Heater No.	Max. Motor Full-Load Amp.	Heater No.	Max. Motor Full-Load Amp.	Heater No.	Max. Motor Full-Load Amp.
CR123H055A	.48	CR123H188A	1.63	CR123H625A	5.43
CR123H061A	.53	CR123H205A	1.78	CR123H680A	5.90
CR123H067A	.58	CR123H224A	1.95	CR123H739A	6.41
CR123H074A	.65	CR123H245A	2.13	CR123H802A	6.98
CR123H082A	.71	CR123H267A	2.32	CR123H873A	7.60
CR123H090A	.78	CR123H291A	2.53	CR123H950A	8.25
CR123H099A	.86	CR123H317A	2.76	CR123H103B	8.95
CR123H108A	.95	CR123H346A	3.01	CR123H112B	9.75
CR123H120A	1.04	CR123H377A	3.27	CR123H122B	10.6
CR123H132A	1.14	CR123410A	3.56	CR123H132B	11.4
CR123H144A	1.25	CR123H446A	3.88	CR123H144B	12.5
CR123H158A	1.37	CR123H486A	4.22	CR123H157B	13.6
CR123H172A	1.49	CR123H529A	4.60	CR123H171B	14.8
		CR123H575A	5.0	CR123H186B	16.0

STARTERS

Non-Reversing
AC Manual



No.		No.		No.		No.		No.		No.		No.		No.		No.		No.	
Allen-Bradley	600-TAX	Cutler-Hammer	9101H74	Furnas	10BA1B	General Electric	CR101Y1	Siemens	MSF11T11	Square D	2510-FG-1	Westinghouse	MST01SN	Poles	1	Desc.	Switch Only		
	600-TAX216		9101H76		10BA1BB		CR101Y11		MSF11T11L		2510-FG-1P		MST01SN1P		1		w/Pilot		
			9101H108		10BA1BA				MSF11T11P		2510-FG-5				1		w/Padlock Guard		
			9101H110						MSF11T11LP		2510-FG-5P				1		w/Padlock Guard & Pilot		
	600-TAX5		9101H75		10BA2B		CR101H1		MSF11T21		2510-FG-2		MST02SN		2		Switch Only		
	600-TAX109		9101H77		10BA2BB		CR101H11		MSF11T21L		2510-FG-2P		MST02SN1P		2		w/Pilot		
			9101H109		10BA2BA				MSF11T21P		2510-FG-6				2		w/Padlock Guard		
			9101H111						MSF11T21LP		2510-FG-6P				2		w/Padlock Guard & Pilot		

STARTERS

Non-Reversing
AC Magnetic Combination



No.		No.		No.		No.		No.		No.		No.		No.		No.		No.	
Allen-Bradley	512-AAH	Cutler-Hammer	A30BG0E60	Furnas	17CP92BD	General Electric	CR308B123AAA	Siemens	SCNB14208	Square D	8538-SBG 11V08	Westinghouse	A203S0AZB	NEMA Size	0	Coil Voltage	208-220		
	512-AAA		A30BG0B60		17CP92BG		CR308B103AAA		SCNB14240		8538-SBG 11V03		A203S0AZW		0		230-240		
	512-AAB		A30BG0C60		17CP92BH		CR308B104AAA		SCNB14480		8538-SBG 11V06		A203S0AZX		0		440-480		
	512-AAC		A30BG0D60		17CP92BE		CR308B105AAA		SCNB14600		8538-SBG 11V07		A203S0AZE		0		550-600		

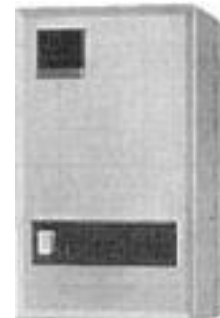
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		No.					NEMA	Coil
							Size	Voltage
Allen-Bradley	Cutler-Hammer	Furnas	General Electric	Siemens	Square D	Westinghouse		
512-BAH	A30CG0E60	17DP92BD	CR308C123AAA	SCNC14208	8538-SCG 11V08	A203S1AZB	1	208-220
512-BAA	A30CG0B60	17DP92BG	CR308C103AAA	SCNC14240	8538-SCG 11V03	A203S1AZW	1	230-240
512-BAB	A30CG0C60	17DP92BH	CR308C104AAA	SCNC14480	8538-SCG 11V06	A203S1AZX	1	440-480
512-BAC	A30CG0D60	17DP92BE	CR308C105AAA	SCNC14600	8538-SCG 11V07	A203S1AZE	1	550-600
512-CAH	A30DG0E60B	17FP92BD	CR308D123AAA	SCND15208	8538-SDG 11V08	A203S2AZB	2	208-220
512-CAA	A30DG0B60B	17FP92BG	CR308D103AAA	SCND15240	8538-SDG 11V03	A203S2AZW	2	230-240
512-CAB	A30DG0C60B	17FP92BH	CR308D104AAA	SCND15480	8538-SDG 11V06	A203S2AZX	2	440-480
512-CAC	A30DG0D60B	17FP92BE	CR308D105AAA	SCND15600	8538-SDG 11V07	A203S2AZE	2	550-600
512-DAH	A30EG0E60B	17HP92BD	CR308E123AAA	SCNE16208	8538-SEG 11V08	A203S3AZB	3	208-220
512-DAA	A30EG0B60B	17HP92BG	CR308E103AAA	SCNE16240	8538-SEG 11V03	A203S3AZW	3	230-240
512-DAB	A30EG0C60B	17HP92BH	CR308E104AAA	SCNE16480	8538-SEG 11V06	A203S3AZX	3	440-480
512-DAC	A30EG0D60B	17HP92BE	CR308E105AAA	SCNE16600	8538-SEG 11V07	A203S3AZE	3	550-600
512-EAH	A30FG0E60	17JD92BD	CR308F123AAA	SCNF17208	8538-SFG 11V08	A203S4AZB	4	208-220
512-EAA	A30FG0B60	17JD92BG	CR308F103AAA	SCNF17240	8538-SFG 11V03	A203S4AZW	4	230-240
512-EAB	A30FG0C60	17JD92BH	CR308F104AAA	SCNF17480	8538-SFG 11V06	A203S4AZX	4	440-480
512-EAC	A30FG0D60	17JD92BE	CR308F105AAA	SCNF17600	8538-SFG 11V07	A203S4AZE	4	550-600

STARTERS
Non-Reversing
AC Magnetic Full Voltage



		No.					NEMA	Coil
							Size	Voltage
Allen-Bradley	Cutler-Hammer	Furnas	General Electric	Siemens	Square D	Westinghouse		
509-TAD	A10AGOAC	14BG32BF	CR306A102AAA	.....	8536-SAG 12V02S	A200SACAC	00	110-120*
509-TAH	A10AGOEC	14BG32BD	CR306A123AAA	.....	8536-SAG 12V08	A200SACB	00	208-220
509-TAA	A10AG0BC	14BG32BG	CR306A103AAA	.....	8536-SAG 12V03	A200SACW	00	230-240
509-TAB	A10AG0CC	14BG32BH	CR306A104AAA	.....	8536-SAG 12V06	A200SACX	00	440-480
509-TAC	A10AG0DC	14BG32BE	CR306A105AAA	.....	8536-SAG 12V07	A200SACE	00	550-600
509-AAD	A10BG0A	14CP32BF	CR306B102AAA	SXLBG120	8536-SBG 2V02S	A200SOCAC	0	110-120*
509-AAH	A10BG0E	14CP32BD	CR306B123AAA	SXLBG208	8536-SBG 2V08	A200SOCB	0	208-220
509-AAA	A10BG0B	14CP32BG	CR306B103AAA	SXLBG240	8536-SBG 2V03	A200SOCW	0	230-240
509-AAB	A10BG0C	14CP32BH	CR306B104AAA	SXLBG480	8536-SBG 2V06	A200SOCX	0	440-480
509-AAC	A10BG0D	14CP32BE	CR306B105AAA	SXLBG600	8536-SBG 2V07	A200SOCE	0	550-600
509-BAD	A10CG0A	14DP32BF	CR306C102AAA	SXLCG120	8536-SCG 3V02S	A200S1CAC	1	110-120*
509-BAH	A10CG0E	14DP32BD	CR306C123AAA	SXLCG208	8536-SCG 3V08	A200S1CB	1	208-220
509-BAA	A10CG0B	14DP32BG	CR306C103AAA	SXLCG240	8536-SCG 3V03	A200S1CW	1	230-240
509-BAB	A10CG0C	14DP32BH	CR306C104AAA	SXLCG480	8536-SCG 3V06	A200S1CX	1	440-480
509-BAC	A10CG0D	14DP32BE	CR306C105AAA	SXLCG600	8536-SCG 3V07	A200S1CE	1	550-600
509-CAD	A10DG0AB	14FP32BF	CR306D102AAA	SXLDG120	8536-SDG 1V02S	A200S2CAC	2	110-120*
509-CAH	A10DG0EB	14FP32BD	CR306D123AAA	SXLDG208	8536-SDG 1V08	A200S2CB	2	208-220
509-CAA	A10DG0BB	14FP32BG	CR306D103AAA	SXLDG240	8536-SDG 1V03	A200S2CW	2	230-240
509-CAB	A10DG0CB	14FP32BH	CR306D104AAA	SXLDG480	8536-SDG 1V06	A200S2CX	2	440-480
509-CAC	A10DG0DB	14FP32BE	CR306D105AAA	SXLDG600	8536-SDG 1V07	A200S2CE	2	550-600
509-DAD	A10EG0AB	14HP32BF	CR306E102AAA	SXLEG120	8536-SEG 1V02S	A200S3CAC	3	110-120*
509-DAH	A10EG0EB	14HP32BD	CR306E123AAA	SXLEG208	8536-SEG 1V08	A200S3CB	3	208-220
509-DAA	A10EG0BB	14HP32BG	CR306E103AAA	SXLEG240	8536-SEG 1V03	A200S3CW	3	230-240
509-DAB	A10EG0CB	14HP32BH	CR306E104AAA	SXLEG480	8536-SEG 1V06	A200S3CX	3	440-480
509-DAC	A10EG0DB	14HP32BE	CR306E105AAA	SXLEG600	8536-SEG 1V07	A200S3CE	3	550-600
509-EAD	A10FG0A	14JB32BF	CR306F102AAA	.....	8536-SFG 1V02S	A200S4CAC	4	110-120*
509-EAH	A10FG0E	14JB32BD	CR306F123AAA	.....	8536-SFG 1V08	A200S4CB	4	208-220
509-EAA	A10FG0B	14JB32BG	CR306F103AAA	.....	8536-SFG 1V03	A200S4CW	4	230-240
509-EAB	A10FG0C	14JB32BH	CR306F104AAA	.....	8536-SFG 1V06	A200S4CX	4	440-480
509-EAC	A10FG0D	14JB32BE	CR306F105AAA	.....	8536-SFG 1V07	A200S4CE	4	550-600

*Wired for separate control; must specify for Siemens.

Products shown here are for reference only. They can be sold by the locally authorized distributor.

GE ED&C-CONTROL COMPONENTS

Definite Purpose Contactors

Open Type - Series CR353



600V maximum. 50A-150A maximum inductive. 50/60 Hz. Universal mounting plates with multiple holes. Straight-through wiring. Combination screw and quick-connect power and coil terminals. Self aligning magnets. Housing offers high arc tracking resistance and dielectric strength. Corrosion resistant. Arc confining cover to protect against contaminants. Field replaceable contacts and coils. UL Recognized. CSA Certified.

AC Coil Forms

No.	UPC	No. Poles	Full Load	Amp Ratings Inductive Locked Rotor			Resist./ Pole	50/60 Hz Volts	Nom. Inrush VA	AC Coil Nom. Sealed VA	Nom. Sealed Watts	Resistance ±10% Ohms
				240V	480V	600V						
CR353F Forms												
CR353FE2BH1		2	50	300	250	200	62	24	125	17	8	2.75
CR353FE2BA1		2	50	300	250	200	62	110-120	125	17	8	64.3
CR353FE2BB1		2	50	300	250	200	62	208-240	125	17	8	241
CR353FE2BF1		2	50	300	250	200	62	277	125	17	8	389
CR353FE2BG1		2	50	300	250	200	62	440-480	125	17	8	972
CR353FE2BD1		2	50	300	250	200	62	575-600	125	17	8	2074
CR353FE3BH1		3	50	300	250	200	62	24	125	17	8	2.75
CR353FE3BA1		3	50	300	250	200	62	110-120	125	17	8	64.3
CR353FE3BB1		3	50	300	250	200	62	208-240	125	17	8	241
CR353FE3BF1		3	50	300	250	200	62	277	125	17	8	389
CR353FE3BG1		3	50	300	250	200	62	440-480	125	17	8	972
CR353FE3BD1		3	50	300	250	200	62	575-600	125	17	8	2074
CR353FF2BH1		2	60	360	300	240	75	24	125	17	8	2.75
CR353FF2BA1		2	60	360	300	240	75	110-120	125	17	8	64.3
CR353FF2BB1		2	60	360	300	240	75	208-240	125	17	8	241
CR353FF2BF1		2	60	360	300	240	75	277	125	17	8	389
CR353FF2BG1		2	60	360	300	240	75	440-480	125	17	8	972
CR353FF2BD1		2	60	360	300	240	75	575-600	125	17	8	2074
CR353FF3BH1		3	60	360	300	240	75	24	125	17	8	2.75
CR353FF3BA1		3	60	360	300	240	75	110-120	125	17	8	64.3
CR353FF3BB1		3	60	360	300	240	75	208-240	125	17	8	241
CR353FF3BF1		3	60	360	300	240	75	277	125	17	8	389
CR353FF3BG1		3	60	360	300	240	75	440-480	125	17	8	972
CR353FF3BD1		3	60	360	300	240	75	575-600	125	17	8	2074
CR353E Forms												
CR353EG2BH1		2	75	450	375	300	90	24	233	40	16	1.46
CR353EG2BA1		2	75	450	375	300	90	115-120	233	40	16	28.7
CR353EG2BB1		2	75	450	375	300	90	208-240	233	40	16	109
CR353EG2BF1		2	75	450	375	300	90	277	233	40	16	169
CR353EG2BG1		2	75	450	375	300	90	460	233	40	16	547
CR353EG2BD1		2	75	450	375	300	90	600	233	40	16	655
CR353EG3BH1		3	75	450	375	300	90	24	233	40	16	1.46
CR353EG3BA1		3	75	450	375	300	90	115-120	233	40	16	28.7
CR353EG3BB1		3	75	450	375	300	90	208-240	233	40	16	109
CR353EG3BF1		3	75	450	375	300	90	277	233	40	16	169
CR353EG3BG1		3	75	450	375	300	90	460	233	40	16	547
CR353EG3BD1		3	75	450	375	300	90	600	233	40	16	655
CR353EH2BH1		2	90	540	450	360	90	24	233	40	16	1.46
CR353EH2BA1		2	90	540	450	360	90	115-120	233	40	16	28.7
CR353EH2BB1		2	90	540	450	360	90	208-240	233	40	16	109
CR353EH2BF1		2	90	540	450	360	90	277	233	40	16	169
CR353EH2BG1		2	90	540	450	360	90	460	233	40	16	547
CR353EH2BD1		2	90	540	450	360	90	600	233	40	16	655
CR353EH3BH1		3	90	540	450	360	90	24	233	40	16	1.46
CR353EH3BA1		3	90	540	450	360	90	115-120	233	40	16	28.7
CR353EH3BB1		3	90	540	450	360	90	208-240	233	40	16	109
CR353EH3BF1		3	90	540	450	360	90	277	233	40	16	169
CR353EH3BG1		3	90	540	450	360	90	460	233	40	16	547
CR353EH3BD1		3	90	540	450	360	90	600	233	40	16	655
CR353G Forms*												
CR353GJ2AA1		2	120	720	600	480	120	115-120	1150	80	18.4	2.11 (2.02)
CR353GJ2AB1		2	120	720	600	480	120	230-240	1150	80	18.4	10.6 (10.4)
CR353GJ2AC1		2	120	720	600	480	120	460-480	1150	80	18.4	41.8 (41.7)
CR353GJ2AD1		2	120	720	600	480	120	575-600	1150	80	18.4	67.0 (64.4)
CR353GJ3AA1		3	120	720	600	480	120	115-120	1150	80	18.4	2.11 (2.02)
CR353GJ3AB1		3	120	720	600	480	120	230-240	1150	80	18.4	10.6 (10.4)



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No.	UPC	No. Poles	Full Load	Amp Ratings Inductive Locked Rotor			Resist./ Pole	50/60 Hz Volts	Nom. Inrush VA	AC Coil Nom. Sealed VA	Nom. Sealed Watts	Resistance ±10% Ohms
				240V	480V	600V						
CR3536J3AC1	3	120	720	600	480	120	460-480	1150	80	18.4	41.8 (41.7)
CR3536J3AD1	3	120	720	600	480	120	575-600	1150	80	18.4	67.0 (64.4)
CR3536K2AA1	2	150	900	750	600	150	115-120	1150	80	18.4	2.11 (2.02)
CR3536K2AB1	2	150	900	750	600	150	230-240	1150	80	18.4	10.6 (10.4)
CR3536K2AC1	2	150	900	750	600	150	460-480	1150	80	18.4	41.8 (41.7)
CR3536K2AD1	2	150	900	750	600	150	575-600	1150	80	18.4	67.0 (64.4)
CR3536K3AA1	3	150	900	750	600	150	115-120	1150	80	18.4	2.11 (2.02)
CR3536K3AB1	3	150	900	750	600	150	230-240	1150	80	18.4	10.6 (10.4)
CR3536K3AC1	3	150	900	750	600	150	460-480	1150	80	18.4	41.8 (41.7)
CR3536K3AD1	3	150	900	750	600	150	575-600	1150	80	18.4	67.0 (64.4)

*Resistance values given at 120A. 150A values are in parenthesis.

GE ED&C-CONTROL COMPONENTS

Lighting Contactors

Series CR360 - Electrically Held



Open

Magnetic. Rated for 30A, 60A, 100A, 200A and 300A tungsten, fluorescent, mercury arc and sodium lamp loads. Controlled by remote pushbuttons, toggle or selector switches.

Maximum AC Voltage Ratings

Lighting Load	Line Volts	Load Volts
Tungsten	480	480
Ballast	600	600

DC Tungsten Ratings

Continuous Amps	No. Poles				
	Max. 125V	2	3	4	Max. 250V
30	2	2	2	2	3
60	2	2	2	2	4
100-300	2	2	2	2	2

Lighting Contactors

No.	UPC	Cont. Rating Amps	No. Poles	Freq., Volts	
				60 Hz	50 Hz
Open					
CR360L30203AAZ		30	2	230-240	220
CR360L30213AAZ		30	2	265-277	
NEMA Type 1					
CR360L31203AAZ		30	2	230-240	220
CR360L31204AAZ		30	2	460-480	440
CR360L31303AAZ		30	3	230-240	220
CR360L31304AAZ		30	3	460-480	440
*30202AAZ		30	2	115-120	110
*30204AAZ		30	2	460-480	440
*30302AAZ		30	3	115-120	110
*30303AAZ		30	3	230-240	220
*30313AAZ		30	3	265-277	
*30304AAZ		30	3	460-480	440
*30402AAZ		30	4	115-120	110
*30403AAZ		30	4	230-240	220
*30413AAZ		30	4	265-277	
*30404AAZ		30	4	460-480	440
*40202AAZ		60	2	115-120	110
*40203AAZ		60	2	230-240	220
*40213AAZ		60	2	265-277	
*40204AAZ		60	2	460-480	440
*40302AAZ		60	3	115-120	110
*40303AAZ		60	3	230-240	220

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Products shown here are for reference only. They can be sold by the locally authorized distributor.

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No.	UPC	Cont. Rating Amps	No. Poles	Freq., Volts	
				60 Hz	50 Hz
*40313AAZ		60	3	265-277	...
*40304AAZ		60	3	460-480	440
*40402AAZ		60	4	115-120	110
*40403AAZ		60	4	230-240	220
*40413AAZ		60	4	265-277	...
*40404AAZ		60	4	460-480	440
*50202AAZ		60	2	115-120	110
*50203AAZ		60	2	230-240	220
*50213AAZ		60	2	265-277	...
*50204AAZ		60	2	460-480	440
*50302AAZ		60	3	115-120	110
*50303AAZ		60	3	230-240	220
*50313AAZ		60	3	265-277	...
*50304AAZ		60	3	460-480	440
*50402AAZ		60	4	115-120	110
*50403AAZ		60	4	230-240	220
*50413AAZ		60	4	265-277	...
*50404AAZ		60	4	460-480	440

Mechanically Held Lighting Contactors

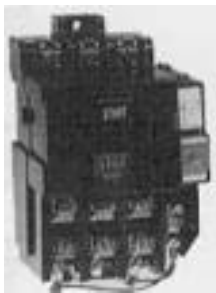
No.*	UPC	Open	Cont. Rating Amps	No. Poles
CR360MA302AA			30	2
CR360MA402AA			60	2
CR360MA502AA			100	2
CR360MA602AA			200	2
CR360MA702AA			300	2
CR360MA303AA			30	3
CR360MA403AA			60	3
CR360MA503AA			100	3
CR360MA603AA			200	3
CR360MA703AA			300	3
CR360MA304AA			30	4
CR360MA404AA			60	4
CR360MA504AA			100	4
CR360MA604AA			200	4
CR360MA704AA			300	4
CR360MA312AA	...		30	2
CR360MA412AA	...		60	2
CR360MA512AA	...		100	2
CR360MA612AA	...		200	2
CR360MA712AA	...		300	2
CR360MA313AA	...		30	3
CR360MA413AA	...		60	3
CR360MA513AA	...		100	3
CR360MA613AA	...		200	3
CR360MA713AA	...		300	3
CR360MA314AA	...		30	4
CR360MA414AA	...		60	4
CR360MA514AA	...		100	4
CR360MA614AA	...		200	4
CR360MA714AA	...		300	4



*Select coil suffix number in accordance with line-to-line voltage.

GE ED&C-CONTROL COMPONENTS

Manual Motor Starters Series CR1062 - Surface Mounted



Open Type



Type 1 Surface Mtg.



Type 1 Flush Mtg.



Types 4 & 4X

For controlling small AC motors. Provide overload protection but cannot be used where undervoltage protection is required or for remote or automatic operation. 10 hp maximum. 600V. 25-60 Hz. Front-connected, clamp-type terminals. Trip-free overload mechanism. Overload relay heaters not included.
Single-Phase. Require one heater.
Three-Phase. Require three heaters.
Non-Reversing. Knockout in enclosure cover for installation of indicating light.

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Reversing. Require six heaters.

Two-Speed. Require six heaters.

NEMA Type 1. General Purpose

NEMA Type 4-4X. Watertight, corrosion-resistant and stainless steel.

Open Type. Enclosure types 1, 4-4X and 3/12/13 may be replaced by open type CR1062RL and CR1062SL starters without any field modification of enclosure.

Horsepower Ratings

NEMA Size	Phase	60 Hz 115V	60 Hz 200-208V	60 Hz 230-240V	60 Hz 227V	60 Hz 460-600V	50 Hz 380V
M-0	1	1	...	2	2	...	...
M-1	1	2	...	3	2	...	...
M-1P	1	3	...	5	2	...	...
M-0	3	...	3	...	...	5	5
M-1	3	...	7½	7½	...	10	10

Across-the-Line Forms

No.	UPC	NEMA Size	Phase	Oper. Type
Non-Reversing - NEMA Type 1				
CR1062R6A		M-0	1	Pushbutton
CR1062S6A		M-1	1	Pushbutton
CR1062S27A		M-1P	1	Pushbutton
CR1062R2B		M-0	3	Pushbutton
CR1062S2B		M-1	3	Pushbutton
CR1062R5A		M-0	1	Toggle
CR1062S5A		M-1	1	Toggle
CR1062S23A		M-1P	1	Toggle
CR1062R1B		M-0	3	Toggle
CR1062S1B		M-1	3	Toggle
Non-Reversing - NEMA Type 4-4X				
CR1062R29C		M-0	1	Toggle
CR1062S29C		M-1	1	Toggle
CR1062S23B		M-1P	1	Toggle
CR1062R29B		M-0	3	Toggle
CR1062S29J		M-1	3	Toggle
Non-Reversing - NEMA Type 3/12/13				
CR1062R30B		M-0	1	Toggle
CR1062S30B		M-1	1	Toggle
CR1062S30C		M-1P	1	Toggle
CR1062R31B		M-0	3	Toggle
CR1062S31B		M-1	3	Toggle
Non-Reversing - Open Type				
CR1062R12A		M-0	1	Pushbutton
CR1062S12A		M-1	1	Pushbutton
CR1062S28A		M-1P	1	Pushbutton
CR1062R8B		M-0	3	Pushbutton
CR1062S8B		M-1	3	Pushbutton
CR1062R13A		M-0	1	Toggle
CR1062S13A		M-1	1	Toggle
CR1062S22A		M-1P	1	Toggle
CR1062R9B		M-0	3	Toggle
CR1062S9B		M-1	3	Toggle
Reversing - NEMA Type 1				
CR1062R52B		M-0	3	Pushbutton
CR1062S52B		M-1	3	Pushbutton
CR1062R53C		M-0	3	Toggle
CR1062S53B		M-1	3	Toggle
Reversing - Open Type				
CR1062R50B		M-0	3	Pushbutton
CR1062S50B		M-1	3	Pushbutton
CR1062R51B		M-0	3	Toggle
CR1062S51A2		M-1	3	Toggle
2-Speed - Two-Winding Motors - NEMA Type 1				
CR1062R56B		M-0	3	Pushbutton
CR1062S56B		M-1	3	Pushbutton
CR1062R57D		M-0	3	Toggle
CR1062S57B		M-1	3	Toggle
2-Speed - Two-Winding Motors - Open Type				
CR1062R54B		M-0	3	Pushbutton
CR1062S54B		M-1	3	Pushbutton
CR1062R55B		M-0	3	Toggle
CR1062S55B		M-1	3	Toggle

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Products shown here are for reference only. They can be sold by the locally authorized distributor.

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No.	UPC	NEMA Size	Phase	Oper. Type
2-Speed - Single-Winding Motors - NEMA Type 1				
CR1062R60B		M-0	3	Pushbutton
CR1062S60B		M-1	3	Pushbutton
CR1062R61B		M-0	3	Toggle
CR1062S61B		M-1	3	Toggle
2-Speed - Single-Winding Motors - Open Type				
CR1062R58B		M-0	3	Pushbutton
CR1062S58B		M-1	3	Pushbutton
CR1062R59B		M-0	3	Toggle
CR1062S59C		M-1	3	Toggle

Indicating Light Kits - NEMA Type 1 Enclosures

No.	Rating Volts
CR1062X27D	120
CR1062X27A	277
CR1062X27E	200-240
CR1062X27B	440-480

Accessory Heaters

For CR1062R & CR1062S Starters

No.	Max. Motor Full-Load Amps	115-230V Max. Fuse Rating	460-600V Max. Fuse Rating
-----	---------------------------	---------------------------	---------------------------

NEMA Sizes M-0 & M-1 - 2 Poles, 1 Overload

CR123R036A	.34	60A
CT123R039A	.37	60A
CR123R043A	.42	60A
CR123R048A	.47	60A
CR123R054A	.52	60A
CR123R060A	.57	60A
CR123R066A	.63	60A
CR123R074A	.69	60A
CR123R078A	.77	60A
CR123R087A	.87	60A
CR123R097A	.97	60A
CR123R109A	1.06	60A
CR123R118A	1.18	60A
CR123R131A	1.33	60A
CR123R148A	1.47	60A
CR123R163A	1.66	60A
CR123R184A	1.78	60A
CR123R196A	2.00	60A
CR123R220A	2.18	60A
CR123R239A	2.45	60A
CR123R268A	2.76	60A
CR123R301A	3.00	60A
CR123R326A	3.27	60A
CR123R356A	3.49	100A
CR123R379A	3.86	100A
CR123R419A	4.30	100A
CR123R466A	4.88	100A
CR123R526A	5.49	100A
CR123R592A	5.85	100A
CR123R630A	6.45	100A
CR123R695A	7.22	100A
CR123R778A	8.05	100A
CR123R867A	8.88	100A
CR123R955A	9.66	100A
CR123C104B	10.50	100A
CR123C113B	11.60	100A
CR123C125B	12.70	100A
CR123C137B	13.20	100A
CR123C151B	15.10	100A
CR123C163B	16.60	100A
CR123C180B	17.60	100A

NEMA Size M-0 & M-1 - 3 Poles, 3 Overloads

CR123R036A	.29	60A	30A
CR123R039A	.31	60A	30A
CR123R043A	.34	60A	30A
CR123R048A	.40	60A	30A
CR123R054A	.44	60A	30A
CR123R060A	.48	60A	30A
CR123R066A	.52	60A	30A
CR123R071A	.58	60A	30A
CR123R078A	.64	60A	30A
CR123R087A	.74	60A	30A
CR123R097A	.81	60A	30A
CR123R109A	.89	60A	30A
CR123R118A	.98	60A	30A
CR123R131A	1.12	60A	30A
CR123R148A	1.22	60A	30A
CR123R163A	1.38	60A	30A



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No.	Max. Motor Full-Load Amps	115-230V Max. Fuse Rating	460-600V Max. Fuse Rating
CR123R184A	1.48	60A	30A
CR123R196A	1.66	60A	30A
CR123R220A	1.80	60A	30A
CR123R239A	2.03	60A	30A
CR123R268A	2.28	60A	30A
CR123R301A	2.47	60A	30A
CR123R326A	2.71	60A	30A
CR123R356A	2.87	60A	30A
CR123R379A	3.18	60A	30A
CR123R419A	3.54	100A	30A
CR123R466A	3.89	100A	30A
CR123R526A	4.51	100A	30A
CR123R592A	4.90	100A	30A
CR123R630A	5.30	100A	30A
CR123R695A	5.94	100A	30A
CR123R778A	6.70	100A	30A
CR123R867A	7.36	100A	30A
CR123R955A	7.98	100A	30A
CR123C104B	8.59	100A	30A
CR123C113B	9.46	100A	30A
CR123C125B	10.30	100A	30A
CR123C137B	11.70	100A	30A
CR123C151B	12.60	100A	30A
CR123C163B	13.80	100A	30A
CR123C180B	15.40	100A	30A
CR123C198B	16.60	100A	30A
CR123C214B	17.40	100A	30A

NEMA Size M-1P - 2 Poles, 1 Overload

CR123C778A	8.56
CR123C867A	9.43
CR123C955A	10.30
CR123C104B	11.00
CR123C113B	12.10
CR123C125B	13.20
CR123C137B	15.00
CR123C151B	16.20
CR123C163B	17.70
CR123C180B	19.70
CR123C198B	21.20
CR123C214B	22.20
CR123C228B	24.90
CR123C250B	26.40
CR123C273B	30.00
CR123C303B	32.70
CR123C330B	34.00

GE ED&C-CONTROL COMPONENTS

Magnetic Motor Starters
Non-Reversing



Full voltage, 600V max. with encapsulated coil and 3-leg overload relay protects against overloads in all phases. Meet specifications of most major manufacturers. Contact tips are weld-resistant, silver cadmium oxide. Class 20 overload protection. Visual trip indicator with manual reset; ±10% trip adjustment. Max. voltage listed is at 60 Hz.

When ordering, add suffix LAA to No. for one NO isolated control on overload relay.

NEMA Size Information

NEMA Size	Desc.	Cont. Rating Amps	No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
00	Fine Silver Contact Tips	9	CR306D123	.....	2	200-208	10	...
0	Fine Silver Contact Tips	18	CR306D103	.....	2	230-240	15	...
1	...	27	CR306D104	.....	2	460-480	25	...
1P	...	36	CR306D105	.....	2	575-600	25	...
2	...	45	CR306E102†	.....	3	115-120	...	...
3	...	90	CR306E123	.....	3	200-208	25	...
4	...	135	CR306E103	.....	3	230-240	30	...
5	...	270	CR306E104	.....	3	460-480	50	...
6	...	540	CR306E105	.....	3	575-600	50	...
7	Wall-Mounted (Available in Floor Mounted)	810	CR306F102†	.....	4	115-120	...	...
8	Floor Mounted	1215	CR306F123	.....	4	200-208	40	...
9	Floor Mounted	2250	CR306F103	.....	4	230-240	50	...
			CR306F104	.....	4	460-480	100	...
			CR306F105	.....	4	575-600	100	...
			CR306G102†	.....	5	115-120	...	...
			CR306G123	.....	5	200-208	75	...
			CR306G103	.....	5	230-240	100	...
			CR306G104	.....	5	460-480	200	...
			CR306G105	.....	5	575-600	200	...
			CR306HH102†	.....	6	115-120	...	...
			CR306HH123	.....	6	200-208	150	...
			CR306HH103	.....	6	230-240	200	...
			CR306HH104	.....	6	460-480	400	...
			CR306HH105	.....	6	550-600	400	...
			CR386J102AA1A†	.....	7	115-120	...	...
			CR386J103AA1A	.....	7	220-240	300	230
			CR386J104AA1A	.....	7	440-480	600	460
			CR386J105AA1A	.....	7	550-600	600	575
			CR386K102AA1A†	.....	8	115-120	...	...
			CR386K103AA1A	.....	8	220-240	450	230
			CR386K104AA1A	.....	8	440-480	900	460
			CR386K105AA1A	.....	8	550-600	900	575
			CR386L102AA1A†	.....	9	115-120	...	...
			CR386L103AA1A	.....	9	220-240	800	230
			CR386L104AA1A	.....	9	440-480	1600	460
			CR386L105AA1A	.....	9	550-600	1600	575

3 Phase Starters

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
NEMA Type 1 - General Purpose					
CR306A102†	00	115-120	...	...
CR306A123	00	200-208	1½	...
CR306A103	00	230-240	1½	...
CR306A104	00	460-480	2	...
CR306A105	00	575-600	2	...
CR306B102†	0	115-120	...	...
CR306B123	0	200-208	3	...
CR306B103	0	230-240	3	...
CR306B104	0	460-480	5	...
CR306B105	0	575-600	5	...
CR306C102†	1	115-120	...	...
CR306C123	1	200-208	7½	...
CR306C103	1	230-240	7½	...
CR306C104	1	460-480	10	...
CR306C105	1	575-600	10	...
CR306D102†	2	115-120

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NEMA Type 4 - Watertight - Dusstight - Stainless Steel

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306B40E2T	0	115-120	3	...
CR306B42A	0	200-208	3	...
CR306B41G	0	230-240	3	...
CR306B414	0	460-480	5	...
CR306B40E	0	575-600	5	...
CR306B40ZT	0	115-120	5	...
CR306B42Z	1	200-208	7 1/2	...
CR306B40G	1	230-240	7 1/2	...
CR306B40A	1	460-480	10	...
CR306B40B	1	575-600	10	...
CR306B40C	2	115-120	15	...
CR306B40D	2	200-208	15	...
CR306B40E	2	230-240	30	...
CR306B40F	3	200-208	25	...
CR306B40G	3	115-120	25	...
CR306B40H	3	230-240	30	...
CR306B40I	3	460-480	50	...
CR306B40J	3	575-600	50	...
CR306B40K	4	115-120	50	...
CR306B40L	4	200-208	40	...
CR306B40M	4	230-240	50	...
CR306B40N	4	460-480	100	...
CR306B40O	4	575-600	100	...
CR306B40P	5	115-120	7 1/2	...
CR306B40Q	5	200-208	7 1/2	...
CR306B40R	5	230-240	100	...
CR306B40S	5	460-480	200	...
CR306B40T	5	575-600	200	...

NEMA Type 4X - Watertight - Dusstight - Corrosion-Resistant

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306H27TAA	0	115-120	3	...
CR306H27TAA	0	200-208	3	...
CR306H27TAA	0	230-240	3	...
CR306H27TAA	0	460-480	5	...
CR306H27TAA	0	575-600	5	...
CR306H27TAA	1	115-120	7 1/2	...
CR306H27TAA	1	200-208	7 1/2	...
CR306H27TAA	1	230-240	10	...
CR306H27TAA	1	460-480	10	...
CR306H27TAA	1	575-600	10	...
CR306H27TAA	2	115-120	15	...
CR306H27TAA	2	200-208	15	...
CR306H27TAA	2	230-240	25	...
CR306H27TAA	2	460-480	25	...
CR306H27TAA	2	575-600	25	...
CR306H27TAA	3	115-120	25	...
CR306H27TAA	3	200-208	30	...
CR306H27TAA	3	230-240	30	...
CR306H27TAA	3	460-480	50	...
CR306H27TAA	3	575-600	50	...
CR306H27TAA	4	115-120	40	...
CR306H27TAA	4	200-208	50	...
CR306H27TAA	4	460-480	100	...
CR306H27TAA	4	575-600	100	...

NEMA Type 12 - Dusstight - Driptight - Industrial Use

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306E22Z	115-120	200-208	10	...
CR306E22Z	115-120	230-240	10	...
CR306E22Z	115-120	200-208	15	...
CR306E22Z	115-120	230-240	15	...
CR306E22Z	115-120	460-480	25	...
CR306E22Z	115-120	575-600	25	...
CR306E22Z	115-120	200-208	30	...
CR306E22Z	115-120	230-240	30	...
CR306E22Z	115-120	460-480	50	...
CR306E22Z	115-120	575-600	50	...
CR306E22Z	115-120	200-208	40	...
CR306E22Z	115-120	230-240	40	...
CR306E22Z	115-120	460-480	100	...
CR306E22Z	115-120	575-600	100	...
CR306E22Z	115-120	200-208	75	...
CR306E22Z	115-120	230-240	75	...
CR306E22Z	115-120	460-480	100	...
CR306E22Z	115-120	575-600	100	...

NEMA Type 3R - Rainproof - Steer-resistant

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306B60E2T	1	460-480	200	...
CR306B60E2T	1	575-600	200	...
CR306B60E2T	1	115-120	150	...
CR306B60E2T	1	200-208	200	...
CR306B60E2T	1	230-240	200	...
CR306B60E2T	1	460-480	300	...
CR306B60E2T	1	575-600	300	...
CR306B60E2T	2	115-120	400	...
CR306B60E2T	2	200-208	400	...
CR306B60E2T	2	230-240	400	...
CR306B60E2T	2	460-480	600	...
CR306B60E2T	2	575-600	600	...
CR306B60E2T	3	115-120	600	...
CR306B60E2T	3	200-208	800	...
CR306B60E2T	3	230-240	800	...
CR306B60E2T	3	460-480	1600	...
CR306B60E2T	3	575-600	1600	...
CR306B60E2T	3	115-120	230	...
CR306B60E2T	3	200-208	230	...
CR306B60E2T	3	230-240	230	...
CR306B60E2T	3	460-480	460	...
CR306B60E2T	3	575-600	460	...
CR306B60E2T	3	115-120	575	...
CR306B60E2T	3	200-208	575	...
CR306B60E2T	3	230-240	575	...
CR306B60E2T	3	460-480	1150	...
CR306B60E2T	3	575-600	1150	...

NEMA Type 3R - Rainproof - Steer-resistant

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306E00E2T	1	460-480	200	...
CR306E00E2T	1	575-600	200	...
CR306E00E2T	1	115-120	150	...
CR306E00E2T	1	200-208	200	...
CR306E00E2T	1	230-240	200	...
CR306E00E2T	1	460-480	300	...
CR306E00E2T	1	575-600	300	...
CR306E00E2T	2	115-120	400	...
CR306E00E2T	2	200-208	400	...
CR306E00E2T	2	230-240	400	...
CR306E00E2T	2	460-480	600	...
CR306E00E2T	2	575-600	600	...
CR306E00E2T	3	115-120	600	...
CR306E00E2T	3	200-208	800	...
CR306E00E2T	3	230-240	800	...
CR306E00E2T	3	460-480	1600	...
CR306E00E2T	3	575-600	1600	...
CR306E00E2T	3	115-120	230	...
CR306E00E2T	3	200-208	230	...
CR306E00E2T	3	230-240	230	...
CR306E00E2T	3	460-480	460	...
CR306E00E2T	3	575-600	460	...
CR306E00E2T	3	115-120	575	...
CR306E00E2T	3	200-208	575	...
CR306E00E2T	3	230-240	575	...
CR306E00E2T	3	460-480	1150	...
CR306E00E2T	3	575-600	1150	...

Single Phase Starters

NEMA Type 1 - General Purpose

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306H102	00	115-120	1/2	...
CR306H102	00	230-240	1	...
CR306H102	0	115-120	1	...
CR306H102	0	230-240	2	...
CR306H102	0	460-480	2	...
CR306H102	1	115-120	3	...
CR306H102	1	230-240	3	...
CR306H102	1	460-480	5	...
CR306H102	1	575-600	5	...
CR306H102	2	115-120	7 1/2	...
CR306H102	2	230-240	7 1/2	...
CR306H102	2	460-480	15	...
CR306H102	2	575-600	15	...
CR306H102	3	115-120	25	...
CR306H102	3	230-240	25	...
CR306H102	3	460-480	50	...
CR306H102	3	575-600	50	...

NEMA Type 4 - Watertight - Dusstight - Stainless Steel

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306L40Z	0	115-120	1	...
CR306L40Z	0	230-240	2	...
CR306L40Z	1	115-120	2	...
CR306L40Z	1	230-240	3	...
CR306L40Z	1P	115-120	3	...
CR306L40Z	1P	230-240	5	...
CR306L40Z	2	115-120	3	...
CR306L40Z	2	230-240	3	...
CR306L40Z	3	115-120	7 1/2	...
CR306L40Z	3	230-240	7 1/2	...
CR306L40Z	3	460-480	15	...
CR306L40Z	3	575-600	15	...
CR306L40Z	3	115-120	25	...
CR306L40Z	3	230-240	25	...
CR306L40Z	3	460-480	50	...
CR306L40Z	3	575-600	50	...

NEMA Type 4X - Watertight - Dusstight - Corrosion-Resistant

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306L40ZTAA	0	115-120	1	...
CR306L40ZTAA	0	230-240	2	...
CR306L40ZTAA	1	115-120	2	...
CR306L40ZTAA	1	230-240	3	...
CR306L40ZTAA	1	460-480	5	...
CR306L40ZTAA	1	575-600	5	...
CR306L40ZTAA	2	115-120	7 1/2	...
CR306L40ZTAA	2	230-240	7 1/2	...
CR306L40ZTAA	2	460-480	15	...
CR306L40ZTAA	2	575-600	15	...
CR306L40ZTAA	3	115-120	25	...
CR306L40ZTAA	3	230-240	25	...
CR306L40ZTAA	3	460-480	50	...
CR306L40ZTAA	3	575-600	50	...

NEMA Type 12 - Dusstight - Driptight - Industrial Use

No.	UPC	NEMA Size	Max. Volts	Max. hp	Max. CCV*
CR306L20Z	0	115-120	1	...
CR306L20Z	0	230-240	2	...
CR306L20Z	1	115-120	2	...
CR306L20Z	1	230-240	3	...
CR306L20Z	1P	115-120	3	...



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No.	UPC	NEMA Size	Max. Volts	Max. hp
CR306K203BKA	1P	230-240	5
CR306L202	2	115-120	3
CR306L203	2	230-240	7½
CR306M202	3	115-120	7½
CR306M203	3	230-240	15
CR306M204	3	460-480	25
CR306M205	3	575-600	25

NEMA Type 3R - Rainproof - Sleet-Resistant

CR306J602	.....	0	115-120	1
CR306J603	.....	0	230-240	2
CR306K602	.....	1	115-120	2
CR306K603	.....	1	230-240	3
CR306K602BKA	.....	1P	115-120	3
CR306K603BKA	.....	1P	230-240	5
CR306L602	.....	2	115-120	3
CR306L603	.....	2	230-240	7½
CR306M602	.....	3	115-120	7½
CR306M603	.....	3	230-240	15
CR306M604	.....	3	460-480	25
CR306M605	.....	3	575-600	25

Open Type

CR306H002	.....	00	115-120	¼
CR306H003	.....	00	230-240	1
CR306J002	.....	0	115-120	1
CR306J003	.....	0	230-240	2
CR306K002	.....	1	115-120	2
CR306K003	.....	1	230-240	3
CR306K002BMA	.....	1P	115-120	3
CR306K003BMA	.....	1P	230-240	5
CR306L002	.....	2	115-120	3
CR306L003	.....	2	230-240	7½
CR306M002	.....	3	115-120	7½
CR306M003	.....	3	230-240	15
CR306M004	.....	3	460-480	25
CR306M005	.....	3	575-600	25

GE ED&C-CONTROL COMPONENTS

Mechanically Held Lighting Contactors
Series CR360ML2



Open



NEMA 1 Enclosed

Switch 20A tungsten or fuorescent/mercury arc ballasts and 30A general-use loads. Coil energized for short duration, allowing latch to hold power contacts closed, preventing AC hum and insuring quiet operation. Mechanically-held operation allows contractor to remain "on" during power outage. Controlled by pushbuttons, selector switches or other pilot devices. Compact, lightweight 2-, 3-, 4-, 6-, 8-, 10- and 12-pole normally open forms. Changeable coils accommodate different voltage requirements. High fault current protection. Optional solid-state modules available for two or three-wire control and on-off control. Two auxiliary SPDT contacts and field-installed modifications available. UL Listed.

Mechanically Held Lighting Contactors

No.	UPC	No. Poles NO*	Coil 50/60 Hz Volts
CR360ML202AA	2	110-120
CR360ML202KA	2	265-277
CR360ML203AA	3	110-120
CR360ML203KA	3	265-277
CR360ML204AA	4	110-120
CR360ML204KA	4	265-277
CR360ML206AA	6	110-120
CR360ML206KA	6	265-277
CR360ML208AA	8	110-120
CR360ML208KA	8	265-277
CR360ML210AA	10	110-120
CR360ML210KA	10	265-277
CR360ML212AA	12	110-120
CR360ML212KA	12	265-277

NEMA Type 1 Enclosed

CR360ML202AG	.....	2	110-120
CR360ML202KG	.....	2	265-277
CR360ML203AG	.....	3	110-120
CR360ML203KG	.....	3	265-277
CR360ML204AG	.....	4	110-120
CR360ML204KG	.....	4	265-277
CR360ML206AG	.....	6	110-120
CR360ML206KG	.....	6	265-277
CR360ML208AG	.....	8	110-120
CR360ML208KG	.....	8	265-277
CR360ML210AG	.....	10	110-120
CR360ML210KG	.....	10	265-277
CR360ML212AG	.....	12	110-120
CR360ML212KG	.....	12	265-277

*Other combinations of NO and NC available on request.

GE ED&C-CONTROL COMPONENTS
Contactors

3-Pole - AC Controlled - C-2000™



5-75 hp at 460V AC.

No.	UPC	460V AC-3 Max. Amps	hp Ratings							Aux. Contacts	60 Hz AC Coil Volts	50 Hz AC Coil Volts
			1Ø		3Ø			380/415V				
			115V	230V	200V	230V	460V		575V			
Non-Reversing												
CL00A310TJ	10.0	.50	1.5	3.0	3.0	5.0	7.5	4.0	1 NO	120	110
CL01A310TJ	13.8	.75	2.0	3.0	3.0	7.5	10.0	5.5	1 NO	120	110
CL02A310TJ	17.5	1.00	3.0	5.0	5.0	10.0	15.0	7.5	1 NO	120	110
CL25A310TJ*	22.0	1.50	3.0	5.0	7.5	15.0	15.0	11.0	1 NO	120	110
CL04A310MJ	32.0	2.00	5.0	10.0	10.0	20.0	25.0	16.0	1 NO	120	110
CL45A310MJ*	34.0	3.00	5.0	10.0	10.0	25.0	25.0	18.5	1 NO	120	110

*Front mounted auxiliary contact block supplied (unassembled). Side auxiliary (assembled) available.

Continued on next page

Products shown here are for reference only. They can be sold by the locally authorized distributor

GE ED&C-CONTROL COMPONENTS

Overload Relays

C-2000™ - Class 10 Fixed Heater



For use with contactors with prefixes CL00, CL01, CL02, CL25, CL04, and CL45. Direct mount.

No.	UPC	Min. Rating Amps	Max. Rating Amps
Manual/Automatic Reset			
RTA1B16	.25
RTA1C25	.40
RTA1D40	.63
RTA1E63	.90
RTA1F80	1.10
RTA1G	1.00	1.50
RTA1H	1.30	1.90
RTA1J	1.90	2.70
RTA1K	2.50	4.00
RTA1L	4.00	6.30
RTA1M	5.50	7.50
RTA1N	7.00	10.00
RTA1P	10.00	13.00
RTA1R	12.50	15.00
RTA1S	14.50	17.50
RTA1T	17.50	22.00
RTA1U	21.00	26.00
RTA1V	25.00	32.00
RTA1W	30.00	40.00

GE ED&C-CONTROL COMPONENTS

Pneumatic Timers

C-2000™

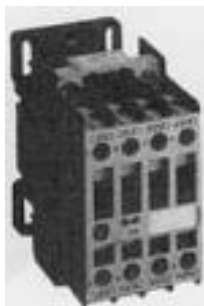


For use with 5-75 HP, CL contactors. Adjustable time-delayed auxiliary contacts. Equipped with two time-delayed contacts, 1 NO and 1 NC, electrically separated. Knurled knob with timing guide marks sets scale over 350° rotation. Contact rating: A600, Q600.

No.	UPC	Time Delay On	Time Delay Off
BTLF30C	1-30	1-60
BTLF60C	1-30	1-60
BTLF30D	1-30	1-60
BTLF60D	1-30	1-60

GE ED&C-CONTROL COMPONENTS

Control Relays



A600 P600 contact rating.

No.	UPC	Contact Arrang.	AC Volts 60 Hz	AC Volts 50 Hz	DC Volts
AC Operated					
RL4RA040T1	4 NO	24	24	...
RL4RA040TF	4 NO	48	42	...
RL4RA040TJ	4 NO	120	110	...
RL4RA040TL	4 NO	208	...	...
RL4RA040TN	4 NO	277	220/230	...
RL4RA040TS	4 NO	240	...	...
RL4RA040TU	4 NO	480	380/400	...
RL4RA040TW	4 NO	...	415	...
RL4RA040TY	4 NO	600	500	...
RL4RA031T1	3 NO-1 NC	24	24	...
RL4RA031TF	3 NO-1 NC	48	42	...
RL4RA031TJ	3 NO-1 NC	120	110	...
RL4RA031TL	3 NO-1 NC	208	...	...
RL4RA031TN	3 NO-1 NC	277	220/230	...
RL4RA031TS	3 NO-1 NC	240	...	...
RL4RA031TU	3 NO-1 NC	480	380/400	...
RL4RA031TW	3 NO-1 NC	...	415	...
RL4RA031TY	3 NO-1 NC	600	500	...
RL4RA022T1	2 NO-2 NC	24	24	...
RL4RA022TF	2 NO-2 NC	48	42	...
RL4RA022TJ	2 NO-2 NC	120	110	...
RL4RA022TL	2 NO-2 NC	208	...	...
RL4RA022TN	2 NO-2 NC	277	220/230	...
RL4RA022TS	2 NO-2 NC	240	...	...
RL4RA022TU	2 NO-2 NC	480	380/400	...
RL4RA022TW	2 NO-2 NC	...	415	...
RL4RA022TY	2 NO-2 NC	600	500	...
RL4RA004T1	4 NC	24	24	...
RL4RA004TF	4 NC	48	42	...
RL4RA004TJ	4 NC	120	110	...
RL4RA004TL	4 NC	208	...	...
RL4RA004TN	4 NC	277	220/230	...
RL4RA004TS	4 NC	240	...	...
RL4RA004TU	4 NC	480	380/400	...
RL4RA004TW	4 NC	...	415	...
RL4RA004TY	4 NC	600	500	...
DC Operated					
RL4RD040TB	4 NO	...	...	12
RL4RD040TD	4 NO	...	...	24
RL4RD040TG	4 NO	...	...	48
RL4RD040TK	4 NO	...	...	125
RL4RD040TT	4 NO	...	...	250
RL4RD031TB	3 NO-1 NC	...	...	12
RL4RD031TD	3 NO-1 NC	...	...	24
RL4RD031TG	3 NO-1 NC	...	...	48
RL4RD031TK	3 NO-1 NC	...	...	125
RL4RD031TT	3 NO-1 NC	...	...	250
RL4RD022TB	2 NO-2 NC	...	...	12
RL4RD022TD	2 NO-2 NC	...	...	24
RL4RD022TG	2 NO-2 NC	...	...	48
RL4RD022TK	2 NO-2 NC	...	...	125
RL4RD022TT	2 NO-2 NC	...	...	250
RL4RD004TB	4 NC	...	...	12
RL4RD004TD	4 NO	...	...	24
RL4RD004TG	4 NO	...	...	48
RL4RD004TK	4 NC	...	...	125
RL4RD004TT	4 NC	...	...	250

GE ED&C-CONTROL COMPONENTS

Enclosures

NEMA 1 - C-2000™



Suitable for AC controlled contactors, starters and reversers and wye-delta starters. Not sized for front mounted accessories. Include externally operated reset button kit to be field installed as required.

No.	UPC	hp	Prefix
For Contactor			
No CPT Lift-Off Cover - Contactors & Starters			
CLXE1A	5-25	(CL00, CL01, CL02, CL25, CL04, CL45)
CLXE1B	30-50	(CL06, CL07, CL08)
CLXE1C	60-75	(CL09, CL10)
CPT Lift-Off Cover - Contactors & Starters			
CLXE1D	5-25	(CL00, CL01, CL02, CL25, CL04, CL45)
CLXE1E	30-50	(CL06, CL07, CL08)
CLXE1F	60-75	(CL09, CL10)
With/Without CPT Hinged Cover - Wye-Delta Starters			
CLXE1L	30-50	(CL06, CL07, CL08)
		60-75	(CL09, CL10)
With/Without CPT Hinged Cover - Reversing Contactors & Starters, Wye-Delta Starters			
CLXE1G	5-25	(CL00, CL01, CL02, CL25, CL04, CL45)

GE ED&C-CONTROL COMPONENTS

Pilot Device Modification Kits For Magnetic Contactors & Starters



Selector Switch Type START-STOP Push Button Type Complete with necessary components, hardware and written instructions for easy field installation on Type 1 enclosed contactors and starter Nos. CR305, 306, 307, 308, and 387.

No.	UPC	NEMA Size
Momentary Contact START-STOP Pushbutton Kits		
CR305X120N	00, 0, 1
CR305X220N	2
CR305X320B	3, 4
CR305X520B	5
Hand-Off-Auto Selector Switch Kits		
CR305X130N	00, 0, 1
CR305X230N	2
CR305X330B	3, 4
CR305X530B	5
Off-On Selector Switch Kits		
CR305X130P	00, 0, 1
CR305X230D	2
CR305X330D	3, 4
CR305X530D	5

GE ED&C-CONTROL COMPONENTS

Pushbutton Stations
Standard Duty - Surface Mounted



NEMA Type 1



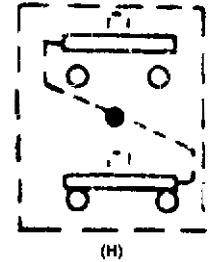
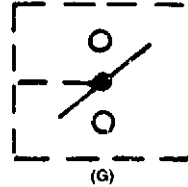
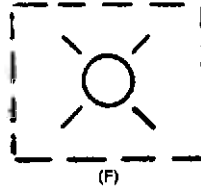
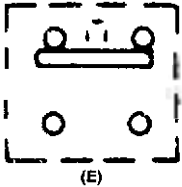
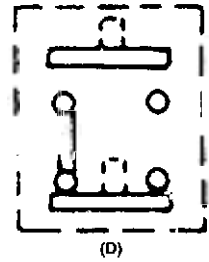
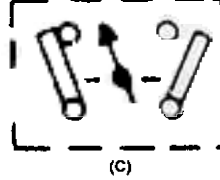
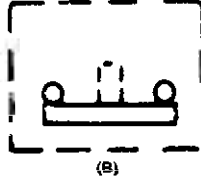
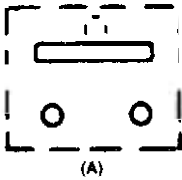
NEMA Type 4



NEMA Type 4X



NEMA Type 7



For all normal Start/Stop/Reverse operations with AC magnetic starters. Large concave easy-to-operate buttons. Silver contacts. Springs behind buttons reduce chances of contact freezing or accidental closure from vibration. Insulating strip between terminals and back of enclosure for electrical shock protection. Contact ratings 10A carry, 600V AC/DC maximum, 30A make and 3A break at 110V to 125V AC.

NEMA 1. General purpose.

NEMA 4. Water and dusttight.

NEMA 4X. Water, dusttight, and corrosion resistant.

NEMA 7 & 9. For hazardous locations. Class I, Groups C and D, Class II, Groups E, F, and G.

No.	UPC	Desc.*	Nameplate Marking	Conduit Size In.
NEMA 1 - One Unit - Momentary†				
CR2943NA101E		Black (A)	Start	1/2-3/4 KOs 3/4-1 KOs
CR2943AA101B		Black (A)	(Specify)	1/2-3/4 KOs 3/4-1 KOs
CR2943NA101F		Red (B)	Stop	1/2-3/4 KOs 3/4-1 KOs
CR2943AA101A		Red (B)	(Specify)	1/2-3/4 KOs 3/4-1 KOs
CR2943NA101G		Red (B), Locking Means	Stop	1/2-3/4 KOs 3/4-1 KOs
CR2943AA101E		Red (B), Locking Means	(Specify)	1/2-3/4 KOs 3/4-1 KOs
CR2943AA101S‡		2 Posit. Sel. Sw. (C) SPDT	(Specify)	1/2-3/4 KOs 3/4-1 KOs
CR2943AA101M§		2 Posit. Sel. Sw. (C) SPDT	(Specify)	1/2-3/4 KOs 3/4-1 KOs
NEMA 1 - Two Unit - Momentary				
CR2943NA102A		Black, Red (D)	Start-Stop	1/2-3/4 KOs 3/4-1 KOs
CR2943NA102C		Black Red (D), Locking Bar	Start-Stop	1/2-3/4 KOs 3/4-1 KOs
CR2943AA102H		Black (A), Red (B)	(Specify)	1/2-3/4 KOs 3/4-1 KOs

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No.	UPC	Desc.*	Nameplate Marking	Conduit Size In.
CR2943AA102AF		Black (A), Red (B), Locking Means	(Specify)	1/2-3/4 KOs
CR2943NA102B		Black (A), Black (A)	Raise-Lower	3/4-1 KOs
CR2943NA102D		Black (A), Black (A)	Forward-Reverse	1/2-3/4 KOs
CR2943NA102E		Black (A), Black (A)	Up-Down	3/4-1 KOs
CR2943NA102G		Black (A), Black (A)	Open-Close	1/2-3/4 KOs
CR2943AA102A		Black (A), Black (A)	(Specify)	3/4-1 KOs
NEMA 1 - Two Unit - Maintained				
CR2943NA102W		Black, Red (H)	Start-Stop	1/2-3/4 KOs
CR2943NA102X		Black, Black (H)	On-Off	3/4-1 KOs
NEMA 1 - Three Unit - Momentary				
CR2943NA103F		Black (E), Black (E), Red (B)	Up-Down-Stop	1/2-3/4 KOs
CR2943NA103G		Black (E), Black (E), Red (B)	Raise-Lower-Stop	3/4-1 KOs
CR2943NA103H		Black (E), Black (E), Red (B)	Fast-Slow-Stop	1/2-3/4 KOs
CR2943NA103J		Black (E), Black (E), Red (B)	Forward-Reverse-Stop	3/4-1 KOs
CR2943NA103K		Black (E), Black (E), Red (B)	Open-Close-Stop	1/2-3/4 KOs
CR2943NA103L		Black (E), Black (E), Red (B)	Start-Jog-Stop	3/4-1 KOs
CR2943AA103AA		Black (E), Black (E), Red (B)	(Specify)	1/2-3/4 KOs
CR2943AA103C		Black (E), Black (E), Red (B)	(Specify)	3/4-1 KOs
CR2943NA103V		Black (E), Black (E), Red (B)	Start-Stop	1/2-3/4 KOs
NEMA 1 - Three Unit - Maintained				
CR2943NA103Y		115/230V Light (F), Black, Red (H)	Start-Stop	1/2-3/4 KOs
NEMA 4 - One Unit - Momentary				
CR2943NJ201B		Black (A)	Start	Pipe Tap, Bot. 1/2
CR2943AJ201B		Black (A)	(Specify)	Pipe Tap, Bot. 1/2
CR2943NJ201A•		Red (B), Locking Means	Stop	Pipe Tap, Bot. 1/2
CR2943AJ201A•		Red (B), Locking Means	(Specify)	Pipe Tap, Bot. 1/2
NEMA 4 - Two Unit - Momentary				
CR2943NJ202A•		Black (A), Red (B), Locking Means	Start-Stop	Pipe Tap, Bot. 1/2
CR2943AJ202A•		Black (A), Red (B), Locking Means	(Specify)	Pipe Tap, Bot. 1/2
CR2943NJ202F		Black (A), Black (A)	Raise-Lower	Pipe Tap, Bot. 1/2
CR2943NJ202E		Black (A), Black (A)	Forward-Reverse	Pipe Tap, Bot. 1/2
CR2943NJ202G		Black (A), Black (A)	Up-Down	Pipe Tap, Bot. 1/2
CR2943NJ202H		Black (A), Black (A)	Open-Close	Pipe Tap, Bot. 1/2
CR2943AJ202B		Black (A), Black (A)	(Specify)	Pipe Tap, Bot. 1/2
NEMA 4X - One Unit - Momentary				
CR2943NJ301B		Black (A)	Start	Pipe Tap, Bot. 3/4
CR2943AJ301B		Black (A)	(Specify)	Pipe Tap, Bot. 3/4
CR2943NJ301A		Red (B)	Stop	Pipe Tap, Bot. 3/4
CR2943AJ301A		Red (B)	(Specify)	Pipe Tap, Bot. 3/4
CR2943NJ301C		Red (B), Locking Means	Stop	Pipe Tap, Bot. 3/4
CR2943AJ301C		Red (B), Locking Means	(Specify)	Pipe Tap, Bot. 3/4
NEMA 4X - Two Unit - Momentary				
CR2943AJ302B		Black (A), Red (B)	(Specify)	Pipe Tap, Bot. 3/4
CR2943NJ302A•		Black (A), Red (B), Locking Means	Start-Stop	Pipe Tap, Bot. 3/4
CR2943AJ302A•		Black (A), Red (B), Locking Means	(Specify)	Pipe Tap, Bot. 3/4
CR2943NJ302F		Black (A), Black (A)	Raise-Lower	Pipe Tap, Bot. 3/4
CR2943NJ302E		Black (A), Black (A)	Forward-Reverse	Pipe Tap, Bot. 3/4
CR2943NJ302G		Black (A), Black (A)	Up-Down	Pipe Tap, Bot. 3/4
CR2943NJ302H		Black (A), Black (A)	Open-Close	Pipe Tap, Bot. 3/4
CR2943AJ302C		Black (A), Black (A)	(Specify)	Pipe Tap, Bot. 3/4
NEMA 7 & 9 - One Unit - Momentary				
CR2941NA101B		Black (A)	Start	Pipe Tap Tp & Bot. 3/4
CR2941AA101T		Black (A)	(Specify)	Pipe Tap Tp & Bot. 3/4
CR2941NA101A•		Red (B), Locking Means	Stop	Pipe Tap Tp & Bot. 3/4
NEMA 7 & 9 - Two Unit - Momentary				
CR2941NA102B•		Black (A), Red (B), Locking Means	Start-Stop	Pipe Tap Tp & Bot. 3/4



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No.	UPC	Desc.*	Nameplate Marking	Conduit Size In.
CR2941NA102G	Black (A), Black (A)	Raise-Lower	Pipe Tap Top & Bot. 3/4
CR2941NA102F	Black (A), Black (A)	Forward-Reverse	Pipe Tap Top & Bot. 3/4
CR2941NA102H	Black (A), Black (A)	Up-Down	Pipe Tap Top & Bot. 3/4
CR2941NA102J	Black (A), Black (A)	Open-Close	Pipe Tap Top & Bot. 3/4
CR2941AA102B*	Black (A), Black (A)	(Specify)	Pipe Tap Top & Bot. 3/4

*Button and/or nameplate color and wiring symbols.

†Except selector switches.

‡Five nameplates included: Off-On, Forward-Reverse, Hand-Auto, Slow-Fast and Open-Close.

§Three nameplates included: Hand-Off-Auto, Forward-Off-Reverse, and Open-Off-Close.

•Include hole for padlock on STOP.

GE ED&C-CONTROL COMPONENTS

Pushbutton Stations

Standard Duty - Flush Mounted



For all normal Start/Stop/R operations with AC magnetic starters. Large concave easy-to-operate buttons. Silver contacts. Positive make and break. Insulating strip between terminals and back of enclosure prevents electrical shorting. Contact ratings 10A carry, 600V AC/DC maximum. 30A make and 3A break at 110-125V AC.

Contact Ratings

Flush-Mounted Volts	Carry Continuous Amps	Make Momentary Amps	AC Circuits	Break-Amps	DC Inductive Circuits
550-600	10	6.0	.60		.20

Flush Mounted Pushbutton Stations

No.	UPC	Desc.*	Nameplate Marking
CR2943NB302A	Gray Nameplates w/o Wall Boxes Two Unit Station - Momentary Black, Red (D)	Start-Stop
CR2943NB302G	Stainless Steel Nameplates w/o Wall Boxes Two Unit Stations - Momentary Black, Red (D)	Start-Stop

*Button color and wiring symbol.

GE ED&C-CONTROL COMPONENTS

Non-Illuminated Push Buttons

Heavy-Duty - CR104P



Flush



Extended



Recessed



1 1/4" Mushroom Head



2" Mushroom Head



Push to Latch, Turn to Reset

600V maximum AC/DC, 10A continuous. For use on machine-tool service or other applications where oil-tightness, water-tightness and long life is essential. Suitable for use in NEMA Type 1, 3, 3R, 4, 4X, 12 and 13 applications. Protective caps improved resistance to some corrosive materials. One-screw contact block mounting. One-hole mounting and chrome-plated octagonal mounting rings for easy panel mounting and enclosure applications.

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Products shown here are for reference only. They can be sold by the locally authorized distributor

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Specifications. -13°F to 158°F operating temperature range. -40°F to 158°F storage temperature range. Accept 22-12 AWG stranded or solid copper wire. Rated life of 5,000,000 operations.

UL Listed. CSA Certified.

Step 1 - Operator Selection. Add catalog number digit to 'CR104PB'. For example, CR104PBG- is a standard push button.

Step 2 - Contact Configuration Selection. Add catalog number digit to selected operator configuration. For example, CR104PBG11- is a standard push button with 1 NO and 1 NC contact.

Step 3 - Cap Color Selection. Add catalog number digit to selected operator and contact configuration. For example, CR104PBG11B- is a standard push button with 1 NO and 1 NC contact and black cap.

Step 4 - Mounting Ring or Mushroom Head Diameter Selection. Add catalog number digit to selected operator, contact configuration and cap color. For example, CR104PBG11B2 is an extended standard push button with 1 NO and 1 NC contact, black cap and short ring.

Step 5 (Optional) - Modification Selection. Add catalog number digit to selected operator, contact configuration, cap color and mounting ring or mushroom head diameter. For example, CR104PBG11B2B is an extended standard push button with 1 NO and 1 NC contact, black cap, short ring and push on/push off operation.

Step 1 - Operator Selection

Operator	Cat. No. Digit	Operator	Cat. No. Digit	Operator	Cat. No. Digit
Std. Push Button	G	Std. Push Button w/Maintained Latch Kit	D	Wobble Stick	S
Mushroom-Head Push Button	M	Std. Push Button w/Mechanical Interlock Kit	E	Key-Operated Push Button	K

Step 2 - Contact Configuration Selection

NO Contacts	NC Contacts	NO Contacts	NC Contacts	NO Contacts	NC Contacts
No Contact Block		Single Circuit		Single Circuit	
	0	1	7	5	1
Single Circuit		2	0	5	2
0	1	2	1	5	3
0	2	2	2	6	0
0	3	2	3	6	1
0	4	2	4	6	2
0	5	2	5	7	0
0	6	3	6	7	1
0	7	3	0	8	0
0	8	3	1	9	0
0	0	3	2		
	1	3	3	Double Circuit	
	2	3	4	9*	2*
	3	3	5	9*	3*
	4	4	0	9*	4*
	4	4	1	9	9†
	5	4	2	Single Circuit	
	6	4	3		
		4	4	0	L‡
		5	0	0	M§

*Operator code E must use one of these contact configurations.

†1NO-1NC time delay double circuit contact block available for operator code G only.

‡2NC w/1 late-opening contact block.

§4NC w/2 late-opening contact blocks.



Step 3 - Cap Color Selection

Cap Color	G/D/E/S	Cat. No. Digit For Operator Codes	K
No Cap	A	M	A
Black	B	A	B
Clear	C	...	...
Yellow	E	E	E
Green	G	R	R
Blue	L		
Orange	M		
Brown	N		
Red	R		
White	W		
Comb. 1*	U		
Comb. 2*	V		

*Supplied w/4 caps (red, green, yellow, black).

*Supplied w/4 caps (brown, blue, orange, white).

Step 4 - Mounting Ring or Mushroom-Head Diameter Selection

Desc.	G/E	D	Cat. No. Digit For Operator Code	M	K
Std. Ring for Flush Push Buttons	1	1	S		K
Short Ring for Extended Push Buttons	2	2	1		1
Extended Ring for Recessed Push Buttons	3	3			
1 3/8" Mushroom Head				5	
2 3/8" Mushroom Head				6	6

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Step 5 (Optional) - Modifications

Modification	Cat. No. Digit For Operator Code			
	G	M	K	KA
Push On/Push Off	B	B	...	...
Push/Pull	...	C	...	...
3-Position Momentary Push/Pull, Maintained Center	...	D	...	...
3-Position Momentary Pull, Maintained Push	...	E	...	...
Key Lock in Free & Depressed Positions			J	J51
Key Lock in Free Position			K	K51
Key Lock in Depressed Position			L	L51
Push to Latch, Key to Reset			M	M51
Std. Push Button Operation or Key Push to Latch, Key to Reset			P	P51
◆ w/Standard key.				
▲w/CH501 key.				

Operator Only - Common Forms

No.	UPC	
	Flush	
CR104PBG00B1		Black
CR104PBG00R1		Red
CR104PBG00G1		Green
CR104PBG00U1		Comb. 1
CR104PBG00V1		Comb. 2
CR104PBG00A1		No Cap
	Extended	
CR104PBG00B2		Black
CR104PBG00R2		Red
CR104PBG00G2		Green
CR104PBG00U2		Comb. 1
CR104PBG00V2		Comb. 2
CR104PBG00A2		No Cap
	Recessed	
CR104PBG00B3		Black
CR104PBG00R3		Red
CR104PBG00G3		Green
CR104PBG00U3		Comb. 1
CR104PBG00V3		Comb. 2
CR104PBG00A3		No Cap
	1 3/8" Mushroom Head	
CR104PBM00B5		Black
CR104PBM00R5		Red
CR104PBM00G5		Green
CR104PBM00E5		Yellow
CR104PBM00A5		No Cap
	2 3/8" Mushroom Head	
CR104PBM00B6		Black
CR104PBM00R6		Red
CR104PBM00G6		Green
CR104PBM00A6		No Cap
	Mushroom Head - Push to Latch. Turn to Reset	
CR104PTR20A0R		Red

1NO - 1NC Contacts - Common Forms

No.	UPC	
	Flush	
CR104PBG91B1		Black
CR104PBG91R1		Red
CR104PBG91G1		Green
CR104PBG91U1		Comb. 1
CR104PBG91V1		Comb. 2
CR104PBG91A1		No Cap
	Extended	
CR104PBG91B2		Black
CR104PBG91R2		Red
CR104PBG91G2		Green
CR104PBG91U2		Comb. 1
CR104PBG91V2		Comb. 2
CR104PBG91A2		No Cap
	Recessed	
CR104PBG91B3		Black
CR104PBG91R3		Red
CR104PBG91G3		Green
CR104PBG91U3		Comb. 1
CR104PBG91V3		Comb. 2
CR104PBG91A3		No Cap

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No.	UPC	Cap Color
	1$\frac{3}{8}$" Mushroom Head	
CR104PBM91B5 CR104PBM91R5 CR104PBM91G5 CR104PBM91A5		Black Red Green No Cap
	2$\frac{3}{8}$" Mushroom Head	
CR104PBM91B6 CR104PBM91R6 CR104PBM91G6 CR104PBM91A6		Black Red Green No Cap
	Mushroom Head - Push to Latch, Turn to Reset	
CR104PTR20A0R91		Red
	2NO - 2NC Contacts - Common Forms	
No.	UPC	Color
	Flush	
CR104PBG92B1 CR104PBG92R1 CR104PBG92G1 CR104PBG92U1 CR104PBG92V1 CR104PBG92A1		Black Red Green Comb. 1 Comb. 2 No Cap
	Extended	
CR104PBG92B2 CR104PBG92R2 CR104PBG92G2 CR104PBG92U2 CR104PBG92V2 CR104PBG92A2		Black Red Green Comb. 1 Comb. 2 No Cap
	Recessed	
CR104PBG92B3 CR104PBG92R3 CR104PBG92G3 CR104PBG92U3 CR104PBG92V3 CR104PBG92A3		Black Red Green Comb. 1 Comb. 2 No Cap
	1$\frac{3}{8}$" Mushroom Head	
CR104PBM92B5 CR104PBM92R5 CR104PBM92G5 CR104PBM92A5		Black Red Green No Cap
	2$\frac{3}{8}$" Mushroom Head	
CR104PBM92B6 CR104PBM92R6 CR104PBM92G6 CR104PBM92A6		Black Red Green No Cap
	Mushroom Head - Push to Latch, Turn to Reset	
CR104PTR20A0R92		Red
	1NO Contact - Common Forms	
No.	UPC	Color
	Flush	
CR104PBG10B1 CR104PBG10R1 CR104PBG10G1 CR104PBG10U1 CR104PBG10V1 CR104PBG10A1		Black Red Green Comb. 1 Comb. 2 No Cap
	Extended	
CR104PBG10B2 CR104PBG10R2 CR104PBG10G2 CR104PBG10U2 CR104PBG10V2 CR104PBG10A2		Black Red Green Comb. 1 Comb. 2 No Cap
	Recessed	
CR104PBG10B3 CR104PBG10R3 CR104PBG10G3 CR104PBG10U3 CR104PBG10V3 CR104PBG10A3		Black Red Green Comb. 1 Comb. 2 No Cap
	1$\frac{3}{8}$" Mushroom Head	
CR104PBM10B5 CR104PBM10R5		Black Red



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No.	UPC	Color
CR104PBM10G5 CR104PBM10A5	2 $\frac{3}{8}$ " Mushroom Head	Green No Cap
CR104PBM10B6 CR104PBM10R6 CR104PBM10G6 CR104PBM10A6	Mushroom Head - Push to Latch, Turn to Reset	Black Red Green No Cap
CR104PTR20A0R1	1NC Contact - Common Forms UPC	Red
No.	UPC	Color
CR104PBG01B1 CR104PBG01R1 CR104PBG01G1 CR104PBG01U1 CR104PBG01V1 CR104PBG01A1	Flush	Black Red Green Comb. 1 Comb. 2 No Cap
CR104PBG01B2 CR104PBG01R2 CR104PBG01G2 CR104PBG01U2 CR104PBG01V2 CR104PBG01A2	Extended	Black Red Green Comb. 1 Comb. 2 No Cap
CR104PBG01B3 CR104PBG01R3 CR104PBG01G3 CR104PBG01U3 CR104PBG01V3 CR104PBG01A3	Recessed	Black Red Green Comb. 1 Comb. 2 No Cap
CR104PBM01B5 CR104PBM01R5 CR104PBM01R5C CR104PBM01A5C CR104PBM01G5 CR104PBM01A5	1 $\frac{3}{8}$ " Mushroom Head	Black Red Red No Cap Green No Cap
CR104PBM01B6 CR104PBM01R6 CR104PBM01G6 CR104PBM01A6	2 $\frac{3}{8}$ " Mushroom Head	Black Red Green No Cap
CR104PTR20A0R01	Mushroom Head - Push to Latch, Turn to Reset	Red

GE ED&C-CONTROL COMPONENTS

Illuminated Push Buttons

Heavy Duty - Push-Pull - Mushroom Head - CR104P



Standard



Standard w/Guard



1 $\frac{3}{8}$ " Mushroom-Head

600V maximum AC/DC, 10A continuous. For use on machine-tool service or other applications where oil-tightness, water-tightness and long life is essential. Suitable for use in NEMA Type 1, 3, 3R, 4, 4X, 12 and 13 applications. Protective caps improved resistance to some corrosive materials. One-screw contact block mounting. One-hole mounting and chrome-plated octagonal mounting rings for easy panel mounting and enclosure applications.

Specifications. -13°F to 158°F operating temperature range. -40°F to 158°F storage temperature range. Accept 22-12 AWG stranded or solid copper wire. Rated life of 5,000,000 operations.

UL Listed. CSA Certified.

Step 1 - Operator Selection. Add catalog number digit to 'CR104PB'. For example, CR104PBT- is a transformer operator.

Step 2 - Contact Configuration Selection. Add catalog number digit to operator selection. For example, CR104PBT11- is a transformer operator with 1 NO and 1 NC contact.

Step 3 - Cap Color Selection. Add catalog number digit to operator and contact configuration selection. For example, CR104PBT11G- is a transformer operator with 1 NO and 1 NC contact and green cap.

Step 4 - Mounting Ring Selection. Add catalog number digit to operator, contact configuration and cap color selection. For example, CR104PBT11G1- is a transformer operator with 1 NO and 1 NC contact, green cap and standard ring.

Step 5 - Modification Selection. Add catalog number digit to operator, contact configuration, cap color and mounting ring selection. For example, CR104PBT11G1B- is a transformer operator with 1 NO and 1 NC contact, green cap, standard ring and push on/push off operation.

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Products shown here are for reference only. They can be sold by the locally authorized distributor.

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Step 6 - Supply Voltage Selection. Add catalog number digit to operator, contact configuration, cap color, mounting ring and modification selection. For example, CR104PBT11G1B2 is a transformer operator with 1 NO and 1 NC contact, green cap, standard ring and push on/push off operation supplied by 120V at 50/60 Hz.

Step 1 - Operator Selection

Operator	Cat. No. Digit	Operator	Cat. No. Digit	Operator	Cat. No. Digit
Full Voltage	L	Transformer	T	Resistor	R

Step 2 - Contact Configuration Selection

NO Contacts		NC Contacts		NO Contacts		NC Contacts		NO Contacts		NC Contacts	
No Contact Block				Single Circuit				Single Circuit			
0		0		1		6		4		~	
				1		7		4		4	
				2		0		5		0	
0	Single Circuit	1		2		1		5		1	
0		2		2		2		5		2	
0		3		2		3		5		3	
0		4		2		4		6		0	
0		5		2		5		6		1	
0		6		2		6		6		2	
0		7		3		0		7		0	
0		8		3		1		7		1	
0		L*		3		2		8		0	
0		M†		3		3					
1		0		3		4			Double Circuit		
1		1		3		5		9‡		1‡	
1		2		4		0		9§		2§	
1		3		4		1		9•		3•	
1		4		4		2		9★		4★	
		e						9♣		9♣	

- *2NC w/1 late-opening contact block.
- †4NC w/2 late-opening contact blocks.
- ‡1NO-1NC.
- §2NO-2NC.
- 3NO-3NC.
- ★4NO-4NC.
- ♣1NO-1NC time delay.

Step 3 - Cap Color Selection

Cap Color	Cat. No. Digit	Cap Color	Cat. No. Digit	Cap Color	Cat. No. Digit
No Lens Cap	A	Green	G	Red	R
Clear	C	Blue	L	White	W
Yellow	E	Amber	M		

Step 4 - Mounting Ring election

Std. Ring	Desc.	Cat. No. Digit	Ring w/Guard	Desc.	Cat. No. Digit	Mushroom Head (35 mm) w/Mtg. Ring	Desc.	Cat. No. Digit
		1			3			5

Step 5 - Modification Selection

Cat. No. Digit For Operator Code

Modification	L	R	T
Std. Illuminated Push Button w/LED Lamp	L		L
Push On/Push Off	B		B
2-Position Push/Pull w/Incand. Lamp	C	•	C
2-Position Push/Pull w/LED Lamp	P		P
Dual Input	H		
3-Position Momentary Push/Pull, Maintained Center w/Incand. Lamp	D	•	D
3-Position Momentary Push/Pull, Maintained Center w/LED Lamp	K		K
3-Position Momentary Pull, Maintained Push	E	E	E
3-Position Momentary Pull, Maintained Push w/LED Lamp	M		M
Flashing Incand. Lamp	F		F
Neon Lamp▲	N	•	•
Steady Incand. Lamp	S	S	S
Steady Incand. Lamp, Miniature Bayonet, 120V Full Voltage■	R		R

- ▲Available for 120V only.
- Replaces 120V full voltage telephone slide lamp socket w/120V full voltage miniature bayonet lamp socket.

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Step 6 - Voltage Supply Selection

Supply Voltage	L	R	T
50/60 Hz			
6	6		
12	7		
24	8		
120	2	2	2
240		3	3
480			4
600			5

Momentary - Transformer 1NO-1NC - Common Forms

No.	UPC	Voltage	Color
Standard			
CR104PBT11R1S2		120	Red
CR104PBT11G1S2		120	Green
CR104PBT11M1S2		120	Amber
CR104PBT11A1S2		120	No Cap
CR104PBT11R1S3		240	Red
CR104PBT11A1S3		240	No Cap
CR104PBT11R1S4		480	Red
CR104PBT11A1S4		480	No Cap
CR104PBT11R1S5		600	Red
Standard w/Guard			
CR104PBT11R3S2		120	Red
CR104PBT11G3S2		120	Green
CR104PBT11M3S2		120	Amber
CR104PBT11A3S2		120	None
CR104PBT11R3S3		240	Red
CR104PBT11R3S4		480	Red
CR104PBT11R3S5		600	Red
1 3/8" Mushroom-Head			
CR104PBT11R5S2		120	Red
CR104PBT11R5S3		240	Red
CR104PBT11R5S4		480	Red
CR104PBT11R5S5		600	Red

Momentary - Full Voltage 1NO-1NC - Common Forms

No.	UPC	Voltage	Cap Color
Standard			
CR104PBL11R1S6		6	Red
CR104PBL11A1S6		6	No Cap
CR104PBL11R1S7		12	Red
CR104PBL11R1S8		24	Red
CR104PBL11G1S8		24	Green
CR104PBL11M1S8		24	Amber
CR104PBL11A1S8		24	No Cap
CR104PBL11R1S2		120	Red
CR104PBL11G1S2		120	Green
CR104PBL11M1S2		120	Amber
CR104PBL11A1S2		120	No Cap
Standard w/Guard			
CR304PBL11R3S6		6V, #755 Lamp	Red
CR304PBL11R3S7		12V, #756 Lamp	Red
CR304PBL11R3S8		24V, #1819 Lamp	Red
CR304PBL11G3S8		24V, #1819 Lamp	Green
CR304PBL11M3S8		24V, #1819 Lamp	Amber
CR304PBL11R3S2		120V, #120PSB Lamp	Red
CR304PBL11G3S2		120V, #120PSB Lamp	Green
CR304PBL11M3S2		120V, #120PSB Lamp	Amber
1 3/8" Mushroom-Head			
CR504PBL11R5S6		6	Red
CR504PBL11R5S7		12	Red
CR504PBL11R5S8		24	Red
CR504PBL11R5S2		120	Red

Momentary - Dual Input 1NO-1NC - Common Forms

No.	UPC	Voltage	Color
Standard			
CR104PBL91R1H2		120	Red
Standard w/Guard			
CR104PBL91R3H2		120	Red

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Products shown here are for reference only. They can be sold by the locally authorized distributor.

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Momentary - LED Full Voltage 1NO-1NC - Common Forms

No.	UPC	Standard	Voltage	Cap Color
CR104PBL11R1L6			6	Red
CR104PBL11R1L7			12	Red
CR104PBL11R1L8			24	Red
CR104PBL11R1L2			120	Red
Standard w/Guard				
CR304PBL11R3L6			6	Red
CR304PBL11R3L7			12	Red
CR304PBL11R3L8			24	Red
CR304PBL11R3L2			120	Red
1 3/8" Mushroom-Head				
CR504PBL11R5L6			6	Red
CR504PBL11R5L7			12	Red
CR504PBL11R5L8			24	Red
CR504PBL11R5L2			120	Red

Push-Pull Mushroom-Head - Transformer 50/60 Hz 1NO-1NC - Common Forms

No.	UPC	Voltage	Cap Color
2-Position - Maintained Out (XNC, ONO) - Maintained In (ONC-XNC)			
CR104PBT11R5C2	120	Red
CR104PBT11A5C2	120	No Cap
CR104PBT11R5C3	240	Red
CR104PBT11R5C4	480	Red
CR104PBT11R5C5	600	Red
3-Position - Momentary Out (XNC Late Breaking, XNC) - Maintained Center (XNC Late Breaking, ONC) - Momentary In (ONC Late Breaking, ONC)			
CR104PBT0LR5D2	120	Red
CR104PBT0LR5D3	240	Red
CR104PBT0LR5D4	480	Red
CR104PBT0LR5D5	600	Red
3-Position - Momentary Out (XNC Late Breaking, XNC) - Maintained Center (XNC Late Breaking, XNC) - Maintained In (ONC Late Breaking, ONC)			
CR104PBT0LR5E2	120	Red
CR104PBT0LR5E3	240	Red
CR104PBT0LR5E4	480	Red
CR104PBT0LR5E5	600	Red

Push-Pull Mushroom-Head - Full Voltage 50/60 Hz 1NO-1NC - Common Forms

No.	UPC	Voltage	Cap Color
2-Position - Maintained Out (XNC, ONO) - Maintained In (ONC-XNC)			
CR104PBL11R5C6	6V, #755 Lamp	Red
CR104PBL11R5C7	12V, #756 Lamp	Red
CR104PBL11R5C8	24V, #1819 Lamp	Red
CR104PBL11R5C2	120V, #120PSB Lamp	Red
3-Position - Momentary Out (XNC Late Breaking, XNC) - Maintained Center (XNC Late Breaking, ONC) - Momentary In (ONC Late Breaking, ONC)			
CR104PBL0LR5D6	6V, #755 Lamp	Red
CR104PBL0LR5D7	12V, #756 Lamp	Red
CR104PBL0LR5D8	24V, #1819 Lamp	Red
CR104PBL0LR5D2	120V, #120PSB Lamp	Red
3-Position - Momentary Out (XNC Late Breaking, XNC) - Maintained Center (XNC Late Breaking, XNC) - Maintained In (ONC Late Breaking, ONC)			
CR104PBL0LR5E6	6V, #755 Lamp	Red
CR104PBL0LR5E7	12V, #756 Lamp	Red
CR104PBL0LR5E8	24V, #1819 Lamp	Red
CR104PBL0LR5E2	120V, #120PSB Lamp	Red

Push-Pull Mushroom-Head - Resistor 1NO-1NC - Common Forms

No.	UPC	Voltage	Cap Color
2-Position - Maintained Out (XNC, ONO) - Maintained In (ONC-XNC)			
CR104PBR11R5C2	120	Red
CR104PBR11R5C3	240	Red
3-Position - Momentary Out (XNC Late Breaking, XNC) - Maintained Center (XNC Late Breaking, ONC) - Momentary In (ONC Late Breaking, ONC)			
CR104PBR0LR5D2	120	Red
CR104PBR0LR5D3	240	Red
3-Position - Momentary Out (XNC Late Breaking, XNC) - Maintained Center (XNC Late Breaking, XNC) - Maintained In (ONC Late Breaking, ONC)			
CR104PBR0LR5E2	120	Red
CR104PBR0LR5E3	240	Red

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Push-Pull Mushroom-Head - LED Full Voltage 1NO-1NC - Common Forms

No.	UPC	Voltage
	2-Position - Maintained Out (XNC, ONO) Maintained In (ONC-XNC)	
CR104PBL11R5P6		6
CR104PBL11R5P7		12
CR104PBL11R5P8		24
CR104PBL11R5P2		120
	3-Position - Momentary Out (XNC, XNC) - Maintained Center (XNC Late Breaking, ONC) -	
	Momentary In (ONC Late Breaking, ONC)	
CR104PBL0LR5K6	.....	6
CR104PBL0LR5K7	.....	12
CR104PBL0LR5K8	.....	24
CR104PBL0LR5K2	.....	120
	3-Position - Momentary Out (XNC Late Breaking, XNC) - Maintained Center (XNC Late Breaking, XNC) - Maintained In (ONC Late Breaking, ONC)	
CR104PBL0LR5M6		6
CR104PBL0LR5M7		12
CR104PBL0LR5M8		24
CR104PBL0LR5M2		120

MICRO SWITCH

Heavy Duty Limit Switches

Series HDLS - Rotary Operating Heads



Field adjustable for clockwise, counterclockwise or in both directions. Momentary action. Zinc head and body phosphate treated and epoxy finished. Plug-in style bodies include base receptacle. Levers not included. 1.62"Wx4.2"Hx2.44"D.

UL Listed, CSA Certified.

A. SPDT circuitry, 120V-600V AC, 120/240V DC. For switches with indicator light, use at indicator light voltage only. Electric rating, 10A continuous carry.

B. DPDT, 120V-600V AC, 120/240V DC. Electric rating, 10A continuous carry.

C. SPDT, 250V AC or 60V DC, .050A max.

D. SPST normally closed, direct acting 120V-600V AC, 30/120V DC. Electric rating, 10A continuous carry.

No.	UPC	Body Style	Conduit In.	Elec. Rating	Max. Oper. Torque In./Lbs.	Max. Oper. Torque Nm	Max. Pretravel Degrees	Min. Overtravel Degrees	Max. Diff. Travel Degrees
Standard - Side Rotary									
LSA1A	27000	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1A-1A*	.....	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1A-1B*	.....	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1A-1D*	.....	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1A-2C*	.....	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1A-2D*	.....	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1A-4N*	.....	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1AB†	.....	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1AC‡	.....	Plug-In	1/2	A	4.0	.45	15	60	5
LSA1J	27004	Plug-In	1/2	C	4.0	.45	15	60	5
LSA1E	27003	Plug-In	1/2	C	4.0	.45	15	60	5
LSA5A	27002	Plug-In 120V Ind. Lite	1/2	A	4.0	.45	15	60	5
LSA8A	.....	Plug-In 240V Ind. Lite	1/2	A	4.0	.45	15	60	5
LSA9A	11180	Plug-In 24V LED Lite	1/2	A	4.0	.45	15	60	5
LSA3K	27300	Non Plug-In	1/2	A	4.0	.45	15	60	5
LSA2B	27200	Plug-In	3/4	B	4.0	.45	15	60	7
LSA6B	27480	Plug-In	1/2	B	4.0	.45	15	60	7
LSA6B-1A*	.....	Plug-In	1/2	B	4.0	.45	15	60	7
LSA6B-2K*	.....	Plug-In	1/2	B	4.0	.45	15	60	7
LSA6BR	.....	Plug-In	1/2	B	4.0	.45	15	60	7
LSA4L	27400	Non Plug-In	3/4	B	4.0	.45	15	60	7
LSA7L	27550	Non Plug-In	1/2	B	4.0	.45	15	60	7
LSA3N	11179	Non Plug-In	1/2	D	4.0	.45	15	60	...
LSA22A									

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No.	UPC	Body Style	Conduit In.	Elec. Rating	Max. Oper. Torque In./Lbs.	Max. Oper. Torque Nm	Max. Pretravel Degrees	Min. Overtravel Degrees	Max. Diff. Travel Degrees
Low Differential - Side Rotary									
LSP1A	29900	Plug-In	1/2	A	4.0	.45	9	66	3
LSP1J	.....	Plug-In	1/2	C	4.0	.45	9	66	3
LSP1E	29977	Plug-In	1/2	C	4.0	.45	9	66	3
LSP2B	29980	Plug-In	3/4	B	4.0	.45	9	66	4
LSP6B	24996	Plug-In	1/2	B	4.0	.45	9	66	4
LSP5A	.....	Plug-In 120V Ind. Lite	1/2	A	4.0	.45	9	66	3
LSP8A	.....	Plug-In 240V Ind. Lite	1/2	A	4.0	.45	9	66	3
LSP9A§	.....	Plug-In 24V LED Lite	1/2	A	4.0	.45	9	66	3
LSP3K	29990	Non Plug-In	1/2	A	4.0	.45	9	66	3
LSP3K-1D	.....	.....	.....	.....	.....	.....	.....	.....	.....
LSP4L	24995	Non Plug-In	3/4	B	4.0	.45	9	66	4
LSP4L-4N	.....	.....	.....	.....	.....	.....	.....	.....	.....
LSP7L	30050	Non Plug-In	1/2	B	4.0	.45	9	66	4
5° Pretravel - Side Rotary									
LSU1A	11189	Plug-In	1/2	A	4.0	.45	5	70	3
LSU1J	11190	Plug-In	1/2	C	4.0	.45	5	70	3
LSU1E	.....	Plug-In	1/2	C	4.0	.45	5	70	3
LSU5A	.....	Plug-In 120V Ind. Lite	1/2	A	4.0	.45	5	70	3
LSU8A	.....	Plug-In 240V Ind. Lite	1/2	A	4.0	.45	5	70	3
LSU9A§	.....	Plug-In 24V LED Lite	1/2	A	4.0	.45	5	70	3
LSU3K	.....	Non Plug-In	1/2	A	4.0	.45	5	70	3
LSU2B	.....	Plug-In	3/4	B	4.0	.45	5	70	4
LSU6B	11191	Plug-In	1/2	B	4.0	.45	5	70	4
LSU4L	.....	Non Plug-In	3/4	B	4.0	.45	5	70	4
LSU7L	.....	Non Plug-In	1/2	B	4.0	.45	5	70	4
Low Torque - Side Rotary									
LSR1A	30095	Plug-In	1/2	A	1.7	.19	15	60	5
LSR1E	11188	Plug-In	1/2	C	1.7	.19	15	60	5
LSR5A	30120	Plug-In 120V Ind. Lite	1/2	A	1.7	.19	15	60	5
LSR8A	.....	Plug-In 240V Ind. Lite	1/2	A	1.7	.19	15	60	5
LSR9A§	.....	Plug-In 24V LED Lite	1/2	A	1.7	.19	15	60	5
LSR3K	30105	Non Plug-In	1/2	A	1.7	.19	15	60	5
LSR2B	30098	Plug-In	3/4	B	1.7	.19	15	60	7
LSR6B	30125	Plug-In	1/2	B	1.7	.19	15	60	7
LSR4L	.....	Non Plug-In	3/4	B	1.7	.19	15	60	7
LSR7L	.....	Non Plug-In	1/2	B	1.7	.19	15	60	7
LSR3N	.....	Non Plug-In	1/2	D	1.7	.19	15	60	7
Low Differential Low Torque - Side Rotary									
LSH1A	28810	Plug-In	1/2	A	1.7	.19	9	66	3
LSH1E	11183	Plug-In	1/2	C	1.7	.19	9	66	3
LSH5A	.....	Plug-In 120V Ind. Lite	1/2	A	1.7	.19	9	66	3
LSH8A	.....	Plug-In 240V Ind. Lite	1/2	A	1.7	.19	9	66	3
LSH9A§	11184	Plug-In 24V LED Lite	1/2	A	1.7	.19	9	66	3
LSH3K	28840	Non Plug-In	1/2	A	1.7	.19	9	66	3
LSH2B	28820	Plug-In	3/4	B	1.7	.19	9	66	4
LSH6B	24988	Plug-In	1/2	B	1.7	.19	9	66	4
LSH4L	.....	Non Plug-In	3/4	B	1.7	.19	9	66	4
LSH7L	.....	Non Plug-In	1/2	B	1.7	.19	9	66	4
High Overtravel - Top Rotary									
LSB1A	27610	Plug-In	1/2	A	2.5	.28	25	110	10
LSB1J	.....	Plug-In	1/2	C	2.5	.28	25	110	10
LSB5A	.....	Plug-In 120V Ind. Lite	1/2	A	2.5	.28	25	110	10
LSB8A	.....	Plug-In 240V Ind. Lite	1/2	A	2.5	.28	25	110	10
LSB9A§	.....	Plug-In 24V LED Lite	1/2	A	2.5	.28	25	110	10
LSB3K	27680	Non Plug-In	1/2	A	2.5	.28	25	110	10
LSB2B	.....	Plug-In	3/4	B	2.5	.28	25	110	12
LSB6B	27695	Plug-In	1/2	B	2.5	.28	25	110	12
LSB4L	.....	Non Plug-In	3/4	B	2.5	.28	25	110	12
LSB7L	.....	Non Plug-In	1/2	B	2.5	.28	25	110	12
LSB3N	.....	Non Plug-In	1/2	D	2.5	.28	25	110	12



*w/Lever.

†w/5-Pin receptacle.

‡w/6 ft. of 5 conductor STOOW-A cable.

§1.5 mA max. auto polarity.

MICRO SWITCH

Levers

Type HDLS - For Rotary Actuated Switches



Standard Roller



Adjustable Radius



Spring/Rod



Rod



Flexible Loop

Use with side or top rotary switches. Rollers may be on either side of lever. Furnished with cap screw; accommodate 5/64" Allen wrench.

Levers

No.	UPC	Radius In.	Roller Mtd. Lever	Dia. In.	Wdth. In.	Material
Standard Roller						
LSZ51A	31080	1.5	Front	.75	.25	Nylon
LSZ51B	31090	1.5	Front	.75	.25	Steel
LSZ51C	31100	1.5	Back	.75	.25	Nylon
LSZ51D	.....	1.5	Back	.75	.25	Steel
LSZ51F	31113	1.5	Front	1.00	.50	Nylon
LSZ51G	.....	1.5	Front	1.50	.25	Nylon
LSZ51J	30968	1.5	Back	1.00	.50	Nylon
LSZ51L	30955	1.5	Back	.75	.25	Ball Bearing
LSZ51M	31117	1.5	Back	.75	1.30	Nylon
LSZ51T	.....	1.5	Back	.75	.38	Stainless
LSZ51P	31119	1.5	Front	.75	.50	Nylon
LSZ51R	.....	1.5	Front	1.59	.25	Nylon
LSZ51	31075	1.5				w/o Roller
Adjustable Radius						
LSZ52A	30147	1.5-3.5	Back	.75	.25	Nylon
LSZ52B	30971	1.5-3.5	Back	.75	.25	Steel
LSZ52C	30956	1.5-3.5	Front	.75	.25	Nylon
LSZ52D	31140	1.5-3.5	Front	.75	.25	Steel
LSZ52E	31145	1.5-3.5	Front	.75	.30	Nylon
LSZ52J	31150	1.5-3.5	Front	1.00	.50	Nylon
LSZ52K	30973	1.5-3.5	Front	1.50	.25	Nylon
LSZ52L	30976	1.5-3.5	Front	.75	.25	Ball Bearing
LSZ52M	30974	1.5-3.5	Front	2.00	.25	Nylon
LSZ52N	11195	1.5-3.5	Front	.75	.50	Nylon
LSZ52	30970					w/o Roller
Yoke						
LSZ53B		1.5	Front-Back	.75	.25	Steel
LSZ53D		1.5	Front-Front	.75	.25	Steel
Offset						
LSZ55B		1.5	Front	.75	.25	Steel
LSZ55C		1.5	Front	.75	.25	Nylon
LSZ55D		1.5	Front	.75	.25	Steel
Spring/Rod						
LSZ68	30152	12.0		.25		Delrin® Rod
LSZ617	11196	16.0		.25		Delrin® Rod
Rod						
LSZ54M	30959	.5				Aluminum
LSZ54N	30148	13.0				Stainless Steel
LSZ54R	30149	12.0				Spring Wire
LSZ54V	30151	4.8				Flexible Cable
Flexible Loop						
LSZ61	31245		6" Flex. Loop/Cap Screw			Nylatron
LSZ618			9.5" Flex. Loop/Cap Screw			Nylatron

Fixed Length Levers w/Rollers

No.	UPC	Lever Lgth. In.	Roller Dia. In.	Roller Wdth. In.	Roller Material
LSZ65AB		.88	.75	.25	Steel
LSZ65EA		2.00	.75	.25	Nylon
LSZ65EB		2.00	.75	.25	Steel

Rotary Lever Hubs

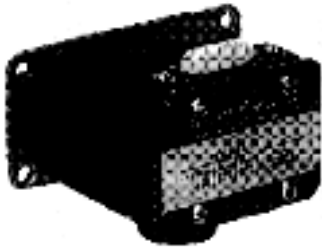
No.	UPC	Desc. Hub Only	Roller Material
LSZ54			Nylon

Fluorocarbon Seal Operating Heads

No.	UPC	For
LSZ1DC		LSD1A, LSD1J, LSD2B, LSD5A, LSD8A, LSD6B

GE ED&C-CONTROL COMPONENTS

Vane-Operated Limit Switches
CR115A



Top Operated

For use where conventional lever-operated switches are used. Switch actuated by passage of steel vane or rod through recessed slot. Suited for tough applications when severe duty cycle exists, where there is dust, coolants and other contaminants and where actuator speed is high. Accurate, high speed operation. May be used in general purpose control relay circuits and with static control. Typically used in cranes, conveyors, machine tools, textile equipment and elevators. Near unlimited mechanical life. Unaffected by chips, dust or grease. Color coded leads. Meet Type 13 oiltight and dust-tight requirements.

CR115 (A & A30). Repetitive accuracy ±0.0025" or less with constant vane path. Response time 0.001 sec. Operating differential (with a 3/16" thick vane in a fixed path in the center of the switch slot and 1/8" from the bottom of the slot): NO contact approx. 1/8", NC contact approx. 1/4".

CR115AS. Solid state forms. Oiltight and dust-tight. Capable of handling high inductive loads with near unlimited operating life. 115V AC indicating light.

Repetitive accuracy ±0.0025" or less. Response time 0.001-0.008 sec. depending on AC line synchronization. Operating differential (with a 1/8" thick vane in a fixed path in the center of the switch slot and 1/8" from the bottom of the slot): NO contact approx. 1/8", NC contact approx. 1/4".

General Purpose Forms:

CR115A30. 1/2" side slot. Mounting plate with 6 holes. One normally open contact and no indicating light.

CR115A35. 1/2" side slot. Mounting plate with 6 holes. One normally closed contact and no indicating light.

High Temperature Forms. 150°C max.

Underwater Forms. For use in fresh water up to 100' deep. Stainless steel hardware.

Ratings

AC Make		AC Carry & Break			DC*
115V	230V	115V	230V	Other	
CR115A - Standard Forms					
.75A	.27A	.20A	.07A	15VA Max. 1A Max.	15VA Max. 1A Max.
CR115AS - Solid State Forms					
30A	30A	6A	6A	6A Max.	...

*With arc suppression.

CRA115A - Standard Forms

No.	UPC	Contact Arrangement		Oper. Type
		NO	NC	
Standard Forms w/3' Leads				
CR115A11†	1	...	Front
CR115A12†	1	...	Front

No.	UPC	Contact Arrangement		Oper. Type
		NO	NC	
CR115A13‡	1	...	Front
CR115A14‡	1	1	Front
CR115A15†	1	...	Top
CR115A16†	1	1	Top
CR115A17‡	1	...	Top
CR115A18‡	1	1	Top

Standard Forms w/12' Leads

CR115A11AC	.....	1	...	Front
CR115A12AC	.....	1	1	Front
CR115A13AC‡	.....	1	...	Front
CR115A14AC‡	.....	1	1	Front
CR115A15AC	.....	1	...	Top
CR115A16AC	.....	1	1	Top
CR115A17AC‡	.....	1	...	Top
CR115A18AC‡	.....	1	1	Top

Standard Forms w/3' Plug Connector & Waterproof Bushing§

CR115A26	.....	1	...	Front
CR115A27	.....	1	...	Top

General Purpose Forms w/3' Leads

CR115A30	.....	1	...	Front
CR115A35	.....	1	1	Front

General Purpose Forms w/12' Leads

CR115A30AC	.....	1	...	Front
CR115A35AC	.....	1	1	Front

Corrosion Resistant Forms w/3' Leads

CR115A38•	.....	1	...	Front
CR115A38AM★	.....	1	...	Front
CR115A38AT♦	.....	1	...	Front

High Temperature Forms w/3' Leads▲

CR115A54	.....	1	...	Front
CR115A55	.....	1	1	Front
CR115A56	.....	1	...	Top
CR115A57	.....	1	1	Top

High Temperature Forms w/12' Leads▲

CR115A54AC	.....	1	...	Front
CR115A55AC	.....	1	1	Front
CR115A56AC	.....	1	...	Top
CR115A57AC	.....	1	1	Top

Underwater Forms w/3' Leads■

CR115A54AF	.....	1	...	Front
CR115A55AF	.....	1	1	Front

Underwater Forms w/12' Leads■

CR115A54AN	.....	1	...	Front
CR115A55AN	.....	1	1	Front

†UL Listed for Types 3, 3R, 4, 4X, 12 & 13 locations; and for Division 2 Types 7 & 9 hazardous locations.

‡w/115V AC indicating light.

§Switch leads have male connector for use with female receptacles such as CAM-LOK E2004-504 (w/3/4" pipe thread), E2004-505 (w/1/2" pipe thread) or equivalent.

•Stainless steel hardware.

★2-Position mounting plate.

♦High temperature form good up to 150°C w/stainless steel hardware.

▲150°C max.

■For use in fresh water up to 100' deep. Stainless steel hardware.

CR115AS - Solid State Forms

No.	UPC	Contact Arrangement		Oper. Type
		NO	NC	
w/3' Leads				
CR115AS13	1	...	Front
CR115AS14	1	1	Front
CR115AS17	1	...	Top
CR115AS18	1	1	Top
w/12' Leads				
CR115AS13AC	1	...	Front
CR115AS14AC	1	1	Front
CR115AS17AC	1	...	Top
CR115AS18AC	1	1	Top

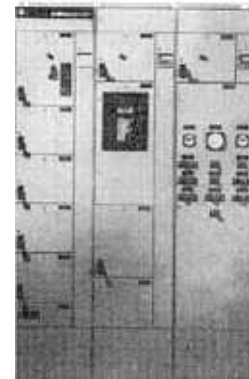
Vane. 1/8" mild steel. Adjust up to 1/4" in any three planes. Segments held with No. 10 screws. Mounted to equipment with 1/4" screws. Used with any form of CR115A vane-operated limit switch.

Accessories

No.	Desc.
CR115X18	Vane

GE ED&C - CONTROL COMPONENTS

Motor Control Centers
8000 SC/MC



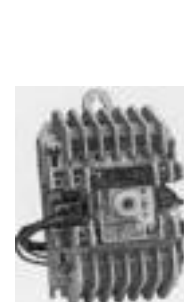
NEMA 1 enclosure. Constructed of 0.090", 13-gauge steel treated with corrosion-resistant zinc-phosphate treatment. Electrocoat paint process in ANSI-61 light gray alkyd-enamel paint. Each section houses the horizontal and vertical bus, horizontal and vertical wireways and compartmentized individual control units. Class I Type B wiring. Factory assembled, wired and tested. Powered by single incoming-line connection. 600-ampere, 3-phase, copper tin-plated horizontal main bus. 300-ampere, 3-phase, copper tin-plated vertical bus. Withstands fault current of 22,000 amperes symmetrical. UL Listed.

Complete Information Available on Request.

GE ED&C-CONTROL COMPONENTS

Mechanically Held Lighting Contactors

Series CR360ML2



Open



NEMA 1 Enclosed

Switch 20A tungsten or fluorescent/mercury arc ballasts and 30A general-use loads. Coil energized for short duration, allowing latch to hold power contacts closed, preventing AC hum and insuring quiet operation. Mechanically-held operation allows contractor to remain "on" during power outage.-

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Controlled by pushbuttons, selector switches or other pilot devices. Compact, lightweight 2-, 3-, 4-, 6-, 8-, 10- and 12-pole normally open forms. Changeable coils accommodate different voltage requirements. High fault current protection. Optional solid-state modules available for two or three-wire control and on-off control. Two auxiliary SPDT contacts and field-installed modifications available.

UL Listed.

Mechanically Held Lighting Contactors

No.	UPC	No. Poles NO*	Coil 50/60 Hz Volts
Open			
CR360ML202AA	2	110-120
CR360ML202KA	2	265-277
CR360ML203AA	3	110-120
CR360ML203KA	3	265-277
CR360ML204AA	4	110-120
CR360ML204KA	4	265-277
CR360ML206AA	6	110-120
CR360ML206KA	6	265-277
CR360ML208AA	8	110-120
CR360ML208KA	8	265-277
CR360ML210AA	10	110-120
CR360ML210KA	10	265-277
CR360ML212AA	12	110-120
CR360ML212KA	12	265-277

NEMA Type 1 Enclosed

CR360ML202AG	.....	2	110-120
CR360ML202KG	.....	2	265-277
CR360ML203AG	.....	3	110-120
CR360ML203KG	.....	3	265-277
CR360ML204AG	.....	4	110-120
CR360ML204KG	.....	4	265-277
CR360ML206AG	.....	6	110-120
CR360ML206KG	.....	6	265-277
CR360ML208AG	.....	8	110-120
CR360ML208KG	.....	8	265-277
CR360ML210AG	.....	10	110-120
CR360ML210KG	.....	10	265-277
CR360ML212AG	.....	12	110-120
CR360ML212KG	.....	12	265-277

*Other combinations of NO and NC available on request.

GE ED&C-CONTROL COMPONENTS

Pilot Duty Pressure Switches
Series CR127



600V, 15A continuous. NEMA Type 13 enclosure. Designed for pilot-duty applications of hydraulic and pneumatic equipment control systems. Orifice protects against minor surges. Ground connection provided within enclosure. SPDT contacts.

Contact Ratings

Volts	Make Amps	Break Amps
AC Voltage		
115	40	15
230	20	10
460	10	60
575	8	5
DC Voltage		
120	40	.25
240	20	.10

Pressure Switches

No.	UPC	Rge. Setting*	Diff.†	Max. Safe Press.
CR127B - w/o Pilot Light				
CR127B3	1-10	0.5-5	30
CR127B4	1-20	1-6	30
CR127B5	1-75	3-15	100
CR127B1	1-115	6-30	225
CR127B8	20-180	10-30	255
CR127B9	10-275	15-25	300
CR127B2	10-300	25-125	600

CR127B - w/115V Pilot Light				
CR127B13	.....	1-10	0.5-5	30
CR127B14	.....	1-20	1-6	30
CR127B15	.....	1-75	3-15	100
CR127B11	.....	1-115	6-30	225
CR127B18	.....	20-180	10-30	255
CR127B19	.....	10-275	15-25	300
CR127B12	.....	10-300	25-125	600

CR127A - w/o Sealing Ring, w/o Pilot Light				
CR127A3	.....	135-1000	35-135	10000
CR127A4	.....	400-3000	100-400	10000

CR127A - w/o Sealing Ring, w/115V Pilot Light				
CR127A13	.....	135-1000	35-135	10000
CR127A14	.....	400-3000	100-400	10000

CR127A - w/Sealing Ring, w/o Pilot Light				
CR127A5	.....	135-1000	Min: 70-100 Med: 95-135 Max: 125-150	10000
CR127A6	.....	400-3000	Min: 210-300 Med: 310-410 Max: 450-475	10000

CR127A - w/Sealing Ring, w/115V Pilot Light				
CR127A15	.....	135-1000	Min: 70-100 Med: 95-135 Max: 125-150	10000
CR127A16	.....	400-3000	Min: 210-300 Med: 310-410 Max: 450-475	10000

*Switch can be adjusted to operate on Falling (CR127B) or RISING (CR127A) pressure within this range.

†Add (CR127B) or subtract (CR127A) to range setting to obtain operating point on RISING (CR127B) or FALLING (CR127A) pressure.

Note: Must be used with maximum safe pressure range which should be greater than line pressure including pressure surges. A surge reducer should be used for protection against large line surges.

GE ED&C-CONTROL COMPONENTS

Manual Reversing Drum Switches
Series CR102



NEMA Type 1, surface mounted switches for stopping, starting and reversing single-phase or inherently protected polyphase motors on small tools, farm machinery, hoists and commercial machinery up to a maximum of 2 hp and 600V. Wrap-around cover with 180° accessibility. Large screw-type terminals. Separate conduit openings for incoming and outgoing leads. Removable cover.

CR102A Forms. If one wire is connected directly to motor, three-phase forms may be used on single-phase motors and single-phase forms may be used on three-phase motors. Field conversion of maintained contact to momentary contact can be made without additional parts.

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Products shown here are for reference only. They can be sold by the locally authorized distributor.

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Horsepower Ratings

No.	10 115V	10 230V	Polyphase 230-240V	Polyphase 400-600V	DC 115/230V
CR102A1	1½	2	2	2	¼
CR102A13	1½	2	2	2	¼
CR102A2	1½	2			
CR102A3	1½	2			
CR102A16	1½	2			
CR102A23	1½	2			
CR102B(all)	1	1½	1½		

Drum Switches

No.	UPC	For Motor Type
	Both Directions Momentary or Maintained - CR102A	
CR102A1		3Ø
CR102A2		1Ø
CR102A3		1Ø Instant. Reverse
CR102A16		1Ø Dual Voltage Recon.
	One Direction Momentary, Other Maintained - CR102A	
CR102A13		3Ø
CR102A23		1Ø
	Maintained Contact - CR102B	
CR102B311A		1Ø Cap. Start, Split Phase; 1Ø, Inherently Protected, 5-Lead
CR102B414A		1Ø Cap. Start, Split Phase*
CR102B412A		1Ø Inherently Protected, 5-Lead*
CR102B312A		3Ø 3-Wire; 1Ø Repulsion-Induction, 3 & 4-Lead
CR102B314A		1Ø Repulsion-Induction, 3 & 4-Lead*
CR102B313A		1Ø Instant. Reverse, 5-Lead
CR102B413A		1Ø Instant. Reverse, 5-Lead†
CR102B415A		1Ø Instant. Reverse, Inherently Protected, 6-Lead
CR102B411A		1Ø Instant. Reverse, Inherently Protected, 6-Lead*
	Maintained Contact - Panel Mounted - CR102B	
CR102B321A		1Ø Cap. Start, Split Phase; 1Ø Inherently Protected, 5-Lead
CR102B424A		1Ø Cap. Start, Split Phase†
CR102B422A		1Ø Inherently Protected, 5-Lead*
CR102B322A		3Ø 3-Wire; 1Ø Repulsion-Induction, 3 & 4-Lead
CR102B324A		1Ø Repulsion-Induction, 3 & 4-Lead*
CR102B323A		1Ø Instant. Reverse, 5-Lead
CR102B423A		1Ø Instant. Reverse, 5-Lead*
CR102B425A		1Ø Instant. Reverse, Inherently Protected, 6-Lead
CR102B421A		1Ø Instant. Reverse, Inherently Protected, 6-Lead*
	Maintained Contact - Cavity Mounted w/Flush Plate - CR102B	
CR102B331A		1Ø Cap. Start, Split Phase; 1Ø Inherently Protected, 5-Lead
CR102B434A		1Ø Cap. Start, Split Phase*
CR102B432A		1Ø Inherently Protected, 5-Lead*
CR102B332A		3Ø, 3-Wire; 1Ø Repulsion-Induction, 3 & 4-Lead
CR102B334A		1Ø Repulsion-Induction, 3 & 4-Lead*
CR102B333A		1Ø Instant. Reverse, 5-Lead
CR102B433A		1Ø Instant. Reverse, 5-Lead*
CR102B435A		1Ø Instant. Reverse, Inherently Protected, 6-Lead
CR102B431A		1Ø Instant. Reverse, Inherently Protected, 6-Lead*
	Momentary Contact - CR102B	
CR102B311A1		1Ø Cap. Start, Split Phase; 1Ø Inherently Protected, 5-Lead
CR102B414A1		1Ø Cap. Start, Split Phase
CR102B412A1		1Ø Inherently Protected, 5-Lead
CR102B312A1		3Ø 3-Wire; 1Ø Repulsion-Induction, 3 & 4-Lead
CR102B314A1		1Ø Repulsion-Induction, 3 & 4-Lead
CR102B313A1		1Ø Instant. Reverse, 5-Lead
CR102B413A1		1Ø Instant. Reverse, 5-Lead
CR102B415A1		1Ø Instant. Reverse, Inherently Protected, 6-Lead
CR102B411A1		1Ø Instant. Reverse, Inherently Protected, 6-Lead*
	Momentary Contact - Panel Mounted - CR102B	
CR102B321A1		1Ø Cap. Start, Split Phase; 1Ø Inherently Protected, 5-Lead
CR102B424A1		1Ø Cap. Start, Split Phase
CR102B422A1		1Ø Inherently Protected, 5-Lead*
CR102B322A1		3Ø 3-Wire; 1Ø Repulsion-Induction, 3 & 4-Lead
CR102B324A1		1Ø Repulsion-Induction, 3 & 4-Lead*
CR102B323A1		1Ø Instant. Reverse, 5-Lead
CR102B423A1		1Ø Instant. Reverse, 5-Lead
CR102B425A1		1Ø Instant. Reverse, Inherently Protected, 6-Lead
CR102B421A1		1Ø Instant. Reverse, Inherently Protected, 6-Lead



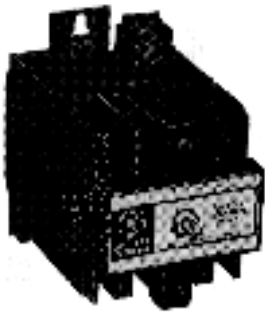
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No.	UPC	For Motor Type
	Momentary Contact - Cavity Mounted w/Flush Plate - CR102B	
CR102B331A1		1Ø Cap. Start, Split Phase;
CR102B434A1		1Ø Inherently Protected, 5-Lead
CR102B432A1		1Ø Cap. Start, Split Phase
CR102B332A1		1Ø, Inherently Protected, 5-Lead
		3Ø 3-Wire;
CR102B334A1		1Ø Repulsion-Induction, 3 & 4-Lead
CR102B333A1		1Ø Repulsion-Induction, 3 & 4-Lead
CR102B433A1		1Ø Instant. Reverse, 5-Lead
CR102B435A1		1Ø Instant. Reverse, 5-Lead
CR102B431A1		1Ø Instant. Reverse, Inherently Protected, 6-Lead
		1Ø Instant. Reverse, Inherently Protected, 6-Lead

*w/Power-type overtravel limit switches.

GE ED&C-CONTROL COMPONENTS
Machine Tool & Industrial Relays
 Series CR120B



600V 10A continuous, 60 Hz. Meet most panel application requirements. Bifurcated contacts assure positive make at all voltages. Transparent Lexan® contact cartridges for easy inspection of contacts. Convertible contacts. Coil changeable without removing any screws. Include captive terminal clamps and convertible contact modules.

Contact Ratings

Type	Max. AC Volts	Max. Continuous Amps	Make VA	Max. AC Rating	
				Break VA	Break Amps
Instant.	600	10	7200	720	60
Delay	600	5	3600	360	60

Coil Data

AC Coil Type	Inrush VA	Sealed VA	Sealed Watts
Relay	120	15	7.0
Unlatch	31	15	9.2

Standard Open Relays

No.	UPC	No. Poles	Contacts NO	Contacts NC	Freq. 60 Hz Volts
AC Relays					
CR120B02002		2	2	0	115-120
CR120B02003		2	2	0	230
CR120B02004		2	2	0	460
CR120B01102		2	1	1	115-120
CR120B01103		2	1	1	230
CR120B01104		2	1	1	460
CR120B00202		2	0	2	115-120
CR120B00203		2	0	2	230
CR120B00204		2	0	2	460
CR120B03002		3	3	0	115-120
CR120B03003		3	3	0	230
CR120B03004		3	3	0	460
CR120B02102		3	2	1	115-120
CR120B02103		3	2	1	230
CR120B02104		3	2	1	460
CR120B01202		3	1	2	115-120
CR120B01203		3	1	2	230
CR120B01204		3	1	2	460
CR120B00302		3	0	3	115-120
CR120B00303		3	0	3	230
CR120B00304		3	0	3	460
CR120B04002		4	4	0	115-120
CR120B04003		4	4	0	230
CR120B04004		4	4	0	460
CR120B03102		4	3	1	115-120
CR120B03103		4	3	1	230
CR120B03104		4	3	1	460
CR120B02202		4	2	2	115-120
CR120B02203		4	2	2	230

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No.	UPC	No. Poles	Contacts NO	Contacts NC	Freq. 60 Hz Volts
CR120B02204		4	2	2	460
CR120B01302		4	1	3	115-120
CR120B01303		4	1	3	230
CR120B01304		4	1	3	460
CR120B00402		4	0	4	115-120
CR120B00403		4	0	4	230
CR120B00404		4	0	4	460
CR120B06002		6	6	0	115-120
CR120B06003		6	6	0	230
CR120B06004		6	6	0	460
CR120B05102		6	5	1	115-120
CR120B05103		6	5	1	230
CR120B05104		6	5	1	460
CR120B04202		6	4	2	115-120
CR120B04203		6	4	2	230
CR120B04204		6	4	2	460
CR120B03302		6	3	3	115-120
CR120B03303		6	3	3	230
CR120B03304		6	3	3	460
CR120B02402		6	2	4	115-120
CR120B02403		6	2	4	230
CR120B02404		6	2	4	460
CR120B01502		6	1	5	115-120
CR120B01503		6	1	5	230
CR120B01504		6	1	5	460
CR120B00602		6	0	6	115-120
CR120B00603		6	0	6	230
CR120B00604		6	0	6	460
CR120B08002		8	8	0	115-120
CR120B08003		8	8	0	230
CR120B08004		8	8	0	460
CR120B07102		8	7	1	115-120
CR120B07103		8	7	1	230
CR120B07104		8	7	1	460
CR120B06202		8	6	2	115-120
CR120B06203		8	6	2	230
CR120B06204		8	6	2	460
CR120B05302		8	5	3	115-120
CR120B05303		8	5	3	230
CR120B05304		8	5	3	460
CR120B04402		8	4	4	115-120
CR120B04403		8	4	4	230
CR120B04404		8	4	4	460
CR120B03502		8	3	5	115-120
CR120B03503		8	3	5	230
CR120B03504		8	3	5	460
CR120B02602		8	2	6	115-120
CR120B02603		8	2	6	230
CR120B02604		8	2	6	460
CR120B01702		8	1	7	115-120
CR120B01703		8	1	7	230
CR120B01704		8	1	7	460
CR120B00802		8	0	8	115-120
CR120B00803		8	0	8	230
CR120B00804		8	0	8	460
CR120B10002		10	10	0	115-120
CR120B10003		10	10	0	230
CR120B10004		10	10	0	460
CR120B08202		10	8	2	115-120
CR120B08203		10	8	2	230
CR120B08204		10	8	2	460
CR120B06402		10	6	4	115-120
CR120B06403		10	6	4	230
CR120B06404		10	6	4	460
CR120B04602		10	4	6	115-120
CR120B04603		10	4	6	230
CR120B04604		10	4	6	460
CR120B02802		10	2	8	115-120
CR120B02803		10	2	8	230
CR120B02804		10	2	8	460
CR120B12002		12	12	0	115-120
CR120B12003		12	12	0	230
CR120B12004		12	12	0	460
CR120B10202		12	10	2	115-120
CR120B10203		12	10	2	230
CR120B10204		12	10	2	460
CR120B08402		12	8	4	115-120
CR120B08403		12	8	4	230
CR120B08404		12	8	4	460
CR120B06602		12	6	6	115-120
CR120B06603		12	6	6	230
CR120B06604		12	6	6	460
CR120B04802		12	4	8	115-120
CR120B04803		12	4	8	230
CR120B04804		12	4	8	460
DC Relays					
CR120BD02048		2	2	0	24
CR120BD02049		2	2	0	48



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No.	UPC	No. Poles	Contacts NO	Contacts NC	Freq. 60 Hz Volts
CR120BD02041		2	2	0	125
CR120BD01148		2	1	1	24
CR120BD01149		2	1	1	48
CR120BD01141		2	1	1	125
CR120BD00248		2	0	2	24
CR120BD00249		2	0	2	48
CR120BD00241		2	0	2	125
CR120BD03048		3	3	0	24
CR120BD03049		3	3	0	48
CR120BD03041		3	3	0	125
CR120BD02148		3	2	1	24
CR120BD02149		3	2	1	48
CR120BD02141		3	2	1	125
CR120BD01248		3	1	2	24
CR120BD01249		3	1	2	48
CR120BD01241		3	1	2	125
CR120BD00348		3	0	3	24
CR120BD00349		3	0	3	48
CR120BD00341		3	0	3	125
CR120BD05048		5	5	0	24
CR120BD05049		5	5	0	48
CR120BD05041		5	5	0	125
CR120BD04148		5	4	1	24
CR120BD04149		5	4	1	48
CR120BD04141		5	4	1	125
CR120BD03248		5	3	2	24
CR120BD03249		5	3	2	48
CR120BD03241		5	3	2	125
CR120BD02348		5	2	3	24
CR120BD02349		5	2	3	48
CR120BD02341		5	2	3	125
CR120BD01448		5	1	4	24
CR120BD01449		5	1	4	48
CR120BD01441		5	1	4	125
CR120BD00548		5	0	5	24
CR120BD00549		5	0	5	48
CR120BD00541		5	0	5	125
CR120BD07048		7	7	0	24
CR120BD07049		7	7	0	48
CR120BD07041		7	7	0	125
CR120BD06148		7	6	1	24
CR120BD06149		7	6	1	48
CR120BD06141		7	6	1	125
CR120BD05248		7	5	2	24
CR120BD05249		7	5	2	48
CR120BD05241		7	5	2	125
CR120BD04348		7	4	3	24
CR120BD04349		7	4	3	48
CR120BD04341		7	4	3	125
CR120BD03448		7	3	4	24
CR120BD03449		7	3	4	48
CR120BD03441		7	3	4	125
CR120BD02548		7	2	5	24
CR120BD02549		7	2	5	48
CR120BD02541		7	2	5	125
CR120BD01648		7	1	6	24
CR120BD01649		7	1	6	48
CR120BD01641		7	1	6	125
CR120BD00748		7	0	7	24
CR120BD00749		7	0	7	48
CR120BD00741		7	0	7	125
CR120BD09048		9	9	0	24
CR120BD09049		9	9	0	48
CR120BD09041		9	9	0	125
CR120BD07248		9	7	2	24
CR120BD07249		9	7	2	48
CR120BD07241		9	7	2	125
CR120BD05448		9	5	4	24
CR120BD05449		9	5	4	48
CR120BD05441		9	5	4	125
CR120BD03648		9	3	6	24
CR120BD03649		9	3	6	48
CR120BD03641		9	3	6	125
CR120BD02748		9	2	7	24
CR120BD02749		9	2	7	48
CR120BD02741		9	2	7	125
CR120BD11048		11	11	0	24
CR120BD11049		11	11	0	48
CR120BD11041		11	11	0	125
CR120BD08348		11	8	3	24
CR120BD08349		11	8	3	48
CR120BD08341		11	8	3	125
CR120BD06548		11	6	5	24
CR120BD06549		11	6	5	48
CR120BD06541		11	6	5	125
CR120BD04748		11	4	7	24
CR120BD04749		11	4	7	48
CR120BD04741		11	4	7	125

GE ED&C-CONTROL COMPONENTS

Industrial Relays Series CR120BP



600V 10A continuous, 60 Hz. For punch press control circuits or applications requiring regular checking of proper functioning. Should a normally open contact weld closed, the normally closed contacts will not reclose upon de-energization of the relay coil, providing a self-checking function. Captive terminal clamps and convertible contact modules included.

UL Listed File E, Type L. CSA Certified LR 15492.

Ratings

Max. AC Volts	Max. Continuous Amps	Max. Make VA	Max. Break VA	Max. Make Amps	Max. Break Amps
600	10	7200	720	60	6

Industrial Relays

No.	UPC	No. Poles	Contacts		Freq. 60 Hz
			NO	NC	
CR120BP04003		4	4	0	230
CR120BP04004		4	4	0	460
CR120BP02222		4	2	2	120
CR120BP04024		4	4	0	208
CR120BP08022		8	8	0	120

GE ED&C-CONTROL COMPONENTS

Relay Components Industrial - Series CR120B



Time-Delay Attachment



Latch Attachment



Solid-State Time/Relay Attachment



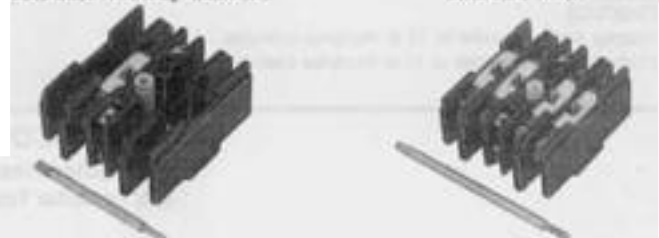
Solid-State Timer



Contact Cartridge



Base Relay Assembly



First Adder Deck Kit



Second Adder Deck Kit

Pneumatic Time-Delay Attachments. Pneumatic timing head with no 1 NO-1 NC time-delay contacts. Easily field converted for both ON and OFF delay functions. Mountable on any two to four pole CR120B or BP relay.

Latch Attachments. Mount on any standard CR120B max. eight pole relay, in same manner as deck adder.

Solid-State Time-Delay Attachments. Mount on any standard CR120B or BP relay, max. eight pole. No mechanical contacts. Utilize triac output. Repetitive accuracy $\pm 2\%$. Field convertible from TDE to TDD by changing a wire from one terminal to another. Will drive 6 to 24 continuous VA load and .05 sec. signal needed to reset timer. Draw 9 VA when load is not on and do not add to current draw of load when load is energized.

Panel Mounted Solid-State Timers. For direct mounting in panel or on mounting track. No mechanical contacts. Utilize triac output. Repetitive accuracy $\pm 2\%$. Will drive 6 to 24 continuous VA load and .05 sec. signal needed to reset timer. Draw 9 VA when load is not on and do not add to current draw of load when load is energized.

Contact Cartridges. Same contact cartridge used in all 3 decks of relay. Easily convertible from NO to NC and NC to NO.

Base Relay Assemblies. Consist of standard four-pole relay without contact cartridges. One through four contact CR120BX1 cartridges may be added as required.

First Adder Deck Kits. Supplied with 1 NO contact cartridge. Accommodate up to four cartridges as required. Mount on base relay assemblies, expanding relay to max. eight poles.

Second Adder Deck Kits. Supplied with 4 NO contact cartridges. Mount on first added deck or eight-pole relay; provide nine to twelve poles.

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Relay Attachments

No.	UPC	Mode	Time Rge. Sec.	Freq. 60 Hz Volts
Pneumatic Time-Delay Attachments				
CR122BX1A		TDE	0.2-60	
CR122BX1B		TDE	5.0-200	
CR122BX1E		TDD	0.2-60	
CR122BX1F		TDD	5.0-200	
Latch Attachments				
CR120BL00002				115-120
CR120BL00003				230
CR120BL00004				460
Solid-State Time-Delay Attachments				
CR122BT00002A			.1-5	115-120
CR122BT00003A			.3-30	230
CR122BT00002B			1.8-180	115-120
CR122BT00003B			.1-5	230
CR122BT00002C			.6-60	115-120
CR122BT00003C			1.8-180	230
CR122BT00002D			.3-30	115-120
CR122BT00003D			.5-60	230
Panel Mounted Solid-State Timers				
CR122BT00002AB			.1-5	115-120
CR122BT00003AB			.3-30	230
CR122BT00002BB			1.8-180	115-120
CR122BT00003BB			.1-5	230
CR122BT00002CB			.6-60	115-120
CR122BT00003CB			1.8-180	230
CR122BT00002DB			.3-30	115-120
CR122BT00003DB			.6-60	230

Relay Components

No.	UPC	Desc.
Contact Cartridges*		
CR120BX1		NO Contact
CR120BX1C		NC Contact
Base Relay Assemblies		
CR120B00002		115-120V AC, 60 Hz
CR120B00003		230V AC, 60 Hz
CR120B00004		460V AC, 60 Hz
CR120BD00048		24V DC
CR120BD00049		48V DC
CR120BD00041		125V DC
First Added Deck Kits†		
CR120BX3		For Relay Forms CR120B, BD
CR120BX21		For Relay Forms CR120BP
Second Adder Deck Kits†		
CR120BX14		For Relay Forms CR120B, BD
CR120BX22		For Relay Forms CR120BP

*20/pkg. Minimum order of 20 or multiples available.

†10/pkg. Minimum order of 10 or multiples available.

GE ED&C-CONTROL COMPONENTS

Modular Resilient Terminal Blocks

Box or Collar Type - Rail Mounting - CR151K



Molded nylon terminal blocks resist breakage and occupy minimum space on control panels. Four circuits per inch at 300V or 600V, #22-10 wire, without stacking. Can be installed and removed without moving adjacent blocks. Fully shielded for protection of all live parts. Nylon has excellent anti-tracking qualities.

410 Stainless steel collar-type terminals with spring-action overlapping top plates keep screws in position during shipping, ready for tightening when wire is installed. Connections kept tight by maintaining pressure on conductors during expansion and contraction. Large opening for easy wiring. Insulating walls on all sides of entrance to collar.

No. CR151KFC45F. Sub-miniature spacing, 5 circuits per inch. Larger screws can take torque of standard screwdriver. Take one #12 or two #14 wires. Helps keeps loose strands from shorting adjacent poles. Wide marking area for pressure sensitive tape permits printing or marking prior to assembly.

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Products shown here are for reference only. They can be sold by the locally authorized distributor.

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Terminal Blocks

No.	UPC	Desc.	Amp Rating	Max. Amps @30°C	Volts	No. Pts.	Wire Size
Box or Collar Type Terminals							
CR151KEC04E		Compact, 1"	30	50	300	4	22-10
CR151KFC04E		Compact, 1"	30	50	600	4	22-10
CR151KFC01D		Med. Duty, 5/8"	70	130	600	1	18-4
CR151KFC10C*		Med. Duty, 1 1/8"	90	130	600	3	18-2
CR151KFC10B*		Lg. Cable, 3 1/8"	175	270	600	3	14-2/0
CR151KFC45F		Lg. Opening, 2.4"	20		300	12	12-22
			5		600		
Fuse Holder							
CR151KGC01AM		For 1 1/2"x1 1/2" Long Fuse	30		600		22-8
Isolating Disconnect, Fused or Non-Fused							
CR151KHC01AN		w/Holder for 1/4" Dia. by 1" to 1 1/8" Long Fuse	30				22-8

*Also base mountable.

Accessories

No.	Desc.
CR151KX014	36" Alum. Mounting Rail
CR151KX001	72" Alum. Mounting Rail
CR151KX008	Fuse Puller; 1/Holder
CR151KX005	Jumper, 2 Pt.
CR151KX009	Jumper, 5 Pt.
CR151KX016	Jumper, 13 Pt. (For KFC45F)
CR151KX011	Marking Tab, 1 Block
CR151KX010	6" Marking Tape
CR151KX003	12 1/2" Marking Tape
CR151KX002†	72" Stand-off Channel

†Use only w/mounting rail Ref. No. 1 or 14. Lubrication required on rail when mounting stand-off channel.

GE ED&C-DISTRIBUTION COMPONENTS

Manual Motor Starters



Toggle operated tumbler type switches; no overload protection. Only copper wire, 14-10 AWG. UL Listed.

No.	UPC	Max. No. Poles	Rating Amps	Volts
Indoor Type 1 Surface				
TC2228	00053	2	20	240 AC, 480 AC 250 DC
TC2368	00096	3	30 20	240 AC 600 AC
Switch Only-No Enclosure				
TC2228S	14586	2	20	240 AC, 480 AC 250 DC
TC2368S	00097	3	30 20	240 AC 600 AC



GE ED&C-CONTROL COMPONENTS

Magnetic Reversing Controllers

CR309



For full voltage starting and reversing of squirrel-cage induction motors up to 600 hp, 600V maximum. For single or polyphase motors on applications where plugging and/or reversing operations are required. Feature 3-leg overload relay to provide Class 20 overload protection in all phases. Weld resistant, silver cadmium oxide contact tips. Contacts are installed in a wedge configuration allowing positive make with minimum bounce. Visual trip indicator with manual reset. Dual bimetals anticipate overloads, responding to rising current and temperature with faster tripping on severe overloads for better motor protection. Manual weld check. ±10% trip adjustment. Motor full load current should not exceed continuous amp rating of starter.

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3 Pole - Three-Leg Protection

No.	UPC	NEMA Size	Cont. Rating Amps	Max. hp Rating Volts	Max. hp
Open Type - w/Horizontal Mech. Int.					
CR309A002		00	9	115-120*	...
CR309A023		00	9	200-208	1½
CR309A003		00	9	230-240	1½
CR309A004		00	9	460-480	2
CR309A005		00	9	575-600	2
CR309B002		0	18	115-120*	...
CR309B023		0	18	200-208	3
CR309B003		0	18	230-240	3
CR309B004		0	18	460-480	5
CR309B005		0	18	575-600	5
CR309C002		1	27	115-120*	...
CR309C023		1	27	200-208	7½
CR309C003		1	27	230-240	7½
CR309C004		1	27	460-480	10
CR309C005		1	27	575-600	10
CR309D002		2	45	115-120*	...
DR309D023		2	45	200-208	10
DR309D003		2	45	230-240	15
DR309D004		2	45	460-480	25
DR309D005		2	45	575-600	25
CR309E002		3	90	115-120*	...
CR309E023		3	90	200-208	25
CR309E003		3	90	230-240	30
CR309E004		3	90	460-480	50
CR309E005		3	90	575-600	50
CR309F002		4	135	115-120*	...
CR309F023		4	135	200-208	40
CR309F003		4	135	230-240	50
CR309F004		4	135	460-480	100
CR309F005		4	135	575-600	100
CR309G002		5	270	115-120*	...
CR309G023		5	270	200-208	75
CR309G003		5	270	230-240	100
CR309G004		5	270	460-480	200
CR309G005		5	270	575-600	200
Open Type - w/Vertical Mech. Int.					
CR309B002CAA		0	18	115-120*	...
CR309B023CAA		0	18	200-208	3
CR309B003CAA		0	18	230-240	3
CR309B004CAA		0	18	460-480	5
CR309B005CAA		0	18	575-600	5
CR309C002CAA		1	27	115-120*	...
CR309C023CAA		1	27	200-208	7½
CR309C003CAA		1	27	230-240	7½
CR309C004CAA		1	27	460-480	10
CR309C005CAA		1	27	575-600	10
CR309D002CAA		2	45	115-120*	...
DR309D023CAA		2	45	200-208	10
DR309D003CAA		2	45	230-240	15
DR309D004CAA		2	45	460-480	25
DR309D005CAA		2	45	575-600	25
CR309E002CAA		3	90	115-120*	...
CR309E023CAA		3	90	200-208	25
CR309E003CAA		3	90	230-240	30
CR309E004CAA		3	90	460-480	50
CR309E005CAA		3	90	575-600	50
CR309F002CAA		4	135	115-120*	...
CR309F023CAA		4	135	200-208	40
CR309F003CAA		4	135	230-240	50
CR309F004CAA		4	135	460-480	100
CR309F005CAA		4	135	575-600	100
CR309G002CAA		5	270	115-120*	...
CR309G023CAA		5	270	200-208	75
CR309G003CAA		5	270	230-240	100
CR309G004CAA		5	270	460-480	200
CR309G005CAA		5	270	575-600	200
NEMA Type 1					
CR309A102		00	9	115-120*	...
CR309A123		00	9	200-208	1½
CR309A103		00	9	230-240	1½
CR309A104		00	9	460-480	2
CR309A105		00	9	575-600	2
CR309B102		0	18	115-120*	...
CR309B123		0	18	200-208	3
CR309B103		0	18	230-240	3
CR309B104		0	18	460-480	5
CR309B105		0	18	575-600	5
CR309C102		1	27	115-120*	...
CR309C123		1	27	200-208	7½
CR309C103		1	27	230-240	7½
CR309C104		1	27	460-480	10

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No.	UPC	NEMA Size	Cont. Rating Amps	Max. hp Rating Volts	Max. hp
CR309C105		1	27	575-600	10
CR309D102		2	45	115-120*	...
DR309D123		2	45	200-208	10
DR309D103		2	45	230-240	15
DR309D104		2	45	460-480	25
DR309D105		2	45	575-600	25
CR309E102		3	90	115-120*	...
CR309E123		3	90	200-208	25
CR309E103		3	90	230-240	30
CR309E104		3	90	460-480	50
CR309E105		3	90	575-600	50
CR309F102		4	135	115-120*	...
CR309F123		4	135	200-208	40
CR309F103		4	135	230-240	50
CR309F104		4	135	460-480	100
CR309F105		4	135	575-600	100
CR309G102		5	270	115-120*	...
CR309G123		5	270	200-208	75
CR309G103		5	270	230-240	100
CR309G104		5	270	460-480	200
CR309G105		5	270	575-600	200

NEMA Type 3R - Rainproof, Sleet Resistant

CR309B602†	0 (00)	18 (9)	115-120*	...
CR309B603†	0 (00)	18 (9)	200-208	3 (1½)
CR309B604†	0 (00)	18 (9)	230-240	3 (1½)
CR309B605†	0 (00)	18 (9)	460-480	5 (2)
CR309C602	0 (00)	18 (9)	575-600	5 (2)
CR309C603	1	27	115-120*	...
CR309C604	1	27	200-208	7½
CR309C605	1	27	230-240	7½
CR309D602	1	27	460-480	10
DR309D603	1	27	575-600	10
DR309D604	2	45	115-120*	...
DR309D605	2	45	200-208	10
CR309E602	2	45	230-240	15
CR309E603	2	45	460-480	25
CR309E604	2	45	575-600	25
CR309E605	3	90	115-120*	...
CR309F602	3	90	200-208	25
CR309F603	3	90	230-240	30
CR309F604	3	90	460-480	50
CR309F605	3	90	575-600	50
CR309G602	4	135	115-120*	...
CR309G603	4	135	200-208	40
CR309G604	4	135	230-240	50
CR309G605	4	135	460-480	100
CR309G606	4	135	575-600	100
CR309G607	5	270	115-120*	...
CR309G608	5	270	200-208	75
CR309G609	5	270	230-240	100
CR309G610	5	270	460-480	200
CR309G611	5	270	575-600	200

NEMA Type 12 - Dust-Tight, Driptight - Industrial Use†

CR309B202†	0 (00)	18 (9)	115-120*	...
CR309B223†	0 (00)	18 (9)	200-208	3 (1½)
CR309B203†	0 (00)	18 (9)	230-240	3 (1½)
CR309B204†	0 (00)	18 (9)	460-480	5 (2)
CR309B205†	0 (00)	18 (9)	575-600	5 (2)
CR309C202	1	27	115-120*	...
CR309C223	1	27	200-208	7½
CR309C203	1	27	230-240	7½
CR309C204	1	27	460-480	10
CR309C205	1	27	575-600	10
CR309D202	2	45	115-120*	...
DR309D223	2	45	200-208	10
DR309D203	2	45	230-240	15
DR309D204	2	45	460-480	25
DR309D205	2	45	575-600	25
CR309E202	3	90	115-120*	...
CR309E223	3	90	200-208	25
CR309E203	3	90	230-240	30
CR309E204	3	90	460-480	50
CR309E205	3	90	575-600	50
CR309F202	4	135	115-120*	...
CR309F223	4	135	200-208	40
CR309F203	4	135	230-240	50
CR309F204	4	135	460-480	100
CR309F205	4	135	575-600	100
CR309G202	5	270	115-120*	...
CR309G223	5	270	200-208	75

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No.	UPC	NEMA Size	Cont. Rating Amps	Max. hp Rating Volts	Max. hp
CR309G203		5	270	230-240	100
CR309G204		5	270	460-480	200
CR309G205		5	270	575-600	200
NEMA Type 4 - Watertight, Dust-Tight - Stainless Steel§					
CR309B402†	0 (00)	18 (9)	115-120*	...
CR309B443†	0 (00)	18 (9)	200-208	3 (1½)
CR309B403†	0 (00)	18 (9)	230-240	3 (1½)
CR309B404†	0 (00)	18 (9)	460-480	5 (2)
CR309B405†	0 (00)	18 (9)	575-600	5 (2)
CR309C402	1	27	115-120*	...
CR309C443	1	27	200-208	7½
CR309C403	1	27	230-240	7½
CR309C404	1	27	460-480	10
CR309C405	1	27	575-600	10
CR309D402	2	45	115-120*	...
DR309D443	2	45	200-208	10
DR309D403	2	45	230-240	15
DR309D404	2	45	460-480	25
DR309D405	2	45	575-600	25
CR309E402	3	90	115-120*	...
CR309E443	3	90	200-208	25
CR309E403	3	90	230-240	30
CR309E404	3	90	460-480	50
CR309E405	3	90	575-600	50
CR309F402	4	135	115-120*	...
CR309F443	4	135	200-208	40
CR309F403	4	135	230-240	50
CR309F404	4	135	460-480	100
CR309F405	4	135	575-600	100
CR309G402	5	270	115-120*	...
CR309G443	5	270	200-208	75
CR309G403	5	270	230-240	100
CR309G404	5	270	460-480	200
CR309G405	5	270	575-600	200

*Separate control.

†NEMA 00 specifications denoted in parenthesis.

‡External reset not included. UL Listed to include Class II Groups F & G, Division 2 only, and Class III Hazardous Locations.

§UL Listed to include Class II Groups F & G, Division 2 only, and Class III Hazardous Locations.

Single-Phase - 4-Wire Split-Phase or Capacitor Start Induction Motor - Overload Protection

No.	UPC	NEMA Size	Cont. Amp Rating	Max. hp Rating Volts	Max. hp
Open Type					
CR309A002AFA		00	9	115-120	½
CR309A003AFA		00	9	230-240	1
CR309B002BBA		0	18	115-120	1
CR309B003BBA		0	18	230-240	2
CR309C002FSA		1	27	115-120	2
CR309C003FSA		1	27	230-240	3
NEMA Type 1 - General Purpose					
CR309A102AFA		00	9	115-120	½
CR309A103AFA		00	9	230-240	1
CR309B102DAA		0	18	115-120	1
CR309B103DAA		0	18	230-240	2
CR309C102DAA		1	27	115-120	2
CR309C103DAA		1	27	230-240	3
NEMA Type 12 - Dust-Tight, Driptight - Industrial Use*					
CR309B202DAA★		0 (00)	18 (9)	115-120	1 (½)
CR309B203DAA★		0 (00)	18 (9)	230-240	2 (1)
CR309C202ALA		1	27	115-120	2
CR309C203ALA		1	27	230-240	3
NEMA Type 4 - Watertight, Dust-Tight - Stainless Steel*					
CR309B402CCA★	0 (00)	18 (9)	115-120	1 (½)
CR309B403CCA★	0 (00)	18 (9)	230-240	2 (1)
CR309C402BXA	1	27	115-120	2
CR309C403BXA	1	27	230-240	3

*External reset not included.

★NEMA 00 specifications denoted in parenthesis.

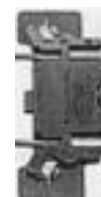
GE ED&C-CONTROL COMPONENTS

Auxiliary Contact Kits

CR305X - For Magnetic Contactors & Starters



Basic Block



Adder Block

For 300-Line contactors and starters, also suitable for 200-Line. Provide additional control circuits for variety of jobs without adding width to starter. Facilitate adding contacts to control accessory equipment, to control sequencing of other motor starters, and to plug-stop motors in conjunction with standard reversing starter and plugging switch. Auxiliary contacts can be added to all across-the-line magnetic starters and contactors, combination magnetic starters, reversing and multi-speed controllers.

Each auxiliary contact rated 10A AC, resistive load, NEMA A600. Suitable for left or right side mounting. Insulating shield provided between each auxiliary contact unit and starter. Each contact marked NC or NO on block and is not convertible.

No.	UPC	For NEMA Size	Contact Type
Basic Blocks - Sizes 0-6 - For 300-Line, 200-Line			
CR305X100A	0, 1	1 NO
CR305X100B	0, 1	1 NC
CR305X200A	2	1 NO
CR305X200B	2	1 NC
CR305X300A	3, 4	1 NO
CR305X300B	3, 4	1 NC
CR305X500A	5, 6	1 NO
CR305X500B	5, 6	1 NC
CR305X100C	0, 1	1 NO - 1 NC
CR305X200C	2	1 NO - 1 NC
CR305X300C	3, 4	1 NO - 1 NC
CR305X500C	5, 6	1 NO - 1 NC
Basic Blocks - Size 7			
CR385X600A	7	1 NO
CR385X600B	7	1 NC
CR385X600C	7	1 NO - 1 NC
Adder Blocks			
CR305X100D	0-7	1 NO
CR305X100E	0-7	1 NC

Note: A maximum of 4 extra auxiliary contacts (not blocks) may be added to NEMA size 0 or 1 contactors/starters. A maximum of 5 extra auxiliary contacts may be added to NEMA size 2 thru 6 contactors/starters.

MICRO SWITCH

Proximity Sensors

972/973 Series - Quick Connect - 3-Wire DC/2-Wire AC - 12mm Dia.



Sealed to IP67. 3 LED's for 360° viewing. Short circuit, overload, reverse polarity protection. False pulse suppression, line transient protection. -13°F to +158°F temperature range. Wt., 0.8 oz. UL Listed/CSA Certified. Meet IEC standards.

972 Series. 10V-30V DC supply voltage. 200 mA load current. 50 µA max. leakage current. 1.5V max. voltage drop. 12 mA max. current consumption. ±1% (shielded), ±3% (unshielded) repeatability. 2%-15% hysteresis.

973 Series. 20V-250V AC supply voltage. 5-250 mA load current. 1.7 mA max. leakage current. 9.5V at 25°C max. voltage drop. 2.7A/8.33 ms inrush. ±1% (shielded), ±3% (unshielded) repeatability. 2%-15% hysteresis.

No.	UPC	Desc.	Sensing Range In.	Switch Freq. Hz	Std. Target In.	Output Type
3-Pin Connector — 2-Wire AC						
973AA2JM-A7T-L	Shielded	.09	24	.47	NO
973AA2JM-B7T-L	Shielded	.09	24	.47	NC
973AC2JM-A7T-L	Shielded, Ext. Range	.16	24	.47	NO
973AC2JM-B7T-L	Shielded, Ext. Range	.16	24	.47	NC
4-Pin Connector — 3-Wire DC						
972AA2HM-A3N-L	Shielded	.80	1100	.47	NPN, NO
972AA2HM-A3P-L	Shielded	.80	1100	.47	PNP, NO
972AB2HM-A3N-L	Unshielded	.20	900	.59	NPN, NO
972AB2HM-A3P-L	Unshielded	.20	900	.59	PNP, NO
4-Pin Connector — 2-Wire AC						
973AA2HM-A7T-L	Shielded	.09	24	.47	NO
973AA2HM-B7T-L	Shielded	.09	24	.47	NC
973AC2HM-A7T-L	Shielded, Ext. Range	.16	24	.47	NO
973AC2HM-B7T-L	Shielded, Ext. Range	.16	24	.47	NC

Note: NO=Normally open, NC=Normally closed.



MICRO SWITCH

Modular Controls Logic Cards
MP/HDMP Series - Multi-Function



Convert any ON/OFF MP series photoelectric into a multi-function control. Offer On delay, Off delay, On/Off delay, 1-shot, 1-shot drop, delayed 1-shot, delayed 1-shot drop, and motion detection settings preset via 7 DIP switches. Selectable light or dark operated sensing. Two timing adjustment screws.

No.	UPC	Timing Range Sec.
MPA1	49500	.15-15
MPA133	11321	.001-0.1
MPA155	11322	1-30
MPA188	11323	.01-1

MICRO SWITCH

Standard SPDT Relay Bases
MP Series



Glass-filled polycarbonate base; die cast zinc cover; Buna-N cover/base seal; Santoprene head/base seal. Front mounted threaded or thru hole mounting. When properly assembled, sealing NEMA 1, 3, 4, 12, 13. UL Recognized.

No.	UPC	Input Voltage 50/60 Hz.	Output Type
MPV11	49530	103-132 AC	SPDT
MPV14	32325	20-260 AC/DC	SPDT

SIEMENS ENERGY & AUTOMATION

Starters

US Series NEMA - 3Ø - Class SXL



SXL2120

Available with 24V, 120V, 208V, 240V, 277V, 480V, or 600V coil voltages; 24V coils not available on size 4-8 starters; 120V coil voltage or less, starter wired for separate control except on size 6-8 starters, which are supplied at line voltage and include control transformer supplied as standard to give 120V to pilot circuit.

Two normally open and two normally closed auxiliary contacts as standard on NEMA sizes 0-5.

Heater elements not included with sizes 1-5 (3 heater elements required); sizes 6-8 include solid state 3UB adjustable overload relay (heaters not required).

No.	UPC	NEMA Size	Motor Volts	Max. HP
Open Type				
SXLB0	0	200-230 460-575	3 5
SXLC0	1	200-230 460-575	7.5 10
SXLD0	2	200 230 460-575	10 15 25
SXLE0	3	200 230 460-575	25 30 50
SXLF0	4	200 230 460-575	40 50 100
SXLG0	5	200 230 460-575	75 100 200
SXLH0	6	200 230 460-575	150 200 400
SXLJ0	7	200 230 460-575	200 230 400
SXLK0	8	200 230 460-575	200 230 400
NEMA Type 1—Gen. Purp.				
SXLBG*	0	200-230 460-575	3 5
SXLCG*	1	200-230 460-575	7.5 10
SXLDG*	2	200 230 460-575	10 15 25
SXLEG*	3	200 230 460-575	25 30 50
SXLF1	4	200 230 460-575	40 50 100
SXLG1	5	200 230 460-575	75 100 200
SXLH1	6	200 230 460-575	150 200 400
SXLJ1	7	200 230 460-575	200 230 400
SXLK1	8	200 230 460-575	200 230 400
NEMA Type 3R/12 †				
SXLB2‡	0	200-230 460-575	3 5
SXLC2‡	1	200-230 460-575	7.5 10
SXLD2‡	2	200 230 460-575	10 15 25
SXLE2‡	3	200 230 460-575	25 30 50
SXLF2‡	4	200 230 460-575	40 50 100
SXLG2‡	5	200 230 460-575	75 100 200

No.	UPC	NEMA Size	Motor Volts	Max. HP
SXLH2	6	200 230 460/575	150 200 400
SXLJ2	7	200 230 460-575	200 230 400
SXLK2	8	200 230 460-575	200 230 400
NEMA Type 3R				
SXLHR	6	200 230 460/575	150 200 400
SXLJR	7	200 230 460-575	200 230 400
SXLKR	8	200 230 460-575	200 230 400
NEMA Type 4—SS				
SXLS	0	200-230 460-575	3 5
SXLCS	1	200-230 460-575	7.5 10
SXLDS	2	200 230 460-575	10 15 25
SXLES	3	200 230 460-575	25 30 50
SXLFS	4	200 230 460-575	40 50 100
SXLGS	5	200 230 460-575	75 100 200
NEMA Type 4 Painted Sheet Steel				
SXLH4	6	200 230 460/575	150 200 400
SXLJ4	7	200 230 460-575	200 230 400
SXLK4	8	200 230 460-575	200 230 400
NEMA Type 4X Non-Metallic				
SXLBX	0	200-230 460-575	3 5
SXLCX	1	200-230 460-575	7.5 10
SXLDX	2	200 230 460-575	10 15 25
SXLEX	3	200 230 460-575	25 30 50
SXLFX	4	200 230 460-575	40 50 100

*Limited space available for options; only "KX" pilot device field modification kit can be installed in field.

†Watertight hubs or other means of watertight connections at conduit entrance are recommended.

‡UL Listed.

Let our professionals help you with your Motor Control needs. They're only a phone call away!

MICRO SWITCH

Rotary Actuated Switches

Momentary Action

- A.** 10A, 120V, 240V or 480V AC; 1/3 hp 120V AC; 3/4 hp 240V AC; .8A, 115V DC resistive; .4A, 230V DC resistive; .1A, 550V DC resistive. Pilot duty 600V AC max.
- B.** 0A 120, 240 or 480V AC; 1/4 hp 120V AC; 1/2 hp 240V AC; pilot duty 600V AC max.
- C.** 10A 120V AC; 1/3 hp 120V AC.
- F.** UL rating 10A 125, 250 or 480V AC; 1/3 hp 125V AC; 3/4 hp 250V AC; .8A 125V DC resistive; .4A 250V DC resistive.



No.	UPC	Desc.	Elec. Rating	Max. Oper. Torque Lbs.	Max. Oper. Torque N	Max. Pretravel Deg.	Min. Overtravel Deg.	Max. Diff. Travel Deg.
Compact Roller Lever Rotary Actuated - Steel Rollers								
1LS1		Standard	A	3	13.30	20	30	12
1LS1-L		UL/CSA Listed	F	3	13.30	20	30	12
1LS19		Low Pretravel	B	3	13.30	5	30	4
1LS131		Low Oper. Force	B	1 1/4	5.00	5	30	4
1LS501		Standard w/Indicator Light 120V AC Only	C	3	13.30	20	30	12
1LS6		Low Oper. Force	A	1 1/4	5.00	20	30	12
7LS1		Cavity Mount Version	A	3	13.30	20	30	12
1LS56*		Low Pretravel 5° and Low Operating Force	B	1 5/16	.11	5	30	4
Compact Adjustable Length Roller Lever Rotary Actuated - 1.2"-3.5" Length Adjustment - Nylon Rollers								
1LS3		Standard	A	3	13.30	20	30	
Compact Low Force Rod Rotary Actuated - 5" Aluminum Rod								
1LS53		Low Pretravel 5° and Low Operating Force	B	3/16	.83	5	30	4
1LS10		Standard	A	5/16	1.39	20	30	
Plug-In Roller Lever Rotary Actuated - Steel Rollers†								
201LS1†		Standard	A	3	13.30	20	30	12
201LS19		Low Pretravel	B	3	13.30	5	30	4
201LS501		Standard w/Indicator Light 120V AC Only	C	3	13.30	20	30	12
201LS6		Low Oper. Force	A	1 1/4	5.00	20	30	12
Plug-In Adjustable Length Roller Lever Rotary Actuated - 1.2"-3.5" Length Adjustment - Nylon Rollers†								
201LS3†		Standard	A	3	13.30	20	30	
Plug-In Low Force Rod Rotary Actuated - 5" Aluminum Rod†								
201LS10†		Standard	A	5/16	1.39	20	30	
Plug-In Rotary Actuated w/o Levers								
201LS56†		Low Pretravel 5° and Low Operating Force	B	1 5/16	.11	5	30	4
Plug-In Low Force Rod Rotary Actuated - 1.2"-3.5" Length Adjustment - Nylon Rollers								
201LS51		Low Pretravel 5° and Low Operating Force	B	3/16	.83	5	30	4

*w/o levers.
 †Requires terminal block (18PA1 for 200LS switches) which must be ordered separately. Unless damaged, it is not necessary to replace terminal block when replacing switch.
 ‡Requires terminal block (18PA1 for 200LS switches) which must be ordered separately. Unless damaged, it is not necessary to replace terminal block when replacing switch.



MICRO SWITCH

Standard and Double-Pole Basic Switches



Standard Switches. Snap action mechanisms enclosed in molded plastic cases. Mounting holes accept pins or screws of .139" diameter. Operating force as low as 4 ounces maximum.

Double-Pole Switches. Two independent single-pole double-throw circuits in one housing. Temperature tolerance to +180°F. Interchangeable with Type Z switches.

No.	UPC	Amps	Oper.		Released		Max. Pretravel In.	Min. Over Travel In.	Diff. Travel In.	Oper. Position In.
			Force Newton	Force Oz.	Force Newton	Force Oz.				
BZ Standard Basic Switches - Pin Plunger Type										
BZ-2R-A2	16065	15	2.5-3.61	9-13	1.11	4.0	.015	.005	.0004-.0020	.625±.015
BZ-R	.....	15	1.95-2.95	7-9	1.11	4.0	.012	.005	.0002-.0003	.625
BZ-2R*	16060	15	2.5-3.61	9-13	1.11	4.0	.015	.005	.0004-.0020	.625±.015
BZ-R21-A2	15645	10	1.11	4	0.7	2.5	.012	.005	.0002-.0005	.625±.015
BZ-R-A2-BG	14710	15	1.95-2.95	7-9	1.11	4.0	.012	.005	.0002-.0003	.625±.015

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No.	UPC	Oper.		Released		Max. Pretravel In.	Min. Over Travel In.	Diff. Travel In.	Oper. Position In.
		Force Newton	Force Oz.	Force Newton	Force Oz.				
BZ-R19-A2	15635	15	1.95-3.34	7-12	1.11	4.0	.012	.005-.008	.640±.015
BZ-7RT04	19805	15	6.0	12.0	1.67	6.0	.030	.005	.625±.015
BZ-2R72-A2		1	2.5-3.61	9-13	1.11	4.0	.015	.004-.0020	.625
BZ Standard Basic Switches - Large Overtravel Plunger Type									
BZ-2RD-A2	16115	15	2.5-3.61	9-13	1.11	4.0	.015	.060	.835±.020
BZ-2RDS5551-A2†	16136	15	3.61-5.28	13-19	1.11	4.0	...	.062	1.110±.020
BZ-2RDS-A2-S†	16146	15	3.61-5.28	13-19	1.11	4.0	...	.062	1.110±.020
BZ-2RQ181T		15	...	9-13	...	4.0	.015	.140	1.312±.045
BZ-7RQ18T		15	...	22-28	...	4.0	.030	.141	1.312±.045
BZ Standard Basic Switches - Bushing Mount Overtravel Plunger Type									
BZ-2RQ1*	16655	15	2.5-3.61	9-13	1.11	4.0	.015	.219	.859±.030
BZ-2RQ-A2		15	2.5-6.1	9-13	1.11	4.0	.015	.219	1.500±.0200
BZ-2RQ1-A2-BG	16660	15	2.5-3.61	9-13	1.11	4.0	.015	.219	.859±.030
BZ-2RQ18		...	...	...	...	...	...	...	...
BZ-2RQ18-A2-BG	16750	15	2.5-3.61	9-13	1.11	4.0	.015	.140	1.312±.045
BZ-2RQ181-A2	16907	15	2.5-3.61	9-13	1.11	4.0	.015	.140	1.312±.045
BA-2RQ1-A2		20	3.89-6.12	14-22	2.78	10.0	.050	.219	.859
BZ Standard Basic Switches - Straight Lever Type									
BZ-2RW863-A2*		15	0.28	1	...	...	...	.578	.0180-.1450
BZ-2RW863T		15	...	1	...	...	...	.500	.0180-.1450
BZ Standard Basic Switches - Roller Lever Type									
BZ-2RW822*	17465	15	1.67	6	0.42	1.5	...	.094	1.118±.015
BZ-2RW822T		...	...	...	...	...	...	...	...
BZ-2RW822-A2-BG	17470	15	1.67	6	0.42	1.5	...	.094	1.188±.015
BZ-2RW8225551-A2†	18370	15	1.67	6	0.42	1.5	...	.094	1.188±.015
DT Double-Pole, Double-Throw - Pin Plunger Type									
DT-2R-A7	23390	10	3.34-5.56	12-20	0.56	2.0	.075	.005	.0400-.0600

*Solder terminals.

†Dustproof and splash resistant seal.

MICRO SWITCH

**Miniature Pre-Wired Enclosed Switches
Series 914CE**



Factory pre-wiring with type SJTO cable allows for miniaturization of connection. Cable electrical connection and basic switch terminals encapsulated in epoxy compound. Elastomer seal between plunger and switch housing in addition to screw holes with continuous walls keep liquids out of switch. Zinc die cast housing. Maximum pretravel .071". Minimum overtravel .118".

UL Listed, File No. E41859. CSA Certified, File No. LR15775.

No.	UPC	Cord Lgth. Ft.	Amps	NEMA	Max. Oper. Force N	Max. Oper. Force Lbs.	Max. Differential Travel In.
Plunger Actuated							
914CE1-3	82850	3	5	1, 3	12.2	2.75	.004
914CE1-6		6	5	1, 3	12.2	2.75	.004
914CE1-9		9	5	1, 3	12.2	2.75	.004
Boot Sealed Plunger Actuated							
914CE18-3	82878	3	5	1, 3, 4, 6, 6P, 12, 13	22.3	5.00	.004
914CE18-6		6	5	1, 3, 4, 6, 6P, 12, 13	22.3	5.00	.004
914CE18-9		9	5	1, 3, 4, 6, 6P, 12, 13	22.3	5.00	.004
Roller Plunger Actuated							
914CE2-3	82860	3	5	1, 3	12.2	2.75	.004
914CE2-6		6	5	1, 3	12.2	2.75	.004
914CE2-9		9	5	1, 3	12.2	2.75	.004
914CE2-6A		6	...	1, 3	12.2	2.75	.004
914CE2-3C*		3	10	1, 3	17.8	4.00	.020
914CE2-6C*		6	10	1, 3	17.8	4.00	.020
914CE2-9C*		9	10	1, 3	17.8	4.00	.020
914CE2-3K		3	...	1, 3, 4, 6, 6P, 12, 13	1.8	.07	.004
914CE2-9K		9	...	1, 3, 4, 6, 6P, 12, 13	1.8	.07	.004
914CE2-24K		24	...	1, 3, 4, 6, 6P, 12, 13	1.8	.07	.004
Cross Roller Plunger Actuated							
914CE3-3	82858	3	5	1, 3	12.2	2.75	.004
914CE3-6		6	5	1, 3	12.2	2.75	.004
914CE3-9		9	5	1, 3	12.2	2.75	.004
914CE3-3K	82859	3	5	1, 3, 4, 6, 6P, 12, 13	22.3	5.00	.004
914CE3-6K		6	5	1, 3, 4, 6, 6P, 12, 13	22.3	5.00	.004
914CE3-9K		9	5	1, 3, 4, 6, 6P, 12, 13	22.3	5.00	.004
SPDT							
914CE16-RH10			5			3.00	3°
914CE16-RH11			5			3.00	3°

Continued on next page

Products shown here are for reference only. They can be sold by the locally authorized distributor.

Continued from previous page

No.	UPC	Cord Lgth. Ft.	Amps	NEMA	Max. Oper. Force N	Max. Oper. Force Lbs.	Max. Differential Travel In.
914CE16-RH12			5	...		3.00	3°
914CE16-RH13			5	...		3.00	3°
914CE16-RH14			5	...		3.00	3°
914CE16-RH15			5	...		3.00	3°
Multidirectional Spring Wire Wobble Actuator							
914CE20-9		9	...	1, 3, 4, 6, 6P, 12, 13	0.56	2.00	
Ball Bearing							
914CE66-6		6		1, 3	12.2	2.75	.004

*SPDT electrical rating.

MICRO SWITCH Compact Enclosed Switches E6/V6 Series



Cast aluminum housing. Lead washers seal mounting holes.

No.	UPC	Amps	Mtg.	Circuitry	Oper. Position In.	Max. Oper. Force Oz.	Max. Pretravel In.	Min. Overtravel In.	Max. Diff. Travel In.
Straight Plunger Actuated w/Seal Boot									
BZE6-2RN	21110	15	Side	SPDT	1.719±.030	9-24	.078	.219	.0020
BZV6-2RN	23100	15	Flange	SPDT	2.720±.060	9-24	.078	.219	.0020
DTE6-2RN	23690	10	Side	DPDT	1.812±.030	26-59	.110	.125	.0600
DTV6-2RN	23900	10	Flange	DPDT	2.812±.030	26-59	.110	.125	.0600
Straight Plunger Actuated w/o Seal Boot									
BZE6-2RQ	21240	15	Side	SPDT	1.500±.030	9-13	.015	.219	.0020
BZV6-2RQ	23150	15	Flange	SPDT	2.500±.045	9-13	.015	.219	.0020
BZE6-RQ	.....	15	Side	SPDT	1.500	6-9½	.012	.219	.0005
Roller Plunger Actuated w/o Seal Boot									
BZE6-7RQ8	.....	15	Side	SPDT	1.953±.045	22-28	.030	.141	.0050
Roller Plunger Actuated w/Seal Boot - Roller Parallel To Long Axis Of Switch									
BZE6-2RN80	21200	15	Side	SPDT	2.232±.045	9-24	.078	.219	.0020
DTE6-2RN80	.....	10	Side	DPDT	2.345±.040	20-48	.110	.125	.0600
Roller Plunger Actuated w/o Seal Boot - Roller Parallel To Long Axis Of Switch									
BZE6-2RQ8	21270	15	Side	SPDT	1.953±.045	9-13	.015	.140	.0020
BZV6-2RQ8	23180	15	Flange	SPDT	2.953±.060	9-13	.015	.140	.0020
Cross Roller Plunger Actuated w/o Seal Boot - Roller Perpendicular to Long Axis Of Switch									
BZE6-2RQ81	21330	15	Side	SPDT	1.953±.045	9-13	.015	.140	.0020
Roller Lever Actuated w/Seal Boot, Field Adjustable 360° Horizontally & 225° Vertically									
BZE6-2RN2	21120	15	Side	SPDT	...	10-20	.188	.219	.0060
BZV6-2RN2	23110	15	Flange	SPDT	...	10-20	.188	.219	.0060
DTE6-2RN2	23700	10	Side	DPDT	...	10-30	.266	.219	.1650
DTV6-2RN2	23910	10	Flange	DPDT	...	10-30	.266	.219	.1650
Roller Lever Actuated w/o Seal Boot, Field Adjustable 45° Increments Horizontal & 225° Vertically									
BZE6-2RQ2	21250	15	Side	SPDT	...	10-18	.188	.219	.0060
BZV6-2RQ2	23160	15	Flange	SPDT	...	10-18	.188	.219	.0060
One-Way Roller Lever Actuated w/Seal Boot - Field Adjustable 360° Horizontally & 180° Vertically									
BZE6-2RN28	21160	15	Side	SPDT	...	8-20	.234	.219	.0060
BZV6-2RN28	23130	15	Flange	SPDT	...	8-20	.234	.219	.0060
Coil Spring Wobble Lever Actuated w/Seal Boot - Operates Any Direction Except Pull									
BZE6-2RN18*	21155	15	Side	SPDT	...	7	...	...	...
BZV6-2RN18*	23125	15	Flange	SPDT	...	7	...	...	...
Straight Plunger Actuated Reset w/Seal Boot									
BZE6-RNX1†	21080	15	Side	SPDT	1.718±.030	6-20	.078	.187	...
BZV6-RNX1†	23250	15	Flange	SPDT	2.720±.060	6-20	.078	.187	...
Straight Plunger Actuated Reset w/o Seal Boot									
BZE6-RQX2‡	21040	15	Side	SPDT	1.500±.030	6-9.5	.012	.187	...
BZV6-RQX2‡	.....	15	Flange	SPDT	2.500±.045	6-9.5	.012	.187	...

*Max. pretravel 15°.

†Reset operating force, 6 oz.

‡Reset operating force, 8 oz.



MICRO SWITCH

All-Metals Sensitive Proximity Sensors
LYS/LYT



Side Sensing



Top Sensing

Self-contained sensors with zinc die-cast housings. Plug-in bodies use same receptacle as electromechanical HDLS and MP photoelectric products.

Meets NEMA 3, 3R, 3S, 4, 12 and 13 sealing requirements.

Integrated circuit is noise, false pulse and transient protected. Includes self-fitting pressure plate terminals and LED indicators.

LED Indicator Units

No.	UPC	Sens. Dist. In.	LED Indicator	Output Type
Side Sensing Units				
LYS02C-2S	0.57	Output ON	AC NO
LYS02E-2S	0.57	Power ON	AC NO or NC
LYS01C-2S	0.50*	Output ON	AC NO
LYS01E-2S	0.50*	Power ON	AC NO or NC
LYS01A-1S	0.50*	Output ON	DC Sinking
LYS01B-1S	0.50*	Output ON	DC Sourcing
Top Sensing Units				
LYT02C-2S	0.57	Output ON	AC NO
LYT02E-2S	0.57	Power ON	AC NO or NC
LYT01C-2S	0.50*	Output ON	AC NO
LYT01E-2S	0.50*	Power ON	AC NO or NC
LYT01A-1S	0.50*	Output ON	DC Sinking
LYT01B-1S	0.50*	Output ON	DC Sourcing

*Shielded.

With Adjustable Time Delay

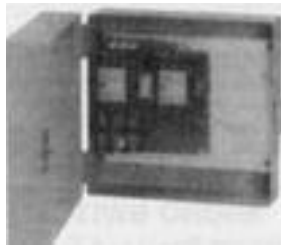
(0.5-12 Seconds)

No.	UPC	Sens. Dist. In.	Delay Type	Output Type
Side Sensing Units				
LYS01CNX-2S	0.50†	ON Only	AC NO
LYS01ANX-2S	0.50†	ON Only	DC Sinking
LYS01CFX-2S	0.50†	OFF Only	AC NO
LYS01AFX-2S	0.50†	OFF Only	DC Sinking
LYS01CDX-2S	0.50†	ON & OFF	AC NO
LYS01ADX-2S	0.50†	ON & OFF	DC Sinking
Top Sensing Units				
LYT01CNX-2S	0.50†	ON Only	AC NO
LYT01ANX-2S	0.50†	ON Only	DC Sinking
LYT01CFX-2S	0.50†	OFF Only	AC NO
LYT01AFX-2S	0.50†	OFF Only	DC Sinking
LYT01CDX-2S	0.50†	ON & OFF	AC NO
LYT01ADX-2S	0.50†	ON & OFF	DC Sinking

†Shielded.

SIEMENS ENERGY & AUTOMATION

NEMA Starters
3 Phase - Reversing



US series reversing class SRL. Provided with two normally open holding circuit auxiliary contacts and two normally closed auxiliary contacts for reversing electrical interlock protection. Each directional contactor will include one normally open and one normally closed extra auxiliary contacts. Wired for separate control when coil voltage is 120V or less.

Size 6-8. Include solid state 3UB adjustable overload relay to supply voltage and hp. When coil voltage less than 120V, supplied at line voltage and include an interposing relay and control transformer to provide 120V to the pilot circuit.

Ordering Guide

Part number consists of Catalog Number from table and 3-digit Coil Voltage.

Example: **SRLC1120**

Coil Voltage: 024=24V (only available on size 0-3); 120=120V; 208=208V; 240=240V; 277=277V; 480=480V; 600=600V.

No.	UPC	NEMA Size	Motor Voltage	Max. hp	NEMA Enclosure Type
SRLB0	0	200-230 460-575	3 5	Open
SRLC0	1	200-230 460-575	7.5 10	Open
SRLD0	2	200 230 460-575	10 15 25	Open
SRL E0	3	200 230 460-575	25 30 50	Open
SRLF0	4	200 230 460-575	40 50 100	Open
SRLG0	5	200 230 460-575	75 100 200	Open
SRLH0*	6	200 230 460-575	150 200 400	Open
SRLJ0*	7	200 230 460-575	300 400 600	Open
SRLB1	0	200-230 460-575	3 5	†
SRLC1	1	200-230 460-575	7.5 10	1
SRLD1	2	200 230 460-575	10 15 25	1
SRL E1	3	200 230 460-575	25 30 50	1
SRLF1	4	200 230 460-575	40 50 100	1

No.	UPC	NEMA Size	Motor Voltage	Max. hp	NEMA Enclosure Type
SRLG1	5	200 230 460-575	75 100 200	1
SRLH1*	6	200 230 460-575	150 200 400	1
SRLJ1*	7	200 230 460-575	300 400 600	1
SRLK1*	8	200 230 460-575	450 600 900	1
SRLB2	0	200-230 460-575	3 5	3R/12
SRLC2	1	200-230 460-575	7.5 10	3R/12
SRLD2	2	200 230 460-575	10 15 25	3R/12
SRLE2	3	200 230 460-575	25 30 50	3R/12
SRLF2	4	200 230 460-575	40 50 100	3R/12
SRLG2	5	200 230 460-575	75 100 200	3R/12
SRLH2*	6	200 230 460-575	150 200 400	12
SRLJ2*	7	200 230 460-575	300 400 600	12
SRLK2*	8	200 230 460-575	450 600 900	12
SRLBS	0	200-230 460-575	3 5	4 Stainless Steel
SRLCS	1	200-230 460-575	7.5 10	4 Stainless Steel
SRLDS	2	200 230 460-575	10 15 25	4 Stainless Steel
SRLES	3	200 230 460-575	25 30 50	4 Stainless Steel
SRLFS	4	200 230 460-575	40 50 100	4 Stainless Steel
SRLGS	5	200 230 460-575	75 100 200	4 Stainless Steel
SRLH4*	6	200 230 460-575	150 200 400	4 Painted Sheet Steel
SRLJ4*	7	200 230 460-575	300 400 600	4 Painted Sheet Steel
SRLK4*	8	200 230 460-575	450 600 900	4 Painted Sheet Steel
SRLBX	0	200-230 460-575	3 5	4X Nonmetallic
SRLCX	1	200-230 460-575	7.5 10	4X Nonmetallic
SRLDX	2	200 230 460-575	10 15 25	4X Nonmetallic
SRLEX	3	200 230 460-575	25 30 50	4X Nonmetallic
SRLFX	4	200 230 460-575	40 50 100	4X Nonmetallic

SIEMENS ENERGY & AUTOMATION

NEMA Starters

Combination - w/Motor Circuit Interrupter

US series Class SCB. Wired for separate control when coil voltage is 120V or less. UL Listed for 100,000A withstand ratings.

Size 6-8. Include solid state 3UB adjustable overload relay to supply voltage and hp. When coil voltage less than 120V, supplied at line voltage and include an interposing relay and control transformer to provide 120V to the pilot circuit.

Ordering Guide

Part number consists of Catalog Number from table and 3-digit Coil Voltage.

Example: **SRLC1120**

Coil Voltage: 024=24V (only available on Size 0-3), 120=120V, 208=208V, 240=240V, 277=277V, 480=480V, 600=600V.



No.	UPC	NEMA Size	Amps	Maximum 3 Phase hp Ratings at Motor Voltages			
				200V	230V	460V	575V
SCBB11		0	3	1/2	1/2	1 1/2	1 1/2
SCBB13		0	10	2	2	ε	ε
SCBB14		0	25	3	3	...	...
SCBC12		1	5	1	1	2	3
SCBC14		1	25	3	3	10	10
SCBC16		1	40	7 1/2	7 1/2	...	...
SCBD15		2	30	5	5	10	15
SCBD17		2	50	10	15	25	25
SCBE18		3	100	25	30	50	50
SCBF19		4	150	30	40	75	100
SCBF10		4	250	40	50	100	...
SCBG10		5	250	60	75	150	200
SCBG11		5	400	75	100	200	...
SCBH12		6	600	100, 125	125, 150	300, 350	300, 350
SCBH13		6	800	150	200	400	400
SCBJ13		7	800	...	250	500	500
SCBJ14		7	1000	...	300	600	600
SCBK15		8	1200	...	400	800	800
SCBK16		8	1600	...	450	900	900
SCBB21		0	3	1/2	1/2	1 1/2	1 1/2
SCBB23		0	10	2	2	ε	ε
SCBB24		0	25	3	3	...	...
SCBC22		1	5	1	1	2	3
SCBC24		1	25	3	3	10	10
SCBC26		1	40	7 1/2	7 1/2	...	...
SCBD25		2	30	5	5	10	15
SCBD27		2	50	10	15	25	25
SCBE28		3	100	25	30	50	50
SCBF29		4	150	30	40	75	100
SCBF20		4	250	40	50	100	...
SCBG20		5	250	60	75	150	200
SCBG21		5	400	75	100	200	...
SCBH22		6	600	100, 125	125, 150	300, 350	300, 350
SCBH23		6	800	150	200	400	400
SCBJ23		7	800	...	250	500	500
SCBJ24		7	1000	...	300	600	600
SCBK25		8	1200	...	400	800	800
SCBK26		8	1600	...	450	900	900
SCBBS1		0	3	1/2	1/2	1 1/2	1 1/2
SCBBS3		0	10	2	2	ε	ε
SCBBS4		0	25	3	3	...	...
SCBCS2		1	5	1	1	2	3
SCBCS4		1	25	3	3	10	10
SCBCS6		1	40	7 1/2	7 1/2	...	...
SCBDS5		2	30	5	5	10	15
SCBDS7		2	50	10	15	25	25
SCBES8		3	100	25	30	50	50
SCBFS9		4	150	30	40	75	100
SCBFS0		4	250	40	50	100	...
SCBGS0		5	250	60	75	150	200
SCBGS1		5	400	75	100	200	...
SCBH42		6	600	100, 125	125, 150	300, 350	300, 350
SCBH43		6	800	150	200	400	400
SCBJ43		7	800	...	250	500	500
SCBJ44		7	1000	...	300	600	600
SCBH45		8	1200	...	400	800	800
SCBH46		8	1600	...	450	900	900
SCBBX1		0	3	1/2	1/2	1 1/2	1 1/2
SCBBX3		0	10	2	2	ε	ε
SCBBX4		0	25	3	3	...	...
SCBCX2		1	5	1	1	2	3
SCBCX4		1	25	3	3	10	10
SCBCX6		1	40	7 1/2	7 1/2	...	...
SCBDX5		2	30	5	5	10	15
SCBDX7		2	50	10	15	25	25
SCBEX8		3	100	25	30	50	50
SCBFX9		4	150	30	40	75	100
SCBFX0		4	250	40	50	100	...



SIEMENS ENERGY & AUTOMATION

Overload Relays



Type SA Class 20 interchangeable heater elements. Require 3 heater coils. Include all jumpers for close mounting to indicated contactors.

No.	UPC	NEMA Size	Contactor	Amps
SA13AXF43		00, 0, 1	3TF30/40-3TF33/43	.25-26.2
SA13A		00, 0, 1	3TF34/44	.25-26.2
SA23AXF45		2	3TF34/44-3TF35/45	.25-45
SA23A		2	3TF46	.25-45
SA33AXF47		3	3TF47	19-90
SA33A		3	3TF47, 48, 49	19-90
SA43AXF51		4	3TF50, 51	19-135
SA43A		4	3TF52	19-135
SA53AXF53*		5	3TF52, 53	118-300
SA53AXF55*		5	3TF54, 55	118-300
SA53A*		5	3TF56	118-300

*Include 300:5 Ct.

SIEMENS ENERGY & AUTOMATION

Factory Modifications

US Series Starters, Contactors, and Multispeeds

Consist of Siemens standard components as available.

Suffix No.	NEMA Enclosure Type	NEMA Size	Description
		Pilot Devices*	
A1	All	0, 1, 2, 3, 4, 5, 6, 7, 8	On-Off Pushbutton
A	1, 3R, 4, 4X, 12	0, 1, 2, 3, 4, 5, 6, 7, 8	Start-Stop Pushbutton
B	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Forward-Reverse-Off Pushbutton
C	1, 3R, 4, 4X, 12	0, 1, 2, 3, 4, 5, 6, 7, 8	Hand-Off-Auto Selector Switch
D	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Start-Stop Selector Switch
E	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Forward-Reverse Selector Switch
F	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Forward-Reverse Selector Switch
G	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Pilot Light with Red Lens "Run"
H	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Pilot Light with Green Lens "Off"
L0	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Press to Test Pilot Light with Red Lens "Run"
L1	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Press to Test Pilot Light with Green Lens "Off"
G0	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Overload Relay "Trip" Alarm Light
M	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Pilot Light with Red Lens "Off"
N	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Pilot Light with Red Lens "On"
W	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Pilot Light with Green Lens "Run"
B82	All	0, 1, 2, 3, 4, 5, 6, 7	Pilot Light with Green Lens "On"
S54	All	0, 1, 2, 3, 4, 5, 6, 7	"Slow-Stop-Fast" Pushbutton
S82	All	0, 1, 2, 3, 4, 5, 6, 7	"Slow-Fast" Selector Switch
L3R	All	0, 1, 2, 3, 4, 5, 6, 7	"Slow-Stop-Fast" Selector Switch
L9R	All	0, 1, 2, 3, 4, 5, 6, 7	Pilot Light-Red "Fast" Red "Slow" Green "Off"
		0, 1, 2, 3, 4, 5, 6, 7	"Fault-Pilot Light with Amber Lens"
		Extra Auxiliary Contact Blocks	
A01	All	2, 3, 4, 5, 6, 7, 8	Factory Installed 1 NO
A11	All	2, 3, 4, 5, 6, 7, 8	Factory Installed 1 NO and 1 NC
A22	All	2, 3, 4, 5, 6, 7, 8	Factory Installed 2 NO and 3 NC
		Meters	
Q2	N1, 12	0, 1, 2, 3, 4, 5, 6, 7, 8	Ammeter
Q3	N1, 12	0, 1, 2, 3, 4, 5, 6, 7, 8	Voltmeter
Q4	N1, 12	0, 1, 2, 3, 4, 5, 6, 7, 8	Ammeter with Switch with Three Current Transformers
Q5	N1, 12	0, 1, 2, 3, 4, 5, 6, 7, 8	Voltmeter with Switch
Q6	N1, 12, 4	0, 1, 2, 3, 4, 5, 6, 7, 8	Elapsed Time Meter
		Control Options	
L2	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Disconnect Switch Interlock 1 NO
L3	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Disconnect Switch Interlock 1 NC
L4	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Disconnect Switch Interlock 1 NO/1 NO
L5	All	0, 1, 2, 3, 4, 5, 6, 7, 8	ETI Circuit Breaker Interlock 1 NO/1 NC
L6	All	0, 1, 2, 3, 4, 5, 6, 7, 8	ETI Shunt Trip 120V AC
L7	All	0, 1, 2, 3, 4, 5, 6, 7, 8	ETI Undervoltage Trip
L8	All	0, 1, 2, 3, 4, 5, 6, 7, 8	ETI Alarm Switch
L9	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Isolated Alarm Circuit Contact on Overload Relay
R0	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Separate Control Fuse (1)
R1	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Separate Control Fuse (2)

Continued from previous page

Suffix No.	NEMA Enclosure Type	NEMA Size	Description
R3	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Ground Lug
P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Blown Fuse Indicator Lights
SP	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Coil Transient Suppressor - Per Coil
Control Relays			
S0	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Relay 2 NO/2 NC
S1	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Relay 4 NO
S2	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Relay 4 NO
S5	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Timing Relay, on Delay 5-100 Sec.
S6	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Phase Failure and Reverse Phase Relay and Undervoltage
S7	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Undervoltage Relay Single Phase Non-Adjustable
RCR	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Compelling Relay For Multi-Speed Controllers
ACC	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Accelerating Relay For Multi-Speed Controllers
DEC	All	0, 1, 2, 3, 4, 5, 6, 7, 8	Decelerating Relay For Multi-Speed Controllers
Control Transformer Standard Capacity w/1-Secondary Fuse			
0G	All	0, 1, 2, 6, 7, 8	208V Primary, 24V Secondary
02	All	0, 1, 2, 6, 7, 8	277V Primary, 24V Secondary
04	All	0, 1, 2, 6, 7, 8	240V Primary, 24V Secondary
05	All	0, 1, 2, 6, 7, 8	480V Primary, 24V Secondary
06	All	0, 1, 2, 6, 7, 8	575V Primary, 24V Secondary
0H	All	0, 1, 2, 6, 7, 8	208V Primary, 120V Secondary
03	All	0, 1, 2, 6, 7, 8	277V Primary, 120V Secondary
07	All	0, 1, 2, 6, 7, 8	240V Primary, 120V Secondary
08	All	0, 1, 2, 6, 7, 8	480V Primary, 120V Secondary
09	All	0, 1, 2, 6, 7, 8	575V Primary, 120V Secondary
Control Transformer Standard Capacity w/2-Primary, 1-Secondary Fuse			
GP	All	0, 1, 2, 3, 4, 5, 6, 7, 8	208V Primary, 24V Secondary
2P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	277V Primary, 24V Secondary
4P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	240V Primary, 24V Secondary
5P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	480V Primary, 24V Secondary
6P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	575V Primary, 24V Secondary
HP	All	0, 1, 2, 3, 4, 5, 6, 7, 8	208V Primary, 120V Secondary
3P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	277V Primary, 120V Secondary
7P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	240V Primary, 120V Secondary
8P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	480V Primary, 120V Secondary
9P	All	0, 1, 2, 3, 4, 5, 6, 7, 8	575V Primary, 120V Secondary
Control Transformer w/50 VA Extra Capacity w/2-Primary, 1-Secondary Fuse			
GPJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	208V Primary, 24V Secondary
2PJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	277V Primary, 24V Secondary
4PJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	240V Primary, 24V Secondary
5PJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	480V Primary, 24V Secondary
6PJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	575V Primary, 24V Secondary
HPJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	208V Primary, 120V Secondary
3PJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	277V Primary, 120V Secondary
7PJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	240V Primary, 120V Secondary
8PJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	480V Primary, 120V Secondary
9PJ	All	0, 1, 2, 3, 4, 5, 6, 7, 8	575V Primary, 120V Secondary
Control Transformer w/100 VA Extra Capacity w/2-Primary, 1-Secondary Fuse			
GPV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	208V Primary, 24V Secondary
2PV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	277V Primary, 24V Secondary
4PV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	240V Primary, 24V Secondary
5PV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	480V Primary, 24V Secondary
6PV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	575V Primary, 24V Secondary
HPV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	208V Primary, 120V Secondary
3PV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	277V Primary, 120V Secondary
7PV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	240V Primary, 120V Secondary
8PV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	480V Primary, 120V Secondary
9PV	All	0, 1, 2, 3, 4, 5, 6, 7, 8	575V Primary, 120V Secondary
Control Transformer w/150 VA Extra Capacity w/2-Primary and 1-Secondary Fuse			
GPK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	208V Primary, 24V Secondary
2PK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	277V Primary, 24V Secondary
4PK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	240V Primary, 24V Secondary
5PK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	480V Primary, 24V Secondary
6PK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	575V Primary, 24V Secondary
HPK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	208V Primary, 120V Secondary
3PK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	277V Primary, 120V Secondary
7PK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	240V Primary, 120V Secondary
8PK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	480V Primary, 120V Secondary
9PK	All	0, 1, 2, 3, 4, 5, 6, 7, 8	575V Primary, 120V Secondary
Siemens Advanced Motor Master System			
SME	N1, N12	0, 1, 2, 3, 4, 5, 6, 7, 8	SAMMS-LVE
SMX	N1, N12	0, 1, 2, 3, 4, 5, 6, 7, 8	SAMMS-LVX
HHU	N1, N12	0, 1, 2, 3, 4, 5, 6, 7, 8	Hand Held Unit



*Pilot Lights are full voltage type as standard.

Complete Information Available on Request.

SIEMENS ENERGY & AUTOMATION Motor Starter Protectors



Series 3VU

Require branch circuit protection. Supplied with 1 NO and 1 NC auxiliary contacts.

Series 3VU. Can be used in single motor applications, alone for 1 phase or 3 phase manual motor starter applications, and in Series with any Siemens contractor for remote operations.

No.	UPC	NEMA Enclosure	Current Rge.	Max. Frame	Phase hp @		3 Phase hp @				Circuit Breaker Amps	
					115V*	230V*	200V	575V	FLA	Amps		FLA	Amps
3VU1300-1MB00		1, 3R	.10-16	25								15
3VU1300-1MC00		1, 3R	.16-24	25								15
3VU1300-1MD00		1, 3R	.25-40	25								15
3VU1300-1ME00		1, 3R	.40-60	25								15
3VU1300-1MF00		1, 3R	.60-1.0	25								15
3VU1300-1MG00		1, 3R	1.0-1.6	25		1/10	1/4	1/2	3/4	1	1 1/2	15
3VU1300-1MH00		1, 3R	1.6-2.4	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
3VU1300-1NH00		1, 3R	2.0-3.2	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
3VU1300-1MJ00		1, 3R	2.4-4.0	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
3VU1300-1NJ00		1, 3R	3.2-5.0	25	1/4	1/2	1	1 1/2	2	3	3	15
3VU1300-1MK00		1, 3R	4.0-6.0	25	1/4	1/2	1	1 1/2	2	3	3	15
3VU1300-1NK00		1, 3R	5.0-8.0	25	1/2	3/4	1	1 1/2	2	3	3	30
3VU1300-1ML00		1, 3R	6.0-10.0	25	1/2	1	1 1/2	2	2	3	5	40
3VU1300-1MM00		1, 3R	8.0-13.0	25	1/2	1 1/2	2	2	3	3	7 1/2	50
3VU1300-1MN00		1, 3R	10.0-16.0	25	1	2	2	2	3	5	10	60
3VU1300-1MP00		1, 3R	14.0-20.0	25	1 1/2	3	3	3	5	5	10	80
3VU1300-1MR00		1, 3R	18-25	25	1 1/2	3	3	3	5	5	10	100
3VU1600-1MB00		1, 3R	1.0-1.6	65		1/10	1/4	1/2	3/4	1	1 1/2	15
3VU1600-1MH00		1, 3R	1.6-2.4	65	1/8	1/4	1/2	3/4	1	1 1/2	2	15
3VU1600-1MJ00		1, 3R	2.4-4.0	65	1/8	1/4	1/2	3/4	1	1 1/2	2	15
3VU1600-1MK00		1, 3R	4.0-6.0	65	1/4	1/2	1	1 1/2	2	3	3	20
3VU1600-1ML00		1, 3R	6.0-10.0	65	1/2	1	1 1/2	2	2	3	5	40
3VU1600-1MM00		1, 3R	10.0-16.0	65	1	2	2	2	3	5	10	60
3VU1600-1MN00		1, 3R	16-25	65	1 1/2	3	3	3	5	5	10	100
3VU1600-1MP00		1, 3R	22-32	65	1 1/2	3	3	3	5	5	10	150
3VU1600-1MQ00		1, 3R	28-40	65	3	5	5	5	7 1/2	15	20	125
3VU1600-1MR00		1, 3R	36-52	65	3	5	7 1/2	10	10	15	30	150
3VU1600-1LS00		1, 3R	45-65	65	5	10	15	20	20	40	40	200
SMLE6600		1	.10-16	25								15
SMLC6600		1	.16-24	25								15
SMLD6600		1	.25-40	25								15
SMLG6600		1	.40-60	25								15
SMLF6600		1	.60-1.0	25								15
SMLH6600		1	1.0-1.6	25		1/10	1/4	1/2	3/4	1	1 1/2	15
SMLJ6600		1	1.6-2.4	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
SMLK6600		1	2.0-3.2	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
SMLL6600		1	2.4-4.0	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
SMLM6600		1	3.2-5.0	25	1/4	1/2	1	1 1/2	2	3	3	15
SMLN6600		1	4.0-6.0	25	1/4	1/2	1	1 1/2	2	3	3	15
SMLP6600		1	5.0-8.0	25	1/2	3/4	1	1 1/2	2	3	3	30
SMLQ6600		1	6.0-10.0	25	1/2	1	1 1/2	2	2	3	5	40
SMLR6600		1	8.0-13.0	25	1/2	1 1/2	2	2	3	3	7 1/2	50
SMLS6600		1	10.0-16.0	25	1	2	2	2	3	5	10	60
SMLT6600		1	14.0-20.0	25	1 1/2	3	3	3	5	5	10	80
SMLU6600		1	18-25	25	1 1/2	3	3	3	5	5	10	100
SMLV6600		1	1.0-1.6	65		1/10	1/4	1/2	3/4	1	1 1/2	15
SMLW6600		1	1.6-2.4	65	1/8	1/4	1/2	3/4	1	1 1/2	2	15
SMLX6600		1	2.4-4.0	65	1/8	1/4	1/2	3/4	1	1 1/2	2	15
SMLY6600		1	4.0-6.0	65	1/4	1/2	1	1 1/2	2	3	3	20
SMLZ6600		1	6.0-10.0	65	1/2	1	1 1/2	2	2	3	5	40
SMLA6600		1	10.0-16.0	65	1	2	2	2	3	5	10	60
SMLB6600		1	16-25	65	1 1/2	3	3	3	5	5	10	150
SMLC6600		1	22-32	65	1 1/2	3	3	3	5	5	10	125
SMLD6600		1	28-40	65	3	5	7 1/2	10	10	15	20	150
SMLE6600		1	36-52	65	3	5	7 1/2	10	15	20	30	150
SMLF6600		1	45-65	65	5	10	15	20	20	40	40	200
SMLG6600		1	45-65	65	5	10	15	20	25	40	40	250
SMLH6600		3R	.10-16	25								15
SMLI6600		3R	.16-24	25								15
SMLJ6600		3R	.25-40	25								15
SMLK6600		3R	.40-60	25								15
SMLL6600		3R	.60-1.0	25								15
SMLM6600		3R	1.0-1.6	25		1/10	1/4	1/2	3/4	1	1 1/2	15
SMLN6600		3R	1.6-2.4	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
SMLP6600		3R	2.0-3.2	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
SMLQ6600		3R	2.4-4.0	25	1/8	1/4	1/2	3/4	1	1 1/2	2	15
SMLR6600		3R	3.2-5.0	25	1/4	1/2	1	1 1/2	2	3	3	15
SMLS6600		3R	4.0-6.0	25	1/4	1/2	1	1 1/2	2	3	3	15
SMLT6600		3R	5.0-8.0	25	1/2	3/4	1	1 1/2	2	3	3	30
SMLU6600		3R	6.0-10.0	25	1/2	1	1 1/2	2	2	3	5	40
SMLV6600		3R	8.0-13.0	25	1/2	1 1/2	2	2	3	3	7 1/2	50
SMLW6600		3R	10.0-16.0	25	1	2	2	2	3	5	10	60
SMLX6600		3R	14.0-20.0	25	1 1/2	3	3	3	5	5	10	80
SMLY6600		3R	18-25	25	1 1/2	3	3	3	5	5	10	100
SMLZ6600		3R	1.0-1.6	65		1/10	1/4	1/2	3/4	1	1 1/2	15
SMLA6600		3R	1.6-2.4	65	1/8	1/4	1/2	3/4	1	1 1/2	2	15

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No.	UPC	NEMA Enclosure	Current Rge.	Max. Frame	1 Phase hp Ⓢ			3 Phase hp Ⓢ			Circuit Breaker
					115V*	230V*	200V	575V	Amps		
SMLJ2700	3R	2.4-4.0	65	1/8	1/8	3/4	2	15		
SMLK2700	3R	4.0-6.0	65	1/4	1/2	1	2	20		
SMLL2700	3R	6.0-10.0	65	1/2	1 1/2	2	5	40		
SMLM2700	3R	10.0-16.0	65	1	2	5	15	60		
SMLN2700	3R	16-25	65	1 1/2	3	5	15	100		
SMLP2700	3R	22-32	65	1 1/2	3	5	20	125		
SMLQ2700	3R	28-40	65	3	7 1/2	10	40	150		
SMLR2700	3R	36-52	65	3	10	15	50	200		
SMLS2700	3R	45-65	65	5	15	20	60	250		

*Based on 3 poles wired in series.

SIEMENS ENERGY & AUTOMATION Motor Controls



Pushbutton - Momentary Operation

Assembled Pilot Devices. Supplied with metal chrome plated rings. For plastic front rings add suffix "P".
Operators. Include 3 unit contact block holder. For 5 unit contact block holder, change fifth digit from 3 to 6.

No.	UPC	Desc.
Pushbuttons - Momentary Operation*		
3SB03-PFB10	Flush Black, 1 NO
3SB03-PFB11	16907	Flush Black, 1 NO, 1 NC
3SB03-PFG10	Flush Green, 1 NO
3SB03-PFG11	16918	Flush Green, 1 NO, 1 NC
3SB03-PFR01	Flush Red, 1 NC
3SB03-PFR11	Flush Red, 1 NO, 1 NC
3SB03-PER01	Extended Red, 1 NC
3SB03-PEB10	Extended Black, 1 NO
3SB03-PER11	16895	Extended Red, 1 NO, 1 NC
3SB03-P4R01	Mushroom Red; 1 NC
3SB03-P4R11	16956	Mushroom Red; 1 NO, 1 NC
Pushbuttons - Maintained Operation		
3SB03-K4R01	Mushroom Red, 1 NC, Push Lock Twist Release
3SB03-K4R11	Mushroom Red, 1 NO, 1 NC, Push Lock Twist Release
Selector Switches - Maintained Operation		
3SB03-2MKBX1	2 Pos., Black, 1 NC, (Off-On)
3SB03-2MKBX2	17294	2 Pos., Black, 1 NO, (Off-On)
3SB03-2MKBX3	2 Pos., Black, 1 NO, 1 NC, (Off-On)
3SB03-3MKBX25	26313	3 Pos., Black, 1 NO, 2nd (H-O-A, Fwd.-Off-Rev.)
3SB03-3MKBX26	3 Pos., Black, 1 NO + 1 NO, 1 NC
Pilot Lights - Standard		
3SB03-LFCR	24V, Red, Full Voltage AC/DC
3SB03-LFCG	24V, Green, Full Voltage AC/DC
3SB03-LF1R	120V, Red, Full Voltage AC/DC
3SB03-LF1G	120V, Green, Full Voltage AC/DC
3SB03-LR1R	120V, Red, Resistor AC/DC
3SB03-LR1G	120V, Green, Resistor AC/DC
3SB03-LLBR	24V, Red, LED Full Voltage AC/DC
3SB03-LLBG	24V, Green, LED Full Voltage AC/DC
3SB03-LLBA	24V, Amber, LED Full Voltage AC/DC
3SB03-LT1R	16869	120V, Red, Transformer AC
3SB03-LT1G	16865	120V, Green, Transformer AC
3SB03-LL1R	120V, Red, LED, Transformer AC
3SB03-LL1G	120V, Green, LED, Transformer AC
3SB03-LL1A	120V, Amber, LED, Transformer AC
Push To Test Lights		
3SB03-TFCR	24V, Red, Full Voltage AC/DC
3SB03-TFCG	24V, Green, Full Voltage AC/DC
3SB03-TF1R	120V, Red, Full Voltage AC/DC
3SB03-TF1G	120V, Green, Full Voltage AC/DC
3SB03-TR1R	120V, Red, Resistor, AC/DC
3SB03-TR1G	120V, Green, Resistor, AC/DC
3SB03-TLBR	24V, Red, LED Full Voltage AC/DC
3SB03-TLBG	24V, Green, LED Full Voltage AC/DC
3SB03-TLBA	24V, Amber, LED Full Voltage AC/DC
3SB03-TT1R	120V, Red, Transformer AC
3SB03-TT1G	120V, Green, Transformer AC
3SB03-TL1R	120V, Red, LED Transformer AC
3SB03-TL1G	120V, Green, LED Transformer AC
3SB03-TL1A	120V, Amber, LED Transformer AC
3SB03-TFA	6V, w/o Lenses, Full Voltage AC/DC
3SB03-TFB	12V, w/o Lenses, Full Voltage AC/DC
3SB03-TFC	24V, w/o Lenses, Full Voltage AC/DC
3SB03-TFD	48V, w/o Lenses, Full Voltage AC/DC

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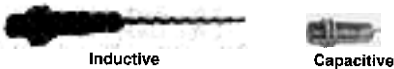
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No.	UPC	Desc.
3SB03-TF1		120V, w/o Lenses, Full Voltage AC/DC
3SB03-TR1		120V, w/o Lenses, Resistor AC/DC
3SB03-TR2		240V, w/o Lenses, Resistor AC/DC
3SB03-TT1		120V, w/o Lenses, Transformer AC
3SB03-TT2		240V, w/o Lenses, Transformer AC
3SB03-TT4		480V, w/o Lenses, Transformer AC
3SB03-TT6		600V, w/o Lenses, Transformer AC
Push To Test Lenses w/Diffuser		
3SB1910-OEC		Red
3SB1910-OEE		Green
3SB1910-OED		Amber
3SB1910-OEF		Blue
3SB1910-OEG		White
3SB1910-OEH		Clear
Illuminated Push Pull Operators - Maintained Operation - 2 Pos.		
S2PA2-D2A	24V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Full Voltage AC/DC,
S2PA2-D3A	24V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Full Voltage AC/DC,
S2PA2-G2A	120V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA2-H2A	240V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA2-J2A	480V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA2-K2A	600V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA2-G3A	120V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA2-H3A	240V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA2-J3A	480V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA2-K3A	600V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Transformer Type AC,
Illuminated Push Pull Operators - Momentary Operation - 3 Pos.		
S2PA3-D2A	24V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Full Voltage AC/DC,
S2PA3-D3A	24V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Full Voltage AC/DC,
S2PA3-G2A	120V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA3-H2A	240V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA3-J2A	480V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA3-K2A	600V, 40 mm Mushroom Red, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA3-G3A	120V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA3-H3A	240V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA3-J3A	480V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Transformer Type AC,
S2PA3-K3A	600V, 40 mm Mushroom Green, 1 NO, 1 NC, Contact Block Transformer Type AC,

*1 NO & 1 NC contact blocks.

SIEMENS ENERGY & AUTOMATION

Sensing Devices
Noncontact



Inductive

Capacitive

Inductive Devices. Use high-frequency electromagnetic field to sense presence or absence of conductive metals up to 2.5" (65 mm). Used in applications requiring limited space, high speed operation, harsh environments and high reliability. Available in threaded or unthreaded tubular models. Range in diameter from 3 mm to 30 mm. Limit switch style with universal sensing head. Shielded or unshielded with cable, screw terminal or connector wiring entry.

AC Models: 20-265V AC and 20-320V DC. NO, NC and convertible output.

DC Models: 10-30, 10-65V DC, NPN (current sinking), PNP (current sourcing). Available with 2, 3 and 4-wire hook-up. NO, NC and complementary outputs. Stainless steel, nickel-plated brass and corrosion resistant thermoplastic housing. LED light indicator.

Capacitive Devices. Based on change of capacitance in RC circuit. Operated by electrically conductive or nonconductive materials in solid, powder or liquid form such as glass, ceramics, plastic wood, oil, water, cardboard and paper up to 0.8" (20 mm). Threaded and unthreaded tubular models. Diameter range 18 mm to 40 mm. Limit switch style with universal sensing head. Other housing styles available. Cable, screw terminal or connector wiring entry.

AC Models: 20-250V AC. NO, NC or convertible output.

DC Models: 10-48V or 10-65V DC. NO, NC or complementary output. 3 or 4-wire PNP (current sourcing) or NPN (current sinking). Metal or thermoplastic housings. LED light indicator.



Ultrasonic

Ultrasonic Devices. Transmit and receive high frequency sound pulses to sense presence of any type object. Irregular shape, transparent or opaque, solid, fluid or powder form. Reliably sense objects between 2.4" (61 mm) and 19.6' (6m).

Self-Contained: threaded tubular or block construction. Connector or screw terminal wire entry. 20-30V DC. NO, NC or complementary outputs. PNP (current sourcing) or NPN (current sinking). Analog output.

Modular: Threaded tubular or block type sensing head. Multiplexer (up to 6 sensors) and signal evaluator. Additional modules available. 120V AC, 24V DC or 20-30V DC signal evaluator. Convertible contacts. 4-20 mA analog output. Metal or corrosion resistant thermoplastic housings. LED light indicators.



Photoelectric

Photoelectric Devices. Transmit and receive modulated light to sense presence or absence of object up to 300' (91.5m).

Can be applied in bright or variable ambient light, low visibility scanning conditions and high vibration areas. Threaded tubular flat pack, limit switch and other housing styles. L.O. (light operate), D.O. (dark operate) or selectable. Thru scan, retroreflective and diffuse scanning techniques. Polarized and fiber optic options.

AC Models: 24-120V AC. Solid state output.

DC Models: 10-30V DC. NPN (current sinking), PNP (current sourcing). Metal or corrosion resistant thermoplastic. Cable or screw terminal wire entry.

Complete Information Available on Request.

SIEMENS ENERGY & AUTOMATION

Microprocessor Circuit Assemblies
SAMMS™



Designed to provide complete electrical protection for low voltage or medium voltage motors. Also a dedicated logic controller programmable for all common starter configurations.

Continued from previous page

Start and run thermal protection based on stator winding and housing temperatures. Start and run rotor winding thermal protection on medium voltage motor models. Programmable control logic for all common starter circuits. Phase unbalance or phase loss protection. Ground fault protection. Choice of overload class from 2 to 23. Impending trip alarm. Built-in local indication. Local programming and metering capability through hand-held control unit. Electrical data transfer and motor control remote communications through Siemens ACCESS system. Seven control configurations. Panel mounted containing indication and control push buttons. Current and control transformers separately mounted. Contactor coil control contacts internal. Connection to ACCESS system provided through optional communications module.

Functions. F0=ambient temperature; F1=control circuit number; F2=size for overload No. 1; F4=full load current for OLR No. 1; F4A=5A CT primary current (if used); F6=service factor; F7=overload trip class (2 thru 23); F9=phase unbalance; F10=time to restart; F11=emergency restart; F12=ground fault protection or warning; F12A=ground fault pickup current; F13=timer No. 1; F14=timer No. 2; F15=motor current; F16=last trip current; F17=percent unbalance current; F18=total elapsed run-time on motor; F19=total number of motor starts; F20=number of overload trips; F21=reset motor data; F25=motor winding temp. as % of full load temp.; F26=baud rate; F27=address.

SAMMS MVX. F3=size for overload No. 2 (low speed); F5=full load current for OLR No. 2; F5A=5A CT primary current (if used); F6A=motor type; F7A=cold stall time; F8=automatic reset; F22=set process current warning; F23=jam protection; F23A=jam pickup current; F24=loss of load protection or warning; F24A=loss of load pickup current.

SAMMS MVE. F7A=cold stall time.

SAMMS LVX. F3=size for overload No. 2 (low speed); F5=full load current for OLR No. 2; F5A=5A CT primary current (if used); F8=automatic reset; F22=set process current warning; F23=jam protection; F23A=jam pickup current; F24=loss of load protection or warning; F24A=loss of load pickup current.

SAMMS LVE. F3=size for overload No. 2 (low speed).

Ordering Guide

Catalog number consists of model number, control type, alarm contacts configuration, alarm contacts output, loss of voltage, ground fault and control circuit number.

Example: **SAM4 L 1 A L G 0000**

Model number: SAM4=SAMMS-LVE; SAM5=SAMMS-LVX; SAM6=SAMMS-MVE; SAM7=SAMMS-MVX.

Control Type: L=Local and/or remote control.

Alarm Contacts Configuration: (For SAMMS-LVX and SAMMS-MVX only) 0=None; 1=Normally closed contacts (NC); 2=Normally open contacts (NO).

Alarm Contacts Output: (For SAMMS-LVX and SAMMS-MVX only) A=Any of the following; B=Impending trip; C=Overload trip; D=External trip; E=Ground fault; F=None.

Loss of Voltage: (For SAMMS-LVX and SAMMS-MVX only) L=Loss of voltage ride-through; 0=None.

Ground Fault: G=Ground fault protection; 0=None.

Control Circuit Number: Control circuit number loaded at factory; 0=None.

Complete Information Available on Request.

SIEMENS

SAMMS™ Advanced Motor Master System

Ordering Guide. Catalog number consists of SAMMS model number, control type, alarm contacts configuration, alarm contacts output, loss of voltage, ground fault and control circuit number.

Example: **SAM5 L 1 A L G 0000**

SAMMS Model Numbers. SAM4=SAMMS-LVE; SAM5=SAMMS-LVX; SAM6=SAMMS-MVE; SAM7=SAMMS-MVX.

Control Type. L=local and/or remote control.

Alarm Contacts Configuration. SAMMS-LVX and SAMMS-MVX only. 0=none; 1=normally closed contacts (N.C.); 2=normally open contacts (N.O.).

Alarm Contacts Output. SAMMS-LVX and SAMMS-MVX only. A=any of the below; B=impending trip; C=overload trip; D=external trip; E=ground fault; F=none.

Loss of Voltage. SAMMS-LVX and SAMMS-MVX only. L=loss of voltage ride-through; 0=none.

Ground Fault. G=ground fault protection; 0=none.

Control Circuit Number. Loaded at factory. 0=none.

Common Functions. F0=Ambient temperature; F1=Control circuit number; F2=Size for overload No. 1; F4=Full load current for OLR No. 1; F4A=5A CT primary current (if used); F6=Service factor; F7=Overload trip class (2 thru 23); F9=Phase unbalance; F10=Time to restart; F11=Emergency restart; F12=Ground fault protection or warning; F12A=Ground fault pickup current; F13=Timer No. 1; F14=Timer No. 2; F15=Motor current; F16=Last trip current; F17=Percent unbalance current; F18=Total elapsed run-time on motor; F19=Total number of motor starts; F20=Number of overload trips; F21=Reset motor data; F25=Motor winding temp. as % of full load temp.; F26=Baud rate; F27=Address.

SAMMS-MVX Functions. F3=Size for overload No. 2 (low speed); F5=Full load current for OLR No.2; F5A=5A CT primary current (if used); F6A=Motor type; F7A=Cold stall time; F8=Automatic reset; F22=Set process current warning; F23=Jam protection; F23A=Jam pickup current; F24=Loss of load protection or warning; F24A=Loss of load pickup current.

SAMMS-MVE Functions. F6A=Motor type; F7A=Cold stall time.

SAMMS-LVX Functions. F3=Size for overload No. 2 (low speed); F5=Full load current for OLR No. 2; F5A=5A CT primary current (if used); F8=Automatic reset; F22=Set process current warning; F23=Jam protection; F23A=Jam pickup current; F24=Loss of load protection or warning; F24A=Loss of load pickup current.

SAMMS-LVE Functions. F3=Size for overload No. 2 (low speed).

SQUARE D

Magnetic Motor Starters

Class 8536

w/Thermal Overload Relays



For full-voltage starting and stopping of AC squirrel cage motors. Motor overload protection provided by melting alloy type thermal overload relays. Thermal units not included; devices require 3.

When ordering, coil voltage must be specified, add suffix code from Coil Voltage Code table.

S. 120V polyphase starters wired for separate control.

Coil Voltage Codes

Suffix Code	60 Hz Volts	50 Hz Volts
V01	24	...
V02	120	110
V08	208	...
V03	240	220
V06	480	440
V07	600	550
V99	Specify	Specify

Starters

No.	UPC	NEMA Size	Cont. Amp Rate	Motor Volts	Max. hp
Open Type					
SA012V02S	62562	00	9	...	...
SA012V08	74346	00	9	200	1½
SA012V03	77071	00	9	230	1½
SA012V06	74345	00	9	460	2
SA012V07	...	00	9	575	2
SB02V02S	86463	0	18	...	...
SB02V08	82462	0	18	200	3
SB02V03	87182	0	18	230	3
SB02V06	86462	0	18	460	5
SB02V07	86178	0	18	575	5
SC02V02S	...	1	27	200	7½
SC03V02S	84511	1	27	...	...
SC03V08	76791	1	27	200	7½
SC03V03	87213	1	27	230	7½
SC03V06	86480	1	27	460	10
SC03V07	87220	1	27	575	10
SD01V02S	88212	2	45	...	...
SD01V08	78451	2	45	200	10
SD01V03	88202	2	45	230	15
SD01V06	88203	2	45	460	25
SD01V07	...	2	45	575	25
SE01V02S	78851	3	90	...	...
SE01V08	78833	3	90	200	25
SE01V03	78843	3	90	230	30
SE01V06	78850	3	90	460	50
SE01V07	...	3	90	575	50
SF01V02S	83323	4	135	...	...
SF01V08	83233	4	135	200	40
SF01V03	83250	4	135	230	50
SF01V06	83253	4	135	460	100
SF01V07	...	4	135	575	100
SG01V02S	85482	5	270	...	...
SG01V08	...	5	270	200	75
SG01V03	85472	5	270	230	100
SG01V06	85473	5	270	460	200
SG01V07	...	5	270	575	200
SH02V02S	62567	6	540	...	...
SH02V08	...	6	540	200	150
SH02V03	...	6	540	230	200
SH02V06	61979	6	540	460	400
SH02V07	...	6	540	575	400
SJ02V02S	...	7	810	...	...
SJ02V08	...	7	810	200	...
SJ02V03	...	7	810	230	300
SJ02V06	49340	7	810	460	600
SJ02V07	...	7	810	575	600

NEMA Type 1 - General Purpose Enclosure

SAG12V02S	...	00	9	...	...
SAG12V08	74348	00	9	200	1½
SAG12V03	74349	00	9	230	1½
SAG12V06	74354	00	9	460	2
SAG12V07	...	00	9	575	2
SBG2V02S	86460	0	18	...	...
SBG2V08	78990	0	18	200	3
SBG2V03	86910	0	18	230	3
SBG2V06	86453	0	18	460	5
SBG2V07	86641	0	18	575	5
SCG2V02S	...	1	27	200	7½
SCG3V02S	86472	1	27	...	...
SCG3V08	76581	1	27	200	7½
SCG3V03	87192	1	27	230	7½
SCG3V06	86471	1	27	460	10
SCG3V07	86651	1	27	575	10
SDG1V02S	88192	2	45	...	...
SDG1V08	78422	2	45	200	10
SDG1V03	88170	2	45	230	15
SDG1V06	88171	2	45	460	25
SDG1V07	88172	2	45	575	25
SEG1V02S	78831	3	90	...	...
SEG1V08	78822	3	90	200	25
SEG1V03	78823	3	90	230	30
SEG1V06	78823	3	90	460	50
SEG1V07	86196	3	90	575	50

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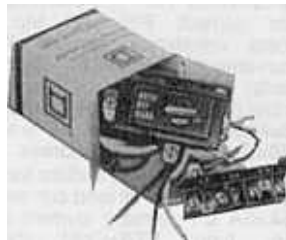
No.	UPC	NEMA Size	Cont. Amp Rate	Motor Volts	Max. hp
SFG1V02S	83223	4	135
SFG1V08	83220	4	135	200	40
SFG1V03	83221	4	135	230	50
SFG1V06	83222	4	135	460	100
SFG1V07	...	4	135	575	100
SGG1V02S	85471	5	270	...	...
SGG1V08	62000	5	270	200	75
SGG1V03	85463	5	270	230	100
SGG1V06	85470	5	270	460	200
SGG1V07	...	5	270	575	200
SHG2V02S	...	6	540	...	...
SHG2V08	...	6	540	200	150
SHG2V03	...	6	540	230	200
SHG2V06	...	6	540	460	400
SHG2V07	...	6	540	575	400
SJG2V02S	...	7	810	...	...
SJG2V08	...	7	810	200	...
SJG2V03	...	7	810	230	300
SJG2V06	...	7	810	460	600
SJG2V07	...	7	810	575	600

NEMA Type 4 & 4X - Watertight, Dusttight Brushed Stainless Steel Enclosure					
No.	UPC	NEMA Size	Cont. Amp Rate	Motor Volts	Max. hp
SBW12V02S	05759	0	18	...	...
SBW12V08	05755	0	18	200	3
SBW12V03	05756	0	18	230	3
SBW12V06	05754	0	18	460	5
SBW12V07	...	0	18	575	5
SCW13V02S	05750	1	27	...	...
SCW13V08	86287	1	27	200	7½
SCW13V03	05752	1	27	230	7½
SCW13V06	86257	1	27	460	10
SCW13V07	...	1	27	575	10
SDW11V02S	05767	2	45	...	...
SDW11V08	...	2	45	200	10
SDW11V03	05768	2	45	230	15
SDW11V06	86273	2	45	460	25
SDW11V07	...	2	45	575	25
SEW11V02S	...	3	90	...	...
SEW11V08	...	3	90	200	25
SEW11V03	...	3	90	230	30
SEW11V06	...	3	90	460	50
SEW11V07	...	3	90	575	50
SFW11V02S	...	4	135	...	...
SFW11V08	...	4	135	200	40
SFW11V03	...	4	135	230	50
SFW11V06	...	4	135	460	100
SFW11V07	...	4	135	575	100
SGW11V02S	...	5	270	...	...
SGW11V08	...	5	270	200	75
SGW11V03	...	5	270	230	100
SGW11V06	...	5	270	460	200
SGW11V07	...	5	270	575	200
SHW2V02S	...	6	540	...	...
SHW2V08	...	6	540	200	150
SHW2V03	...	6	540	230	200
SHW2V06	...	6	540	460	400
SHW2V07	...	6*	540	575	400
SJW2V02S	...	7*	810	...	...
SJW2V08	...	7*	810	200	...
SJW2V03	...	7*	810	230	300
SJW2V06	...	7*	810	460	600
SJW2V07	...	7*	810	575	600

No.	UPC	NEMA Size	Cont. Amp Rate	Motor Volts	Max. hp
NEMA Type 4X - Watertight, Dusttight, Corrosion-Resistant Glass-Polyester Enclosure					
SBW22V02S	00117	0	18	...	...
SBW22V08	...	0	18	200	3
SBW22V03	85383	0	18	230	3
SBW22V06	...	0	18	460	5
SBW22V07	...	0	18	575	5
SCW23V02S	...	1	27	...	...
SCW23V08	...	1	27	200	7½
SCW23V03	85930	1	27	230	7½
SCW23V06	...	1	27	460	10
SCW23V07	...	1	27	575	10
SDW21V02S	...	2	45	...	...
SDW21V08	...	2	45	200	10
SDW21V03	...	2	45	230	15
SDW21V06	...	2	45	460	25
SDW21V07	...	2	45	575	25
SEW21V02S	...	3	90	...	...
SEW21V08	...	3	90	200	25
SEW21V03	...	3	90	230	30
SEW21V06	...	3	90	460	50
SEW21V07	...	3	90	575	50
SFW21V02S	...	4	135	...	...
SFW21V08	...	4	135	200	40
SFW21V03	...	4	135	230	50
SFW21V06	...	4	135	460	100
SFW21V07	...	4	135	575	100

*Rated NEMA Type 4 only.

SQUARE D
Contactors & Starters
 Class 9999 - NEMA Type 1
 User Modification Kits



Selector Switch Kit



Push Button Kit

SQUARE D

Manual Motor Starting Switches
 Class 2510 Type M & T



Type M - NEMA 1 Enclosure

"On-off" operation for small single or polyphase motors. Pushbutton or toggle operated. Typical applications include metal and woodworking machinery, grinders, mixers, conveyors and power presses. Thermal units not included, order separately. 600V maximum.



Pilot Light Kit

Cover mounted. Kits include control unit complete with leads and clearly illustrated installation instructions. Knockout provided for field addition of either pushbutton or selector switch.

No.	UPC	Desc.
Selector Switch Kit		
SC2	...	Hand-Off Auto
SC8	...	Hand-Off Auto
SC22	...	On-Off
LXS	...	On-Off*
Push Button		
SA2	...	Start-Stop
SA3	...	Start-Stop; or On-Off
SA10	...	On-Off
LXPB	...	On-Off*
Red Pilot Light†		
SP2R	...	Standard; or w/Control Transformer
SP3R	...	Standard
SP4R	...	Standard; or w/Control Transformer
SP5R	...	Standard
SP12R	...	Standard; or w/Control Transformer
SP13R	...	Standard; or w/Control Transformer
SP14R	...	Standard; or w/Control Transformer
SP15R	...	Standard; or w/Control Transformer
SP28R	...	Standard; or w/Control Transformer‡

*To mount control unit in NEMA type 1 enclosures, Class 9999 Type BLX bracket also required.

†For green lens, order Class 9999 Type SPG1, except for class 9999 type SP28R order Class 9001, Type G31.

‡Coil voltage must be same as pilot light rating. Kit contains one class 9001 type KP1R3120V, 60 Hz red pilot light control unit. For other voltages, refer to Class 9001, Type KP.

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Manual Motor Starting Switches							
No.	UPC	No. Poles	NEMA Size	Volt.	Poly-0	Max. hp	1Ø
NEMA Type 1 - Surface Mounting Square Pushbutton Operator							
MBG1*	79252	2	M-0	115 230			1 2
MCG1	79202	2	M-1	115 230			2 3
	80132	2	M-1P	115 230			3 5
MBG2*		3	M-0	115 200-230 380-575	... 3 5		
		3	M-1	115 200-230 380-575	... 7½ 10		
MBG4		2 DC	M-0	115 230			1 DC 1½ DC
MCG5		2 DC	M-1	115 230			1½ DC 2 DC
NEMA Type 1 - Surface Mounting Toggle Operator							
		2	M-0	115 230			1 2
		2	M-1	115 230			2 3
TCG2		2	M-1P	115 230			3 5
TBG2*	79561	3	M-0	115 200-230 380-575	... 3 5		
TCG3	79573	3	M-1	115 200-230 380-575	... 7½ 10		
TBG4		2 DC	M-0	115 230			1 DC 1½ DC
TCG5		2 DC	M-1	115 230			1½ DC 2 DC
NEMA Type 4 - Watertight & Dusttight Enclosures Brushed Stainless Steel							
MBW11*	05764	2	M-0	115 230			. 2
MCW11	05763	2	M-1	115 230			2 3
MCW12		2	M-1P	115 230			3 5
MBW12*	05765	3	M-0	115 200-230 380-575	... 3 5		
MCW13	05766	3	M-1	115 200-230 380-575	... 7½ 10		
MBW14		2 DC	M-0	115 230			1 DC 1½ DC
MCW15		2 DC	M-1	115 230			1½ DC 2 DC
NEMA Type 4X - Watertight, Dusttight & Corrosion-Resistant Glass-Polyester Enclosure							
MBW1*	82081	2	M-0	115 230			1 2
MCW1	45594	2	M-1	115 230			2 3
MCW2	45913	2	M-1P	115 230			3 5
MBW2*	82101	3	M-0	115 200-230 380-575	... 5		
MCW3	82102	3	M-1	115 200-230 380-575	... 7½ 10		
MBW4		2 DC	M-0	115 230			1 DC 1½ DC
MCW5		2 DC	M-1	115 230			1½ DC 2 DC
NEMA Types 7 & 9 - Hazardous Locations Class I Groups C, D - Class II Groups E, F & G†							
MBR1*		2	M-0	115 230			1 2
MCR1	80061	2	M-1	115 230			2 3
MCR2		2	M-1P	115 230			3 5
MBR2*	80060	3	M-0	115 200-230 380-575	... 5		



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No.	UPC	No. Poles	NEMA Size	Motor Volt.	Poly-Ø	Max. hp	Coil Volt.
MCR3	80062	3	M-1	115 200-230 380-575	7½ 10	10	10
		2 DC	M-1	115 230			1½ DC 2 DC
NEMA Type 12 - Dusttight & Driptight Industrial Use Enclosure†							
MBA1*	82971	2	M-0	115 230			1 2
MCA1	61982	2	M-1	115 230			2 3
MCA2	61983	2	M-1P	115 230			3 5
MBA2*	82972	3	M-0	115 200-230 380-575	3 5		
	84531	3	M-1	115 200-230 380-575	7½ 10		
MBA4		2 DC	M-0	115 230			1 DC 1½ DC
MCA5		2 DC	M-1	115 230			1½ DC 2 DC
Open Type - Square Pushbutton Operator							
MB01	79282	2	M-0	115 230			1 2
MC01	79212	2	M-1	115 230			2 3
MC02	80133	2	M-1P	115 230			3 5
MB02	79283	3	M-0	115 200-230 380-575	3 5		
MC03	79220	3	M-1	115 200-230 380-575	7½ 10		
		2 DC	M-0	115 230			1 DC 1½ DC
MC05		2 DC	M-1	115 230			1½ DC 2 DC
Open Type - Toggle Operator							
TB01		2	M-0	115 230			1 2
TC01		2	M-1	115 230			2 3
TC02		2	M-1P	115 230			3 5
TB02	79570	3	M-0	115 200-230 380-575	3 5		
			M-1	115 200-230 380-575	7½ 10		
TB04		2 DC	M-0	115 230			1 DC 1½ DC
TC05		2 DC	M-1	115 230			1½ DC 2 DC

*Approved for group motor installations.

†Cast-Iron; cast aluminum available for outdoor use.

‡May be field modified for outdoor applications.

Low Voltage Protection & Overload Protection. Manual starters with low voltage protection prevent automatic start-up after power loss. Use where low-voltage protection feature required to meet OSHA and NFPA regulations or local safety standards.

With Low Voltage Protection & Overload Protection

No.	UPC	No. Poles	NEMA Size	Motor Volt.	Poly-Ø	Max. hp	Coil Volt.
NEMA Type 1 - Surface Mounting Square Pushbutton Operator							
MBG21V02	11356	2	M-0	115		1	120
MBG21V03	11355	2	M-0	230		2	240
MCG21V02	11354	2	M-1	115		2	120
MCG21V03	.....	2	M-1	230		3	240
MCG22V02	.....	2	M-1P	115		3	240
MCG22V03	86145	2	M-1P	230		5	120
MBG22V08	11352	3	M-0	200	3	5	240
MBG22V03	11351	3	M-0	230	3	5	208
MBG22V06	11350	3	M-0	460	3	5	240
MBG22V07	.....	3	M-0	575	5	5	480
MCG23V08	11344	3	M-1	200	7½	5	600
MCG23V03	11343	3	M-1	230	7½	5	208
MCG23V06	11342	3	M-1	460	7½	5	240
MCG23V07	3	M-1	575	10	10	480
					10	10	600

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Products shown here are for reference only. They can be sold by the locally authorized distributor.

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No.	UPC	No. Poles	NEMA Size	Motor Volt.	Max. hp		Coil Volt.
					Poly-β	10	
NEMA Type 1 - Surface Mounting Toggle Operator							
TBG21V02		2	M-0	115	...	1	120
TBG21V03		2	M-0	230	...	2	240
TCG21V02		2	M-1	115	...	2	120
TCG21V03		2	M-1	230	...	3	240
TCG22V02		2	M-1P	115	...	3	120
TCG22V03		2	M-1P	230	...	5	240
TBG22V08		3	M-0	200	...	5	240
TBG22V03		3	M-0	230	3	3	208
TBG22V06		3	M-0	460	5	3	240
TBG22V07		3	M-0	575	5	5	480
TCG23V08		3	M-1	200	7½	5	600
TCG23V03		3	M-1	230	7½	7½	208
TCG23V06		3	M-1	460	10	10	240
TCG23V07		3	M-1	575	10	10	480
							600
NEMA Type 4 - Watertight & Dusttight Enclosure Brushed Stainless Steel							
MBW31V02§		2	M-0	115	...	1	120
MBW31V03§		2	M-0	230	...	2	240
MCW31V02		2	M-1	115	...	2	120
MCW31V03		2	M-1	230	...	3	240
MCW32V02		2	M-1P	115	...	3	120
MCW32V03		2	M-1P	230	...	5	240
MBW32V08		3	M-0	200	3	5	240
MBW32V03		3	M-0	230	3	3	208
MBW32V06		3	M-0	460	5	3	240
MBW32V07		3	M-0	575	5	5	480
MCW33V08		3	M-1	200	7½	5	600
MCW33V03		3	M-1	230	7½	7½	208
MCW33V06		3	M-1	460	10	10	240
MCW33V07		3	M-1	575	10	10	480
							600
NEMA Type 4X Watertight, Dusttight & Corrosion-Resistant Glass-Polyester Enclosure							
MBW21V02§		2	M-0	115	...	1	120
MBW21V03§		2	M-0	230	...	2	240
MCW21V02		2	M-1	115	...	2	120
MCW21V03		2	M-1	230	...	3	240
MCW22V02		2	M-1P	115	...	3	120
MCW22V03		2	M-1P	230	...	5	240
MBW22V08		3	M-0	200	3	5	240
MBW22V03		3	M-0	230	3	3	208
MBW22V06		3	M-0	460	5	3	240
MBW22V07		3	M-0	575	5	5	480
MCW23V08		3	M-1	200	7½	5	600
MCW23V03		3	M-1	230	7½	7½	208
MCW23V06		3	M-1	460	10	10	240
MCW23V07		3	M-1	575	10	10	480
							600
NEMA Types 7 & 9 - Hazardous Locations Class I Groups C, D - Class II Groups F & G							
MBR21V02§		2	M-0	115	...	1	120
MBR21V03§		2	M-0	230	...	2	240
MCR21V02		2	M-1	115	...	2	120
MCR21V03		2	M-1	230	...	3	240
MCR22V02		2	M-1P	115	...	3	120
MCR22V03		2	M-1P	230	...	5	240
MBR22V08		3	M-0	200	3	5	240
MBR22V03		3	M-0	230	3	3	208
MBR22V06		3	M-0	460	5	3	240
MBR22V07		3	M-0	575	5	5	480
MCR23V08		3	M-1	200	7½	5	600
MCR23V03		3	M-1	230	7½	7½	208
MCR23V06		3	M-1	460	10	10	240
MCR23V07		3	M-1	575	10	10	480
							600
NEMA Type 12 - Dusttight & Driptight Industrial Use Enclosures*							
MBA21V02§		2	M-0	115	...	1	120
MBA21V03§		2	M-0	230	...	2	240
MCA21V02		2	M-1	115	...	2	120
MCA21V03		2	M-1	230	...	3	240
MCA22V02		2	M-1P	115	...	3	120
MCA22V03		2	M-1P	230	...	5	240
MBR22V08		3	M-0	200	3	5	240
MBR22V03		3	M-0	230	3	3	208
MBR22V06	49748	3	M-0	460	5	3	240
MBR22V07		3	M-0	575	5	5	480
MCA23V08		3	M-1	200	7½	5	600
MCA23V03		3	M-1	230	7½	7½	208
MCA23V06		3	M-1	460	10	10	240
MCA23V07		3	M-1	575	10	10	480
							600
Open Type - Square Pushbutton Operator							
MBO21V02		2	M-0	115	...	1	120
MBO21V03		2	M-0	230	...	2	240
MCO21V02		2	M-1	115	...	2	120
MCO21V03		2	M-1	230	...	3	240
MCO22V02		2	M-1P	115	...	3	120



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No.	UPC	No. Poles	NEMA Size	Motor Volt.	Max. hp		Coil Volt.
					Poly-Ø	1Ø	
MC022V03		2	M-1P	230			240
MB022V08		3	M-0	200		5	208
MB022V03	11347	3	M-0	230	3		240
MB022V06	11346	3	M-0	460	3		480
MB022V07		3	M-0	575	5		600
MC023V08		3	M-1	200	5		208
MC023V03		3	M-1	230	7½		240
MC023V06	85786	3	M-1	460	7½		480
MC023V07		3	M-1	575	10		600

Open Type - Toggle Operator

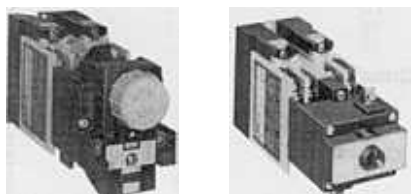
No.	UPC	No. Poles	NEMA Size	Motor Volt.	Max. hp	Coil Volt.
TB021V02		2	M-0	115	1	120
TB021V03		2	M-0	230	2	240
TC021V02		2	M-1	115	2	120
TC021V03		2	M-1	230	2	240
TC022V02		2	M-1P	115	3	120
TC022V03		2	M-1P	230	3	240
TB022V08		3	M-0	200	5	240
TB022V03		3	M-0	230	3	208
TB022V06		3	M-0	460	3	240
TB022V07		3	M-0	575	5	480
TC023V08		3	M-1	200	5	600
TC023V03		3	M-1	230	7½	208
TC023V06		3	M-1	460	7½	240
TC023V07		3	M-1	575	10	480

§Approved for group motor installations.
 •May be field modified for outdoor applications.

SQUARE D
Control Relays
 Class 8501 Type X



X040



X040XTE1

X040XL

Control Relays. 10A, 600V AC. Normally open, convertible contacts.

Control Relays

No.	UPC	No. Contacts
X020		2
X030		3
X040		4
X060		6
X080		8

Mount on any 2- thru 8-pole relay. Have continuous duty rated coil.

Class 8501 Type X Attachments & Accessories

Mechanically Held Attachment

No.	UPC	Desc.
XL		Type X Relay M 10A 600V AC Open Type Control Relay

May be mounted on a 0 thru 4 pole relay. Provides 1 N.O. and 1 N.C. convertible timed contacts, which are the same Type XC-1 cartridges used on basic relay. Two timing ranges are available and timer is easily convertible from On Delay to Off Delay. With On Delay mode.

Pneumatic Timer Attachment

No.	UPC	Timer Sec.
Type X Relay M 10A 600V AC Open Type Control Relay		
XTE1	53734	.2 to 60
XTE2	53736	5 to 180
XTD1*	53735	.2 to 60
XTD2*	53737	5 to 180

*Off delay.

Used to expand the number of poles on a relay. Basic Type X, 4-pole relay can be easily converted to an 8-pole or 12-pole relay by installing one or two adder decks.

Adder Decks

No.	UPC	Desc.
Type X Relay M 10A 600V AC Open Type Control Relay		
XB-40	53732	With Four N.O. Convertible Contacts
XB-20		With Two N.O. Convertible Contacts

3 type, all color coded for easy identification.

Contact Cartridges

No.	UPC	Desc.	Amps	Color
Type X Relay M 10A 600V AC Open Type Control Relay				
XC-1	53717	Standard	10	Black
XC-2	53710	Overlapping	10	Red
XC-4	53713	Master	20	Blue

Note: Maximum of (6) master cartridges may be used on any 7 and 8 pole AC relays. Do not use any master cartridges on 9-12 pole AC device.

Mounting Track

No.	UPC	Desc.
Type X Relay M 10A 600V AC Open Type Control Relay		
XM-4	53719	9"; 4 relays
XM-8	53720	18"; 8 relays
XM-12	53722	27"; 12 relays
XM-16	53724	36"; 16 relays
XM-32	53725	72"; 32 relays

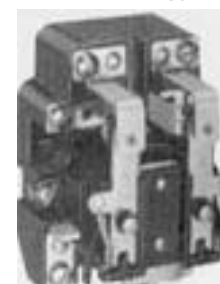
SQUARE D
Phase Failure Relays
 Class 8430 - Type MPS



Socket mounted. SPDT outputs. The relay protects the motor against phase failure, phase voltage unbalance, phase reversal and undervoltage. Order sockets separately. UL Recognized.

No.	UPC	Desc.
MPS-240		240V Maximum; Socket Type NR-51 or NR-52
MPS-480		480V Maximum; Socket Type NR-82

SQUARE D
General Purpose Relays
 Class 8501 - Type C



CO16

Suited for controlling small single phase motors and other light loads such as electric heaters, pilot lights or audible signals. 600V maximum. 15 VA coil inrush. 30A contact rating.

UL Listed File E78351. CSA Certified LR15734.

When ordering, coil voltage must be specified, add suffix code from Coil Voltage Code table.

AC Voltage Codes. 50/60 Hz.

Continued from previous page

Coil Voltage Code

Voltage Code	Volts
AC	
	6
	12
	24
	120
	208
	240
	277
	480
DC	
	6
	12
	24
	110
	220

General Purpose Relays

No.	NO Contact Config.	NC Contact Config.	Max. hp 1 Ph.
AC Coil			
C06	1	0	2
C07	2	0	1½
C08	0	1	2
C015	1	1	1½
C016	2	2	1½
DC Coil			
CD06	1	0	2
CD07	2	0	1½
CD08	0	1	2
CD015	1	1	1½
CD016	2	2	1½

SQUARE D

Standard Duty Control Stations Class 9001 Type B - NEMA Rated



Surface Mounting



Flush Mounting



Water/Dusttight



Hazardous Locations

For use with magnetic motor starters to govern the starting, stopping or reversing of all types of electric motors.

Push Buttons. Momentary contact.

Selector Switches. Maintained contact.

No.	UPC	No. Units	Features & Legend Markings
Surface Mounting - NEMA 1			
BG101	39005	1	Start
BG102	79392	1	Stop
BG103	79413	1	Stop; Mushroom Button
BG104	79414	1	Stop; Lockout
BG107	39011	1	Universal*
BG111	85695	1	Off-On; Selector Switch
BG112	39013	1	Hand-Off-Auto; Selector Switch
BG114	39014	1	Univ.; Selector Switch*

No.	UPC	No. Units	Features & Legend Markings
BG121	.....	1	Red Pilot Light; 120V AC/DC
BG122	.....	1	Green Pilot Light; 120V AC/DC
BG123	.....	1	Pilot Light w/o Lens;
BG201	39017	2	120V AC/DC*
BG202	79415	2	Start-Stop
BG203	79416	2	Start-Stop
BG204	39019	2	Start-Stop; Mushroom On Stop
BG205	.....	2	Start-Stop; Lockout
BG206	79417	2	On Start & Stop
BG207	85686	2	Forward-Reverse
BG208	39022	2	Open-Close
BG209	85737	2	Up-Down
BG210	85637	2	Raise-Lower
BG211	79418	2	On-Off
BG214	39025	2	On-Off
BG215	29026	2	Universal* Start-Stop;
BG216	79419	2	Maintained Contacts
BG217	.....	2	On-Off;
BG218	39209	2	Maintained Contacts
BG221	.....	2	Hand-Auto;
BG223	.....	2	Maintained Contacts
BG224	.....	2	Univ.; Maintained Contacts* Off-On; Selector Sw.;
BG225	.....	2	Red Pilot Light; 120V AC/DC
BG226	.....	2	Hand-Off-Auto; Selector Sw. & Pilot Light; 120V AC/DC w/o Lens*
BG301	85748	...	Hand-Off-Auto; Selector Sw. & Start Pushbutton Univ. Selector
BG302	39030	...	Sw. & Pushbutton*
BG303	79420	...	Fast-Slow-Stop
BG304	.....	...	Fwd-Rev-Stop
BG305	39032	...	Open-Close-Stop
BG306	.....	...	Raise-Lower-Stop
BG316	79424	...	Up-Down-Stop
BG307	39034	...	High-Low-Stop
BG308	39035	3	Start-Jog-Stop
BG309	39036	3	Universal* Start-Stop; Red Pilot Light; 120V AC/DC
BG310	85726	3	2 Univ. Pushbuttons & Pilot Light; 120V AC/DC w/o Lens* Start-Stop; Maintained Contacts
BG311	86146	3	& Red Pilot Light; 120V AC/DC On-Off; Maintained Contacts
BG312	.....	3	& Red Pilot Light; 120V AC/DC Hand-Auto; Maintained Contacts & Red Pilot Light; 120V AC/DC
BG313	.....	3	Univ. Pushbuttons; Maintained Contacts & Pilot Light; 120V AC/DC*
BG314	85767	3	Hand-Off-Auto; Selector Sw. & Start-Stop Pushbuttons
BG315	.....	3	Univ. Selector Sw. & 2 Pushbuttons*
BG322	85768	...	Fwd.-Rev.-Stop;
BG325	86147	...	Lockout On Stop
BG326	.....	...	Up-Down-Stop; Lockout On Stop
BG326	.....	...	High-Low-Stop; Lockout On Stop
Stainless Steel Flush Plate - NEMA 1†			
BF101	.....	1	Start
BF102	.....	1	Stop
BF107	.....	1	Universal*
BF111	.....	1	Off-On; Selector Switch
BF112	.....	1	Hand-Off-Auto; Selector Switch
BF114	.....	1	Univ.; Selector Switch*
BF121	.....	1	Red Pilot Light; 120V AC/DC
BF122	.....	1	Green Pilot Light; 120V AC/DC
BF123	.....	1	Pilot Light w/o Lens; 120V AC/DC*
BF201	39045	2	Start-Stop
BF202	.....	2	Start-Stop
BF206	.....	2	Forward-Reverse
BF207	.....	2	Open-Close
BF208	85675	2	Up-Down

No.	UPC	No. Units	Features & Legend Markings
BF209	.....	2	Raise-Lower
BF210	85658	2	On-Off
BF211	85765	2	On-Off
BF214	.....	2	Universal*
BF215	85205	2	Start-Stop; Maintained Contacts
BF216	85766	2	On-Off; Maintained Contacts
BF217	.....	2	Hand-Auto; Maintained Contacts
BF218	.....	2	Univ.; Maintained Contacts*
BF221	.....	2	Off-On; Selector Sw.;
BF223	.....	2	Red Pilot Light; 120V AC/DC
BF224	.....	2	Hand-Off-Auto; Selector Sw.; Red Pilot Light; 120V AC/DC Univ. Selector Sw.
BF225	.....	2	& Pilot Light; 120V AC/DC w/o Lens*
BF226	.....	2	Hand-Off-Auto; Selector Sw. & Start Pushbutton Univ. Selector
BF301	.....	...	Sw. & Pushbutton*
BF302	.....	...	Fast-Slow-Stop
BF303	.....	...	Fwd-Rev-Stop
BF304	.....	...	Open-Close-Stop
BF305	85725	...	Raise-Lower-Stop
BF306	.....	...	Up-Down-Stop
BF307	39057	...	High-Low-Stop
BF308	39058	3	Universal* Start-Stop; Red Pilot Light; 120V AC/DC
BF309	.....	3	2 Univ. Pushbuttons & Pilot Light; 120V AC/DC w/o Lens*
BF310	.....	3	Start-Stop; Maintained Contacts
BF311	.....	3	& Red Pilot Light; 120V AC/DC On-Off; Maintained Contacts
BF312	.....	3	& Red Pilot Light; 120V AC/DC Hand-Auto; Maintained Contacts & Red Pilot Light; 120V AC/DC
BF313	.....	3	Univ. Pushbuttons; Maintained Contacts
BF314	.....	3	& Pilot Light; 120V AC/DC*
BF315	.....	3	Hand-Off-Auto; Selector Sw. & Start-Stop Pushbuttons Univ. Selector Sw. & 2 Pushbuttons*
Watertight & Dusttight - NEMA 4			
BW146	85706	1	Start
BW147	.....	1	Stop
BW151	85738	1	Stop; Mushroom Button
BW148	45878	1	Stop; Lockout
BW159	.....	1	Universal*
BW240	45875	2	Start-Stop
BW252	.....	2	Start-Stop
BW250	85825	2	Start-Stop; Mushroom On Stop
BW241	45881	2	Start-Stop; Lockout
BW246	.....	2	Start-Stop; Mushroom On Start & Stop
BW242	85667	2	Forward-Reverse
BW244	85739	2	Open-Close
BW243	79425	2	Up-Down
BW253	.....	2	Raise-Lower
BW245	85769	2	On-Off
BW254	.....	2	On-Off
BW260	46096	2	Universal*
BW255	79426	2	Start-Stop; Maintained Contacts
BW256	85774	2	On-Off; Maintained Contacts
BW257	.....	2	Hand-Auto; Maintained Contacts
BW258	.....	2	Univ.; Maintained Contacts*
For Hazardous Locations - NEMA 7 & 9‡			
BR101	85220	1	Start
BR103	60084	1	Stop; Mushroom Button
BR104	60085	1	Stop; Lockout
BR107	.....	1	Universal*
BR201	.....	2	Start-Stop
BR202	.....	2	Start-Stop
BR203	85684	2	Start-Stop; Mushroom On Stop
BR204	60088	2	Start-Stop; Lockout
BR205	2	Start-Stop; Mushroom On Start & Stop
BR206	85787	2	Forward-Reverse
BR207	2	Open-Close
BR208	85654	2	Up-Down

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No.	UPC	No. Units	Features & Legend Markings
BR209	2	Raise-Lower
BR210	2	On-Off
BR211	.....	2	On-Off
BR214	60089	2	Universal*
BR215	85218	2	Start-Stop; Maintained Contacts
BR216	.....	2	On-Off; Maintained Contacts
BR217	.....	2	Hand-Auto; Maintained Contacts
BR219	.....	2	Start-Stop; Both Maintained Contacts; Red Mushroom On Stop Univ.; Maintained Contacts*

*"Universal" designates control stations without legend inserts, lenses or accessory kits. Separate legend inserts and other accessories available to build up standard or custom stations.

†Pullbox not included; use standard 2" or 2.13" deep wall boxes, 1-gang for Types BF1 & 2 and 2-gang for Type BF3.

‡Class 1, Div. I & II, Groups B, C, D; Class II Div. I & II, Groups E, F & G.

SQUARE D

Reversing Drum Switches

Class 2601

NEMA Type 1 - General Purpose

May be used for across-the-line starting and the reversing of AC polyphase, AC single phase, or DC motors. Compact and ruggedly constructed. Field convertible from maintained to momentary operation. This conversion consists of unscrewing the handle, removing the hub, turning the shaft 180°, and then replacing the hub and handle. Maximum voltage: 600V AC, 250V DC. Mounting in vertical position is recommended.

No.	UPC	Volts	Max. HP		
			AC Sg. Ph.	AC Poly Ph.	DC
AG-2		115	1½	...	¼
		200-230	...	2	...
		230	2	...	¼
		460-575	...	2	...
BG-1		115	...	...	2
		200-230	...	5	...
		230	...	...	2
		460-575	3	7½	...

SQUARE D

Pushbutton Control Units

Class 9001 Type K

Heavy Duty Oiltight



Dual Function



Knob

Nonilluminated. Without contacts but may be ordered complete with contact blocks.

Meet UL type 13, NEMA Type 13, UL type 6 and NEMA type 6 (UL and NEMA consider equivalent to UL type 4 or NEMA type 4).

Color Code Selection

Color	Dual Funct.	Inter. Assy.	Knob
2 Position, Maintained Pull- Maintained Push, Non-Illuminated			
Black	B	B	B*
Red	R	R	R
Green	G	G	G
Blue	...	L	L
Yellow	...	Y	Y
White	...	W	W
Orange	...	S	S*
Clear	...	...	C
Amber	...	...	A
Gray	...	E	...

*These colors not available on illuminated push-pull operators.

Control Units

No.	UPC	Color
Momentary Dual Function		
KR6U	00878	Universal†
KR6GR	82060	Green-Red
KR6		Other‡
Momentary Interlocked Dual Function		
KR67U	60272	Universal†
KR67GR		Green-Red
KR67		Other‡
Maintained Interlocked Dual Function		
KR7U		Universal†
KR7GR		Green-Red
KR7		Other‡
Both Buttons Maintained Interlocked Assembly		
KR11U	00890	Universal§
KR11		Other*
One Button Momentary, One Button Maintained, Interlocked Assembly		
KR12U	00891	Universal§
KR12		Other*
3 Position Momentary Pull-Maintained Neutral-Momentary Push Knob		
KR8R	32008	Red
KR8G	82061	Green
KR8	00880	Other★
KR2U		Universal
2 Position, Maintained Pull-Maintained Push Knob		
KR9R	32012	Red♦
KR9G	82062	Green
KR9	00885	Other★
SKR9		Other▲
Standard Pilot Light		
KP		
Full Guard - Plastic Top - Push Button		
K1L		
SK1L		
Push Button, Push Test		
K2L		
Mushroom - Screw On		
KR20	.....	.....

†Includes 2 inserts each of black, red and green.
 ‡Choose one color suffix for each button. R=red; G=green; B=black.
 §Includes 2 each of black, red, green, yellow, orange, blue, white.
 ♦Choose 1 color for each button from Color Code Selection table; insert color code suffix after catalog number.
 ★Choose 1 color from Color Code Selection table, insert suffix after catalog number.
 ♦To obtain red knob with "Push Emergency Stop" printed on knob, substitute "RO5" in place of "R".
 ▲Convert to illuminated operator by removing liner (9001 K2A) and adding light module.

SQUARE D

Pushbutton Control Units

Class 9001 Type K

Heavy Duty



Series K1L



Series K3L



Series K2L



Series KR8/KR9

Illuminated. Other voltages available in transformer or flashing, full voltage, resistor or neon and LED styles. 50-60 Hz.

UL Types 4, 13 and NEMA Types 4, 13.

Color Cap Codes

Suffix Code	Color
R	Red
G	Green
L	Blue
Y	Yellow
W	White
C	Clear
A	Amber

Control Units

No.	UPC	Volts	Desc.
Full Guard - Clear Plastic Top w/Red Cap & 1 NO, 1 NC Contact			
K1L1RH13	110-120	Transformer
K1L7RH13	220-240	Transformer
K1L35RH13	24-28	AC/DC; Full Volt.
Full Guard - Metal Top w/Red Cap & 1 NO, 1 NC Contact			
K3L1RH13	110-120	Transformer
K3L7RH13	220-240	Transformer
K3L35RH13	24-28	AC/DC; Full Volt.
Pushbutton w/o Guard w/Red Cap & 1 NO, 1 NC Contact			
K2L1RH13	84975	110-120	Transformer
K2L7RH13	220-240	Transformer
K2L35RH13	24-28	AC/DC; Full Volt.
1½" Mushroom w/Red Cap & 1 NO, 1 NC Contact			
K2L1R20H13	110-120	Transformer
K2L7R20H13	220-240	Transformer
K2L35R20H13	24-28	AC/DC; Full Volt.
2¼" Mushroom w/Red Cap & 1 NO, 1 NC Contact			
K2L1R21H13	110-120	Transformer
K2L7R21H13	220-240	Transformer
K2L35R21H13	24-28	AC/DC; Full Volt.
Full Guard - Clear Plastic Top w/Green Cap & 1 NO, 1 NC Contact			
K1L1GH13	84879	110-120	Transformer
K1L7GH13	220-240	Transformer
K1L35GH13	24-28	AC/DC; Full Volt.
Full Guard - Metal Top w/Green Cap & 1 NO, 1 NC Contact			
K3L1GH13	110-120	Transformer
K3L7GH13	220-240	Transformer
K3L35GH13	24-28	AC/DC; Full Volt.
Pushbutton w/o Guard w/Green Cap & 1 NO, 1 NC Contact			
K2L1GH13	110-120	Transformer
K2L7GH13	220-240	Transformer
K2L35GH13	24-28	AC/DC; Full Volt.

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No.	UPC	Volts	Desc.
1 3/8" Mushroom w/Green Cap & 1 NO, 1 NC Contact			
K2L1G20H13	110-120	Transformer
K2L7G20H13	.....	220-240	Transformer
K2L35G20H13	.....	24-28	AC/DC; Full Volt.
2 1/4" Mushroom w/Green Cap & 1 NO, 1 NC Contact			
K2L1G21H13	.....	110-120	Transformer
K2L7G21H13	.....	220-240	Transformer
K2L35G21H13	.....	24-28	AC/DC; Full Volt.
Full Guard - Clear Plastic Top w/o Contact*			
K1L1†	00560	110-120	Transformer
K1L7†	85724	220-240	Transformer
K1L35†	.....	24-28	AC/DC; Full Volt.
Full Guard - Metal Top w/o Contact*			
K3L1†	.....	110-120	Transformer
K3L7†	.....	220-240	Transformer
K3L35†	.....	24-28	AC/DC; Full Volt.
Pushbutton w/o Guard - w/o Contact*			
K2L1†	17854	110-120	Transformer
K2L7†	.....	220-240	Transformer
K2L35†	.....	24-28	AC/DC; Full Volt.
3-Position Momentary Pull, Maintained Neutral, Momentary Push - w/2 NC Contact			
KR8P1H25†	.....	110-120	w/Red Knob
KR8P1H25†	.....	110-120	Other Color
3-Position Momentary Pull, Maintained Neutral, Momentary Push - w/o Contact			
KR8P1†	00883	110-120	Other Color
2-Position Maintained Pull, Maintained Push w/1 NO & 1 NC Contact			
KR9P1H13	.....	110-120	w/Red Knob
KR9P1H13†	.....	110-120	Other Color
3-Position Momentary Pull, Maintained Push w/o Contact			
KR9P1†	00888	110-120	Other Color

*Available complete with contact blocks.
†Add color code from Color Cap Table.

SQUARE D

Pushbutton Control Units

Class 9001 Type K - NEMA Type 13
Heavy Duty - Oiltight



Legend Plate



Operator

Non-illuminated momentary push button operators. UL Types 4, 13 and NEMA Types 4, 13. Contact blocks and legend plate not included unless otherwise noted.

Pushbuttons

No.	UPC	Desc.	Color
Standard			
KR1BH6	82105	Full Guard	Black
KR1RH6	06680	Full Guard	Red
KR1GH6	Full Guard	Green
KR1UH6	Full Guard	Universal*
KR1H6	Full Guard	Other†
KR1UH13	Full Guard	Universal*
KR1UH5	Full Guard	Universal*
KR1U	Full Guard	Universal*
KR3BH6	No Guard	Black
KR3RH6	04276	No Guard	Red
KR3GH6	No Guard	Green
KR3UH6	No Guard	Universal*
KR3H6	No Guard	Other†
KR3UH13	No Guard	Universal*
KR3UH5	No Guard	Universal*
KR3U	No Guard	Universal*
KR2BH6	Extended Guard	Black

No.	UPC	Desc.	Color
KR2RH6	Extended Guard	Red
KR2GH6	Extended Guard	Green
KR2UH6	Extended Guard	Universal*
KR2H6	Extended Guard	Other†
1 3/8" Dia. Snap-In Mushroom Button			
KR4BH6	Mushroom Button	Black
KR4RH6	Mushroom Button	Red
KR4R05H6	Mushroom Button	Red‡
KR4GH6	Mushroom Button	Green
KR4H6	Mushroom Button	Other§
1 3/8" Dia. Screw-On Mushroom Button w/Set Screw Security			
KR24BH6	Mushroom Button	Black
KR24RH6	Mushroom Button	Red
KR24GH6	Mushroom Button	Green
KR24H6	Mushroom Button	Other§

No.	UPC	Desc.	Color
2 1/4" Dia. Snap-In Mushroom Button			
KR5BH6	Mushroom Button	Black
KR5RH6	Mushroom Button	Red
KR5R05H6	Mushroom Button	Red‡
KR5GH6	Mushroom Button	Green
KR5H6	Mushroom Button	Other§
2 1/4" Dia. Screw-On Mushroom Button w/Set Screw Security			
KR25BH6	Mushroom Button	Black
KR25RH6	Mushroom Button	Red
KR25GH6	Mushroom Button	Green
KR25H6	Mushroom Button	Other§
KR25RH13	Mushroom Button	Red
KR25RH5	Mushroom Button	Red
KR25R	Mushroom Button	Red

*Universal inserts include 1 each of colors: Black, Red, Green, Yellow, Orange, Blue, & White.

†Choose color and place code in catalog number following KR1, KR2 or KR3: Blue=L, Yellow=Y, White=W, Orange=S, Gray=E.

‡Knob has "Emergency Stop" in raised letters highlighted in white for easy readability.

§Choose color and place in catalog number following KR4, KR5, KR24 or KR25: Blue=L, Yellow=L, Orange=S.

Note: Contact configuration denoted by suffix: 13=1 NO 1 NC, 5=1 NO, 6=1 NC. No suffix indicates no contacts.

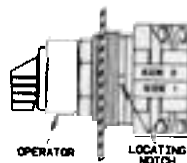
Contact Blocks

No.	Desc.
KA1	1 NO 1 NC
KA2	1 NO
KA3	1 NC

SQUARE D

Selector Switches

Class 9001 Type K - 30.5mm



Non-illuminated two position selector switch operators for use in hazardous locations. UL Types 4, 13; NEMA Types 4, 13.

Type E

Non-Illuminated

No.	UPC	Type	Knob	Color
Manual Return				
KS11	w/o Knob	.....	.....
KS11B	Std.	Black	Black
KS11R	Std.	Red	Red
KS11G	Std.	Green	Green
KS11Y	Std.	Yellow	Yellow
KS11S	Std.	Orange	Orange
KS11L	Std.	Blue	Blue
KS11W	Std.	White	White
KS11A	Std.	Amber	Amber

No.	UPC	Type	Knob	Color
KS11C	Std.	.....	Clear
KS11FB	Gloved	.....	Black
KS11FR	Gloved	.....	Red
KS11FG	Gloved	.....	Green
KS11FY	Gloved	.....	Yellow
KS11FS	Gloved	.....	Orange
KS11FL	Gloved	.....	Blue
KS11FW	Gloved	.....	White
KS11FA	Gloved	.....	Amber
KS11FC	Gloved	.....	Clear
KS11TB	Coin Op.	.....	Black
KS11TR	Coin Op.	.....	Red
KS11TG	Coin Op.	.....	Green
KS11TY	Coin Op.	.....	Yellow
KS11TL	Coin Op.	.....	Blue
KS11TC	Coin Op.	.....	Clear
KS11K1*
KS11K2*
KS11K3*

Spring Return From Left

No.	UPC	Type	Knob	Color
w/o Knob				
KS25	Std.	.....	Black
KS25B	Std.	.....	Red
KS25R	Std.	.....	Green
KS25G	Std.	.....	Yellow
KS25Y	Std.	.....	Orange
KS25S	Std.	.....	Blue
KS25L	Std.	.....	White
KS25W	Std.	.....	Amber
KS25A	Std.	.....	Clear
KS25C	Std.	.....	.....
KS25FB	Gloved	.....	Black
KS25FR	Gloved	.....	Red
KS25FG	Gloved	.....	Green
KS25FY	Gloved	.....	Yellow
KS25FS	Gloved	.....	Orange
KS25FL	Gloved	.....	Blue
KS25FW	Gloved	.....	White
KS25FA	Gloved	.....	Amber
KS25FC	Gloved	.....	Clear
KS25TB	Coin Op.	.....	Black
KS25TR	Coin Op.	.....	Red
KS25TG	Coin Op.	.....	Green
KS25TY	Coin Op.	.....	Yellow
KS25TL	Coin Op.	.....	Blue
KS25TC	Coin Op.	.....	Clear
KS25K1*

*Key operated w/EIO key. Suffixes (1, 2, or 3) drawn from Key Withdrawal Code table.

Type E Manual Return w/Contact Blocks. With standard black knob. For other colors, replace "B" in No. with Color Codes from Selector Switch Knob Table.

Type E Manual Return w/Contact Blocks Non-Illuminated

No.	Desc.
Spring Return From Left	
KS11BH13	w/one KA1 on side #2; H13
KS11BH1	w/one KA1 on side #1; H1
KS11BH2	w/one KA1 on side #1 & one KA1 on side #2; H2

Type D

Non-Illuminated

No.	Desc.
Spring Return From Left	
KS12	w/o Knob
KS12B	w/Std. Black Knob
KS12(1)	w/Other Color Knob
KS12K(2)	Key Operated w/EIO Key(3)

Spring Return From Right

No.	Desc.
Spring Return From Right	
KS34	w/o Knob
KS34B	w/Std. Black Knob
KS34(1)	w/Other Color Knob
KS34K(1)(2)	Key Operated w/EIO Key(3)

Part Number Notes

To obtain the correct part number, follow the corresponding directions below for each of the notes as shown in the tables above. The first product table has already been expanded.

Continued on next page

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(1) Add Color Code from Selector Switch Knobs table below.

(2) Add Key Withdrawal Code from table below.

(3) EIO key change is standard; following key changes are available at no additional cost: E11-E13, E16, E21-E26, E28-E33, CH501, CH674, SF251, T107. All can be operated by single master key.



Color Codes

Selector Switch Knobs

No.	Color Code (1)	Color
Standard Knob		
B11	B	Black
R8	R	Red
G8	G	Green
Y8	Y	Yellow
S11	S	Orange
L8	L	Blue
W8	W	White
A8	A	Amber
C8	C	Clear

Gloved Hand Knob

No.	Color Code (1)	Color
B25	FB	Black
R24	FR	Red
G24	FG	Green
Y24	FY	Yellow
S25	FS	Orange
L24	FL	Blue
W24	FW	White
A24	FA	Amber
C24	FC	Clear

Coin Operated

No.	Color Code (1)	Color
B18	TB	Black
R16	TR	Red
G16	TG	Green
Y16	TY	Yellow
L16	TL	Blue
C16	TC	Clear

Key Withdrawal Codes

Code	Yes	No
Coin Operated		
1	Yes	No
2	No	Yes
3	Yes	Yes

Key Withdrawal - Master Key

No.	Key No.	Avail. Key Changes
Coin Operated		
29411-51990	E36 thru E60	25

Contacts: 1=Closed, 0=Open.

Required Contact Blocks

Type	Qty.	Side Mount No.	Contacts L R L R
Coin Operated			
KA1	SPDT	2	1, 0, 0, 1 0, 1, 1, 0
KA2	SPST - NO	2	0, 1, 1, 0
KA3	SPST - NC	2	1, 0, 0, 1
KA1	SPDT	1	1, 0, 0, 1 0, 1, 1, 0
KA2	SPST - NO	1	0, 1, 1, 0
KA3	SPST - NC	1	1, 0, 0, 1

SQUARE D

Pilot Lights

Class 9001 - Heavy Duty - Type K



Standard



Push To Test w/ Glass Color Cap



Plastic Fresnel



Plastic Domed

For use in hazardous locations. Legend plates not included. Other voltages available. 30.5 mm. UL Types 4 & 13. NEMA Types 4 & 13.

No.	UPC	Volts	Hz	Style
Standard				
Standard				
KP1	73250	110-120	50-60	Transf.
KP7	00874	220-240	50-60	Transf.
KP35	54666	24-28	...	Full Volt.
Push-To-Test				
KT1	17029	110-120	50-60	Transf.
KT7	...	220-240	50-60	Transf.
KT35	17055	24-28	...	Full Volt.
Remote Test				
KTR38	...	120 AC	...	Resistor*
KTR35	...	24-28 AC	...	Full Volt.*

*On remote test pilot lights, use only full voltage or resistor voltage assembly codes. For AC use only.

With Color Caps

No.	UPC	Color	Volts	Hz	Style
Fresnel Caps					
KP1A31	...	Amber	110-120	50-60	Transf.
KP7A31	...	Amber	220-240	50-60	Transf.
KP35A31	...	Amber	24-28†	...	Full Volt.
KP1L31	...	Blue	110-120	50-60	Transf.
KP7L31	...	Blue	220-240	50-60	Transf.
KP35L31	...	Blue	24-28†	...	Full Volt.
KP1C31	...	Clear	110-120	50-60	Transf.
KP7C31	...	Clear	220-240	50-60	Transf.
KP35C31	...	Clear	24-28†	...	Full Volt.
KP1G31	...	Green	110-120	50-60	Transf.
KP7G31	...	Green	220-240	50-60	Transf.
KP35G31	...	Green	24-28†	...	Full Volt.
KP1R31	...	Red	110-120	50-60	Transf.
KP7R31	...	Red	220-240	50-60	Transf.
KP35R31	...	Red	24-28†	...	Full Volt.
KP1W31	...	White	110-120	50-60	Transf.
KP7W31	...	White	220-240	50-60	Transf.
KP35W31	...	White	24-28†	...	Full Volt.
KP1Y31	...	Yellow	110-120	50-60	Transf.
KP7Y31	...	Yellow	220-240	50-60	Transf.
KP35Y31	...	Yellow	24-28†	...	Full Volt.

Plastic Domed Caps

No.	UPC	Color	Volts	Hz	Style
KP1A9	79934	Amber	110-120	50-60	Transf.
KP7A9	...	Amber	220-240	50-60	Full Volt.
KP35A9	...	Amber	24-28†	...	Full Volt.
KP1L9	...	Blue	110-120	50-60	Transf.
KP7L9	...	Blue	220-240	50-60	Transf.
KP35L9	...	Blue	24-28†	...	Full Volt.
KP1C9	...	Clear	110-120	50-60	Transf.
KP7C9	...	Clear	220-240	50-60	Transf.
KP35C9	...	Clear	24-28†	...	Full Volt.
KP1G9	34073	Green	110-120	50-60	Transf.
KP7G9	...	Green	220-240	50-60	Transf.
KP35G9	79437	Green	24-28†	...	Full Volt.
KP1R9	...	Red	110-120	50-60	Transf.
KP7R9	...	Red	220-240	50-60	Transf.
KP35R9	...	Red	24-28†	...	Full Volt.
KP1W9	...	White	110-120	50-60	Transf.
KP7W9	...	White	220-240	50-60	Transf.
KP35W9	...	White	24-28†	...	Full Volt.
KP1Y9	...	Yellow	110-120	50-60	Transf.
KP7Y9	...	Yellow	220-240	50-60	Transf.
KP35Y9	...	Yellow	24-28†	...	Full Volt.

No.	UPC	Color	Volts	Hz	Style
Glass Caps					
KP1A6	79429	Amber	110-120	50-60	Transf.
KP7A6	...	Amber	220-240	50-60	Transf.
KP35A6	...	Amber	24-28†	...	Full Volt.
KP1L6	...	Blue	110-120	50-60	Transf.
KP7L6	...	Blue	220-240	50-60	Transf.
KP35L6	...	Blue	24-28†	...	Full Volt.
KP1C6	...	Clear	110-120	50-60	Transf.
KP7C6	...	Clear	220-240	50-60	Transf.
KP35C6	...	Clear	24-28†	...	Full Volt.
KP1G6	85992	Green	110-120	50-60	Transf.
KP7G6	...	Green	220-240	50-60	Transf.
KP35G6	...	Green	24-28†	...	Full Volt.
KP1R6	86011	Red	110-120	50-60	Transf.
KP7R6	...	Red	220-240	50-60	Transf.
KP35R6	...	Red	24-28†	...	Full Volt.
KP1W6	...	White	110-120	50-60	Transf.
KP7W6	...	White	220-240	50-60	Transf.
KP35W6	...	White	24-28†	...	Full Volt.
KP1Y6	...	Yellow	110-120	50-60	Transf.
KP7Y6	...	Yellow	220-240	50-60	Transf.
KP35Y6	...	Yellow	24-28†	...	Full Volt.

†AC-DC.

Push-To-Test

No.	UPC	Color	Volts	Hz	Style
Fresnel Caps					
KT1A31	...	Amber	110-120	50-60	Transf.
KT7A31	...	Amber	220-240	50-60	Transf.
KT35A31	...	Amber	24-28†	...	Full Volt.
KT1L31	...	Blue	110-120	50-60	Transf.
KT7L31	...	Blue	220-240	50-60	Transf.
KT35L31	...	Blue	24-28†	...	Full Volt.
KT1C31	...	Clear	110-120	50-60	Transf.
KT7C31	...	Clear	220-240	50-60	Transf.
KT35C31	...	Clear	24-28†	...	Full Volt.
KT1G31	...	Green	110-120	50-60	Transf.
KT7G31	...	Green	220-240	50-60	Transf.
KT35G31	...	Green	24-28†	...	Full Volt.
KT1R31	...	Red	110-120	50-60	Transf.
KT7R31	...	Red	220-240	50-60	Transf.
KT35R31	...	Red	24-28†	...	Full Volt.
KT1W31	...	White	110-120	50-60	Transf.
KT7W31	...	White	220-240	50-60	Transf.
KT35W31	...	White	24-28†	...	Full Volt.
KT1Y31	...	Yellow	110-120	50-60	Transf.
KT7Y31	...	Yellow	220-240	50-60	Transf.
KT35Y31	...	Yellow	24-28†	...	Full Volt.

Plastic Domed Caps

No.	UPC	Color	Volts	Hz	Style
KT1A9	04360	Amber	110-120	50-60	Transf.
KT7A9	...	Amber	220-240	50-60	Transf.
KT35A9	...	Amber	24-28†	...	Full Volt.
KT1L9	...	Blue	110-120	50-60	Transf.
KT7L9	...	Blue	220-240	50-60	Transf.
KT35L9	...	Blue	24-28†	...	Full Volt.
KT1C9	...	Clear	110-120	50-60	Transf.
KT7C9	...	Clear	220-240	50-60	Transf.
KT35C9	...	Clear	24-28†	...	Full Volt.
KT1G9	82077	Green	110-120	50-60	Transf.
KT7G9	...	Green	220-240	50-60	Transf.
KT35G9	...	Green	24-28†	...	Full Volt.
KT1R9	82078	Red	110-120	50-60	Transf.
KT7R9	...	Red	220-240	50-60	Transf.
KT35R9	...	Red	24-28†	...	Full Volt.
KT1W9	04846	White	110-120	50-60	Transf.
KT7W9	...	White	220-240	50-60	Transf.
KT35W9	...	White	24-28†	...	Full Volt.
KT1Y9	...	Yellow	110-120	50-60	Transf.
KT7Y9	...	Yellow	220-240	50-60	Transf.
KT35Y9	...	Yellow	24-28†	...	Full Volt.

Glass Caps

No.	UPC	Color	Volts	Hz	Style
KT1A6	17030	Amber	110-120	50-60	Transf.
KT7A6	...	Amber	220-240	50-60	Transf.
KT35A6	...	Amber	24-28†	...	Full Volt.
KT1L6	...	Blue	110-120	50-60	Transf.
KT7L6	...	Blue	220-240	50-60	Transf.
KT35L6	...	Blue	24-28†	...	Full Volt.
KT1C6	...	Clear	110-120	50-60	Transf.
KT7C6	...	Clear	220-240	50-60	Transf.
KT35C6	...	Clear	24-28†	...	Full Volt.
KT1G6	17031	Green	110-120	50-60	Transf.
KT7G6	...	Green	220-240	50-60	Transf.
KT35G6	...	Green	24-28†	...	Full Volt.
KT1R6	17033	Red	110-120	50-60	Transf.
KT7R6	...	Red	220-240	50-60	Transf.
KT35R6	...	Red	24-28†	...	Full Volt.

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No.	UPC	Color	Volts	Hz	Style
KT1W6		White	110-120	50-60	Transf.
KT7W6		White	220-240	50-60	Transf.
KT35W6		White	24-28†	...	Full Volt.
KT1Y6		Yellow	110-120	50-60	Transf.
KT7Y6		Yellow	220-240	50-60	Transf.
KT35Y6		Yellow	24-28†	...	Full Volt.

†AC-DC.

Remote Test Pilot Lights*

*On remote test pilot lights, use only full voltage or resistor voltage assembly codes. For AC use only.

No.	UPC	Color	Volts	Style
Fresnel Caps				
KTR38A31		Amber	120	Resistor
KTR35A31		Amber	24-28	Full Volt.
KTR38L31		Blue	120	Resistor
KTR35L31		Blue	24-28	Full Volt.
KTR38C31		Clear	120	Resistor
KTR35C31		Clear	24-28	Full Volt.
KTR38G31		Green	120	Resistor
KTR35G31		Green	24-28	Full Volt.
KTR38R31		Red	120	Resistor
KTR35R31		Red	24-28	Full Volt.
KTR38W31		White	120	Resistor
KTR35W31		White	24-28	Full Volt.
KTR38Y31		Yellow	120	Resistor
KTR35Y31		Yellow	24-28	Full Volt.

Plastic Domed Caps

KTR38A9		Amber	120	Resistor
KTR35A9		Amber	24-28	Full Volt.
KTR38L9		Blue	120	Resistor
KTR35L9		Blue	24-28	Full Volt.
KTR38C9		Clear	120	Resistor
KTR35C9		Clear	24-28	Full Volt.
KTR38G9		Green	120	Resistor
KTR35G9		Green	24-28	Full Volt.
KTR38R9		Red	120	Resistor
KTR35R9		Red	24-28	Full Volt.
KTR38W9		White	120	Resistor
KTR35W9		White	24-28	Full Volt.
KTR38Y9		Yellow	120	Resistor
KTR35Y9		Yellow	24-28	Full Volt.

Glass Caps

KTR38A6		Amber	120	Resistor
KTR35A6		Amber	24-28	Full Volt.
KTR38L6		Blue	120	Resistor
KTR35L6		Blue	24-28	Full Volt.
KTR38C6		Clear	120	Resistor
KTR35C6		Clear	24-28	Full Volt.
KTR38G6		Green	120	Resistor
KTR35G6		Green	24-28	Full Volt.
KTR38R6		Red	120	Resistor
KTR35R6		Red	24-28	Full Volt.
KTR38W6		White	120	Resistor
KTR35W6		White	24-28	Full Volt.
KTR38Y6		Yellow	120	Resistor
KTR35Y6		Yellow	24-28	Full Volt.



For Intrinsically Safe Circuits

For Intrinsically Safe Circuits. NEMA 4X. Intrinsically safe equipment must not release electrical or thermal energy capable of igniting certain explosives or combustible hazardous atmospheres for which the equipment has been tested. Intrinsically safe when used with suitable approved barrier relay or barrier (Class 8501, Type TO). Fully encapsulated. No replaceable parts except SK40 ring nut. For use with KN100 Series plastic legend plates. Max. 32V, 165 mA.

FM Approved.

Intrinsically Safe Circuits

No.	UPC	Oper. Rge. AC/DC	Nom Current mA	Lens Color
KP44R	54358	20-30V	25	Red
KP44G	54359	20-30V	25	Green
KP44Y	54360	20-30V	25	Yellow

Push-To-Test Ground Detectors. Include contact block. Color cap and legend plated not included. Used in pairs to indicate grounded condition in control circuit fed from grounded center-tapped transformer. Commonly used in press control circuits.

Fulfill requirements of ground detector called for in ANSI B11.1 (1971), par. E3.6.5.

Push-To-Test Ground Detector

No.	UPC	Volts	Freq. Hz
KT50		110-120	50-60

Color caps for push-to-test pilot lights. Add color codes as chosen from color cap table. Example: KP1 with blue fresnel cap is KP1L31.

Color Caps

No.	Color
A31	Amber
L31	Blue
C31	Clear
G31	Green
R31	Red
W31	White
Y31	Yellow

Plastic Fresnel

A9	Amber
L9	Blue
C9	Clear
G9	Green
R9	Red
W9	White
Y9	Yellow

Plastic Domed

A6	Amber
L6	Blue
C6	Clear
G6	Green
R6	Red
W6	White
Y6	Yellow

SQUARE D

Manual Motor Starting Switches Class 2510 Type K



K02



KG1A

Non-reversing, without overload protection. Provide manual "on-off" control of single or 3-phase AC motors, where overload protection not required or provided separately. 600V rating make these switches suitable for wide range of industrial and commercial uses. For small machine tools, pumps, fans, conveyors and many other types of electrical machinery. Horsepower ratings to 20 hp 3-phase 575V AC and 1½ hp 230V DC. Used on nonmotor loads such as resistance heaters.

- A. With pilot light.
- B. With pilot light.
- C. With pilot light.

No.	UPC	Type	No. Pole	Pilot Light Volts
NEMA Type 1 - General Purpose Enclosure Surface Mounting - Standard				
KG1*	55447	Toggle	2	...
KG1A	55448	Toggle	2	115
KG1B	55449	Toggle	2	230
KG2	55450	Toggle	3	...
KG2B	55451	Toggle	3	208-240
KG2C	55452	Toggle	3	440-600
KG5	19269	Toggle	2	...
KG5A	...	Toggle	2	115
KG5B	...	Toggle	2	230
KG6	19271	Toggle	3	...
KG6B	...	Toggle	3	208-240
KG6C	...	Toggle	3	440-600
KG3	55453	Key	2	...
KG3A	...	Key	2	115
KG3B	...	Key	2	230
KG4	55454	Key	3	...
KG4B	...	Key	3	208-240
KG4C	...	Key	3	440-600

NEMA Type 1 - General Purpose Enclosure Surface Mounting - Oversized

KGJ1	48654	Toggle	2	...
KGJ1A	...	Toggle	2	115
KGJ1B	...	Toggle	2	230
KGJ2	48653	Toggle	3	...
KGJ2B	...	Toggle	3	208-240
KGJ2C	84976	Toggle	3	440-600
KGJ5	...	Toggle	2	...
KGJ6	...	Toggle	3	...
KGJ3	...	Key	2	...
KGJ3A	...	Key	2	115
KGJ3B	...	Key	2	230
KGJ4	...	Key	3	...
KGJ4B	...	Key	3	208-240
KGJ4C	...	Key	3	440-600

General Purpose Enclosure w/o Pull Box Flush Mounting - Gray Plate

KF1	55441	Toggle	2	...
KF1A	55442	Toggle	2	115
KF1B	...	Toggle	2	230
KF2	55444	Toggle	3	...
KF2B	55445	Toggle	3	208-240
KF2C	55446	Toggle	3	440-600
KF3	...	Key	2	...
KF3A†	...	Key	2	115
KF3B	...	Key	2	230
KF4	...	Key	3	...
KF4B	...	Key	3	208-240
KF4C	...	Key	3	440-600

General Purpose Enclosure w/o Pull Box Flush Mounting - Stainless Steel Plate

KS1	55465	Toggle	2	...
KS1A	55466	Toggle	2	115
KS1B	55467	Toggle	2	230
KS2	55468	Toggle	3	...
KS2B	55469	Toggle	3	208-240
KS2C	55470	Toggle	3	440-600
KS3	...	Key	2	...
KS3A	...	Key	2	115
KS3B	...	Key	2	230
KS4	...	Key	3	...
KS4B	...	Key	3	208-240
KS4C	...	Key	3	440-600

General Purpose Enclosure w/o Pull Box Flush Mounting - Jumbo Stainless Steel Plate

KSJ1A	...	Toggle	2	115
KSJ1B	...	Toggle	2	230
KSJ2B	...	Toggle	3	208-240
KSJ2C	...	Toggle	3	440-600
KSJ3A	...	Key	2	115
KSJ3B	...	Key	2	230
KSJ4B	...	Key	3	208-240
KSJ4C	...	Key	3	440-600

NEMA Type 4 - Watertight & Dusttight Enclosure†

KW1	55471	Toggle	2	...
KW1A	07774	Toggle	2	115
KW1B	...	Toggle	2	230
KW2	07705	Toggle	3	...
KW2B	84989	Toggle	3	208-240
KW2C	43658	Toggle	3	440-600
KW5	...	Toggle	2	...
KW5A	...	Toggle	2	115
KW5B	...	Toggle	2	230
KW6	...	Toggle	3	...

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No.	UPC	Type	No. Pole	Pilot Light Volts
KW6B	Toggle	3	208-240
KW6C	Toggle	3	440-600

**NEMA Type 3R, 7 & 9 Enclosures
Class I Groups B, C, & D
Class II Groups E, F & G†**

KR1	55463	Toggle	2	...
KR2	07772	Toggle	3	...
KR5	.....	Toggle	2	...

Open Type

K01	55455	Toggle	2	...
K01A	55456	Toggle	2	115*
K01B	55457	Toggle	2	230*
K02	55458	Toggle	3	...
K02B	55459	Toggle	3	208-240*
K02C	55460	Toggle	3	440-600*
K05	19268	Toggle	2	...
K05A	.....	Toggle	2	115
K05B	.....	Toggle	2	230
K06	19270	Toggle	3	...
K06B	.....	Toggle	3	208-240
K06C	.....	Toggle	3	440-600
K03	55461	Key	2	...
K03A	.....	Key	2	115
K03B	.....	Key	2	230
K04	55462	Key	3	...
K04B	.....	Key	3	208-240
K04C	.....	Key	3	440-600

*Do not use replacement interiors; for replacement unit order Type KO1 or KO2 and separate pilot light kit.

†Furnished with one 3/4" pipe tap in bottom; reversible for top feed. To obtain 3/4" pipe tap top and bottom, add suffix "H" to catalog number.

SQUARE D

**Manual Motor Starters
Class 2510 Single Unit Type
w/Thermal Overload Relay**



FG2



FO2

Provide overload protection as well as manual "On/Off" control for small motors in a variety of industrial and commercial installations. Suitable for use with 1Ø AC motors 115V-230V and 277V, 1- and 2-pole to 1 hp; DC 2-pole 115V-230V to 3/4 hp. Typical applications include fans, conveyors, pumps, and small machine tools. Thermal units not included. 1 thermal unit required for each manual starter.

UL Listed File E42243. CSA Certified File LR25490 Class 3211-05.

-P. With red pilot light.

Basic Starter

No.	UPC	Type	No. Poles
NEMA Type 1 - General Purpose Enclosures Surface Mounting - Standard			
FG1	55393	Toggle	1
FG1P	55394	Toggle	1
FG2	55395	Toggle	2
FG2P	55396	Toggle	2
FG3	55397	Key	1
FG3P	55398	Key	1
FG4	55399	Key	2
FG4P	.....	Key	2

NEMA Type 1 - General Purpose Enclosures Surface Mounting - Oversized			
FGJ1	48652	Toggle	1
FGJ1P	85683	Toggle	1

No.	UPC	Type	No. Poles
FGJ2	48655	Toggle	2
FGJ2P	Toggle	2
FGJ3	Key	1
FGJ3P	Key	1
FGJ4	Key	2
FGJ4P	Key	2

**General Purpose Flush Mounting w/o Pull Box
- Gray Flush Plate**

FF1	55380	Toggle	1
FF1P	55381	Toggle	1
FF2	55382	Toggle	2
FF2P	55383	Toggle	2
FF3	.....	Key	1
FF3P	.....	Key	1
FF4	.....	Key	2
FF4P	.....	Key	2

**General Purpose Flush Mounting w/o Pull Box
- Standard Stainless Steel Flush Plate**

FS1	55423	Toggle	1
FS1P	55424	Toggle	1
FS2	55425	Toggle	2
FS2P	55426	Toggle	2
FS3	55427	Key	1
FS3P	55428	Key	1
FS4	.....	Key	2
FS4P	.....	Key	2

**General Purpose Flush Mounting w/o Pull Box
- Jumbo Stainless Steel Flush Plate**

FSJ1P	.....	Toggle	1
FSJ2P*	.....	Toggle	2
FSJ3P	.....	Key	1
FSJ4P	.....	Key	2

Open Type

F01	55413	Toggle	1
F01P	55414	Toggle	1
F02	55415	Toggle	2
F02P	55416	Toggle	2
F03	55417	Key	1
F03P	07768	Key	1
F04	55418	Key	2
F04P	.....	Key	2

*Furnished with one 3/4" pipe tap in bottom (reversible for top feed). To obtain 3/4" pipe tap top and bottom, add suffix letter "H" to type number and add \$12.00 to price. Class I, Groups B, C and D; Class II, Groups E, F and G; Enclosures Division 1 and 2.

Starter w/Handle Guard/Lock-Off

No.	UPC	Type	No. Poles
NEMA Type 1 - General Purpose Enclosures Surface Mounting - Standard			
FG5	55401	Toggle	1
FG5P	55402	Toggle	1
FG6	55403	Toggle	2
FG6P	55404	Toggle	2

NEMA Type 1 - General Purpose Enclosures Surface Mounting - Oversized			
FGJ5	.....	Toggle	1
FGJ5P	.....	Toggle	1
FGJ6	.....	Toggle	2
FGJ6P	.....	Toggle	2

NEMA Type 4 - Watertight & Dusttight Enclosures†

FW1	55433	Toggle	1
FW1P	55437	Toggle	1
FW2	55435	Toggle	2
FW2P	55438	Toggle	2

NEMA Types 3R, 7 & 9†

FR1	55419	Toggle	1
FR2	55421	Toggle	2

†Furnished with one 3/4" pipe tap in bottom (reversible for top feed). To obtain 3/4" pipe tap top and bottom, add suffix letter "H" to type number and add \$12.00 to price.

‡Furnished with one 3/4" pipe tap in bottom (reversible for top feed). To obtain 3/4" pipe tap top and bottom, add suffix letter "H" to type number and add \$12.00 to price. Class I, Groups B, C and D; Class II, Groups E, F and G; Enclosures Division 1 and 2.

Note: To order general purpose flush mounting with handle guard and lock-off, order basic starter plus separate handle guard kit.

SQUARE D

Limit Switches

Class 9007 Type C

Heavy Duty, Precision Turret Head



Complete Unit



Standard Box Plug-In



Compact Box Plug-In

1-pole and 2-pole. Oiltight, watertight, & dust-tight submersible enclosure. Standard clockwise and counter-clockwise switch.

Rated NEMA Type and UL Type 6P.

No.	UPC	Contacts		Type Box Plug-In
		NO	NC	
Standard Pre-Travel Lever Arm Type Spring Return				
C54B2	50074	1	1	Standard
C62B2	50065	2	2	Standard
C66B2	50915	2	2	Standard
C52B2	78336	1	1	Compact
CR53B2	76335	1	1	UL Listed*
CR61B2	78369	2	2	UL Listed*
CR65B2	.....	2	2	UL Listed*
CF53B2	.....	1	1	Flush Mtg.
CF61B2	.....	2	2	Flush Mtg.
CF65B2	.....	2	2	Flush Mtg.
C68T10†	.....	2	2	Standard
CR67T10†	.....	2	2	UL Listed*

Low Differential Lever Arm Type Spring Return				
C54A2	50072	1	1	Standard
C62A2	50063	2	2	Standard
C66A2	50914	2	2	Standard
C52A2	78334	1	1	Compact
CR53A2	76334	1	1	UL Listed*
CR61A2	.....	2	2	UL Listed*
CR65A2	.....	2	2	UL Listed*
CF53A2	76334	1	1	Flush Mtg.
CF61A2	.....	2	2	Flush Mtg.
CF65A2	.....	2	2	Flush Mtg.

Extra Lt. Operating Torque Lever Arm Type Spring Return				
C54N2	55764	1	1	Standard
C62N2	85649	2	2	Standard
C66N2	.....	2	2	Standard
C52N2	78365	1	1	Compact
CR53N2	.....	1	1	UL Listed*
CR61N2	.....	2	2	UL Listed*
CR65N2	.....	2	2	UL Listed*
CF53N2	.....	1	1	Flush Mtg.
CF61N2	.....	2	2	Flush Mtg.
CF65N2	.....	2	2	Flush Mtg.

Maintained Contact Lever Arm Type				
C54C	78389	1	1	Standard
C62C	78388	2	2	Standard
C52C	78385	1	1	Compact
CR53C	85715	1	1	UL Listed*

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No.	UPC	Contacts		Type Box Plug-In
		NO	NC	
CR61C	78374	2	2	UL Listed*
CF53C	1	1	Flush Mtg.
CF61C	.....	2	2	Flush Mtg.

Top Roller Plunger Spring Return

No.	UPC	NO	NC	Standard
C62D	2	2	Standard

*UL listed for hazardous location, Class I, Groups B, C, D; Class II Groups E, F, G.
†Contacts in neutral position.

SQUARE D

Lever Arms
Class 9007 Cast Zinc



For types C and AW limit switches. Standard roller is hardened, oil-impregnated sintered iron. Also available in nylon, ball bearing, without roller and cable operated with eyebolt instead of roller.

No.	UPC	Size, In.	
		Arm Lgth.	Roller Wdth.

Standard Ro			
BA-11	.....	1 3/4	1/4
MA-11	.....	1 1/2	1/4
CA-11	.....	2	1/4
DA-11	.....	2 1/2	1/4
EA-11	.....	3	1/4
BA-12	.....	1 3/8	5/8
MA-12	.....	1 1/2	5/8
CA-12	.....	2	5/8
DA-12	.....	2 1/2	5/8
EA-12	.....	3	5/8
AA-1	.....	7/8	1/4
BA-1	.....	1 3/8	1/4
MA-1	.....	1 1/2	1/4
CA-1	.....	2	1/4
DA-1	.....	2 1/2	1/4
EA-1	.....	3	1/4
AA-2	.....	7/8	5/8
BA-2	.....	1 3/8	5/8
MA-2	.....	1 1/2	5/8
CA-2	.....	2	5/8
DA-2	.....	2 1/2	5/8
EA-2	.....	3	5/8

Nylon Roll			
BA-18	.....	1 3/8	1/4
MA-18	.....	1 1/2	1/4
CA-18	.....	2	1/4
DA-18	.....	2 1/2	1/4
EA-18	.....	3	1/4
AA-8	.....	7/8	1/4
BA-8	.....	1 3/8	1/4
MA-8	.....	1 1/2	1/4
CA-8	.....	2	1/4
DA-8	.....	2 1/2	1/4
EA-8	.....	3	1/4
AA-17	.....	7/8	5/8
BA-17	.....	1 3/8	5/8
MA-17	.....	1 1/2	5/8
CA-17	.....	2	5/8
DA-17	.....	2 1/2	5/8
EA-17	.....	3	5/8
BA-13	.....	1 3/8	5/8
MA-13	.....	1 1/2	5/8
CA-13	.....	2	5/8
DA-13	.....	2 1/2	5/8
EA-13	.....	3	5/8
BA-4	.....	1 3/8	1/4
MA-4	.....	1 1/2	1/4
CA-4	.....	2	1/4
DA-4	.....	2 1/2	1/4
EA-4	.....	3	1/4

Ball Bearing F			
AA-9	.....	7/8	1/4
BA-9	.....	1 3/8	1/4
MA-9	.....	1 1/2	1/4
CA-9	.....	2	1/4

No.	UPC	Size, In.		
		Arm Lgth.	Roller Dia.	Roller Wdth.
DA-9	2 1/2	1 1/16	1/4
EA-9	3	1 1/16	1/4

Standard w/Roller on Opposite Side to Standard

BA-15	.....	1 1/2	3/4	1/4
MA-15	.....	1 1/2	3/4	1/4
CA-15	.....	2	3/4	1/4
DA-15	.....	2 1/2	3/4	1/4
EA-15	.....	3	3/4	1/4
AA-5	.....	7/8	5/8	1/4
BA-5	.....	1 3/8	5/8	1/4
MA-5	.....	1 1/2	5/8	1/4
CA-5	.....	2	5/8	1/4
DA-5	.....	2 1/2	5/8	1/4
EA-5	.....	3	5/8	1/4
AA-6	.....	7/8	5/8	5/8
BA-6	.....	1 3/8	5/8	5/8
MA-6	.....	1 1/2	5/8	5/8
CA-6	.....	2	5/8	5/8
DA-6	.....	2 1/2	5/8	5/8
EA-6	.....	3	5/8	5/8

w/o Roller

AA-0	.....	7/8	.....	.....
BA-0	.....	1 3/8	.....	.....
MA-0	.....	1 1/2	.....	.....
CA-0	.....	2	.....	.....
DA-0	.....	2 1/2	.....	.....
EA-0	.....	3	.....	.....

Standard w/Countersunk Roller Pin

MA-31	.....	1 1/2	3/4	1/4
CA-31	.....	2	3/4	1/4
DA-31	.....	2 1/2	3/4	1/4

Cable Operated w/Eyebolt — 3/8" ID — w/o Roller			
MA-22	.....	1 1/2	.....

SQUARE D

Machine Tool Pressure Switches
Class 9012 - NEMA 4X

*NEMA 4, 4X, 13 Enclosure

UL Marine Listed for use on vessels more than 65' long where no ignition is required. UL Listed and CSA Certified industrial control equipment.

Diaphragm Actuated. Buna-N diaphragm. Zinc plated steel housing.

Piston Actuated. No. 440 stainless steel piston. No. 303 stainless steel housing. Teflon® retaining ring, Viton® diaphragm and O-ring.

Diaphragm Actuated

Nonadjustable Differential

No.	UPC	Dec. Press. Range	Approx. Diff. Mid Rge. psig*	Max. Allow. Press. psig
		psig	psig*	

Single Pole—Double Throw

GDW-1	.....	2-10	.61 ± .1	100
GDW-2	.....	1-40	2.3 ± .4	100
GDW-4	.....	1.5-75	3.5 ± .5	240
GDW-5	.....	3-150	6.1 ± .8	475
GDW-6	.....	5-250	10.8 ± 1.5	750
GEW-1	.....	13-425	16 ± 3.5	850
GEW-2	.....	20-675	27 ± 5	2000

Double Pole—Double Throw

GDW-21	.....	2-10	.61 ± .1	100
GDW-22	.....	1-40	2.3 ± .4	100
GDW-24	.....	1.5-75	3.5 ± .5	240
GDW-25	.....	3-150	6.1 ± .8	475
GDW-26	.....	5-250	10.8 ± 1.5	750
GEW-21	.....	13-425	16 ± 3.5	850
GEW-22	.....	20-675	27 ± 5	2000

*Differential increases range setting and determines operating point to rising pressure.

Piston Actuated Nonadjustable Differential

No.	UPC	Dec. Press. Range	Approx. Diff. Mid Rge. psig†	Max. Allow. Press. psig
		psig	psig†	

Single Pole - Double Throw

GFW-1	.....	20-1000	60 ± 9	10000
GFW-2	.....	90-2900	215 ± 15	15000
GFW-3	.....	170-5600	289 ± 55	20000
GFW-4	.....	270-9000	495 ± 70	25000

Double Pole - Double Throw

GFW-21	.....	20-1000	60 ± 9	10000
GFW-22	.....	90-2900	215 ± 15	15000
GFW-23	.....	170-5600	289 ± 55	20000
GFW-24	.....	270-9000	495 ± 70	25000

†Differential increases range setting and determines operating point to rising pressure.

Diaphragm Actuated

Adjustable Differential

No.	UPC	Dec. Press. Range	Approx. Diff. Mid Rge. psig‡	Max. Allow. Press. psig
		psig	psig‡	

Single Pole - Double Throw

GAW-1	.....	.2-10	.61 ± .2	100
GAW-2	.....	1-40	2.3 ± .8	100
GAW-4	.....	1.5-75	3.5 ± 1.5	240
GAW-5	.....	3-150	6.1 ± 3.5	475
GAW-6	.....	5-250	10.8 ± 4.9	750
GBW-1	.....	13-425	16 ± 9.0	850
GBW-2	.....	20-675	27 ± 13.0	2000

Double Pole - Double Throw

GAW-21	.....	.2-10	.61 ± .2	100
GAW-22	.....	1-40	2.3 ± .8	100
GAW-24	.....	1.5-75	3.5 ± 1.5	240
GAW-25	.....	3-150	6.1 ± 3.5	475
GAW-26	.....	5-250	10.8 ± 4.9	750
GBW-21	.....	13-425	16 ± 9.0	850
GBW-22	.....	20-675	27 ± 13.0	2000

‡Differential increases range setting and determines operating point to rising pressure.

Piston Actuated

Adjustable Differential

No.	UPC	Dec. Press. Range	Approx. Diff. Mid Rge. psig§	Max. Allow. Press. psig
		psig	psig§	

Single Pole - Double Throw

GCW-1	.....	20-1000	60 ± 200	10000
GCW-2	.....	90-2900	215 ± 550	15000
GCW-3	.....	170-5600	289 ± 1200	20000
GCW-4	.....	270-9000	495 ± 1900	25000

Double Pole - Double Throw

GCW-21	.....	20-1000	60 ± 200	10000
GCW-22	.....	90-2900	215 ± 550	15000
GCW-23	.....	170-5600	289 ± 1200	20000
GCW-24	.....	270-9000	495 ± 1900	25000

§Differential increases range setting and determines operating point to rising pressure.

NEMA 7 & 9 Enclosure

Class I & II

Groups C, D, E, F, G*

*UL Marine Listed for use on vessels more than 65' long with ignition protection requirement.

UL Listed and CSA Certified industrial control equipment.

Diaphragm Actuated. Buna-N diaphragm. Zinc plated steel housing.

Piston Actuated. No. 440 stainless steel piston. No. 303 stainless steel housing. Teflon® retaining ring, Viton® diaphragm and O-ring.

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**Diaphragm Actuated
Nonadjustable Differential**

No.	UPC	Dec. Press. Range psig	Approx. Diff. Mid Rge. psig*	Max. Allow. Press. psig
Single Pole - Double Throw				
GDR-1	2-10	1.2 ± .1	100
GDR-2	1-40	4.6 ± .8	100
GDR-4	1.5-75	7 ± 1	240
GDR-5	3-150	12 ± 1.5	475
GDR-6	5-250	22 ± 3	750
GER-1	13-425	32 ± 7	850
GER-2	20-675	54 ± 10	2000
Double Pole - Double Throw				
GDR-21	2-10	1.2 ± .1	100
GDR-22	1-40	4.6 ± .8	100
GDR-24	1.5-75	7 ± 1	240
GDR-25	3-150	12 ± 1.5	475
GDR-26	5-250	22 ± 3	750
GER-21	13-425	32 ± 7	850
GER-22	20-675	54 ± 10	2000

*Differential increases range setting and determines operating point to rising pressure.

**Piston Actuated
Nonadjustable Differential**

No.	UPC	Dec. Press. Range psig	Approx. Diff. Mid Rge. psig*	Max. Allow. Press. psig
Single Pole - Double Throw				
GFR-1	20-1000	120 ± 18	10000
GFR-2	90-2900	430 ± 30	15000
GFR-3	170-5600	578 ± 110	20000
GFR-4	270-9000	990 ± 140	25000
Double Pole - Double Throw				
GFR-21	20-1000	120 ± 18	10000
GFR-22	90-2900	430 ± 30	15000
GFR-23	170-5600	578 ± 110	20000
GFR-24	270-9000	990 ± 140	25000

*Differential increases range setting and determines operating point to rising pressure.

**Diaphragm Actuated
Adjustable Differential**

No.	UPC	Dec. Press. Range psig	Approx. Diff. Mid Rge. psig †	Max. Allow. Press. psig
Single Pole - Double Throw				
GAR-1	2-10	1.2 ± 2	100
GAR-2	1-40	4.6 ± 10	100
GAR-4	1.5-75	7 ± 18	240
GAR-5	3-150	12 ± 41	475
GAR-6	5-250	22 ± 49	750
GBR-1	13-425	32 ± 106	850
GBR-2	20-675	54 ± 157	2000
Double Pole - Double Throw				
GAR-21	2-10	1.2 ± 2	100
GAR-22	1-40	4.6 ± 10	100
GAR-24	1.5-75	7 ± 18	240
GAR-25	3-150	12 ± 41	475
GAR-26	5-250	22 ± 49	750
GBR-21	13-425	32 ± 106	850
GBR-22	20-675	54 ± 157	2000

†Differential increases range setting and determines operating point to rising pressure.

**Piston Actuated
Adjustable Differential**

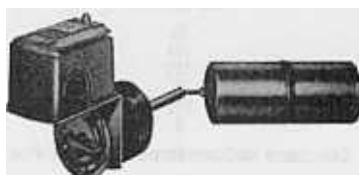
No.	UPC	Dec. Press. Range psig	Approx. Diff. Mid Rge. psig▲	Max. Allow. Press. psig
Single Pole - Double Throw				
GCR-1	20-1000	120 ± 240	10000
GCR-2	90-2900	430 ± 675	15000
GCR-3	170-5600	578 ± 1510	20000
GCR-4	270-9000	990 ± 2325	25000
Double Pole - Double Throw				
GCR-21	20-1000	120 ± 240	10000
GCR-22	90-2900	430 ± 675	15000
GCR-23	170-5600	578 ± 1510	20000
GCR-24	270-9000	990 ± 2325	25000

▲Differential increases range setting and determines operating point to rising pressure.

SQUARE D

Float Switches

Class 9037 Type H - NEMA Type 4



Contacts close on liquid rise. Attached to tank with 2½" screw-in connection. External pointer indicates float position within tank. Switches include stainless steel float and rod. Buna N Quad Ring® seal between float rod and sealing connector. Normal application at atmospheric pressure, but where higher pressures are encountered, switch withstands tank pressures up to 50 psi at temperatures up to 220°F. Quad Ring may require occasional replacement.

No.	UPC	Float Position*	Rod Angle †	Water Level Change In.
NEMA Type 1				
HG-33	Right	45	2-5
HG-35	Right	90	2-5
HG-37	Right	90	2-7
HG-39	Right	90	2-8¼
HG-31	Right	90	2-11½
HG-34	Left	45	2-5
HG-36	Left	90	2-5
HG-38	Left	90	2-7
HG-30	Left	90	2-8¼
HG-32	Left	90	2-11½
NEMA Type 4				
HW-33	Right	45	2-5
HW-35	Right	90	2-5
HW-37	Right	90	2-7
HW-39	Right	90	2-8¼
HW-31	Right	90	2-11½
HW-34	Left	45	2-5
HW-36	Left	90	2-5
HW-38	Left	90	2-7
HW-30	Left	90	2-8¼
HW-32	Left	90	2-11½
NEMA Types 7 & 9				
HR-33	Right	45	2-5
HR-35	Right	90	2-5
HR-37	Right	90	2-7
HR-39	Right	90	2-8¼
HR-31	Right	90	2-11½
HR-34	Left	45	2-5
HR-36	Left	90	2-5
HR-38	Left	90	2-7
HR-30	Left	90	2-8¼
HR-32	Left	90	2-11½

*Float position viewed from front of switch facing indicator side.

†90° offset.

Available Modifications for Type H

Suffix	Modification
NEMA Types 7 & 9	
Form F3 Deduct.	Omit 2½" Tank Connecting Bushing
Form L Deduct.	Omit Float
Form R	Reverse Action, Contacts Open on Rise
Form Z19	Viton® Packing 5 Oz. Float (Diesel Fuel)
Form Z20	Viton Packing (For Use up to 250°C)
Form Z21	#316 SS Float & Viton Packing

SQUARE D

Motor Control Centers

Model 5 - Speed-D Units - Class 8998



Combination of advanced product design with quick delivery program. Feature advance/retract operator mechanism. Unit stabs can disconnect from power bus without withdrawing unit. Mechanism can lock in retract position with stabs locked away from power bus and disconnect locked in "off" position. Interlocking prevents plug-in unit from being removed or installed unless disconnect is off and mechanism is in retract position.

Features. Advance/retract operator mechanism on plug-in units. Trip indication on circuit breaker units. Stab assemblies solidly bussed to unit disconnect. No cable stab assemblies. Pull-apart terminal blocks.

Specifications.

Voltage Rating. Power, 600V max. 50-60 Hz. Control, 120V 60 Hz, 110V 50 Hz.

System. 3 phase, 3 wire or 3 phase, 4 wire.

Starters. Square D Class 8536 Type S with melting alloy or ambient compensated bimetallic overload relays (thermal units not included). Mag Guard® instantaneous trip circuit.

Wiring. NEMA Class 1, Type A or B.

Control Circuit. Control circuit transformer or separate 120V control with control circuit disconnect.

Disconnects. Breaker or fusible switch (fuses not included).

All orders should include (as applicable) the catalog number, wiring type, control source, options and enclosure type.

Example: BA10, 1A Wiring, FT, AP1P2, NEMA 1.

Example: FA25, 1B Wiring, SY74, CX11, NEMA 12.

Complete Information Available on Request.