

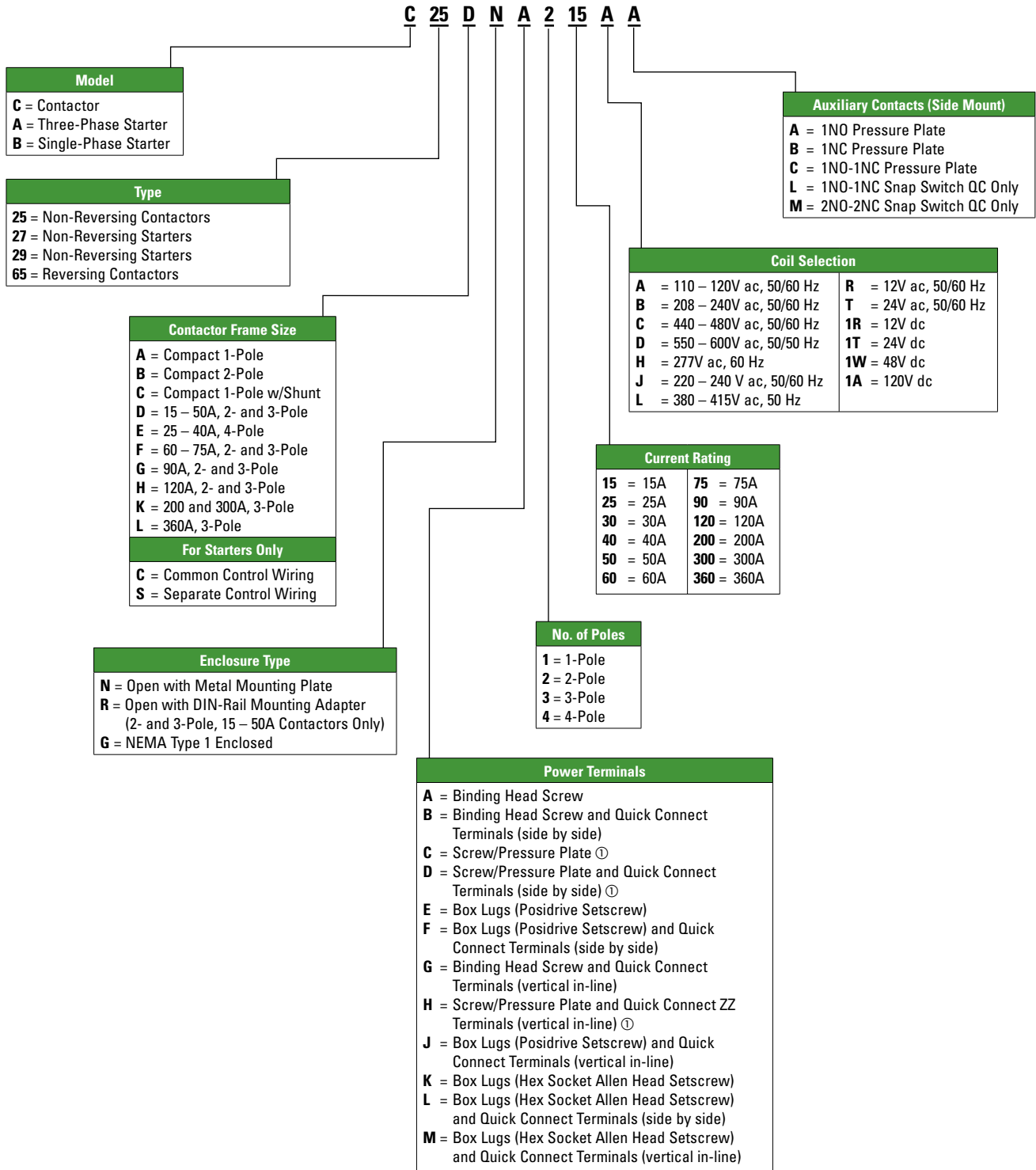
# Motor Control

## Contactors

### CATALOG SELECTION

#### Definite Purpose Contactors — Catalog Numbering System

Contactors



① Not available on 50A devices.



#### Compact Definite Purpose Contactors

- Insulation voltage: 690V
- Current rated and hp/kW rated
- Magnet coil: Class F, 155°C
- Contact arc covers are standard on all contactors

#### Compact Contactors — Open Type

Ampere Ratings ①					Catalog Number ②
Inductive Full Load	Resistive	Locked Rotor			
		240 – 277V	480V	600V	

##### Single-Pole

30	40	150	75	50	<b>C25ANB130_</b>
40	50	240	200	160	<b>C25ANB140_</b>

##### Single-Pole with Shunt

30	40	150	75	50	<b>C25CNB130_</b>
40	50	240	200	160	<b>C25CNB140_</b>

##### Double-Pole

25	35	150	125	100	<b>C25BNB225_</b>
30	40	150	125	100	<b>C25BNB230_</b>
40	50	240	200	160	<b>C25BNB240_</b>

① Rating per pole.

② Replace underscore ( \_ ) in catalog number with coil suffix letter from table below.

#### Magnet Coil Selection

AC Coil Voltage 50/60 Hz	Coil Suffix
24	<b>T</b>
110 – 120	<b>A</b>
208 – 240	<b>B</b>

# Motor Control

## Contactors

### PRODUCT SELECTION

#### 50 mm C25 Definite Purpose Contactors

- Contactors are dual-rated with inductive and resistive ratings, as well as horsepower and kilowatt ratings
- Contactors rated 15 – 50A are available with DIN-Rail mount as a factory installed option
- Magnet coil: Class B (C25E, F, G, H and K), 130°C
- Ambient temperature: 150°F (65°C) maximum



#### C25 Contactors — Open Type

Rating, Amperes				Maximum Motor Horsepower		Open Type with Metal Mounting Plate	Open Type with DIN-Rail Adapter
Inductive Full Load	Resistive per Pole	Line Voltage	Locked Rotor	1-Phase	3-Phase	Catalog Number ①②	Catalog Number ①②
15	20	230	90	2	3	C25DND315_	C25DRD315_
		460	75	—	5		
		575	60	—	5		
25	35	230	150	3	7-1/2	C25DND325_ C25END425_	C25DRD325_
		460	125	—	10		
		575	100	—	10		
30	40	230	180	5	10	C25DND330_ C25END430_	C25DRD330_
		460	150	—	15		
		575	120	—	15		
40	50	230	240	7-1/2	10	C25DNF340_ C25ENF440_	C25DRF3340_
		460	200	—	20		
		575	160	—	20		
50	65	230	300	10	15	C25DNJ350_	C25DRJ350_
		460	250	—	30		
		575	200	—	30		
60	75	230	360	10	20	C25FNF360_	—
		460	300	—	40		
		575	240	—	40		
75	90	230	450	15	20	C25FNF375_	—
		460	375	—	50		
		575	300	—	50		

- ① Replace underscore ( \_ ) in catalog number with magnet coil suffix from table at right.
- ② Carton quantities including 20 individually packaged units are available for 2- and 3-pole units through 60A inductive.
- ③ Contactors with DC coils (only available up to 75A) include an early break NC auxiliary contact, C320KGD1.
- ④ Available through 120A.
- ⑤ 104 – 120V 50/60 Hz for 60A, 75A and all 4-pole contactors (25A – 40A).
- ⑥ Class H AC Coils available as option for 15A – 50A contactor. Add 2 before AC coil suffix letter.

#### Magnet Coil Selection

Voltage		Coil Suffix
60 Hz	50 Hz	
<b>AC ④</b>		
24 ④ 110 – 120 ⑤ 208 – 240 ⑤	24 110 – 120 ⑤ 208 – 240	T A B
<b>DC ③</b>		
24		1T

#### 50 mm C25 Definite Purpose Contactors

#### Reversing and 2-Speed Contactors — Open Type — Unwired, Mechanically Interlocked Only

Rating, Amperes				Maximum Motor Horsepower		Open Type with Metal Mounting Plate
Inductive Full Load	Resistive per Pole	Line Voltage	Locked Rotor	1-Phase	3-Phase	Catalog Number ①
15	20	230	90	2	3	C65DND315_
		460	75	—	5	
		575	60	—	5	
25	35	230	150	3	7-1/2	C65DND325_
		460	125	—	10	
		575	100	—	10	
30	40	230	180	5	10	C65DND330_
		460	150	—	15	
		575	120	—	15	
40	50	230	240	7-1/2	10	C65DNF340_
		460	200	—	20	
		575	160	—	20	
50	65	230	300	10	15	C65DNJ350_
		460	250	—	30	
		575	200	—	30	

① Replace underscore ( \_ ) with magnet coil suffix from table below.

#### Magnet Coil Selection

Volts		Coil Suffix ①
60 Hz	50 Hz	
24	24	T
110 – 120 ②	110 – 120 ②	A
208 – 240 ③	208 – 240	B

① Class H AC coils available as option for 15A – 50A contactor. Add 2 before AC coil suffix letter.

② 104 – 120V 50/60 Hz for 60A, 75A.

③ Available through 50A.

**Options — Factory Installed**

To order C25, C65, A25 and B25 Contactors and Starters with the factory installed options listed below, change the basic Catalog Number listed in the Product Selection Table as noted.

**Table 35-14. Factory Installed Options**

Description	Code Letter	Number of Poles	Adder U.S. \$
<b>Terminals — 15A through 50A</b>			
<b>Binding Head Screws</b>			
Without Quick Connect Terminals	<b>A</b>	2-, 3-, 4-Pole	
With Quick Connect Terminals (Side-by-Side)	<b>B</b>	2-, 3-, 4-Pole	
With Quick Connect Terminals (Vertical In-Line)	<b>G</b>	2-, 3-Pole	
<b>Screw/Pressure Plate</b> ②			
Without Quick Connect Terminals	<b>C</b>	2-, 3-, 4-Pole	
With Quick Connect Terminals (Side-by-Side)	<b>D</b>	2-, 3-, 4-Pole	
With Quick Connect Terminals (Vertical In-Line)	<b>H</b>	2-, 3-Pole	
<b>Box Lugs (#2 Posidrive/Slotted Screw)</b>			
Without Quick Connect Terminals	<b>E</b>	2-, 3-, 4-Pole ①	
With Quick Connect Terminals (Side-by-Side)	<b>F</b>	2-, 3-, 4-Pole ①	
With Quick Connect Terminals (Vertical In-Line)	<b>J</b>	2-, 3-Pole	
<b>Box Lugs (Hex Socket Allen Head Screw)</b>			
Without Quick Connect Terminals	<b>K</b>	2-, 3-Pole	
With Quick Connect Terminals (Side-by-Side)	<b>L</b>	2-, 3-Pole	
With Quick Connect Terminals (Vertical In-Line)	<b>M</b>	2-, 3-Pole	
<b>Terminals — 60A through 75A</b>			
Replace letter in the 6th position of Catalog Number with Code Letter listed below. EXAMPLE: Change C25FNF250 to C25FNE250.			
<b>Box Lugs (Slotted Screw)</b>			
Without Quick Connect Terminals	<b>E</b>	2-, 3-Pole	
With Quick Connect Terminals	<b>F</b>	2-, 3-Pole	

① 4-Pole contactors have box lugs with slotted screws.  
② Screw/Pressure Plate terminals are not available on 50A Contactors.

**Auxiliary Contacts (Side Mount)**

**Table 35-15. Auxiliary Contacts — Factory Installed**

Add Code Letter listed below to complete Catalog Number. EXAMPLE: Change C25DND215A to C25DND215AA.

Description	With Standard Pressure Plate Terminals		With Quick Connect Terminals		Snap Switch Design with Quick Connect Terminals	
	Code Letter	Adder U.S. \$	Code Letter	Adder U.S. \$	Code Letter	Adder U.S. \$
<b>For 15 through 90A</b> ③						
1NO	<b>A</b>		<b>F</b>		—	
1NC	<b>B</b>		<b>G</b>		—	
1NO-1NC	<b>C</b>		<b>H</b>		—	
2NO	<b>D</b>		<b>J</b>		—	
2NC	<b>E</b>		<b>K</b>		—	
<b>For 15 through 75A</b>						
1NO-1NC	—		—		<b>L</b>	
2NO-2NC	—		—		<b>M</b>	
<b>For 120 through 360A</b>						
1NO	<b>A</b>		—		—	
1NO-1NC	<b>C</b>		—		—	
2NO	<b>D</b>		—		—	
2NC	<b>E</b>		—		—	

**Special Marking**

Special contactor marking, consult local sales office.

③ 90A available only with binding head screw and quick connect terminals.

**Accessories**

**Auxiliary Contact Kits (Side Mounted)**



*Side Mounted Auxiliary Contact*

**Table 35-16. Heavy-Duty Pilot Rated for 10A at 600V AC**

Circuit	With Standard Pressure Plate Terminals		With Pressure Plate and Quick Connect Terminals	
	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$
<b>For 15 through 75A</b>				
1NO	<b>C320KG1</b>		<b>C320KG11</b>	
1NC	<b>C320KG2</b>		<b>C320KG12</b>	
1NO-1NC	<b>C320KG3</b>		<b>C320KG13</b>	
2NO	<b>C320KG4</b>		<b>C320KG14</b>	
2NC	<b>C320KG5</b>		<b>C320KG15</b>	
<b>For 90A</b>				
1NO	—		<b>C320DPG10</b>	
1NC	—		<b>C320DPG01</b>	
1NO-1NC	—		<b>C320DPG11</b>	
2NO	—		<b>C320DPG20</b>	
<b>For 120 through 360A</b>				
1NO	<b>C320KGS20</b>		—	
1NC	<b>C320KGS21</b>		—	
1NO-1NC	<b>C320KGS22</b>		—	



*Side Mounted Snap Switch*

**Table 35-17. Snap Switch Design Side Mounted Auxiliary Contacts**

Circuit	Snap Switch Design with Quick Connect Terminals	
	Catalog Number	Price U.S. \$
1NO-1NC 2NO-2NC	<b>C320SNP11</b> <b>C320SNP22</b>	

15 – 360A, Options and Accessories

**Magnet Coil Quick Connect Terminal**

Table 35-18. Magnet Coil Quick Connect Terminal

Description	Adder U.S. \$
Extra Dual Quick Connect Terminals (U-shaped) for Magnet Coil Terminals ①	

① To order, add Suffix Number 9 to the complete Catalog Number. Example: C25DND215A9.

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**Auxiliary Contact Kits (Top Mounted)**



Top Mounted  
Auxiliary Contact

Table 35-19. Heavy-Duty Pilot Rated for 10A at 600V AC

Circuit	With Standard Pressure Plate Terminals	
	Catalog Number	Price U.S. \$
1NO 1NC	C320KGT1 C320KGT2	
1NO-1NC 2NO 2NC	C320KGT3 C320KGT4 C320KGT5	
3NO 2NO-1NC 1NO-2NC 3NC 4NO	C320KGT9 C320KGT10 C320KGT11 C320KGT12 C320KGT13	
3NO-1NC 2NO-2NC 1NO-3NC 4NC	C320KGT14 C320KGT15 C320KGT16 C320KGT17	

For 15 through 75A ②

② Not available for 4-pole contactors (15 – 40 Amp).

**Mechanical Interlock Kit**



Mechanical  
Interlock

Table 35-20. Mechanical Interlock Kit for 15 through 75A

Catalog Number	Price U.S. \$
C321KM60B	

**Solid-State ON DELAY Timer**



Solid-State  
ON DELAY Timer

**Side Mounted on 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 35-21. Solid-State ON DELAY Timer

Timing Range	Catalog Number ③④⑤	Price U.S. \$
.1 – 1.0 Seconds	C320TDN1_	
1 – 30 Seconds	C320TDN30_	
30 – 300 Seconds	C320TDN300_	
5 – 30 Minutes	C320TDN3000_	

③ Add operating voltage Suffix to Catalog Number. A = 120V, B = 240V, E = 208V

④ Rated .5 ampere pilot duty — not to be used on larger contactors.

⑤ Terminal connections are quick connects only. Two per side.

**Separate Enclosures**



NEMA 1 Enclosure —  
Cat. No. C799B19

Table 35-22. Separate Enclosures — NEMA 1

Application	Catalog Number	Price U.S. \$
15 through 50A, 2- and 3-Pole	C799B18	
60A, 2- and 3-Pole or 25 through 40A, 4-Pole	C799B19	

**15 – 40A, 3-Pole Fuse Block**

**Optional 3-Pole Fuse Block**

**Available only on 3-Pole, 15 – 50A Contactors**

Designed to save space and reduce installation costs, these 3-pole Fuse Blocks will accommodate a variety of fuse classes and fuse holders to satisfy a wide range of electrical/electronic applications such as commercial space and water heaters, dishwashers, food coolers and sterilizing equipment. They are supplied either factory assembled, mounted and wired to the contactor or in kit form.

To order factory assembled, add Suffix Number from table below to Catalog Number of contactor listed on **Page 35-6** and make necessary price addition. EXAMPLE: C25DND325A**361**.

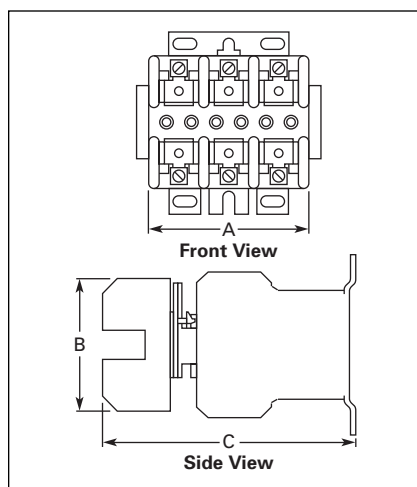


*3-Pole Fuse Block*

**Table 35-23. 3-Pole Fuse Block**

Fuse Holder		Fuse Dimensions in Inches (mm)		Terminal Type and Maximum Wire Size	Factory Installed Ordering Suffix	Field Installation Kit Catalog Number	Price/Adder U.S. \$
Volts	Amperes	Diameter	Length				
<b>Class M</b>							
600	30	0.41 (10.4)	1.50 (38.1)	Pressure Plate	10 AWG Cu	<b>161</b>	<b>C350KM61</b>
<b>Class G</b>							
600	15	0.41 (10.4)	1.31 (33.3)	Pressure Plate	10 AWG Cu	<b>237</b>	<b>C350KG37</b>
	20		1.41 (35.8)	Pressure Plate	10 AWG Cu	<b>238</b>	<b>C350KG38</b>
480	30	0.41 (10.4)	1.63 (41.4)	Pressure Plate	10 AWG Cu	<b>231</b>	<b>C350KG31</b>
	60		2.25 (57.2)	Box Lug	2 AWG Cu/Al	<b>232</b>	<b>C350KG32</b>
<b>Class J</b>							
600	30	0.81 (20.6)	2.25 (57.2)	Pressure Plate	10 AWG Cu	<b>361</b>	<b>C350KJ61</b>
	60	1.06 (26.9)	2.38 (60.5)	Box Lug	2 AWG Cu/Al	<b>362</b>	<b>C350KJ62</b>
<b>Class T</b>							
300	30	0.41 (10.4)	0.88 (22.4)	Box Lug	6 AWG Cu	<b>431</b>	<b>C350KT31</b>
	60	0.56 (14.2)	0.88 (22.4)	Box Lug	2 AWG Cu/Al	<b>432</b>	<b>C350KT32</b>
600	30	0.56 (14.2)	1.50 (38.1)	Box Lug	6 AWG Cu	<b>461</b>	<b>C350KT61</b>
	60	0.81 (20.6)	1.56 (39.6)	Box Lug	2 AWG Cu/Al	<b>462</b>	<b>C350KT62</b>
<b>Class H</b>							
250	30	0.56 (14.2)	2.00 (50.8)	Pressure Plate	10 AWG Cu	<b>521</b>	<b>C350KH21</b>
	60	0.81 (20.6)	3.00 (76.2)	Box Lug	2 AWG Cu/Al	<b>522</b>	<b>C350KH22</b>
<b>Class R</b>							
250	30	0.56 (14.2)	2.00 (50.8)	Pressure Plate	10 AWG Cu	<b>621</b>	<b>C350KR21</b>
	60	0.81 (20.6)	3.00 (76.2)	Box Lug	2 AWG Cu/Al	<b>622</b>	<b>C350KR22</b>

**Dimensions**



**Figure 35-2. 3-Pole Fuse Block and Contactor Dimensions**

**Table 35-24. Approximate Dimensions for 3-Pole Fuse Block and Contactor**

Fuse Size			Dimensions in Inches (mm)		
Class	Amps	Volts	Wide A	High B	Deep C
<b>For Dimensions Not Shown, See Next Page.</b>					
G	15	600	2.41 (61)	2.81 (71)	5.14 (131)
	20		2.41 (61)	2.81 (71)	5.14 (131)
	30	480	2.41 (61)	2.81 (71)	5.14 (131)
	60		2.62 (67)	4.25 (108)	5.18 (132)
H	30	250	3.00 (76)	3.03 (77)	5.33 (135)
	60		4.22 (107)	4.75 (121)	5.86 (149)
J	30	600	4.81 (122)	4.12 (105)	5.92 (150)
	60		4.81 (122)	4.12 (105)	5.92 (150)
M	30	600	2.41 (61)	2.81 (71)	5.14 (131)
R	30	250	3.00 (76)	3.03 (77)	5.33 (135)
	60		4.22 (107)	4.75 (121)	5.86 (149)
T	30	300	3.44 (87)	2.75 (70)	5.43 (138)
	60	300	3.44 (87)	2.75 (70)	5.43 (138)
	30	600	3.75 (95)	3.19 (81)	5.36 (136)
	60	600	4.87 (124)	2.94 (75)	5.68 (144)

Discount Symbol ..... **1CD-5C**