

4.4

Definite Purpose Contactors and Starters

NEMA Type 1 Enclosed Control

15–60A Contactors—C25



4

Contents

<i>Description</i>	<i>Page</i>
15–60A Contactors—C25	
Catalog Number Selection	V5-T4-47
Product Selection	V5-T4-47
Dimensions	V5-T4-48
25–60A Starters—A25, B25	V5-T4-49
15–45A Starters—A27, B27	V5-T4-52
Accessories	V5-T4-55
Options	V5-T4-57
Technical Data and Specifications	V5-T4-58

15–60A Contactors—C25

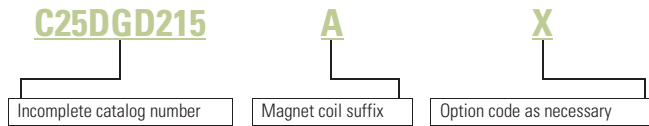
Product Description

Eaton offers the Definite Purpose Contactors and Starters in NEMA 1 enclosures. The C25 contactors are available as enclosed. The A25 and B25 Definite Purpose Starters

combine the features and flexibility of the C25 Definite Purpose Contactors and Freedom Series Bimetallic Ambient Compensated Overload Relays mounted on a common mounting plate.

Catalog Number Selection

15–60A Contactors—C25



When Ordering Specify

- Catalog number plus magnet coil suffix, see **Page V5-T4-48**
- Modify catalog number for any options required, see Options, **Page V5-T4-57**

Product Selection

C25 Enclosed



Two-, Three- and Four-Pole NEMA Type 1 Enclosed Contactors

Ampere Rating		Line Voltage	Locked Rotor	Maximum Motor (hp)		Maximum Motor (kW)		Number of Poles	NEMA Type 1 Catalog Number ①
Inductive Full Load	Resistive per Pole			Single-Phase	Three-Phase	Single-Phase	Three-Phase		
15	20	115	90	3/4	—	0.40	—	2	C25DGD215_
		230	90	2	3	1.5	2.2	3	C25DGD315_
		460	75	—	5	—	3.7	—	C25DGD315_
		575	60	—	5	—	3.7	—	C25DGD315_
25	35	115	150	2	—	1.5	—	2	C25DGD225_
		230	150	3	7-1/2	2.2	5.5	3	C25DGD325_
		460	125	—	10	—	7.5	4	C25EGD425_
		575	100	—	10	—	7.5	—	C25EGD425_
30	40	115	180	2	—	1.5	—	2	C25DGD230_
		230	180	5	10	3.7	7.5	3	C25DGD330_
		460	150	—	15	—	11	4	C25EGD430_
		575	120	—	15	—	11	—	C25EGD430_
40	50	115	240	3	—	2.2	—	2	C25DGF240_
		230	240	7-1/2	10	5.5	7.5	3	C25DGF340_
		460	200	—	20	—	15	4	C25EGF440_
		575	160	—	20	—	15	—	C25EGF440_
50	65	115	300	3	—	2.2	—	2	C25DGJ250_
		230	300	10	15	7.5	11	3	C25DGJ350_
		460	250	—	30	—	22	—	C25DGJ350_
		575	200	—	30	—	22	—	C25DGJ350_
60	75	115	360	5	—	3.7	—	2	C25FGF260_
		230	360	10	20	7.5	15	3	C25FGF360_
		460	300	—	40	—	30	—	C25FGF360_
		575	240	—	40	—	30	—	C25FGF360_

Note

① Incomplete catalog number. Replace underscore (_) in catalog number with magnet coil suffix from table on **Page V5-T4-48**.

4.4

Definite Purpose Contactors and Starters

NEMA Type 1 Enclosed Control

4

Magnet Coil Suffix

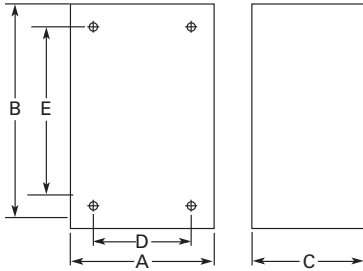
Voltage 60 Hertz			Voltage 60 Hertz	
50 Hertz	Coil Suffix	60 Hertz	Coil Suffix	
AC ①			DC ④	
12	12	R	12	1R
24	24	T	24	1T
110–120 ②	110–120 ②	A	48	1W
208–240	208–240	E	120	1A
240 ③	220	B		
277	—	J		
—	380–415	H		
440–480	440–480	L		
550–600	550–600	C		
12	12	D		

Dimensions

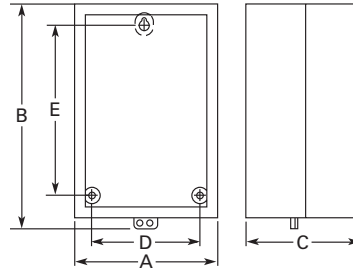
Approximate Dimensions in Inches (mm)

C25 Contactors, NEMA 1 Enclosed

15–50 Ampere, Two- and Three-Pole (C799B18)



25–40 Ampere, Four-Pole— 60 Ampere, Two- and Three-Pole (C799B19)



Dimensions and Shipping Weights

Ampere Size	Number of Poles	Wide A	High B	Deep C	Mounting D	E	Shipping Weight Lbs (kg)
NEMA 1 Enclosed							
15–50	2 and 3	4.10 (104.0)	6.75 (171.0)	3.50 (89.0)	2.75 (70.0)	4.88 (124.0)	3.4 (1.5)
25–40	4	5.62 (142.0)	9.51 (241.0)	4.81 (122.0)	4.50 (114.0)	8.00 (203.0)	5.8 (2.6)
60	2 and 3	5.62 (142.0)	9.51 (241.0)	4.81 (122.0)	4.50 (114.0)	8.00 (203.0)	6.3 (2.9)

Notes

- ① Class H AC coils available as option. Add **2** before AC coil suffix letter.
- ② 104–120A 50/60 Hz for 60A contactor.
- ③ Available through 50A.
- ④ Contactors with DC coils include an early break NC auxiliary contact, C320KGD1. See **Page V5-T4-62** for more detail.

25–60A Starters—A25, B25



25–60A Starters—A25, B25

Product Description

A25 and B25 Definite Purpose Starters from Eaton’s Electrical Sector combine the features and flexibility of the C25 Definite Purpose Contactors and Freedom Series Bi-metallic Ambient Compensated Overload Relays mounted on a common mounting plate.

Standards and Certifications

- UL Recognized Components UL File #E-1491, Guide NLDX2
- CSA Certified Components File #LR353, Guide 380W-1.14 Class 3211 04



Contents

Description	Page
15–60A Contactors—C25	V5-T4-46
25–60A Starters—A25, B25	
Catalog Number Selection	V5-T4-50
Product Selection	V5-T4-50
Dimensions	V5-T4-51
15–45A Starters—A27, B27	V5-T4-52
Accessories	V5-T4-55
Options	V5-T4-57
Technical Data and Specifications	V5-T4-58

4.4

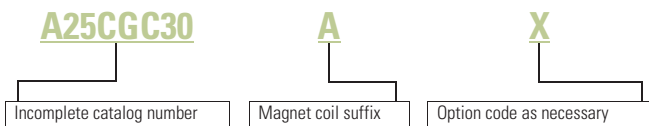
Definite Purpose Contactors and Starters

NEMA Type 1 Enclosed Control

Catalog Number Selection

25–60A Starters—A25, B25

4



When Ordering Specify

- Catalog number plus magnet coil suffix, see **Page V5-T4-51**
- Modify catalog number for any options required, see Options, **Page V5-T4-57**
- Heater packs for specific FLA of motor, see **Page V5-T4-56**

Product Selection

A25, B25 Enclosed

Single- and Three-Phase NEMA Type 1 Enclosed Starters



Ampere Rating	Inductive Full Load	Line Voltage	Locked Rotor	Maximum Motor (hp)		Maximum Motor (kW)		Single-Phase ^{①②}		Three-Phase ^②	
				Single-Phase	Three-Phase	Single-Phase	Three-Phase	Common Control Catalog Number ^③	Separate Control Catalog Number ^③	Common Control Catalog Number ^③	Separate Control Catalog Number ^③
25	115	150	2	—	1.5	—	B25CGC25_	B25SGC25_	A25CGC25_	A25SGC25_	
	230	150	3	7-1/2	2.2	5.5	B25CGC25_	B25SGC25_	A25CGC25_	A25SGC25_	
	460	125	—	10	—	7.5	B25CGC25_	B25SGC25_	A25CGC25_	A25SGC25_	
	575	100	—	10	—	7.5	B25CGC25_	B25SGC25_	A25CGC25_	A25SGC25_	
30	115	180	2	—	1.5	—	B25CGC30_	B25SGC30_	A25CGC30_	A25SGC30_	
	230	180	5	10	3.7	7.5	B25CGC30_	B25SGC30_	A25CGC30_	A25SGC30_	
	460	150	—	15	—	11	B25CGC30_	B25SGC30_	A25CGC30_	A25SGC30_	
	575	120	—	15	—	11	B25CGC30_	B25SGC30_	A25CGC30_	A25SGC30_	
40	115	240	3	—	2.2	—	B25CGE40_	B25SGE40_	A25CGE40_	A25SGE40_	
	230	240	7-1/2	10	5.5	7.5	B25CGE40_	B25SGE40_	A25CGE40_	A25SGE40_	
	460	200	—	20	—	15	B25CGE40_	B25SGE40_	A25CGE40_	A25SGE40_	
	575	160	—	20	—	15	B25CGE40_	B25SGE40_	A25CGE40_	A25SGE40_	
50	115	300	—	—	—	—	—	—	A25CGE50_	A25SGE50_	
	230	300	—	15	—	11	—	—	A25CGE50_	A25SGE50_	
	460	250	—	30	—	22	—	—	A25CGE50_	A25SGE50_	
	575	200	—	30	—	22	—	—	A25CGE50_	A25SGE50_	
60	115	360	—	—	—	—	—	—	A25CGE60_	A25SGE60_	
	230	360	—	20	—	15	—	—	A25CGE60_	A25SGE60_	
	460	300	—	40	—	30	—	—	A25CGE60_	A25SGE60_	
	575	240	—	40	—	30	—	—	A25CGE60_	A25SGE60_	

Notes

- ① Starters do not include heater packs. Select heater pack from tables, see **Page V5-T4-56**.
- ② Set of three heater packs required for single-phase applications.
- ③ Incomplete catalog number. Replace underscore (_) in catalog number with magnet coil suffix from table on **Page V5-T4-51**.

Magnet Coil Suffix

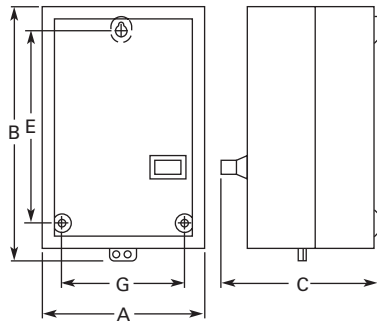
Voltage 60 Hertz			Voltage 60 Hertz	
50 Hertz	Coil Suffix	60 Hertz	Coil Suffix	
AC ①			DC ④	
12	12	R	12	1R
24	24	T	24	1T
110–120 ②	110–120 ②	A	48	1W
208–240	208–240	B	120	1A
240 ③	220	J		
277	—	H		
—	380–415	L		
440–480	440–480	C		
550–600	550–600	D		

Dimensions

Approximate Dimensions in Inches (mm)

A25 and B25 Starters

25, 30, 40, 50 and 60 Ampere



Dimensions and Shipping Weights

Ampere Size	Wide A	High B	Deep C	Mounting E	Mounting G	Shipping Weight Lbs (kg)
25 and 30	5.63 (143.0)	10.17 (258.0)	5.81 (148.0)	8.00 (203.0)	4.50 (114.0)	4.8 (2.2)
40, 50 and 60	7.64 (194.0)	13.27 (337.0)	6.67 (169.0)	10.75 (273.0)	6.00 (152.0)	10.6 (4.8)

Notes

- ① Class H AC coils available as option. Add **2** before AC coil suffix letter.
- ② 104–120A 50/60 Hz for 60A starter.
- ③ Available through 50A.
- ④ Starters with DC coils include an early breaking auxiliary contact, C320KGD1. See **Page V5-T4-62** for more detail.

15–45A Starters—A27, B27



Contents

<i>Description</i>	<i>Page</i>
15–60A Contactors—C25	V5-T4-46
25–60A Starters—A25, B25	V5-T4-49
15–45A Starters—A27, B27	
Product Selection	V5-T4-53
Dimensions	V5-T4-54
Accessories	V5-T4-55
Options	V5-T4-57
Technical Data and Specifications	V5-T4-58

15–45A Starters—A27, B27

Product Description

A27 and B27 Definite Purpose Starters from Eaton’s Electrical Sector combine the features and flexibility of the C25 Definite Purpose Contactors and **XT** Series Bi-metallic Ambient Compensated Overload Relays.

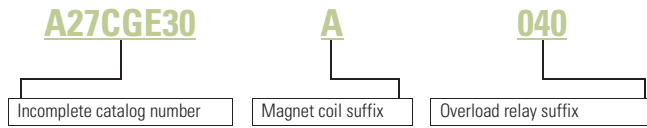
Standards and Certifications

- UL Recognized Components UL File #E-1491, Guide NLDX2
- CSA Certified Components File #LR353, Guide 380W-1.14 Class 3211 04
- CE



Catalog Number Selection

15–45A Starters—A27, B27



When Ordering Specify

- Catalog number plus magnet coil suffix plus overload relay suffix, see **Page V5-T4-54**

Product Selection

A27, B27 Enclosed Single- and Three-Phase NEMA Type 1 Enclosed Starters



Ampere Rating	Inductive Full Load	Line Voltage	Locked Rotor	Maximum Motor (hp)		Maximum Motor (kW)		Single-Phase		Three-Phase	
				Single-Phase	Three-Phase	Single-Phase	Three-Phase	Common Control Catalog Number ①	Separate Control Catalog Number ①	Common Control Catalog Number ①	Separate Control Catalog Number ①
15	115	90	3/4	—	0.4	—	B27CGC15_	B27SGC15_	A27CGC15_	A27SGC15_	
	230	90	2	3	1.5	2.2	B27CGC15_	B27SGC15_	A27CGC15_	A27SGC15_	
	460	75	—	5	—	3.7	B27CGC15_	B27SGC15_	A27CGC15_	A27SGC15_	
	575	60	—	5	—	3.7	B27CGC15_	B27SGC15_	A27CGC15_	A27SGC15_	
25	115	150	2	—	1.5	—	B27CGC25_	B27SGC25_	A27CGC25_	A27SGC25_	
	230	150	3	7-1/2	2.2	5.5	B27CGC25_	B27SGC25_	A27CGC25_	A27SGC25_	
	460	125	—	10	—	7.5	B27CGC25_	B27SGC25_	A27CGC25_	A27SGC25_	
	575	100	—	10	—	7.5	B27CGC25_	B27SGC25_	A27CGC25_	A27SGC25_	
30	115	180	2	—	1.5	—	B27CGE30_	B27SGE30_	A27CGE30_	A27SGE30_	
	230	180	5	10	3.7	7.5	B27CGE30_	B27SGE30_	A27CGE30_	A27SGE30_	
	460	150	—	15	—	11	B27CGE30_	B27SGE30_	A27CGE30_	A27SGE30_	
	575	120	—	15	—	11	B27CGE30_	B27SGE30_	A27CGE30_	A27SGE30_	
40	115	240	3	—	2.2	—	B27CGE40_	B27SGE40_	A27CGE40_	A27SGE40_	
	230	240	7-1/2	10	5.5	7.5	B27CGE40_	B27SGE40_	A27CGE40_	A27SGE40_	
	460	200	—	20	—	15	B27CGE40_	B27SGE40_	A27CGE40_	A27SGE40_	
	575	160	—	20	—	15	B27CGE40_	B27SGE40_	A27CGE40_	A27SGE40_	
45	115	270	3	—	2.2	—	B27CGE45_	B27SGE45_	A27CGE45_	A27SGE45_	
	230	270	7-1/2	15	7.5	11	B27CGE45_	B27SGE45_	A27CGE45_	A27SGE45_	
	460	225	—	30	—	22	B27CGE45_	B27SGE45_	A27CGE45_	A27SGE45_	
	575	180	—	30	—	22	B27CGE45_	B27SGE45_	A27CGE45_	A27SGE45_	

Note

① Incomplete catalog number. Replace underscore (_) in catalog number with magnet coil suffix plus overload relay suffix from tables on **Page V5-T4-54**.

4.4

Definite Purpose Contactors and Starters

NEMA Type 1 Enclosed Control

4

Magnet Coil Suffix

Voltage 60 Hertz	50 Hertz	Coil Suffix	Voltage 60 Hertz	Coil Suffix
AC ①				
12	12	R	12	1R
24	24	T	24	1T
110–120	110–120	A	48	1W
208–240	208–240	B	120	1A
240 ②	220	J		
277	—	H		
—	380–415	L		
440–480	440–480	C		
550–600	550–600	D		

Overload Relay Suffix

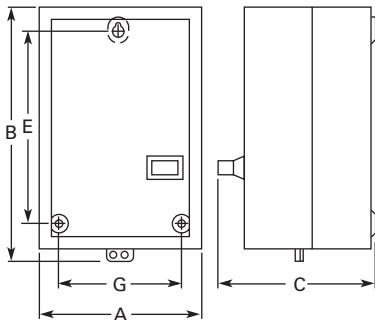
Motor Full Load Amperes	Suffix Code	For use with Contactor Ampere Range
Frame C		
0.1–0.16	P16	15–25A
0.16–0.24	P24	15–25A
0.24–0.4	P40	15–25A
0.4–0.6	P60	15–25A
0.6–1	001	15–25A
1–1.6	1P6	15–25A
1.6–2.4	2P4	15–25A
2.4–4	004	15–25A
4–6	006	15–25A
6–10	010	15–25A
10–16	016	15–25A
16–24	024	15–25A
24–32	032	15–25A
Frame D		
6–10	010	30–45A
10–16	016	30–45A
16–24	024	30–45A
24–40	040	30–45A
40–57	057	30–45A

Dimensions

Approximate Dimensions in Inches (mm)

A27 and B27 Starters

15, 25, 30, 40 and 50 Ampere



Dimensions and Shipping Weights

Ampere Size	Wide A	High B	Deep C	Mounting E	Mounting G	Shipping Weight Lbs (kg)
25 and 30	5.63 (143.0)	10.17 (258.0)	5.81 (148.0)	8.00 (203.0)	4.50 (114.0)	4.8 (2.2)
40, 50 and 60	7.64 (194.0)	13.27 (337.0)	6.67 (169.0)	10.75 (273.0)	6.00 (152.0)	10.6 (4.8)

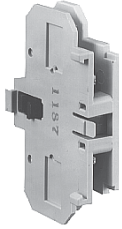
Notes

- ① Class H AC coils available as option. Add **2** before AC coil suffix letter.
- ② Available through 45A.
- ③ Starters with DC coils include an early breaking auxiliary contact, C320KGD1. See **Page V5-T4-62** for more detail.

Accessories

Auxiliary Contact Kits (Side Mounted)

Side Mounted Auxiliary Contact



Heavy-Duty Pilot Rated for 10A at 600 Vac

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

Side Mounted Snap Switch



Snap Switch Design Side Mounted Auxiliary Contacts

Circuit	Snap Switch Design with Quick Connect Terminals
	Catalog Number
1NO-1NC	C320SNP11
2NO-2NC	C320SNP22

Magnet Coil Quick Connect Terminal

Description

Extra dual quick connect terminals (U-shaped) for magnet coil terminals ②

Note

① To order, add suffix number **9** to the complete catalog number.
Example: C25DND215A**9**.

4.4

Definite Purpose Contactors and Starters

NEMA Type 1 Enclosed Control

Heater Packs

Fast Trip—Class 10 Heater Packs

Manual or Automatic Reset

Heater packs are shipped three to a carton.

Catalog numbers listed below are for three heater packs.

Fast Trip Ratings

Motor Full Load Ampere Rating ^①				Catalog Number ^② (Includes Three Heater Packs)
Dial Position				
A	B	C	D	
0.26	0.313	0.367	0.42	H2101B-3
0.384	0.464	0.543	0.623	H2102B-3
0.57	0.688	0.806	0.924	H2103B-3
0.846	1.02	1.2	1.37	H2104B-3
1.28	1.55	1.83	2.1	H2105B-3
1.92	2.33	2.74	3.15	H2106B-3
2.3	2.79	3.28	3.77	H2107B-3
3.38	4.1	4.82	5.54	H2108B-3
4.96	6.03	7.09	8.16	H2109B-3
7.07	8.58	10.1	11.6	H2110B-3
9.6	11.2	12.8	14.4	H2111B-3
14.4	17.5	20.7	23.8	H2112B-3
18.7	21.8	25	28.1	H2113B-3
23.5	27.3	31	34.8	H2114B-3
28.3	32.6	37	41.3	H2115B-3
36.6	42.3	48.1	53.8	H2116B-3
53.8	60.8	67.9	74.9	H2117B-3

Trip Curves, see Page V5-T4-58.

Notes

- ① For motor full load amperes between listed values, adjust dial clockwise for higher or counter-clockwise for lower motor currents. The currents listed are for 1.5 service factor motors. A position adjustment is provided for 1.0 service factor motors.
- ② Set of three heater packs are required for both single- and three-phase applications.

Standard Trip—Class 20 Heater Packs

Manual or Automatic Reset

Heater packs are shipped three to a carton.

Catalog numbers listed below are for three heater packs.

Standard Trip Ratings

Motor Full Load Ampere Rating ^①				Catalog Number ^② (Includes Three Heater Packs)
Dial Position				
A	B	C	D	
0.254	0.306	0.359	0.411	H2001B-3
0.375	0.452	0.53	0.607	H2002B-3
0.56	0.676	0.791	0.907	H2003B-3
0.814	0.983	1.15	1.32	H2004B-3
1.2	1.45	1.71	1.96	H2005B-3
1.79	2.16	2.53	2.9	H2006B-3
2.15	2.6	3.04	3.49	H2007B-3
3.23	3.9	4.56	5.23	H2008B-3
4.55	5.5	6.45	7.4	H2009B-3
6.75	8.17	9.58	11	H2010B-3
9.14	10.8	12.4	14	H2011B-3
14	16.9	19.9	22.8	H2012B-3
18.7	22.7	26.7	30.7	H2013B-3
23.5	28.5	33.5	38.5	H2014B-3
29	34	39.1	44.1	H2015B-3
39.6	45.5	51.5	57.4	H2016B-3
53.9	60.9	67.9	74.9	H2017B-3

Trip Curves, see Page V5-T4-58.

Options

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.

Factory Installed Options

Description	Code Letter	Number of Poles
Terminals— 15A through 50A		
Binding head screws		
Without quick connect terminals	A	2-, 3-, 4-pole
With quick connect terminals (side-by-side)	B	2-, 3-, 4-pole
With quick connect terminals (vertical in-line)	G	2-, 3-pole
Screw/pressure plate ^①		
Without quick connect terminals	C	2-, 3-, 4-pole
With quick connect terminals (side-by-side)	D	2-, 3-, 4-pole
With quick connect terminals (vertical in-line)	H	2-, 3-pole
Box lugs (#2 posidrive/slotted screw)		
Without quick connect terminals	E	2-, 3-, 4-pole ^②
With quick connect terminals (side-by-side)	F	2-, 3-, 4-pole ^②
With quick connect terminals (vertical in-line)	J	2-, 3-pole
Box lugs (hex socket allen head screw)		
Without quick connect terminals	K	2-, 3-pole
With quick connect terminals (side-by-side)	L	2-, 3-pole
With quick connect terminals (vertical in-line)	M	2-, 3-pole
Terminals— 60A through 75A ^③		
Box lugs (slotted screw)		
Without quick connect terminals	E	2-, 3-pole
With quick connect terminals	F	2-, 3-pole

Notes

- ① Screw/pressure plate terminals are not available on 50A contactors.
- ② Four-pole contactors have box lugs with slotted screws.
- ③ Replace letter in the 6th position of catalog number with code letter listed. Example: Change C25FNF250 to C25FNE250.

Technical Data and Specifications

20–40A, Compact Single- and Two-Pole—C25

Description	Specification
Insulation voltage	690V
Current rated and hp/kw rated contacts	Double break
Magnet coil	Class F, 155°C
Contact arc covers	Standard on all contactors
Standard power terminals	5/16 in hex washer head screws Quad (4) quick connect terminals on all line and load terminals Box lugs available as option
Line and load terminal designations	Marked on contactors
Operating temperature range	–13° to 158°F (–25° to 70°C)
Terminal wire range	
Hex washer head screws	6–10 AWG, 30 lb-in torque rating
Box lugs	6–10 AWG, 35 lb-in torque rating 8 AWG, 40 lb-in torque rating 6–4 AWG, 45 lb-in torque rating
Mounting position	Vertical, horizontal or tabletop

Coil Characteristics

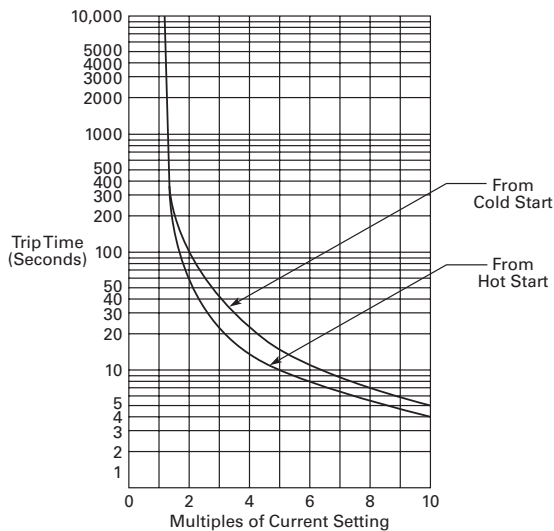
AC Coil Voltage 50/60 Hz	Maximum Inrush VA	Maximum Sealed	
		VA	Watts
Single-Pole			
24	33	6	2
120	33	6	2
208/240	33	6	2
277	33	6	2

AC Coil Voltage 50/60 Hz	Maximum Inrush VA	Maximum Sealed	
		VA	Watts
Two-Pole			
24	41	6.5	3
120	41	6.5	3
208/240	41	6.5	3
277	41	6.5	3

Trip Curves

Bimetallic Ambient Compensated Overload Relay—25°C Open Rating

Class 10 Overload Relay (25°C Open Rating)



Class 20 Overload Relay (25°C Open Rating)

