

**Auxiliary Contacts**

**NEMA Sizes 00 – 2 — IEC Sizes A – K**

The auxiliary contacts listed below are designed for installation on Freedom Series starters and contactors. Snap-on design facilitates quick, easy installation.

These bifurcated design contact blocks, featuring silver cadmium alloy contacts, are well suited for use in very low energy (logic level) circuits.



*Side Mounted*



*Top Mounted*

**Table 34-397. Selection Product**

Description	Contact Configuration Code ①	Catalog Number	Price U.S. \$
<b>Side Mounted</b>			
1NO	10	C320KGS1	
1NO (Logic Level)	10	C320KGS1L	
1NC	01	C320KGS2	
1NO-1NC	11	C320KGS3	
1NO-1NC (Logic Level)	11	C320KGS3L	
2NO	20	C320KGS4	
2NO (Logic Level)	20	C320KGS4L	
2NC	02	C320KGS5	
1NO-1NCI	N/A	C320KGS6	
1NO (EC)-1NC (LO)	N/A	C320KGS7	
1NCI	N/A	C320KGS8	
<b>Top Mounted</b>			
1NO	10	C320KGT1	
1NC	01	C320KGT2	
1NO-1NC	11	C320KGT3	
1NO-1NC (Logic Level)	11	C320KGT3L	
2NO	20	C320KGT4	
2NC	02	C320KGT5	
1NO-1NCI	N/A	C320KGT6	
1NO (EC)-1NC (LO)	N/A	C320KGT7	
1NCI	N/A	C320KGT8	
3NO	30	C320KGT9	
2NO-1NC	21	C320KGT10	
1NO-2NC	12	C320KGT11	
3NC	03	C320KGT12	
4NO	40	C320KGT13	
3NO-1NC	31	C320KGT14	
2NO-2NC	22	C320KGT15	
2NO-2NC (Logic Level)	22	C320KGT15L	
1NO-3NC	13	C320KGT16	
4NC	04	C320KGT17	
3NO-1NCI	N/A	C320KGT18	
2NO-1NCI-1NC	N/A	C320KGT19	
2NO-1NO (EC)-1NC (LO)	N/A	C320KGT20	
1NO-1NC-1NO (EC)-1NC (LO)	N/A	C320KGT21	

**Note:** NCI = Normally Closed early opening designed for use in reversing applications. EC = Early Closing. LO = Late Opening.

① For reference only — not part of Catalog Number. See above right.

**Contact Configuration Code**

This two-digit code is found on the auxiliary contact to assist in identifying the specific contact configuration. The first digit indicates the quantity of NO contacts and the second indicates the quantity of NC contacts.

**NEMA Sizes 3 – 8 — IEC Sizes L – Z**

**Table 34-398. Product Selection**

Circuit	Contact Configuration Code ②	Catalog Number	Price U.S. \$
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**Base Auxiliary Contacts — NEMA Sizes 3 – 5, IEC Sizes L – S**

Circuit	Contact Configuration Code ②	NEMA Size 3 IEC Sizes L – N	NEMA Sizes 4 – 5 IEC Sizes P – S	Price U.S. \$
		C320KGS31	C320KGS41	
NO-NC	10	C320KGS32	C320KGS42	

**Auxiliary Contacts — NEMA Sizes 3 – 5, IEC Sizes L – S**

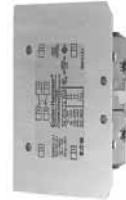
Circuit	Contact Configuration Code ②	Catalog Number	Price U.S. \$
		C320KGS20	
NO	10	C320KGS21	
NC	01	C320KGS22	
NO-NC ③	11		

**Auxiliary Contacts — NEMA Sizes 6 – 8, IEC Sizes T – Z**

Circuit	Contact Configuration Code ②	Size	Catalog Number	Price U.S. \$
		NEMA 8, IEC Z	C320KA5	
NO-NC	11	NEMA 6 – 7	C320KA6	
2NO-2NC	22	IEC T – X	C320KA8	
2NO-2NC	22			

② For reference only — not part of Catalog Number. See above.

③ NO-NC occupies two positions — L2 and L3, or R2 and R3. See next page.



*Base Auxiliary Contact  
Cat. No. C320KGS42*



*Auxiliary Contact  
Cat. No. C320KGS22*

### Auxiliary Contact Location

#### NEMA Sizes 00 – 2, IEC Sizes A – K

The sketches below illustrate the maximum number of auxiliary contacts that can be assembled to a contactor or starter and their locations.

Table 34-399. Auxiliary Contacts

Catalog Number	Size	Poles	Available Mounting Positions ①②	
			Open Type	Enclosed
AE16	A – K	3	T1, L1	L1
AN16	00 0 – 2	3 3	T1, L1, R1 T1, L1	L1 L1
AE56	A – K	3	L1, R1	L1, R1
AN56	00 – 2	3	T1, T2	—
CE15	A – C	2 – 4	T1, L1, R1	L1, R1
	D – K	3	T1, L1	L1
	G – J	4	T1, R1	—
	G – J	5	T1	—
CN15	00	2 – 4	T1, L1, R1	L1
	0 – 2	2 – 3	T1, L1	L1
	1, 2	4	T1, L1	—
	1, 2	5	T1, L1	—
CN35	10A	2 – 4	T1, L1, R1	L1
	20 – 60A	2 – 3	T1, L1	L1
	60A	4	T1, L1	—
	60A	5	T1, L1	—
CE55	A – K	3	L1, R1	L1, R1
CN55	00 – 2	3	T1, T2	—

① Available positions on contactors or starters other than what is factory installed.

② When a pneumatic timer is mounted on contactor, only side mounted auxiliary contact positions are available. The solid-state timer, when added, takes up side mounted auxiliary contact position.

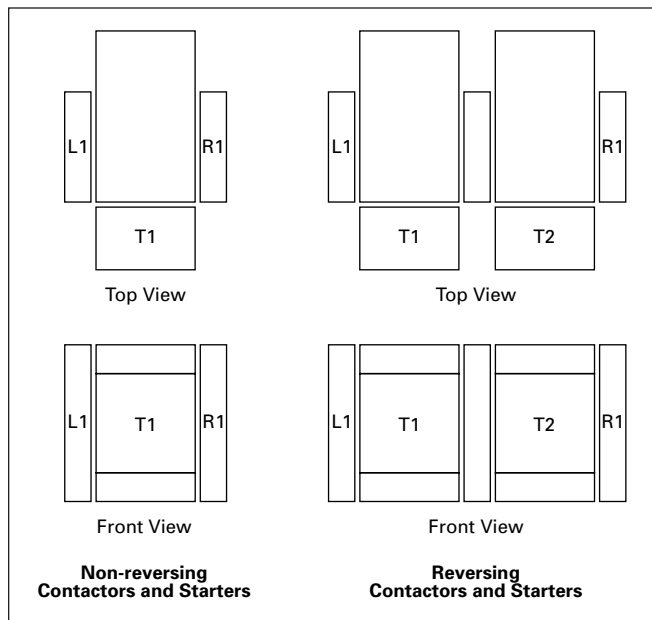


Figure 34-171. Auxiliary Contact Location

#### NEMA Sizes 3 – 8, IEC Sizes L – Z

The sketches below illustrate the maximum number of auxiliary contacts that can be assembled to a contactor and their locations.

**Note:** A Base Auxiliary Contact must be added in position R1 before additional auxiliary contacts can be mounted on NEMA Size 3 and IEC Sizes L – N, or in L1 on NEMA Sizes 4 – 5 and IEC Sizes P – S.

Table 34-400. Auxiliary Contacts

Size	Available Mounting Positions ③
NEMA Size 3, IEC Sizes L – N	R2, R3, L1, L2, L3
NEMA Sizes 4 – 5, IEC Sizes P – S	L2, L3, R1, R2, R3
NEMA Sizes 6 – 7, IEC Sizes T – X	R1
NEMA Size 8, IEC Size Z	L2, R2

③ Available positions on contactors or starters other than what is factory installed.

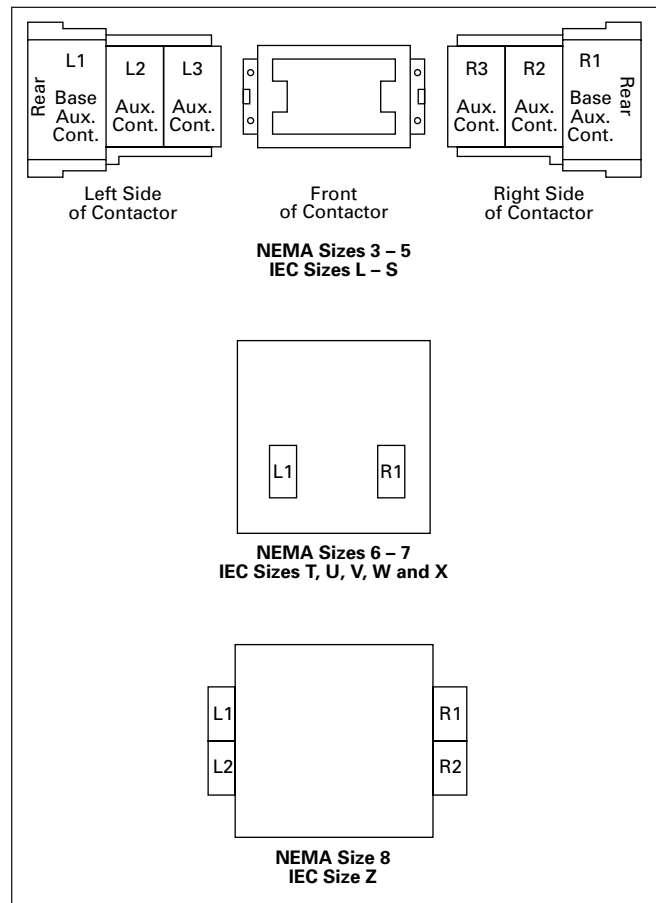


Figure 34-172. Auxiliary Contact Location

**Accessories**

**DC Magnet Coils**

**When Ordering Specify**

**Conversion Kit for Field Assembly**

- Catalog Number

**Factory Installed DC Coil**

- For factory installed DC magnet coil on AC contactors or non-combination starters (open type only), substitute the Code Suffix from table below for the magnet coil identifier in the device Catalog Number.

EXAMPLE: For Size 0 AC contactor with a 24V DC coil, change CN15BN3AC to CN15BN3T1C.

**Application**

- Connect for separate control
- Not for use with cover control switch operators
- Use twin break, heavy-duty pilot devices
- Designed for +10%, -20% rated voltage, continuous duty operation

**Non-reversing Kit Consists of:**

- 1 Encapsulated DC magnet coil
- 1 NCI or NO/NCI side mounted auxiliary contact

**Note:** These kits are supplied with a NO/NCI side mounted auxiliary contact in place of the NCI contact.

- 2 Blue colored connection wires
- 1 Instruction publication

**Operation**

These DC coil kits have separate pick-up and seal windings. A **special** (side mounted) early-break NCI auxiliary contact is used to either disconnect the pick-up winding or insert the seal winding in series with the pick-up winding, depending on the frame size of the contactor. DC coil kits come in two styles, a suffix **1** and a suffix **4**. The **1** suffix contains only the **special** (side mounted) early break NCI auxiliary contact. The **4** suffix contains a NO contact in the same package as the **special** (side mounted) early-break NCI auxiliary contact.

**Note:** For NEMA Sizes 00 and 0 and IEC Sizes A – F, contactors may utilize either suffix 1 or 4 DC coil kits; starters may utilize suffix 4 DC coil kits only. For NEMA Sizes 1 and 2 and IEC Sizes G – K, both contactors and starters may utilize a suffix 4 DC coil kit only.

On the above sizes only, when the **special** auxiliary package is mounted on the side of a contactor or starter, **no** standard auxiliary contact may be mounted on the same side.

**Note:** For NEMA Sizes 3 – 5 and IEC Sizes L – S, the special coil NCI clearing contact is an add-on auxiliary (**must** mount on a base mount auxiliary contact; normally a 1NO). This arrangement will normally account for two of the three contact positions on the side of each contactor or starter.

**Table 34-401. Product Selection DC Magnet Coils**

Contactor or Starter Size		Conversion Data					Complete Conversion Kit			Factory Installed	
		Volts	Magnet Coil			NCI Interlock Number	Catalog Number	Price U.S \$	Ship Wt. Lbs. (kg)	Code Suffix	Adder U.S \$
NEMA	IEC		Coil Number	Amps P.U./Seal	Watts P.U./Seal						
<b>Non-reversing — Kit includes NCI Side Mounted Auxiliary Contact</b>											
00 and 0 CN35 – A, B, D D15 Relays	A – F	12	9-2988-11	6.4/.28	76.8/3.36	C320KGD1	C335KD3R1 C335KD3T1 C335KD3W1 C335KD3A1		1.0 (.5)	R1 T1 W1 A1	
		24	9-2988-12	3.2/.14	76.8/3.36	C320KGD1					
		48	9-2988-13	1.6/.07	76.8/3.36	C320KGD1					
		120	9-2988-14	.64/.028	76.8/3.36	C320KGD1					
① 00 and 0 CN35 – A, B, D D15 Relays	A – F	12	9-2988-11	6.4/.28	76.8/3.36	C320KGD2 ①	C335KD3R4 C335KD3T4 C335KD3W4 C335KD3A4		1.0 (.5)	R4 T4 W4 A4	
		24	9-2988-12	3.2/.14	76.8/3.36	C320KGD2 ①					
		48	9-2988-13	1.6/.07	76.8/3.36	C320KGD2 ①					
		120	9-2988-14	.64/.028	76.8/3.36	C320KGD2 ①					
1 and 2 CN35 – G	G – K	12	9-2990-1	15.4/.42	185/4.98	C320KGD5	C335KD4R4 C335KD4T4 C335KD4W4 C335KD4A4		1.0 (.5)	R4 T4 W4 A4	
		24	9-2990-2	7.7/.21	185/4.96	C320KGD5					
		48	9-2990-3	3.9/.11	185/5.04	C320KGD5					
		120	9-2990-4	1.5/.041	185/4.87	C320KGD5					
3 CN35 – K	L – N	12	9-3002-1	24/.40	293/4.84	C320KGD3	C335KD5R1 C335KD5T1 C335KD5W1 C335KD5A1		2.0 (.9)	R1 T1 W1 A1	
		24	9-3002-2	12/.20	288/4.75	C320KGD3					
		48	9-3002-3	6.1/.097	295/4.67	C320KGD3					
		120	9-3002-4	2.5/.038	298/4.57	C320KGD3					
4 and 5 CN35 – N, S	P – S	24	9-2026-4	18/.22	400/5.3	C320KGD3	C335KA3T1 C335KA3W1 C335KA3A1 C335KA3B1		2.5 (1.1)	T1B W1B A1B B1B	
		48	9-2026-3	9/.11	400/5.2	C320KGD3					
		120	9-2026-2	3.3/.05	450/5.4	C320KGD3					
		240	9-2026-1	1.7/.02	440/4.9	C320KGD3					

**Reversing**

00 and 0 CN35 – A, B, D D15 Relays	A – F	12	9-2988-1 ⑤	6.4/.28	76.8/3.36	C320KGD1 ⑤	C335KD3R1 ②⑤ C335KD3T1 ②⑤ C335KD3W1 ②⑤ C335KD3A1 ②⑤		1.0 (0.9)	R1 ③ T1 ③ W1 ③ A1 ③
		24	9-2988-2 ⑤	3.2/.14	76.8/3.36	C320KGD1 ⑤				
		48	9-2988-3 ⑤	1.6/.07	76.8/3.36	C320KGD1 ⑤				
		120	9-2988-4 ⑤	.64/.028	76.8/3.36	C320KGD1 ⑤				
1 and 2 CN35 – G	G – K	12	9-2990-1 ⑤	15.4/.42	185/4.98	C320KGD3 ⑤	④			R1 ③ T1 ③ W1 ③ A1 ③
		24	9-2990-2 ⑤	7.7/.21	185/4.96	C320KGD3 ⑤				
		48	9-2990-3 ⑤	3.9/.11	185/5.04	C320KGD3 ⑤				
		120	9-2990-4 ⑤	1.5/.041	185/4.87	C320KGD3 ⑤				

① These kits are supplied with a NO/NCI side mounted auxiliary contact in place of the NCI contact.

② Kit does not include mechanical interlock or crossover wiring. Two NO/NCI top mounted auxiliary contacts are supplied for electrical interlocking.

③ Factory installed DC coils on NEMA contactors and starters include a NO/NC top mounted auxiliary contact on each contactor for electrical interlocking. On IEC contactors and starters, a NC top mounted auxiliary contact is supplied on each contactor for electrical interlocking.

④ Available factory assembled only.

⑤ Two required per reversing assembly.

Discount Symbol ..... **1CD1C**

Accessories

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**Remote Reset Module  
(32A Overload Relay)**

The C316RR remote reset module for the C316F, C316S and C316U overload relays allows remote resetting of tripped (32A) overload relays by means of an electrical solenoid attachment which mounts on the side of the overload relay.

**Table 34-402. Product Selection**

Remote Reset Module Operating Voltage	Catalog Number	Price U.S. \$
24V 50/60 Hz	C316RR1U	
110V 50/60 Hz	C316RR1A	

**Metal Mounting Plates**



**Table 34-403. For Use on IEC Style Contactors, Starters and Overload Relays**

Application	Catalog Number	Price U.S. \$
<b>Contactors</b> IEC Sizes A – F IEC Sizes G – K	C321MP1 C321MP2	
<b>Non-reversing Starters</b> IEC Sizes A – F IEC Sizes G – K	C321MP3 C321MP4	
<b>Overload Relays</b> ① 32A 75A	C321MP5 C321MP6	
<b>Reversing Starters</b> IEC Sizes A – F IEC Sizes G – K IEC Sizes L – N	C321MP7 C321MP12 C321MP11	
<b>Reversing Contactors</b> IEC Sizes A – F IEC Sizes G – K IEC Sizes L – N	C321MP8 C321MP9 C321MP13	

① For use with DIN rail and base mounting adapters listed on Page 34-309.

**Table 34-404. Metal Mounting Plates — Approximate Dimensions and Shipping Weights**

Catalog Number	Dimensions in Inches (mm)			Ship Wt. Lbs. (kg)
	Wide	High	Mounting	
C321MP1	2.00 (50.8)	3.88 (98.6)	1.50 x 3.38 (38.1 x 85.9)	.2 (.1)
C321MP2	2.56 (65.0)	5.05 (128.3)	2.00 x 4.50 (50.8 x 114.3)	.4 (.2)
C321MP3	1.80 (45.7)	6.60 (167.6)	6.07 (154.2) ②	.7 (.3)
C321MP4	2.56 (65.0)	8.08 (205.2)	2.00 x 7.63 (50.8 x 193.8)	.6 (.3)
C321MP5	1.77 (45.0)	4.63 (117.6)	4.27 (108.5) ②	.3 (.1)
C321MP6	2.52 (64.0)	5.14 (130.6)	2.00 x 4.59 (50.8 x 116.6)	.4 (.2)
C321MP7	4.20 (106.7)	7.38 (187.5)	3.50 x 6.87 (88.9 x 174.5)	.8 (.4)
C321MP8	4.20 (106.7)	4.35 (110.5)	3.50 x 3.86 (88.9 x 98.0)	.5 (.2)
C321MP9	5.66 (143.8)	5.05 (128.3)	5.25 x 3.63 (133.4 x 92.2)	.8 (.4)
C321MP11	8.70 (221.0)	11.35 (288.3)	7.00 x 10.81 (177.8 x 274.6) ③	1.2 (.5)
C321MP12	5.71 (145.0)	8.08 (205.2)	5.25 x 6.75 (133.4 x 171.5) ③	.9 (.4)
C321MP13	8.70 (221.0)	7.17 (182.1)	7.00 x 6.63 (177.8 x 168.4) ③	.9 (.4)

② 2-hole mounting.

③ 3-hole mounting.

**3-Pole Top Mounted Fuse Block Kit**

IEC Sizes A – K, NEMA Sizes 00 – 2



Field mount to Freedom Series starters and contactors. Designed to save space and reduce installation costs. They provide short circuit protection for branch circuits.

**Table 34-405. Selection Product**

Fuse Type	Catalog Number	Price U.S. \$
Class H — 30A 250V	C350KH21	
Class R — 30A 250V	C350KR21	
Class G — 15A 300V	C350KG37	
Class G — 20A 300V	C350KG38	
Class G — 30A 300V	C350KG31	
Class G — 60A 300V	C350KG32	
Class T — 30A 300V	C350KT31	
Class T — 60A 300V	C350KT32	
Class J — 30A 600V	C350KJ61	
Class J — 60A 600V	C350KJ62	
Type M — 30A 600V ④	C350KM61	
Class CC — 30A 600V	C350KC63	
Class T — 30A 600V	C350KT61	
Class T — 60A 600V	C350KT62	

④ Type M fuse block not approved for branch circuit protection.

Discount Symbol (Remote Reset)..... **1CD7**  
Discount Symbol (Mounting Plates) ..... **1CD1C**

### Mechanical Interlock and Reversing Kits

Mechanical interlocks and reversing kits are designed for field assembly of reversing contactors or starters from Freedom Series components. The Reversing Kits include a Mechanical Interlock, stabilizer bar and a pre-cut, trimmed and formed wire set. Auxiliary contacts, if required, must be ordered separately. See **Page 34-313**.



**Cat. No.**  
**C321KM60B**



**Part No.**  
**23-7165**



**Wire Set**

**Table 34-406. Reversing Kits (Horizontal Contactor Mounting Only)**

Application		Catalog Number	Price U.S. \$
NEMA Size	IEC Size		
00	A – C	C321KM60K14B C321KM60K13B C321KM60K15B C321KM60K16B C321KM60K17 ①	
0	D – F		
1	—		
2	G – K		
3	—		
—	L and M	C321KM60K21 ① C321KM60K18 ① C321KM60K19 ① C321KM60K20 ① C321KM60K44 ①	
—	N		
4	—		
5	—		
—	P – S		

① Kit includes (2) NC auxiliary contacts.

**Table 34-407. Mechanical Interlock Only ②③**

Application			Catalog Number	Price U.S. \$
NEMA Size	IEC Size	Contactor Mounting		
00 – 2	A – K	Horizontal	C321KM60B	
3	L – N	Horizontal	C321KM30	
3 to 4	N to P	Horizontal	C321KM43	
4	P – S	Horizontal	C321KM40	
4 to 5	—	Horizontal	C321KM45	
4 to 6	S to T/U	Horizontal	C321KM80	
5	—	Horizontal	C321KM50	
5 to 6	—	Horizontal	C321KM56	
6	T and U	Horizontal	C321KM70	
6 to 7	T/U to V – X	Horizontal	C321KM90	
7	V, W and X	Horizontal	C321KM34	
4 or 5 to 5	P – S to 5	Vertical	C321KM55	
5 to 6	—	Vertical	C321KM65	
6	T and U	Vertical	C321KM66	
6 to 7	T/U to V – X	Vertical	C321KM67	

② Without cross-wiring.

③ For use with latest series product.

### Solid-State Timers

#### Solid-State ON DELAY Timer — Side Mounted on Freedom Series NEMA 00 – 2, IEC A – K and C25D, C25E and C25F Frame



This timer is designed to be **wired in SERIES with the load** (typically a coil). When the START button is pushed (power applied to timer), the ON DELAY timing function starts. At the completion of the set timing period, timer and series wired load will both be energized.

**Table 34-408. Product Selection — Mounted Timer**

Timing Range	Catalog Number ④⑤⑥	Price U.S. \$
.1 – 1.0 Seconds	C320TDN1_ C320TDN30_ C320TDN300_ C320TDN2000_	
1 – 30 Seconds		
30 – 300 Seconds		
5 – 30 Minutes		

④ Add operating voltage Suffix to Catalog Number. **A** = 120V, **B** = 240V, **E** = 208V

⑤ Rated .5 ampere pilot duty – not to be used on larger contactors.

⑥ Terminal connections are quick connects only. Two per side.

### Shorting Bar Kits

These kits provide phase-to-phase power connections of contactors for field assembly. The kits include bus connections and mounting hardware. The shorting bars connect all three phases of a single contactor.

**Table 34-409. Product Selection**

Description	Catalog Number	Price U.S. \$
NEMA Size 3, IEC Sizes L – N	C321SB18 C321SB19 C321SB21 C321SB22	
NEMA Size 4, IEC Sizes P – S		
NEMA Size 5		
NEMA Size 6, IEC Sizes T and U		

### Pneumatic Timers — Top Mounted



Attachment mounts on top of any NEMA Size 00 – 2 or IEC Size A – K Freedom Series starter or contactor (top mounted auxiliary contacts can not be installed on device when timer is used). Timer unit has 1NO-1NC isolated timed contacts — circuits in each pole must be the same polarity. Units are convertible from OFF to ON DELAY or vice-versa.

**Table 34-410. Maximum Ampere Ratings**

Description	Volts AC			
	120	240	480	600
Make	30	15	7.5	6
Break	3	1.5	.75	.6

**Table 34-411. Product Selection**

Timing Range	Catalog Number	Price U.S. \$
.1 to 30 Seconds	C320TP1 C320TP2	
10 to 180 Seconds		



**Locking Cover for Overload Relay — C306 Only**

Snap-on transparent or opaque plastic panel for covering access port to the overload relay trip setting dial — helps prevent accidental or unauthorized changes to trip and reset setting.

**Table 34-412. Product Selection**

Description	Min. Ordering Qty. (Std. Pkg.)	Catalog Number	Price U.S. \$
Clear cover, no accessibility	50	C320PC3	
Gray cover, no accessibility, with Auto only nib	50	C320PC4	
Gray cover, no accessibility, with Manual only nib	50	C320PC5	
Gray cover with FLA dial accessibility, A, B, C, D positions an Auto only nib	50	C320PC6	
Gray cover with FLA dial accessibility, A, B, C, D positions and Manual only nib	50	C320PC7	

**Control Circuit Fuse Block**



These panel mounted fuse holders, designed for control circuit protection or other similar low current requirements, have extractor type fuse caps. The Class CC rejection type fuses (KTK-R) used in these holders are intended for use with equipment designated as being suitable for use on systems having high available fault currents. If branch circuit protective device is 45A or greater, C320FBR fuse kit may be required for control circuit protection per NEC 430-72.

**Table 34-413. Product Selection**

Type	Max. Amperes	Catalog Number	Price U.S. \$
Fuse Holder Only	15 30	C320FB ① C320FBR ②	

① A fuse is not supplied, but holder will accept a Bussman Type KTK or KTK-R (13/32" x 1-1/2") fuse, 600V maximum.  
② Includes a 5A, 600V KTK-R fuse.

**DIN Rail Mounting Channel — 35 mm**

Designed for DIN rail mounting of IEC style contactors and starters.



DIN Rail

**Table 34-414. Product Selection**

Description	Catalog Number	Price U.S. \$
1 Meter Length	MC382MA1	

**Finger Protection Shields**

Snap-on shields for both contactors and starters provide IEC Type IP20 Finger Protection. Prevents accidental contact with line/load terminals.

**Table 34-415. Product Selection**

Application	Catalog Number	Price U.S. \$
NEMA Size 00, IEC Sizes A – C NEMA Size 0, IEC Sizes D – F	C320LS1	
	C320LS2	
NEMA Sizes 1 – 2, IEC Sizes G – K Contactors Reversing Contactors	C320LS3	
	C320LS4	
NEMA Size 1 Starters Reversing Starters	C320LS5	
	C320LS6	
NEMA Size 2, IEC Sizes G – K Starters Reversing Starters	C320LS7	
	C320LS8	

**Adapter to DIN Rail Mount**

**NEMA 1 – 2 and IEC G – K Contactors**  
Designed to allow DIN rail mounting of NEMA 1 – 2 and IEC G – K contactors. Includes all hardware required to convert contactors from panel mounting to 35 mm DIN rail mounting.

**Table 34-416. Product Selection**

Catalog Number	Price U.S. \$
C320DN65	

**Transient Suppressor Kits**

**NEMA Sizes 00 – 2, IEC Sizes A – K**



Cat. No. C320TS2

These kits limit high voltage transients produced in the control circuit when power is removed from the contactor or starter coil. There are three separate suppressors for use on 24 – 120V, 208 – 240V or 277 – 480V coils respectively.

These devices mount directly to the coil terminals of Freedom Series contactors or starters NEMA Sizes 00 – 2, IEC Sizes A – K and lighting contactors 10 – 60A. Reversing devices will require two.

**Table 34-417. Product Selection**

Description	Coil Voltage 50/60 Hz ③	Catalog Number	Price U.S. \$
Transient Suppressor	24 – 120V	C320TS1	
	208 – 240V	C320TS2	
	277 – 480V	C320TS3	

③ Suppressor is compatible with coil voltages/ranges as shown, 50 and 60 Hz.

**NEMA Sizes 3 – 5, IEC Sizes L – S**



This device mounts on top of any side mounted auxiliary contact on Freedom Series NEMA Sizes 3 – 5, IEC Sizes L – S and lighting contactors 100 – 300A. It connects across coil terminals on any 120V contactor or starter magnet coil (reversing starters or contactors require 2).

Limits high voltage transients produced in the circuit when power is removed from the coil.

**Table 34-418. Product Selection**

Description	Coil Voltage	Catalog Number	Price U.S. \$
Transient Suppressor	120V	C320AS1	

**DC/AC Interface Module**



**Cat. No.  
C320DC**

The Catalog Number C320DC Interface Module is an optically isolated solid-state switch which provides a means of operating AC coils with a 5 – 48V DC control signal. It acts as a space saving interposing relay which

can switch a specified 50/60 Hz AC source to the contactor or starter coil.

The module may be directly attached to the coil terminals of any Freedom Series contactor or starter — NEMA Sizes 00 – 3, IEC Sizes A – N and lighting contactors 10 – 100A. It also has provisions for DIN rail mounting.

The module will operate coils within the voltage ranges shown below.

**Design Characteristics**

- DC Input: 5 – 48V DC ±10% at mA nominal
- AC Operating Voltage: 240V AC max. (360 VA) ±10% 50/60 Hz
- DC Operating Voltage: 30V DC max. (5A)
- AC Current Rating:
  - 10A make (inrush)
  - 1A break (sealed)

**Table 34-419. Controller Coil Voltage Ranges**

Controller Catalog Number Prefix	Controller Size or Rating	Coil Range Volts AC
AE16, AE17, AE56, AE57, CE15, CE55	A – F G – K L – N	24 – 240 48 – 240 110 – 240
AN16, AN56, CN15, CN55	00 – 0 1 – 2 3	24 – 240 48 – 240 110 – 240
CN35	10 – 30A 60A 100A	24 – 240 48 – 240 110 – 240

**Table 34-420. Product Selection**

Coil Voltage	Catalog Number	Price U.S. \$
6V DC	C320DC2V6	
9V DC	C320DC2V9	
12V DC	C320DC2V12	
24V DC	C320DC2V24	
48V DC	C320DC2V48	

**Adhesive Dust Cover**

**NEMA Sizes 00 – 2, IEC Sizes A – K**

These adhesive stickers come 25 to a package and provide extra protection from contaminants when applied to the sides of Freedom NEMA Sizes 00 – 2 and IEC Sizes A – K. Adhesive covers are easily applied to side opening where auxiliaries are not installed

and provide extra protection from metal filings and other debris.

**Table 34-421. Product Selection**

Description	Catalog Number	Price U.S. \$
25 to a package	C320DSTCVR	

**Add-On Power Pole Kit**

**NEMA Sizes 00 – 2, IEC A – K**

This device mounts on the side of Freedom NEMA Size 00 – 2 and IEC Size A – K contactors. One unit can be mounted on each side and carries UL, cUL and IEC ratings. The device is rated for resistive, inductive and lighting applications.

**Table 34-422. Product Selection — Add-On Power Pole Kit**

UL Ampere Rating					IEC 947 Ampere Rating			1NO Power Pole Catalog Number	Price U.S. \$
Inductive 600V	Resistive 600V	hp 1-Phase		Locked Rotor 240V	Lighting Ballast Tungsten 480V	AC-1 600V	AC-3 600V		
		115V	230V						
15	20	1/2	2	96	20	12	18	C320PPD10	

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