

Controls Catalog



definite PURPOSE

- Compact Size Contactors
- Flexibility in the Power Terminations
- Snap on Electrical/Mechanical Interlocks

SIEMENS

SIEMENS

Furnas brand Definite Purpose Controls

Siemens Energy & Automation, Inc. is dedicated to providing complete electrical, engineering and automation solutions, along with the right products, software and services to our clients worldwide. Our customers include some of the world's largest and most respected companies in the industrial, manufacturing and construction industries, retailers, and leaders in the emerging e-business sector, among others.

Our dedicated team of more than 12,000 engineers, designers, field service technicians and diverse professionals are experts in their fields, and draw on the global support and expertise of over 400,000 professionals at Siemens-affiliated companies worldwide. Backed by annual research and development expenditures in excess of \$52 million per year, the professionals at Siemens Energy & Automation are uniquely positioned to help your organization accomplish its goals faster, smarter and more cost-effectively than you ever imagined possible.

In 1996 Siemens expanded its expertise and product line in the Industrial marketplace with the purchase of Furnas Electric Company. Furnas has long been recognized as both the market share and innovation leader in the definite purpose and HVAC controls business. The Furnas brand, now under the Siemens umbrella, still stands for the same quality as it did when it entered the definite purpose market nearly 50 years ago. By continuing to rely on the latest technologies in engineering, design and manufacturing, Siemens Energy & Automation ensures the Furnas brand will continue to be the foremost definite purpose products available.

To learn more about the entire S E & A product-offering visit: <http://automation.usa.siemens.com>






To contact S E & A technical support, technical services or locate a distributor please visit:
<http://automation.usa.siemens.com/controls/default.html>

To get the most up-to-date information on the Furnas brand definite purpose product line visit:
http://automation.usa.siemens.com/controls/prod_ref/CNpref14.html

Common Definite Purpose applications include:

- Air Conditioning
- Heating
- Ventilating
- Refrigeration
- Food and Beverage Industries
- Hoist and Cranes
- Elevators
- Lighting
- Pool and Spa
- Welding
- Pump and Compressor
- Conveyors

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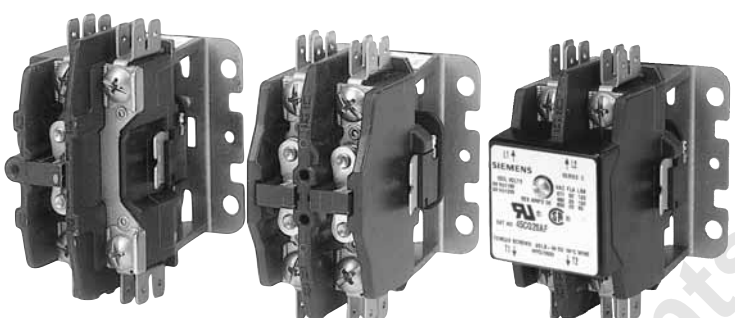
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Product Nomenclature

Class 45 D.P. CONTACTOR

Information shown on nomenclature sheets is for reference only to identify devices from existing catalog numbers. This information is not to be used for the creation of new catalog numbers by anyone except the Product Marketing Manager.


45 CLASS	C AMP RATING	G MODEL	2 POWER POLES	0 NC POWER POLES	A ENCLOSURE	J COIL	A MODIFICATIONS
45 Contactor (D.P.)	C 20 D 25 E 30 F 35 G 40	G	1 1 power pole 2 2 power poles	0 None 1 1 power pole 2 2 power poles	A Open	D 200-208V, 60 HZ E 550-600V, 60 HZ 550V, 50 HZ F 120V, 60 HZ 110V, 50 HZ G 208-240V, 60 HZ 190-220V, 50 HZ H 440-480V, 60 HZ 380-440V, 50 HZ J 24V, 60 HZ 24V, 50 HZ L 277V, 60 HZ 240V, 50 HZ	A Jumper Bar * Class B coil standard. Binding head screws and quad quick connect standard. * Suffix 600R to 999R denotes special modifications. * Contact cover and taped coil comes standard



Class 42 D.P. CONTACTOR

Information shown on nomenclature sheets is for reference only to identify devices from existing catalog numbers. This information is not to be used for the creation of new catalog numbers by anyone except the Product Marketing Manager.

42 CLASS	B AMP RATING	F MODEL	3 POWER POLES	5 CONTROL CIRCUIT	A ENCLOSURE	J COIL	P POWER TERMINALS	B INTERLOCKS
42 Contactor (D.P.)	A 25 B 30 C 40 D 50 E 60 F 75 G 90 H 120 I 150	F E* *75-90 amp only	1 2 power poles 2 4 power poles 3 3 power poles 6 2 NO & 1 NC power poles 7 3 NO & 1 NC power poles 8 2 NO & 2 NC power poles	5 Without auxiliary contact	A Open B NEMA 1 C Open w/DIN rail mtg. base	A 110-120/ 220-240V, 60 HZ C 220-240/ 440-480V, 60 HZ F 110V, 50 HZ 120V, 60 HZ G 190-220V, 50 HZ 208-240V, 60 HZ J 24V, 50 HZ 24V, 60 HZ H 380-440V, 50 Hz 440-480V, 60 HZ E 550V, 50 Hz 550-600V, 60 HZ L 240V, 50 HZ 277V, 60 HZ D 200-208V, 60 HZ K 200-230V, 50 HZ 200-230V, 60 HZ <u>OEM Use Only</u> 1 F coil w/terms. Up 2 G coil w/terms. Up 3 J coil w/terms. Up 4 H coil w/terms. Up 5 E coil w/terms. Up 6 L coil w/terms. Up 7 D coil w/terms. Up	K No screws w/QC's L Binding head screws M Sems screws N Lugs P Binding head screws w/QC's Q Sems screws w/QC's R Lugs w/QC's S Binding head screws & aux. screws T Sems screws & aux. screws V Lugs w/aux. screws W Binding head screws all locations. DQC on line side only. Y Sems screws all locations. DQC on line side only. Z Lugs all locations DQC on the line side only. OMIT = "P" type terminals on A & B rated contactors, or "R" type terminals on C, D, E, F, & G rated contactors.	A 1 SPDT left B 1 NO left C 1 NO & 1 NC left D 1 NO & 1 NC both left & right E 2 SPDT right 1 NO & 1 NC left F 2 SPDT left 2 SPDT right G 1 NO left & 1 NO right H 1 NC left & 1 NC right K 2 SPDT left L 1 SPDT right M 1 NC right N 1 NO right O 1 NC left P 1 NO left 1 NC right R 1 NC left 1 NO right S 1 SPDT left 1 SPDT right Whenever an inlk is specified, a power term. must also be specified in the preceding field.



* A special three letter customer suffix will be assigned by the Product Manager for additional modifications.

Definite Purpose Contactors 20 - 40 FLA 60 Hz 600VAC Max

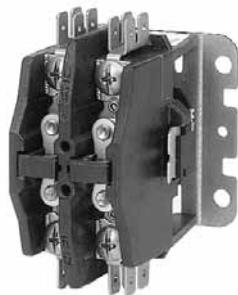
45



Class 45 - 1 pole

FLA	Locked Rotor Amps				Non Inductive Amps	Poles	Catalog Number	Price
	240V	277V	480V	600V				
20	120	110	100	80	25	1	45CG10A*A	\$40.00
25	150	150	100	80	35	1	45DG10A*A	\$43.00
30	180	180	150	120	40	1	45EG10A*A	\$49.00
35	180	180	150	120	50	1	45FG10A*A	\$54.00
40	240	240	200	160	55	1	45GG10A*A	\$59.00

To order without jumper bar, remove "A" from the end of the part number.



Class 45 - 2 pole

FLA	Locked Rotor Amps				Non Inductive Amps	Poles	Catalog Number	Price
	240V	277V	480V	600V				
20	120	120	100	80	30	2	45CG20A*	\$59.00
25	150	150	125	100	35	2	45DG20A*	\$78.00
30	180	180	135	110	40	2	45EG20A*	\$85.00
35	200	200	135	110	50	2	45FG20A*	\$91.00
40	240	240	200	160	55	2	45GG20A*	\$96.00

Class 45 Definite Purpose Contactor Features

- Compact Size
- Weld-resistant Silver Cadmium Oxide Contacts
- Reinforced Thermoset Polyester Housing
- Quiet Operation
- Contact Covers and Taped Coils are Standard
- Power Terminations options:
 - Lugs
 - SEMS clamp
 - Binding Head screws (standard)
 - Quick Connects (standard)
- Standard Class B Coil Insulation
- Contact Covers Available for Increased Protection
- One Pole Version Includes Jumper Bar
- Replacement Coils and Contact Kits Not Available for this Class
- Meets:
 - ARI – 780
 - UL File E14900
 - CSA File LR6535
 - CE Approved

Ordering Instructions

Use complete catalog number.
Replace the (*) with letter from coil table

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E

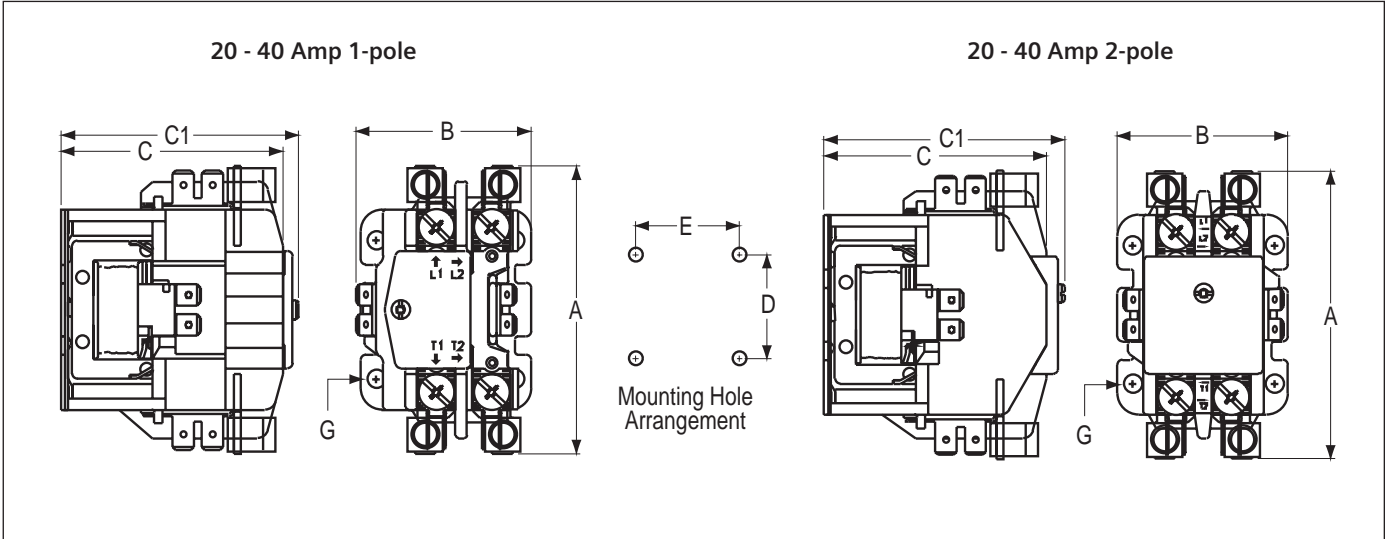
Definite Purpose Contactors 20 - 40 FLA 60 Hz 600VAC Max

45

Coil Data

Class	FLA	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
45 (1P - 2P)	20-40	2.6	27	7.3	80%	50%

Dimensions

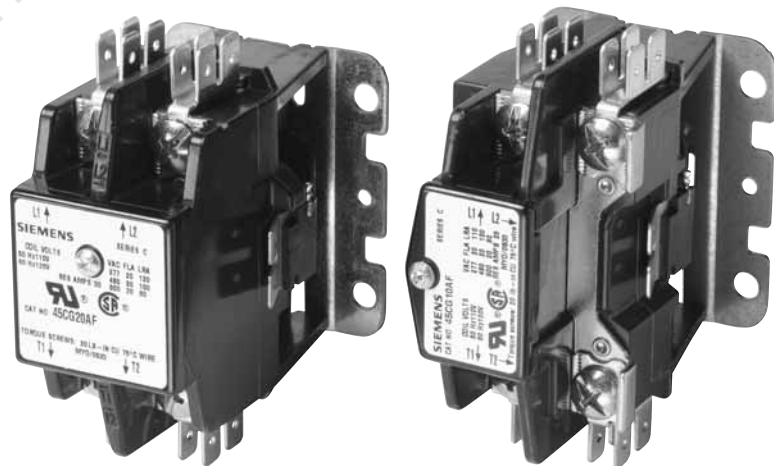


Open Type

FLA	Third Character of Cat No	Poles	Outline Dimensions				Mtg Dimensions		Mtg Screw G	Max Wire Size	Approx Ship Wt Lbs
			A	B	C	C1	D	E			
20 - 40	C, D, E, F, G	1	3 3/8	2 1/16	2 5/8	2 13/16	1 5/8	1 5/8	10	10	1
20 - 40	C, D, E, F, G	2	3 3/8	2	2 11/16	2 27/32	1 5/8	1 5/8	10	10	1

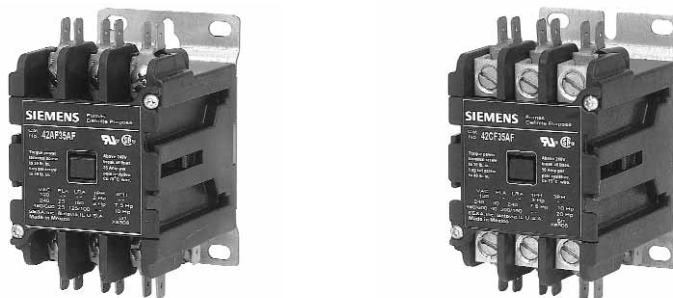
Permissible Ambient Temperature

-40°C to 65°C
-40°F to 150°F



Definite Purpose Contactors 25 - 40 FLA 60 Hz 600VAC Max

42



Class 42 - 2 & 3 pole

FLA	120V		240V		480V		600V		Non Inductive Amps	Poles	Catalog Number	Price
	Hp	LRA	Hp	LRA	Hp	LRA	Hp	LRA				
25	2	150	3	125	—	100	—	7.5	35	2	42AF15A*	\$ 90.00
	—		5		7.5		3				\$104.00	
30	2	180	5	150	—	120	—	10	40	2	42BF15A*	\$109.00
	—		7.5		10		3				\$116.00	
40	3	240	7.5	200	—	160	—	15	50	2	42CF15A*	\$122.00
	—		10		15		3				\$136.00	

Class 42 Definite Purpose Contactor Features

- Compact Size
- Interchangeable Mounting on Durable Metal Back Plate
- Optional DIN Rail Mounting
- Weld-resistant Silver Cadmium Oxide Contacts
- Reinforced Thermoset Polyester Housing
- Quiet Operation Thanks to Cushioned Coil and Precision Fit Assembly
- Snap-On Electrical/Mechanical Interlocks
- Visual Contact Position Indication
- Power Terminations options:
 - Lugs (standard for 40A and above)
 - SEMS clamp
 - Binding Head screws (standard 25A-30A)
 - Quick Connects featuring One-Piece Durable Design (standard)
- Class F Coil Insulation
- Low VA Coils Standard for 25A – 40A
- Replacement Coils and Contact Kits see Page 30 and 31
- Meets:
 - ARI – 780
 - UL File E14900
 - CSA File LR6535
 - CE Approved thru 60A

Ordering Instructions

Use complete catalog number.
Replace the (*) with letter from coil table

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E
110-120/ 220-240	—	A
200-240/ 440-480	—	C

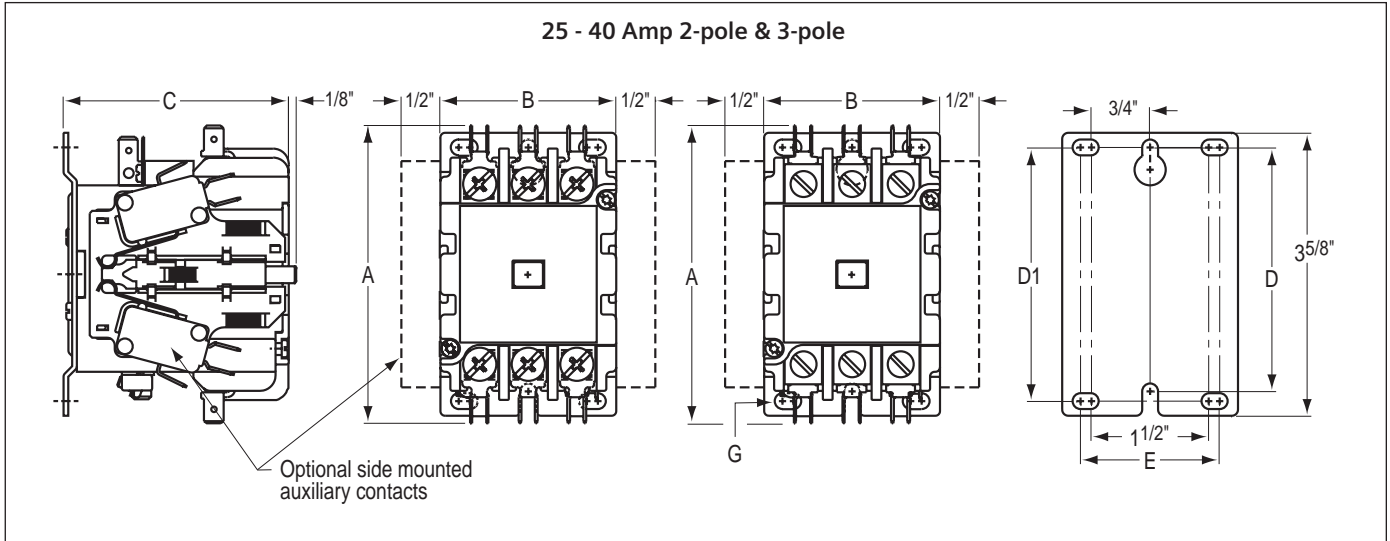
Definite Purpose Contactors 25 - 40 FLA 60 Hz 600VAC Max

42

Coil Data

Class	FLA	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
42 (2P - 3P)	25-40	2.5	52	6.2	80%	50%

Dimensions



Open Type

FLA	Third Character of Cat No	Poles	Outline Dimensions			Mtg Dimensions			Mtg Screw G	Max Wire Size	Approx Ship Wt Lbs
			A	B	C	D	D1	E			
25 -30	A, B	3	3 3/4	2 1/4	2 7/8	3 1/8	3 1/4	1 3/4	10	8	1 1/2
40	C	3	3 3/4	2 1/4	2 7/8	3 1/8	3 1/4	1 3/4	10	2	1 1/2

Permissible Ambient Temperature

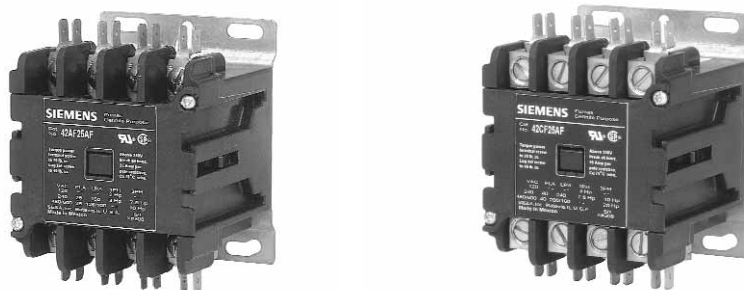
-40°C to 65°C
-40°F to 150°F



Definite Purpose Contactors

25 - 40 FLA 60 Hz 600VAC Max

42



Class 42 - 4 pole

FLA	120V		240V		480V		600V		Non Inductive Amps	Poles	Catalog Number	Price
	Hp	LRA	Hp	LRA	Hp	LRA	Hp					
25	—	150	5	125	7.5	100	7.5	35	4	42AF25A*	\$141.00	
30	—	180	7.5	150	10	120	10	40	4	42BF25A*	\$154.00	
40	—	240	10	200	15	160	15	50	4	42CF25A*	\$176.00	

Class 42 Definite Purpose Contactor Features

- Compact Size
- Interchangeable Mounting on Durable Metal Back Plate
- Optional DIN Rail Mounting
- Weld-resistant Silver Cadmium Oxide Contacts
- Reinforced Thermoset Polyester Housing
- Quiet Operation Thanks to Cushioned Coil and Precision Fit Assembly
- Snap-On Electrical/Mechanical Interlocks
- Visual Contact Position Indication
- Power Terminations options:
 - Lugs (standard for 40A and above)
 - SEMS clamp
 - Binding Head screws (standard 25A-30A)
 - Quick Connects featuring One-Piece Durable Design (standard)
- Class F Coil Insulation
- Low VA Coils Standard for 25A – 40A
- Replacement Coils and Contact Kits see Page 30 and 31
- Meets:
 - ARI – 780
 - UL File E14900
 - CSA File LR6535
 - CE Approved thru 60A

Ordering Instructions

Use complete catalog number. Replace the (*) with letter from coil table

Coil Voltages Table

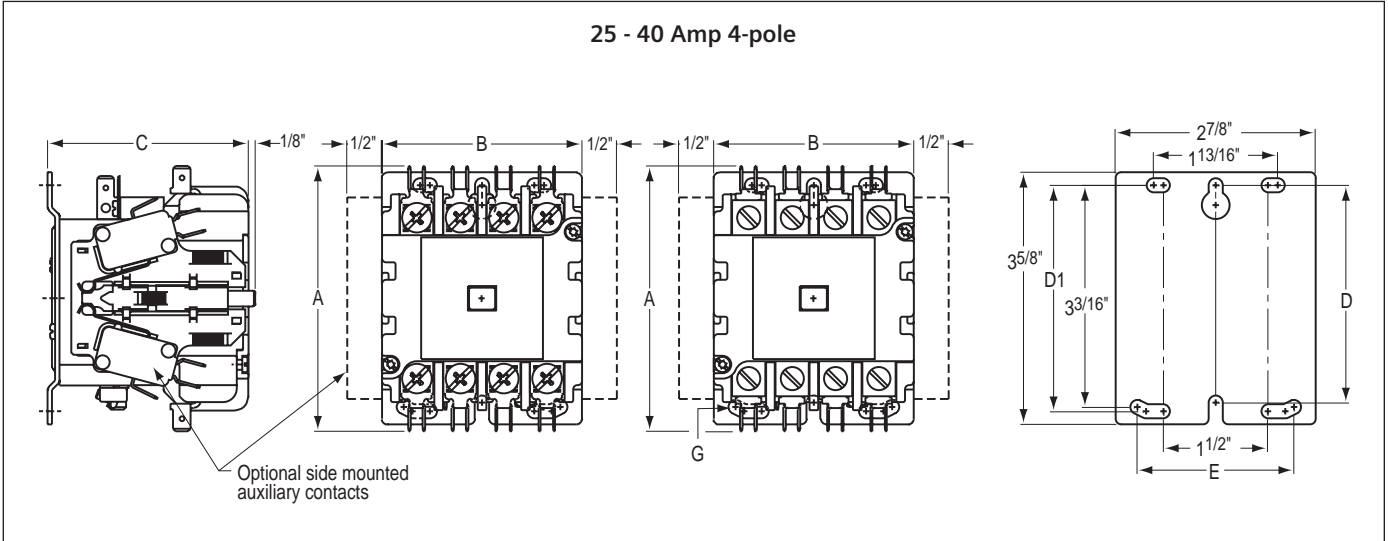
60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E
110-120/ 220-240	—	A
200-240/ 440-480	—	C

Definite Purpose Contactors 25 - 40 FLA 60 Hz 600VAC Max

Coil Data

Class	FLA	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
42 (4P)	25-40	4.2	91	15.6	80%	50%

Dimensions

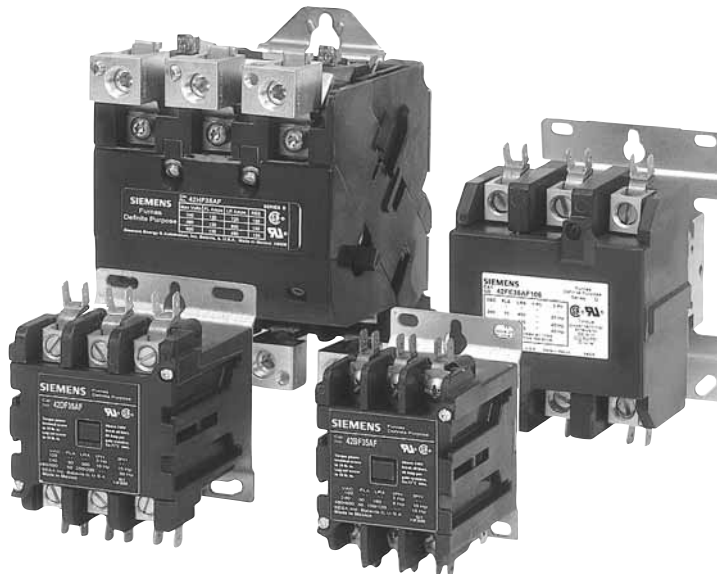


Open Type

FLA	Third Character of Cat No	Poles	Outline Dimensions			Mtg Dimensions			Mtg Screw G	Max Wire Size	Approx Ship Wt Lbs
			A	B	C	D	D1	E			
25 -30	A, B	4	3 3/4	2 7/8	2 7/8	3 1/8	3 1/4	2 1/4	10	8	1 1/2
40	C	4	3 3/4	2 7/8	2 7/8	3 1/8	3 1/4	2 1/4	10	2	2

Permissible Ambient Temperature

-40°C to 65°C
-40°F to 150°F



Definite Purpose Contactors 50 - 60 FLA 60 Hz 600VAC Max

42



Class 42 - 2 & 3 pole

FLA	120V		240V		480V		600V		Non Inductive Amps	Poles	Catalog Number	Price
	Hp	LRA	Hp	LRA	Hp	LRA	Hp	LRA				
50	3	300	10	300	—	200	—	200	63	2	42DF15A*	\$253.00
	—		15		30		30			3	42DF35A*	\$268.00
60	5	360	10	300	—	240	—	240	75	2	42EF15A*	\$286.00
	—		20		40		40			3	42EF35A*	\$298.00

Class 42 Definite Purpose Contactor Features

- Compact Size
- Interchangeable Mounting on Durable Metal Back Plate
- Optional DIN Rail Mounting
- Weld-resistant Silver Cadmium Oxide Contacts
- Reinforced Thermoset Polyester Housing
- Quiet Operation Thanks to Cushioned Coil and Precision Fit Assembly
- Snap-On Electrical/Mechanical Interlocks
- Visual Contact Position Indication
- Power Terminations options:
 - Lugs (standard)
 - SEMS clamp
 - Binding Head screws
 - Quick Connects
- Class F Coil Insulation
- Replacement Coils and Contact Kits see Page 30 and 31
- Meets:
 - ARI – 780
 - UL File E14900
 - CSA File LR6535
 - CE Approved thru 60A

Ordering Instructions

Use complete catalog number.
Replace the (*) with letter from coil table

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E
110-120/ 220-240	—	A
200-240/ 440-480	—	C

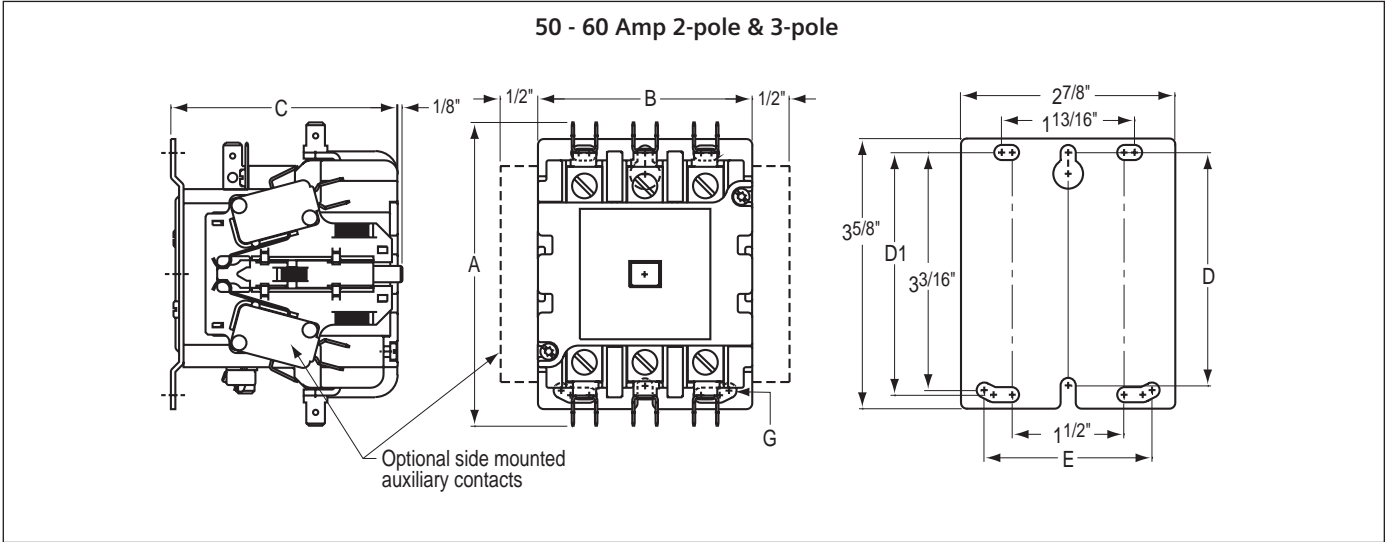
Definite Purpose Contactors 50 - 60 FLA 60 Hz 600VAC Max

42

Coil Data

Class	FLA	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
42 (2P - 3P)	50 - 60	4.2	91	15.6	80%	50%

Dimensions



Open Type

FLA	Third Character of Cat No	Poles	Outline Dimensions			Mtg Dimensions			Mtg Screw G	Max Wire Size	Approx Ship Wt Lbs
			A	B	C	D	D1	E			
50 - 60	D, E	3	4 1/16	2 7/8	3 1/16	3 1/8	3 1/4	2 1/4	10	2	1 1/2

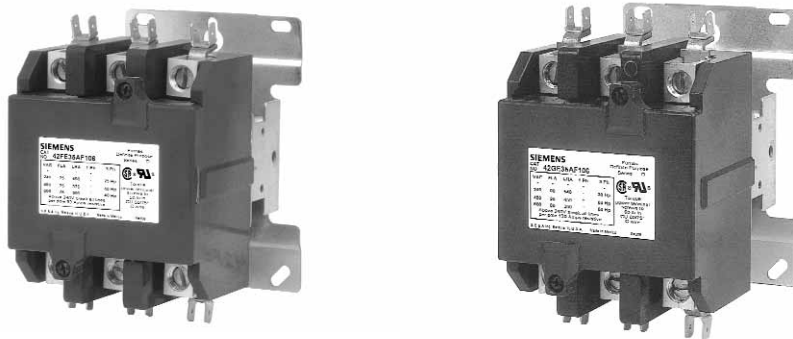
Permissible Ambient Temperature

-40°C to 65°C
-40°F to 150°F



Definite Purpose Contactors 75 - 90 FLA 60 Hz 600VAC Max

42



Class 42 - 2 & 3 pole

FLA	120V		240V		480V		600V		Non Inductive Amps	Poles	Catalog Number	Price
	Hp	LRA	Hp	LRA	Hp	LRA	Hp	LRA				
75	—	450	—	375	—	300	—	40	93	2	42FE15A*106	\$343.00
			25		40		3			42FE35A*106	\$383.00	
90	—	540	—	450	—	360	—	60	120	2	42GE15A*106	\$443.00
			30		60		3			42GE35A*106	\$479.00	

Class 42 Definite Purpose Contactor Features

- Compact Size
- Durable Metal Back Plate
- Weld-resistant Silver Cadmium Oxide Contacts
- Reinforced Thermoset Polyester Housing
- Quiet Operation Thanks to Cushioned Coil and Precision Fit Assembly
- Available Electrical/Mechanical Interlocks
- Power Terminations options:
 - Lugs (standard)
 - SEMS clamp
 - Binding Head screws
 - Quick Connects
- Replacement Coils and Contact Kits see Page 30 and 31
- Meets:
 - ARI – 780
 - UL File E14900
 - CSA File LR6535
 - CE Approved thru 60A

Ordering Instructions

Use complete catalog number.
Replace the (*) with letter from coil table

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E
110-120/ 220-240	—	A
200-240/ 440-480	—	C

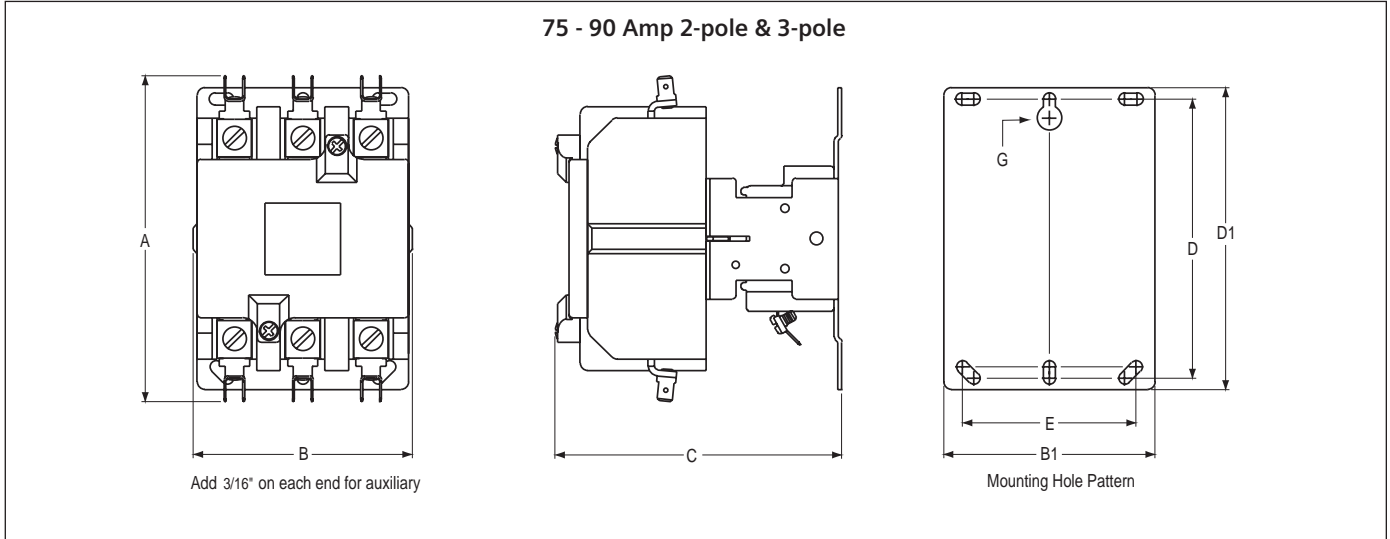
Definite Purpose Contactors 75 - 90 FLA 60 Hz 600VAC Max

42

Coil Data

Class	FLA	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
42 (2P - 3P)	75 - 90	13.5	200	31	85%	53%

Dimensions



Open Type

FLA	Third Character of Cat No	Poles	Outline Dimensions				Mtg Dimensions			Mtg Screw G	Max Wire Size	Approx Ship Wt Lbs
			A	B	B1	C	D	D1	E			
75 - 90	F, G	3	5 5/8	3 5/8	3 1/2	4 3/4	4 5/8	5	2 7/8	10	1/0	3 1/2

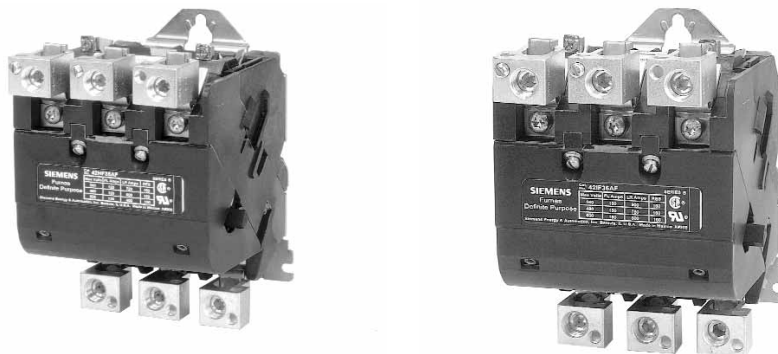
Permissible Ambient Temperature

- 40°C to 65°C
- 40°F to 150°F



Definite Purpose Contactors 120 - 150 FLA 60 Hz 600VAC Max

42



Class 42 - 2 & 3 pole

FLA	120V		240V		480V		600V		Non Inductive Amps	Poles	Catalog Number	Price
	Hp	LRA	Hp	LRA	Hp	LRA	Hp					
120	—	720	—	600	—	480	—	150	2	42HF15A*	\$ 543.00	
									3	42HF35A*	\$ 591.00	
150	—	900	—	750	—	600	—	160	2	42IF15A*	\$1,048.00	
									3	42IF35A*	\$1,156.00	

Class 42 Definite Purpose Contactor Features

- Compact Size
- Durable Metal Back Plate
- Weld-resistant Silver Cadmium Oxide Contacts
- Reinforced Thermoset Polyester Housing
- Quiet Operation
- Snap-On Electrical/Mechanical Interlocks
- Power Terminations options:
 - Lugs (standard)
 - Binding Head screws
- Replacement Coils and Contact Kits see Page 30 and 31
- Meets:
 - ARI – 780
 - UL File E14900
 - CSA File LR6535
 - CE Approved thru 60A

Ordering Instructions

Use complete catalog number.
Replace the (*) with letter from coil table

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E
110-120/ 220-240	—	A
200-240/ 440-480	—	C

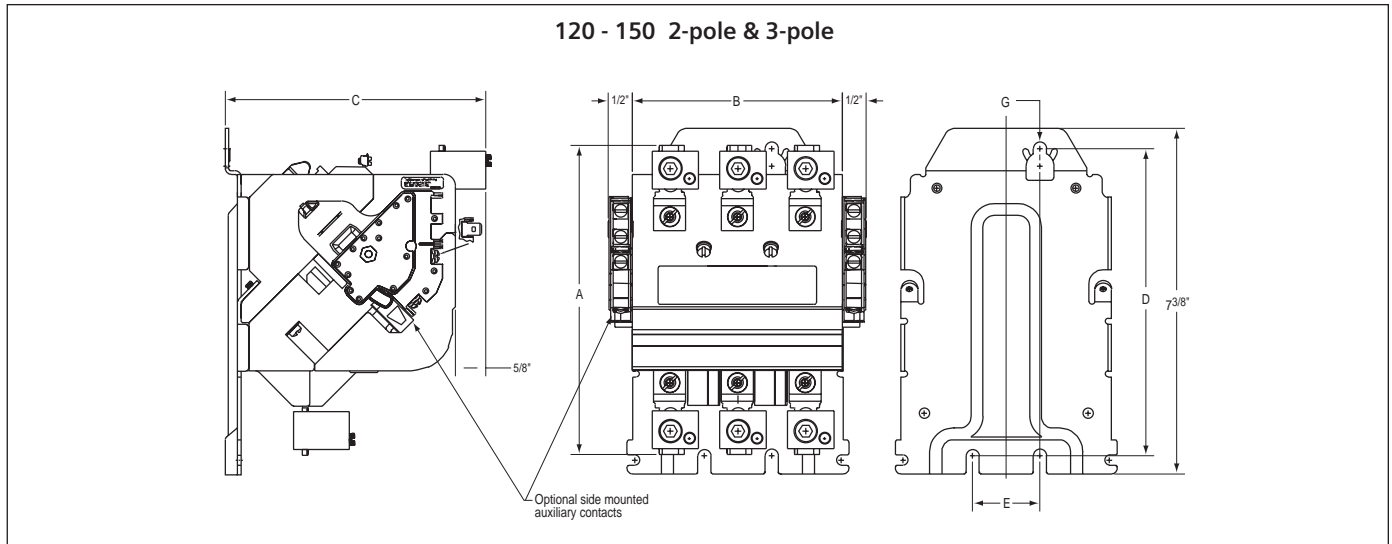
Definite Purpose Contactors 120 - 150 FLA 60 Hz 600VAC Max

42

Coil Data

Class	FLA	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
42 (2P - 3P)	120 - 150	14	310	26	85%	53%

Dimensions



Open Type

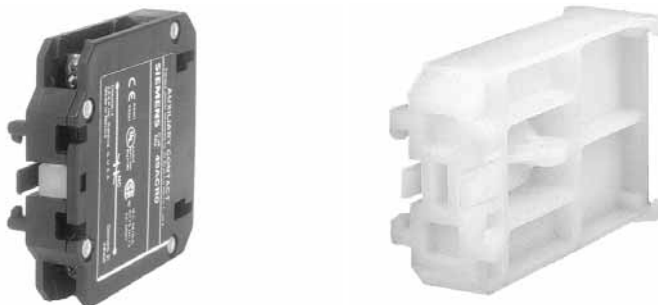
FLA	Third Character of Cat No	Poles	Outline Dimensions			Mtg Dimensions		Mtg Screw G	Max Wire Size	Approx Ship Wt Lbs
			A	B	C	D	E			
120-150	H, I	3	6 5/8	4 1/2	5 9/16	6 5/16	1 7/16	1/4	3/0	6 1/4

Permissible Ambient Temperature

- 40°C to 65°C
- 40°F to 150°F



Definite Purpose Contactors Modifications and Accessories



Field Modification Kits

Description	Class	Contactors FLA	Auxiliary Contacts	Catalog Number	Price
Snap-on Side Mounted Auxiliary Contacts	42	25 - 60	1 NO	49ACR0	\$12.80
			1 NC	49ACRC	\$12.80
			1 NO & 1 NC	49ACR6	\$25.50
			2 NO	49ACR7	\$25.50
			2 NC	49ACR8	\$25.50
			1 SPDT	49D36098001	\$46.00
	2 SPDT	49D36098003	\$51.00		
	42	75 - 90	1 NO	49D22125001	\$46.00
			1 NC	49D22125002	\$46.00
1 SPDT			49CE42SPDT	\$46.00	
42	120 - 150	1 NO	49D54682N0	\$46.00	
		1 NC	49D54682NC	\$46.00	
Mechanical Interlock	42	25 - 60	—	49D70035001	\$12.80
DIN Rail Kit	42	25 - 40	—	49D57071001	\$ 9.60
		50 - 60 & 4-pole	—	49D57071002	\$ 9.60
Enclosure Only	42	25 - 60	—	49EA42BEB	\$ 38.50
		75 - 90	—	49EA42GEB	\$ 81.00

No replacement parts are available for the Class 45 contactors.

One per side is all you can add in the field of the Snap-on Side Mounted Auxiliary Contacts through 90 amp.

Factory Assembled Modifications

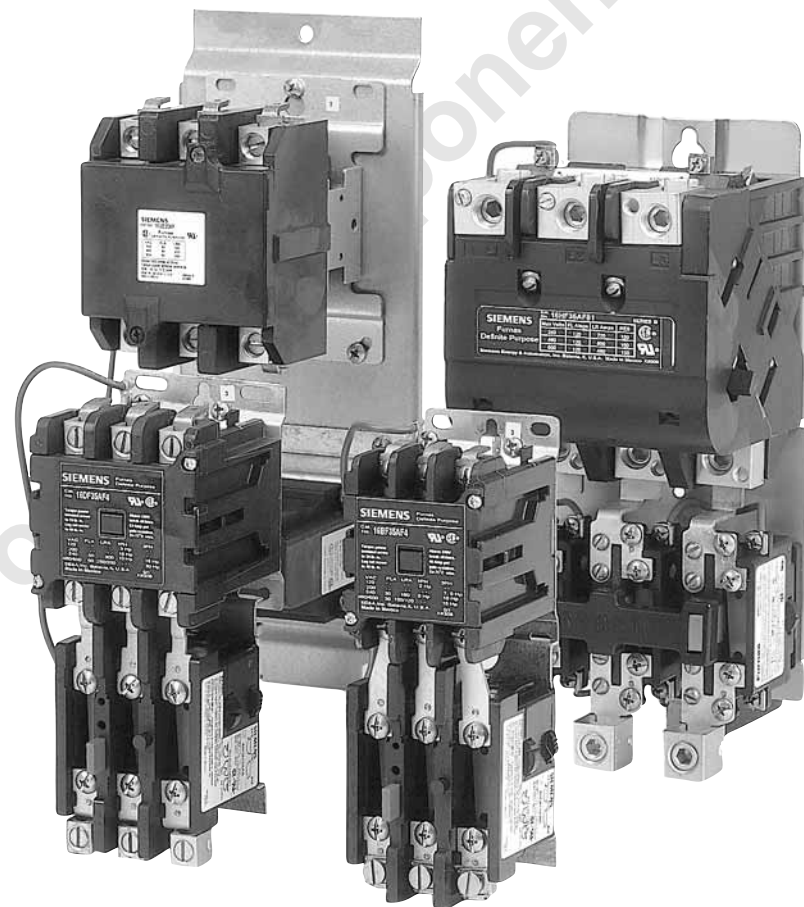
Description	Class	Contactors FLA	Coil Suffix Letter	Price
Lugs (each terminal)	45	20 - 40	L1	\$1.00
Clamp Screw (each terminal)	45	20 - 40	L3	\$1.00

Product Nomenclature

Class 16 D.P. STARTER

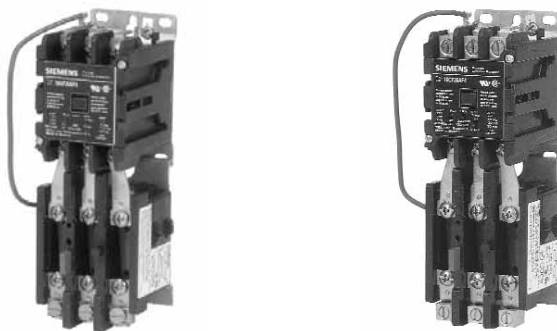
Information shown on nomenclature sheets is for reference only to identify devices from existing catalog numbers. This information is not to be used for the creation of new catalog numbers by anyone except the Product Marketing Manager.

16 CLASS	B AMP RATING	F MODEL	3 POWER POLES	5 CONTROL CIRCUIT	A ENCLOSURE	J COIL	4 OVERLOAD	Optional Suffixes
16 Starter	A 25 B 30 C 40 D 50 E 60 F 75 G 90 H 120 I 150	F E* *75 -90 amp only	1 2 power poles 2 4 power poles 3 3 power poles	2 Auxiliary contact, left (NO pole for 3-Wire remote push button) 5 Without auxiliary contact 3 Start Stop P.B. 4 Hand-Off-Auto Selector Switch	A Open B NEMA 1	A 110-120/ 220-240V, 60 HZ C 200-240/ 440-480V, 60 HZ F 110V, 50 HZ 120V, 60 HZ G 190-220V, 50 HZ 208-240V, 60 HZ J 24V, 50 HZ 24V, 60 HZ H 380-440V, 50 HZ 440-480V, 60 HZ E 550V, 50 HZ 550-600V, 60 HZ L 240V, 50 HZ 277V, 60 HZ D 200-208V, 60 HZ K 200-230V, 50 HZ 200-230V, 60 HZ	4 3-phase comp. bimetal w/NC contacts 8 Single phase comp. bimetal w/NC contacts * This field is left blank for 75 - 90 amp which are equipped with solid state ESP 100 overload. No heaters are necessary.	* Special three letter suffix for factory modifications assigned by Product Marketing Manager



Definite Purpose Starters 25 - 40 FLA 60 Hz 600VAC Max

16



FLA	Locked Rotor Amps			Poles	Normally Open Auxiliary Contact	Open Type Starters with Bimetal Overloads	
	240V	480V	600V			Catalog No.	Price
25	150	125	100	2	—	16AF15A*8	\$128.00
				2	1	16AF12A*8	\$136.00
				3	—	16AF35A*4	\$139.00
				3	1	16AF32A*4	\$159.00
				4	—	16AF25A*4	\$164.00
30	180	150	120	2	—	16BF15A*8	\$146.00
				2	1	16BF12A*8	\$154.00
				3	—	16BF35A*4	\$157.00
				3	1	16BF32A*4	\$167.00
				4	—	16BF25A*4	\$172.00
40	240	200	160	2	—	16CF15A*8	\$162.00
				2	1	16CF12A*8	\$169.00
				3	—	16CF35A*4	\$172.00
				3	1	16CF32A*4	\$182.00
				4	—	16CF25A*4	\$187.00

Class 16 Definite Purpose Starter Features

- Class 42 Contactor Construction Features
- Dependable Overload Relays available in both Class 10 and Class 20 Trip
- Common Mounting Configurations and Dimensions 25 – 60A
- Solid State Overloads Standard on 75 – 90A
- Dual Voltage Coils Available – Contact Sales Office

Ordering Instructions

Use complete catalog number
Replace the (*) with letter
from coil table
Select heater elements
from tables on page 32
Modifications are available
on page 26

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E
110-120/ 220-240	—	A
200-240/ 440-480	—	C

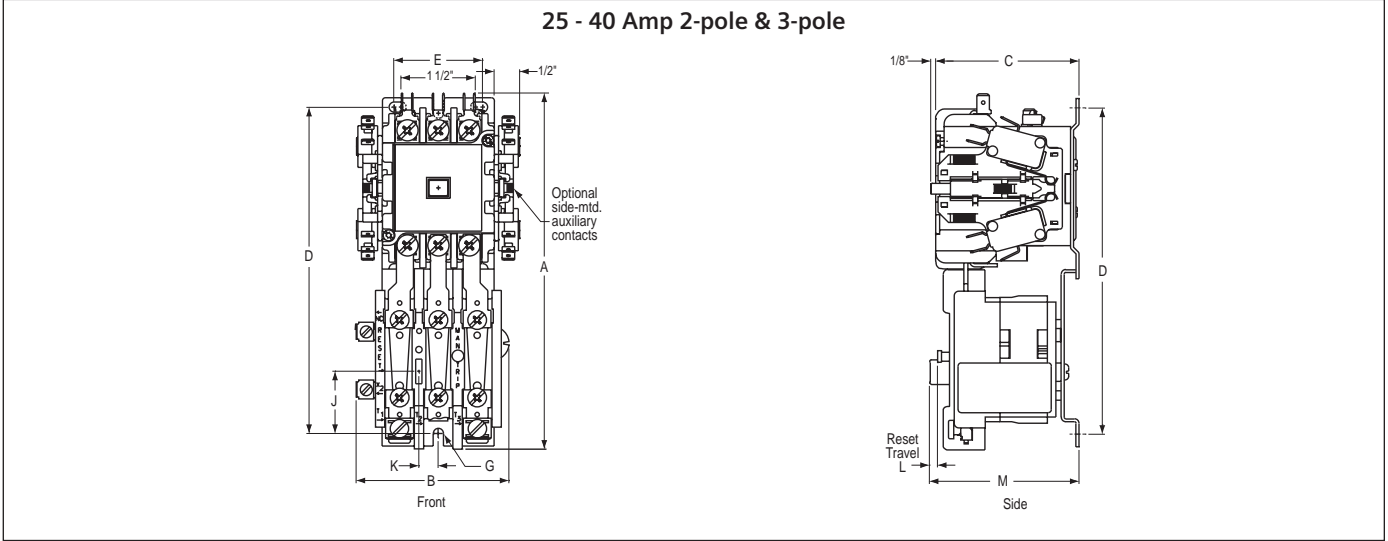
Definite Purpose Starters 25 - 40 FLA 60 Hz 600VAC Max

16

Coil Data

FLA	Third Character of Cat. No.	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
25 - 40	A, B, C	2.5	52	6.2	85%	50%

Dimensions



Open Type

FLA	Third Character of Cat No	Outline Dimensions					Mtg Screw G	Reset Dimensions					Max Wire Size	Approx Ship Wt Lbs
		A	B	C	D	E		J	K	L	M			
25 -30	A, B	7 3/16	3 1/16	2 7/8	6 9/16	1 3/4	10	1 1/4	3/8	1/8	3	8	2 1/2	
40	C	7 3/16	3 1/16	2 7/8	6 9/16	1 3/4	10	1 1/4	3/8	1/8	3	6	2 1/2	

Dimensions for reference, not for construction



Definite Purpose Starters 50 - 60 FLA 60 Hz 600VAC Max

16



FLA	Locked Rotor Amps			Poles	Normally Open Auxiliary Contact	Open Type Starters with Bimetal Overloads	
	240V	480V	600V			Catalog No.	Price
50	300	250	200	2	—	16DF15A*8	\$311.00
				2	1	16DF12A*8	\$326.00
				3	—	16DF35A*4	\$339.00
				3	1	16DF32A*4	\$360.00
60	360	300	240	2	—	16EF15A*8	\$339.00
				2	1	16EF12A*8	\$360.00
				3	—	16EF35A*4	\$347.00
				3	1	16EF32A*4	\$367.00

Class 16 Definite Purpose Starter Features

- Class 42 Contactor Construction Features
- Dependable Overload Relays available in both Class 10 and Class 20 Trip
- Common Mounting Configurations and Dimensions 25 – 60A
- Solid State Overloads Standard on 75 – 90A
- Dual Voltage Coils Available – Contact Sales Office

Ordering Instructions

Use complete catalog number
Replace the (*) with letter
from coil table
Select heater elements
from tables on page 32
Modifications are available
on page 26

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E
110-120/ 220-240	—	A
200-240/ 440-480	—	C

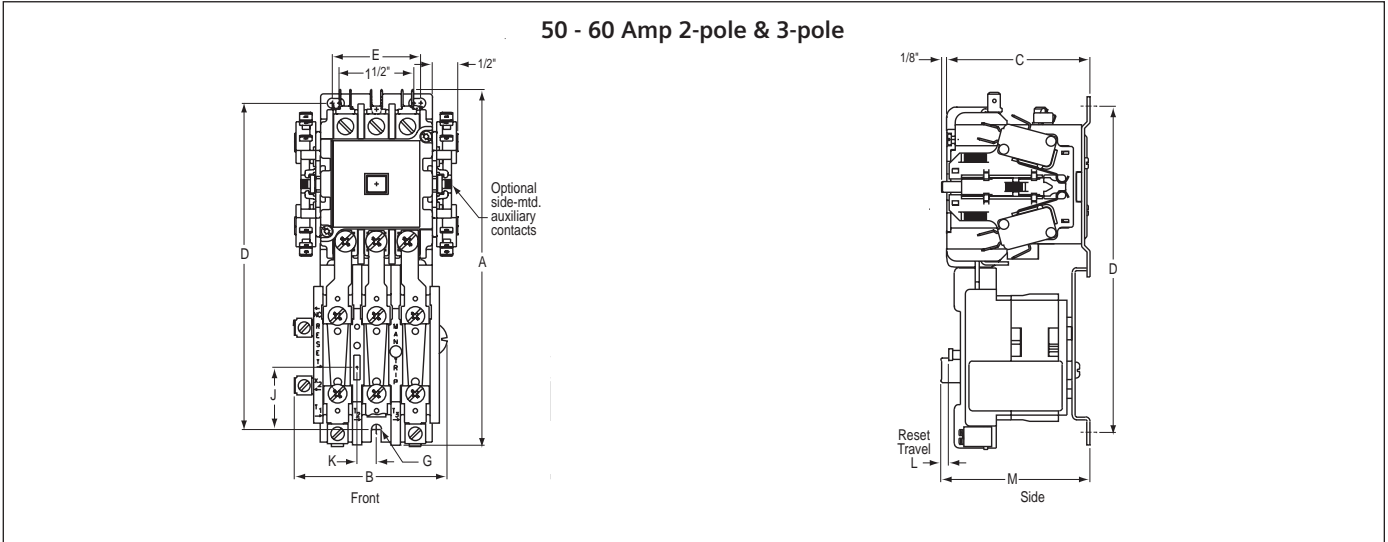
Definite Purpose Starters 50 - 60 FLA 60 Hz 600VAC Max

16

Coil Data

FLA	Third Character of Cat. No.	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
50 - 60	D, E	4.2	91	15.6	80%	50%

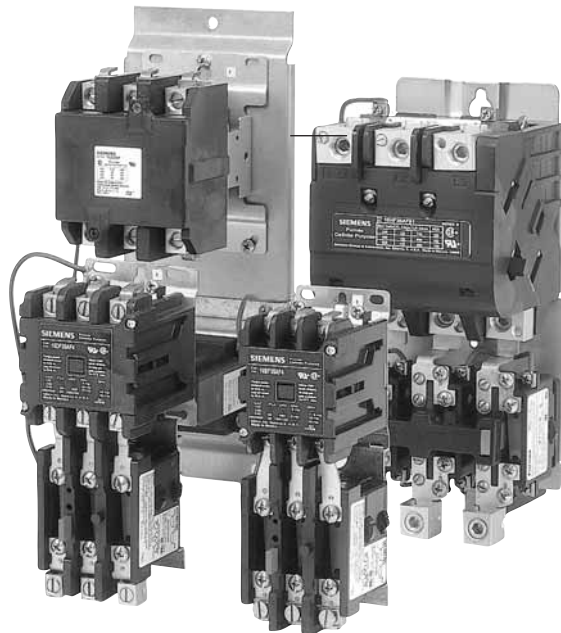
Dimensions



Open Type

FLA	Third Character of Cat No	Outline Dimensions					Mtg Screw G	Reset Dimensions				Max Wire Size	Approx Ship Wt Lbs
		A	B	C	D	E		J	K	L	M		
50 - 60	D, E	7 5/16	3 1/16	3 1/16	6 11/16	1 3/4	10	1 1/4	3/8	1/8	3	2	3

Dimensions for reference, not for construction



Definite Purpose Starters 75 - 90 FLA 60 Hz 600VAC Max

16



FLA	Locked Rotor Amps			Poles	Normally Open Auxiliary Contact	Open Type Starters with ESP100 Overloads	
	240V	480V	600V			Catalog No.	Price
75	450	375	300	3	—	16FE35A*	\$434.00
				3	1	16FE32A*	\$454.00
90	540	450	360	3	—	16GE35A*	\$578.00
				3	1	16GE32A*	\$598.00

Class 16 Definite Purpose Starter Features

- Class 42 Contactor Construction Features
- Dependable Overload Relays available in both Class 10 and Class 20 Trip
- Common Mounting Configurations and Dimensions 25 – 60A
- Solid State Overloads Standard on 75 – 90A
- Dual Voltage Coils Available – Contact Sales Office

Ordering Instructions

Use complete catalog number
Replace the (*) with letter from coil table
Select heater elements from tables on page 32
Modifications are available on page 26

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E

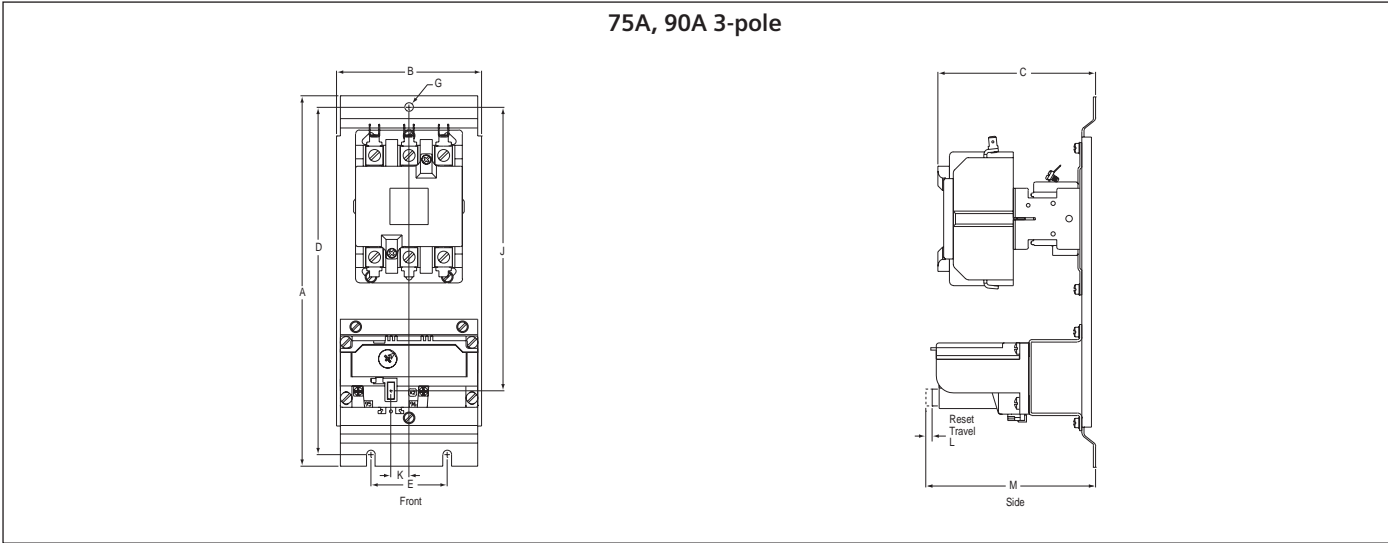
Definite Purpose Starters 75 - 90 FLA 60 Hz 600VAC Max

16

Coil Data

FLA	Third Character of Cat No.	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
75 - 90	F, G	13.5	200	31	85%	53%

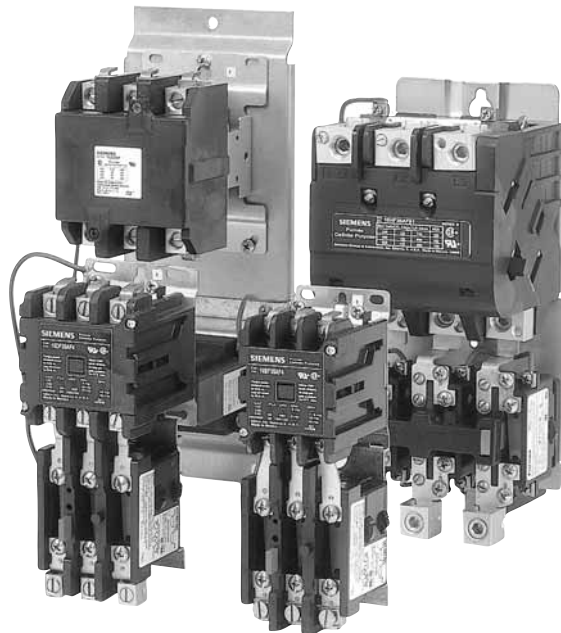
Dimensions



Open Type

FLA	Third Character of Cat No	Outline Dimensions			Mtg. Dimensions		Mtg Screw	Reset Dimensions				Max Wire Size	Approx Ship Wt Lbs
		A	B	C	D	E	G	J	K	L	M		
75 - 90	F, G	12 1/8	4 3/4	5 3/16	11 3/8	2 1/2	1/4	9 5/16	5/8	3/16	3 1/2	1/0	7 1/2

Dimensions for reference, not for construction



Definite Purpose Starters 120 - 150 FLA 60 Hz 600VAC Max

16



FLA	Locked Rotor Amps			Poles	Normally Open Auxiliary Contact	Open Type Starters	
	240V	480V	600V			Catalog No.	Price
120	720	600	460	3	—	16HF35A*81	\$ 670.00
				3	1	16HF32A*81	\$ 711.00
150	900	750	600	3	—	16IF35A*81	\$1,307.00
				3	1	16IF32A*81	\$1,348.00

Class 16 Definite Purpose Starter Features

- Class 42 Contactor Construction Features
- Dependable Overload Relays available in both Class 10 and Class 20 Trip
- Common Mounting Configurations and Dimensions 25 – 60A
- Solid State Overloads Standard on 75 – 90A
- Dual Voltage Coils Available – Contact Sales Office

Ordering Instructions

Use complete catalog number
Replace the (*) with letter
from coil table

Select heater elements
from tables on page 32

Modifications are available
on page 26

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E
110-120/ 220-240	—	A
200-240/ 440-480	—	C

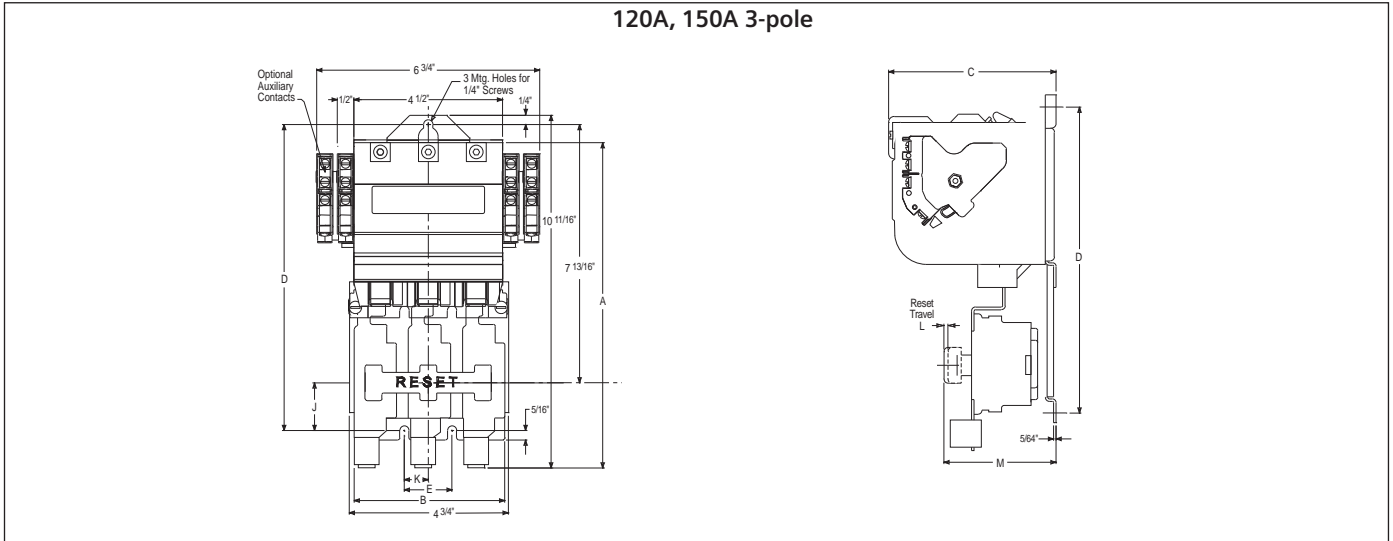
Definite Purpose Starters 120 - 150 FLA 60 Hz 600VAC Max

16

Coil Data

FLA	Third Character of Cat No.	Watts	VA (Nominal)		Volts (Nominal)	
			Inrush	Sealed	Pick-up	Drop-out
120 - 150	H, I	14	310	26	85%	50%

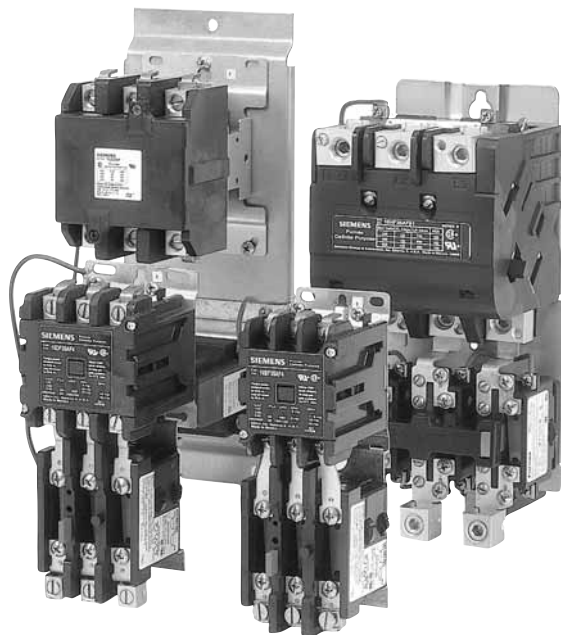
Dimensions



Open Type

FLA	Third Character of Cat No	Outline Dimensions			Mtg. Dimensions		Mtg Screw	Reset Dimensions				Max Wire Size	Approx Ship Wt Lbs
		A	B	C	D	E	G	J	K	L	M		
120 - 150	H, I	9 13/16	4 9/16	5 1/8	9 1/4	1 7/16	1/4	1 7/16	3/4	1/8	3 3/8	3/0	8 1/2

Dimensions for reference, not for construction



Definite Purpose Starters Modifications and Accessories



Field Modification Kits

Description	Class	Contactora FLA	Auxiliary Contacts	Catalog Number	Price
Snap-on Side Mounted Auxiliary Contacts	16	25 - 60	1 NO	49ACR0	\$12.80
			1 NC	49ACRC	\$12.80
			1 NO & 1 NC	49ACR6	\$25.50
			2 NO	49ACR7	\$25.50
			2 NC	49ACR8	\$25.50
			1 SPDT	49D36098001	\$46.00
	2 SPDT	49D36098003	\$51.00		
	16	75 - 90	1 NO	49D22125001	\$46.00
			1 NC	49D22125002	\$46.00
1 SPDT			49CE42SPDT	\$46.00	
16	120 - 150	1 NO	49D54682N0	\$46.00	
		1 NC	49D54682NC	\$46.00	
Enclosure Only	16	25 - 60	—	49EA16CEB	\$47.50
		75 - 90	—	49EA16EEB	\$81.00

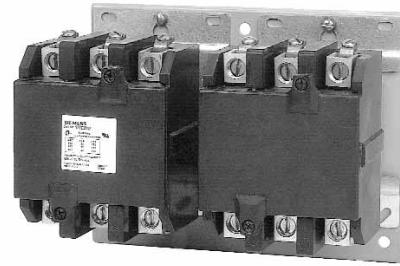
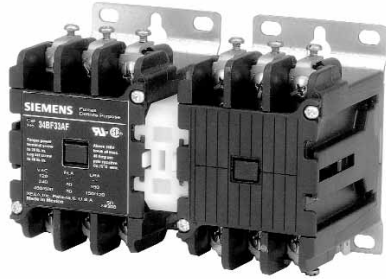
One per side is all you can add in the field of the Snap-on Side Mounted Auxiliary Contacts through 90 amp.

To order a starter in a NEMA 1 enclosure, change the 7th character of the catalog number to a B.

EXAMPLE: 16CF35AF in a NEMA 1 enclosure is 16CF35BF.

Contact Sales Office For Pricing.

Two Speed Motor Controls 30 - 90 FLA 60 Hz 600VAC Max



Class 34BF-34GE

FLA	Locked Rotor Amps			Poles	Open Type Contactors	
	240V	480V	600V		Catalog No.	Price
30	180	150	120	3-2	34BF32A*	\$354.00
				3-3	34BF33A*	\$360.00
				4-4	34BF44A*	\$370.00
				4-3	34BF43A*	\$365.00
40	240	200	160	3-2	34CF32A*	\$406.00
				3-3	34CF33A*	\$411.00
				4-4	34CF44A*	\$421.00
				4-3	34CF43A*	\$426.00
50	300	250	200	3-2	34DF32A*	\$501.00
				3-3	34DF33A*	\$507.00
60	360	300	240	3-2	34EF32A*	\$552.00
				3-3	34EF33A*	\$559.00
75	450	375	300	3-2	34FE32A*	\$813.00
				3-3	34FE33A*	\$820.00
90	540	450	360	3-2	34GE32A*	\$910.00
				3-3	34GE33A*	\$919.00

Modifications Class 34BE-34GE

Description	Class	Contacts	Catalog Number	Price
Snap-on Side Mounted Auxiliary Contacts	34BF - EF	NO	49ACR0	\$12.80
		NC	49ACRC	\$12.80
		SPDT	49ACR6	\$25.50
	34FE - GE	NO	49D22125001	\$46.00
		NC	49D22124002	\$46.00
		SPDT	49CE42SPDT	\$46.00
Mechanical Interlock	34BF - EF		49D70035001	\$12.80

Class 34 Two Speed Motor Controls Features

- Class 42 Contactor Construction Features
- Compact 2, 3 & 4 Pole Design
- Mechanically Interlocked
- Auxiliary Contacts available
- Front Connected Pressure Terminals

Ordering Instructions

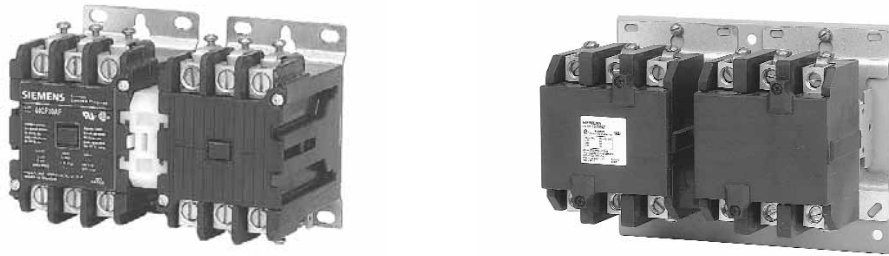
Use complete catalog number
Replace the (*) with letter
from coil table
Dimensions on page 29

Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E

Reversing Contactors

1 - 40 Hp 60 Hz 600VAC Max



Class 44BF-44GE

Horsepower					Poles	Electrical Interlocks	Open Type Contactors	
Single Phase Volts		Three Phase Volts					Catalog No.	Price
115	208 - 230	208 - 230	460/575	600				
1	1.5	3	3	3	3	None 1 NO 1 NC	44BF30A* 44BF3AA* 44BF31A*	\$360.00 \$370.00 \$370.00
					4	None 1 NO 1 NC	44BF40A* 44BF4AA* 44BF41A*	\$370.00 \$380.00 \$380.00
1.5	3	7.5	7.5	7.5	3	None 1 NO 1 NC	44CF30A* 44CF3AA* 44CF31A*	\$411.00 \$421.00 \$421.00
					4	None 1 NO 1 NC	44CF40A* 44CF4AA* 44CF41A*	\$421.00 \$431.00 \$431.00
2	5	10	10	15	3	None 1 NO 1 NC	44DF30A* 44DF3AA* 44DF31A*	\$501.00 \$511.00 \$511.00
								3
3	7.5	15	15	20	3	None 1 NO 1 NC	44EF30A* 44EF3AA* 44EF31A*	\$559.00 \$569.00 \$559.00
		20	20	30	3	None 1 NO 1 NC	44FE30A* 44FE3AA* 44FE31A*	\$820.00 \$831.00 \$831.00
		25	25	40	3	None 1 NO 1 NC	44GE30A* 44GE3AA* 44GE31A*	\$919.00 \$930.00 \$930.00

Modifications Class 44BF-44GE

Description	Class	Contacts	Catalog Number	Price
Snap-on Side Mounted Auxiliary Contacts	44BF - EF	NO	49ACR0	\$12.80
		NC	49ACRC	\$12.80
		SPDT	49D36098001	\$46.00
	44FE - GE	NO	49D22125001	\$46.00
		NC	49D22124002	\$46.00
		SPDT	49CE42SPDT	\$46.00
Mechanical Interlock	44BF - EF	—	49D70035001	\$12.80

Class 44 Reversing Contactors

- Class 42 Contactor Construction Features
- Compact 2, 3 & 4 Pole Design
- Mechanically Interlocked
- Auxiliary Contacts available
- Front Connected Pressure Terminals

Ordering Instructions

Use complete catalog number
Replace the (*) with letter from coil table
Dimensions on page 29

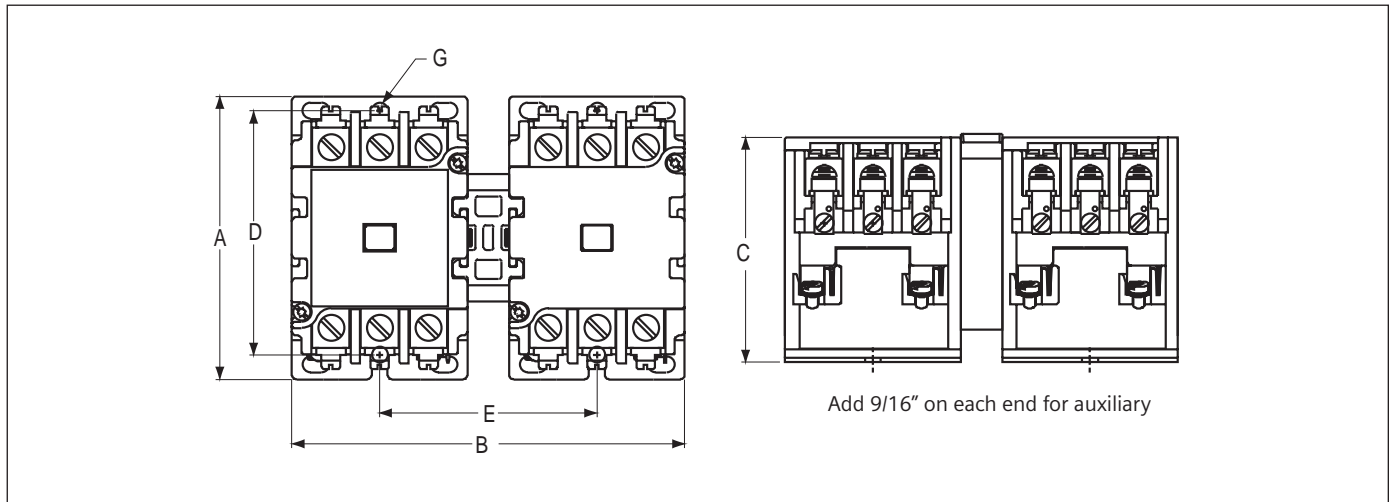
Coil Voltages Table

60 Hz	50 Hz	Letter
24	24	J
110-120	110	F
200-208	—	D
208-240	190-220	G
277	240	L
440-480	380-440	H
550-600	550	E

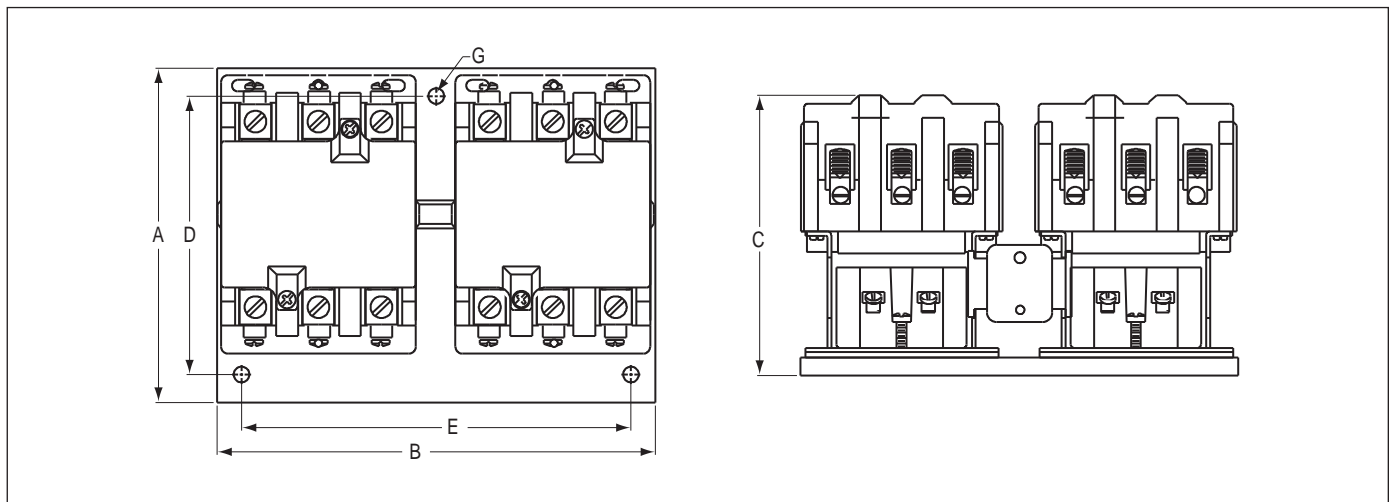
Reversing Contactors and Two Speed Contactors Dimensions

34, 44

Class 34BF - 34EF
Class 44BF - 44EF



Class 34FE - 34GE
Class 44FE - 44GE



Open Type

FLA	Third Character of Cat No	Poles	Outline Dimensions			Mtg Dimensions		Mtg Screw	Max Wire Size	Approx Ship Wt Lbs
			A	B	C	D	E			
30 - 40	B, C	3-3	3 5/8	5 1/16	2 7/8	3 1/8	2 25/32	10	2	2 1/2
30 - 40	B, C	4-4	3 5/8	6 5/16	2 7/8	3 1/8	3 13/32	10	2	2 1/2
30 - 40	B, C	3-4	3 5/8	5 11/16	2 7/8	3 1/8	3 3/32	10	2	2 1/2
30 - 40	B, C	4-3	3 5/8	5 11/16	2 7/8	3 1/8	3 3/32	10	2	2 1/2
50 - 60	D, E	3-3	3 5/8	6 5/16	3 1/16	3 1/8	3 13/32	10	2	3
75 - 90	F, G	3-3	6	8	5 1/8	5	7	1/4	1/0	8

Replacement Parts

AC Coils – Class 16, 41

Insert	Third Character of Cat No	Fourth Character of Cat No	Volts 60 Hz	Volts 50 Hz	Catalog Number	Price
75D54760F	N	B	24	24	75D54760J	\$49.50
			110-120	110	75D54760F	\$49.50
			200-208	—	75D54760D	\$49.50
			208-240	208-220	75D54760G	\$49.50
			277	240	75D54760L	\$49.50
			440-480	380-440	75D54760H	\$49.50
			550-600	550	75D54760E	\$49.50

AC Coils – Class 16, 34, 42, 44

Insert	Third Character of Cat No	Fourth Character of Cat No	Volts 60 Hz	Volts 50 Hz	Catalog Number	Price
75D70646J	A, B, C, D, E	F	24	24	75D70646J	\$ 59.00
			110-120	110	75D70646F	\$ 59.00
			200-208	—	75D70646D	\$ 59.00
			208-240	190-220	75D70646G	\$ 59.00
			277	240	75D70646L	\$ 59.00
			440-480	380-440	75D70646H	\$ 59.00
			550-600	550	75D70646E	\$ 59.00
			120-240	110-220	75D70556001	\$ 70.00
240-280	220-440	75D70556002	\$ 70.00			
75D54772F	F, G	E	24	24	75D54772J	\$ 84.00
			110-120	110	75D54772F	\$ 84.00
			200-208	—	75D54772D	\$ 84.00
			208-240	208-220	75D54772G	\$ 84.00
			277	240	75D54772L	\$ 84.00
			440-480	380-440	75D54772H	\$ 84.00
			550-600	550	75D54772E	\$ 84.00
75D73251F	H, I	F	24	24	75D73251J	\$129.00
			110-120	110	75D73251F	\$129.00
			110-120/220-240	110/190-120	75D73251A	\$129.00
			200-208	—	75D73251D	\$129.00
			208-240	190-220	75D73251G	\$129.00
			277	240	75D73251L	\$129.00
			220-240/440-480	190-220/380-440	75D73251C	\$129.00
			440-480	380-440	75D73251H	\$129.00
550-600	550	75D73251E	\$129.00			

Replacement coils are standard VA coils with screw terminals.

Replacement coils with quick connects are available for 25-60 amp contactors. Contact Sales Office for part number.

Replacement Parts

Contact Kits (Contains 1 Complete Pole)

Class 16, 42

Third Character of Cat No	Fourth Character of Cat No	Catalog Number	Price
A	F	75AF42	\$ 24.00
B	F	75BF42	\$ 24.00
C	F	75CF42	—
D	F	75DF42	\$ 56.00
E	F	75EF42	\$ 64.00
F	E	75FE42	\$ 66.00
G	E	75GE42	\$ 80.00
H	F	75HF14	\$ 129.00
I	F	75IF14	\$ 199.00

75CF42 does not work on the 16CF. No replacement is available.

Overload Relays

Ambient Compensated Bimetal Class 16

Third Character of Cat No	Fourth Character of Cat No	Number of Poles	Catalog Number	Price
A, B	F	1	48DH18A6	\$103.00
		3	48DH38A6	\$107.00
C	F	1	48EH18A6	\$135.00
		3	48EH38A6	\$139.00
D, E	F	1	48GH18AA6	\$147.00
		3	48GH38A6	\$151.00
H	F	3	48HC38AA2	\$255.00
I		3	48IC38AA6	\$263.00

Solid State ESP 100 Class 16

Third Character of Cat No	Fourth Character of Cat No	Number of Poles	Catalog Number	Price
F	E	1, 3	48DSP3M20	\$177.00
G	E	1, 3	48DSK3M20	\$177.00

48DSP3M20 45-75 FLA Class 20

48DSK3M20 45-90 FLA Class 20

Overload Relay Heater Tables Class 16 Starters, Class 48 Overloads

Selection of Heater Elements for Overload Relays

Overload relays do not provide protection against short circuits. To insure proper coordination with short circuit protective devices, select heaters from the information packaged with the control.

Selection Instructions

To select the proper heater follow the steps below:

1. Choose the proper table using the size, trip type, and number of poles ①

Ambient Compensated Bimetal Heater Element Tables

Class	Size		Standard Trip (Class 20)		Quick Trip (Class 10)	
	FLA	3rd Letter of Catalog No.	E Heaters Green Reset		K Heaters Green Reset	
			2 Poles	3 Poles	2 Poles	3 Poles
16	25 - 90	A - G	295	297	395	398
	120 - 150	H - I	—	299	—	393

2. If you do not know the trip amps, use the motor FLA to calculate the trip amps by multiplying the FLA by a factor of 1.15 ②
3. Match the trip amps of your starter to the trip amps value below the starter size of the appropriate table. The choice should be as close as possible but NOT greater than the selected trip amp value in the table to allow for proper protection.
4. Select the proper heater from the last column and order the appropriate number of heaters (single phase requires at least two, three phase requires at least three).

Examples

Starter	Size Starter	Phase	Trip	Heater Table	Motor FLA	Trip Amps	Heater Element
16CF15AF8	40	Single	Standard	295	35	40.25	E69
16EF35AF4	60	Three	Quick	398	56	64.40	K77

① 5th character in the catalog number equals 1 for single phase 2 pole or 3 for three phase 3 pole.

② For 40 degrees C motors, the maximum Trip Amps are 115% of the Motor FLA or TRIP AMPS = FLA*1.15.

Overload Relay Heater Tables

Tables 295, 297, 299 Trip Amps

Table 295

Size FLA		Heater Code
25, 30 40	50,60	
.67		E7
.73		E8
.81		E9
.88		E11
.96		E12
1.05		E13
1.11		E14
1.20		E16
1.33		E17
1.43		E18
1.54		E23
1.81		E24
2.07		E26
2.30		E27
2.59		E28
2.86		E29
3.02		E31
3.29		E32
3.48		E33
3.81		E34
4.25		E36
4.51		E37
4.85		E38
5.27		E39
5.72		E41
6.40		E42
7.15		E44
7.78		E46
8.56		E47
9.43		E48
9.93		E49
10.3		E50
11.4		E51
12.6		E52
13.8		E53
15.2		E54
16.4		E55
17.6		E56
19.1		E57
21.7		E60
25.0	25.4	E61
28.5	29.0	E62
30.0	30.6	E65
33.6	34.3	E66
39.0	39.9	E67
45.0	46.1	E69
47.6	48.8	E70
55.0	56.4	E72
	58.0	E73
	64.0	E74
	69.0	E76
	81.0	E77

Table 297

Size FLA			Heater Code
25,30 40	50,60	75,90	
.36			E3
.40			E4
.44			E5
.47			E6
.51			E7
.55			E8
.61			E9
.67			E11
.72			E12
.78			E13
.83			E14
.91			E16
1.01			E17
1.07			E18
1.16			E19
1.25			E23
1.36			E24
1.55			E26
1.72			E27
1.93			E28
2.12			E29
2.26			E31
2.43			E32
2.60			E33
2.83			E34
3.18			E36
3.37			E37
3.61			E38
3.93			E39
4.26			E41
4.77			E42
5.32			E44
5.78			E46
6.37			E47
7.02			E48
7.40			E49
7.70			E50
8.38			E51
9.43			E52
10.3			E53
11.2			E54
12.3			E55
13.1			E56
15.1			E57
17.1			E60
19.6			E61
21.4	22.5		E62
23.1	25.4		E65
24.8	27.1		E66
27.4	29.0		E67
30.6	32.0		E69
32.5	34.0		E70
36.8	38.0	48.4	E72
39.5	42.0	50.0	E73
50.0	49.0	55.0	E74
55.0	54.0	59.5	E76
	57.5	68.0	E77
	65.0	72.5	E78
		77.0	E79
	73.0	87.0	E80
	82.0		E81
		95.0	E94
		103.0	E96
		115.0	E97

Table 299

Size FLA					Heater Code
120,150 H, I	180 J	270, 360 R, K	650 M		
			215		E24
			242		E26
		110	268		E27
		123	307		E28
		136	330		E29
		143	351		E31
		154	380		E32
		164	406		E33
		176	438		E34
		195	469		E36
		207	510		E37
		222	551		E38
		242	598		E39
		262	648		E41
		292	700		E42
		326	755		E44
		354			E46
		372			E47
		409			E48
		427			E50
		470			E51
37.5					E69
42.0					E70
45.6					E71
49.6					E73
54.6					E73A
58.3					E74
64.6					E76
68.1					E77
72.6					E78
78.9					E79
84.7					E80
	68.0				E88
	71.0				E89
	78.0				E91
	84.0				E92
	89.5				E93
90.6	97.0				E94
100	106				E96
110	111				E97
115	118				E98
121	126				E99
124	135				E101
130	147				E102
138	160				E103
151	177				E104
157	193				E106
168	210				E107
180					E108

Overload Relay Heater Tables

Tables 393, 395, 398 Trip Amps

Table 393

Size FLA				Heater Code
120,150 H, I	180 J	270, 360 R, K	650 M	
		122	260	K21
		134	288	K22
		145	315	K23
		156	338	K24
		171	372	K26
		187	407	K27
		201	444	K28
		215	497	K29
		241	540	K31
		259	582	K32
		286	643	K33
		308	708	K34
		335	775	K36
		383	860	K37
		412		K39
		465		K41
50.1				K72
53.1				K73
58.0				K74
62.1				K75
65.5				K76
72.0				K77
80.0				K78
85.0				K83
93.0				K85
97.5	116			K86
104	130			K87
114				K88
126	142			K89
136				K90
150	160			K92
162				K93
180	180			K94
190	205			K96
200	225			K97

Table 395

Size FLA			Heater Code
25, 30 40	50,60		
		2.29	K21
		2.55	K22
		2.70	K23
		3.06	K24
		3.39	K26
		3.70	K27
		4.01	K28
		4.41	K29
		4.75	K31
		5.23	K32
		5.71	K33
		6.12	K34
		6.65	K36
		7.51	K37
		8.00	K39
		8.60	K41
		9.52	K42
		10.1	K43
		11.2	K49
		11.6	K50
		13.6	K52
		14.3	K53
		15.3	K54
		16.6	K55
		17.5	K56
		19.2	K57
	24.9		K58
	26.7		K60
	30.7		K61
	32.3		K62
	36.0		K63
	37.8		K64
	41.8		K67
	45.6		K68
	50.8		K69
	53.6		K70
	56.5		K72
	60.0		K73
	65.5		K74
	70.5		K75
	74.0		K76
	81.5		K77

Table 398

Size FLA				Heater Code
25,30 40	50,60	75,90		
			1.91	K21
			2.08	K22
			2.26	K23
			2.44	K24
			2.70	K26
			2.98	K27
			3.22	K28
			3.61	K29
			3.93	K31
			4.23	K32
			4.67	K33
			5.02	K34
			5.46	K36
			6.25	K37
			6.74	K39
			7.25	K41
			8.05	K42
			8.55	K43
			9.8	K49
			10.3	K50
			12.0	K52
			12.5	K53
			13.6	K54
			14.7	K55
			15.5	K56
			16.9	K57
			17.9	K58
			19.1	K60
			22.0	K61
	22.5		23.6	K62
	24.1		25.2	K63
	25.7		27.0	K64
	28.0		30.0	K67
	31.1		34.0	K69
	34.6		37.1	K70
	37.8		41.0	K72
	41.5	50.2	46.0	K73
	50.0	53.2	49.2	K74
	54.0	58.0	56.0	K75
	57.0	62.2		K76
	60.0	65.5		K77
	66.0	72.0		K78
	73.0	80.0		K79
	80.0			K83
		85.0		K85
		93.0		K86
		97.5		K87
		104.0		K88
		119.0		K89

D.P. Cross Reference

Poles	Amps	Volts	SIEMENS	Cutler Hammer	Arrow Hart	ABB	Allen Bradley	Joslyn Clark	Fasco	General Electric	Square D	Steveco	Products Unlimited (OEM)
1	25	24	45DG10AJA	C25CNB125T	C251NU10	-	400-DP25NJ1	A77-306654A-3	1S25-A	CR453CB3HAA	8910DP21V14	94385	3100-15Q1
-	25	120	45DG10AFA	C25CNB125A	C251NU20	-	400-DP25ND1	A77306654A-1	1S25-B	CR453CB3AAA	8910DP21V02	94386	3100-15T1
-	25	208/240	45DG10AGA	C25CNB125B	C251NU30	-	400-DP25NA1	A77-306654A-2	1S25-C	CR453CB3BAA	8910DP21V09	94387	3100-15U1
1	30	24	45EG10AJA	C25CNB130T	C301NU10	DP30C1P-F	400-DP30NJ1	A77-306653A-3	1S30-A	CR453CC3HAA	8910DP31V14	94388	3100-15Q2
-	30	120	45EG10AFA	C25CNB130A	C301NU20	DP30C1P-1	400-DP30ND1	A77-306653A-1	1S30-B	CR453CC3AAA	8910DP31V02	94389	3100-15T2
-	30	208/240	45EG10AGA	C25CNB130B	C301NU30	DP30C1P-2	400-DP30NA1	A77-3066531-2	1S30-C	CR453CC3BAA	8910DP31V09	94390	3100-15U2
1	40	24	45GG10AJA	C25CNB140T	-	-	-	-	-	-	8910DP41V14	-	3100-15Q19
-	40	120	45GG10AFA	C25CNB140A	-	-	-	-	-	-	8910DP41V02	-	3100-15T19
-	40	208/240	45GG10AGA	C25CNB140B	-	-	-	-	-	-	8910DP41V09	-	3100-15U19
2	20	24	45CG20AJ	C25BNB220T	C202U10	-	-	A77-306680A-3	2S20-A	CR453CA2HAA	8910DP12V14	90234	3100-20Q3
-	20	120	45CG20AF	C25BNB220A	C202U20	-	-	A77-306680A-1	2S20-B	CR453CA2AAA	8910DP12V02	90235	3100-20T3
-	20	208/240	45CG20AG	C25BNB220B	C202U30	-	-	A77-306680A-2	2S20-C	CR453CA2BAA	8910DP12V09	90236	3100-20U3
-	20	277	45CG20AL	C25BNB220H	-	-	-	-	-	CR453CA2FAA	8910DP12V04	-	3100-20V3
2	30	24	45EG20AJ	C25BNB230T	C302U10	-	400-DP30NJ2	A77-306657A-3	2S30-A	CR453CC2HAA	8910DPA32V14	90244	3100-20Q6
-	30	120	45EG20AF	C25BNB230A	C302U20	-	400-DP30ND2	A77-306657A-1	2S30-B	CR453CC2AAA	8910DPA32V02	90245	3100-20T6
-	30	208/240	45EG20AG	C25BNB230B	C302U30	-	400-DP30NA2	A77-306657A-2	2S30-C	CR453CC2BAA	8910DPA32V09	90246	3100-20U6
-	30	277	45EG20AL	C25BNB230H	C302050	-	400-DP30NF2	-	-	CR453CC2FAA	8910DPA32V04	-	3100-20V6
2	40	24	45GG20AJ	C25BNB240T	CA01NU10	-	-	-	-	CR453CE2HBB	8910DP42V14	-	3100-20Q18
-	40	120	45GG20AF	C25BNB240A	CA01NU20	-	-	-	-	CR453CE2ABB	8910DP42V02	-	3100-20T18
-	40	208/240	45GG20AG	C25BNB240B	CA01NU30	-	-	-	-	CR453CE2BBB	8910DP42V09	-	3100-20U18
3	25	24	42AF35AJ	C25DND325T	ACC230UM10	-	400-DP25NJ3	-	3M25-A	CR453AB3HAA	8910DPA23V14	90160	3100-30Q8
-	25	120	42AF35AF	C25DND325A	ACC230UM20	-	400-DP25ND3	-	3M25-B	CR453AB3AAA	8910DPA23V02	90161	3100-30T8
-	25	208/240	42AF35AG	C25DND325B	ACC230UM30	-	400-DP25NA3	-	3M25-C	CR453AB3BAA	8910DPA23V09	90162	3100-30U8
3	30	24	42BF35AJ	C25DND330T	ACC330UM10	DP30C3P-F	400-DP30NJ3	A77-309044A-3	3M30-A	CR453AC3HAA	8910DPA33V14	90163	3100-30Q9
-	30	120	42BF35AF	C25DND330A	ACC330UM20	DP30C3P-1	400-DP30ND3	A77-309044A-1	3M30-B	CR453AC3AAA	8910DPA33V02	90164	3100-30T99
-	30	208/240	42BF35AG	C25DND330B	ACC330UM30	DP30C3P-2	400-DP30NA3	A77-309044A-2	3M30-C	CR453AC3BAA	8910DPA33V03	90165	3100-30U9
3	40	24	42CF35AJ	C25DNF340T	ACC430UM10	DP40C4P-F	400-DP40NJ3	A77-309046A-3	3M40-A	CR453AD3HBB	8910DPA43V14	90170	3100-30Q10
-	40	120	42CF35AF	C25DNF340A	ACC430UM20	DP40C4P-1	400-DP40ND3	A77-309046A-1	3M40-B	CR453AD3ABB	8910DPA43V02	90171	3100-30T10
-	40	208/240	42CF35AG	C25DNF340B	ACC430UM30	DP40C4P-2	400-DP40NA3	A77-309046A-2	3M40-C	CR453AD3BBB	8910DPA43V09	90172	3100-30U10
3	50	24	42DF35AJ	C25FNF350T	ACC530U10	-	400-DP50NJ3	A77-288514A-3	3L50-A	CR353FE3BH1	8910DPA53V14	92459	3100-30Q16
-	50	120	42DF35AF	C25FNF350A	ACC530U20	-	400-DP50ND3	A77-288514A-1	3L50-B	CR353FE3BA1	8910DPA53V02	92460	3100-30T16
-	50	208/240	42DF35AG	C25FNF350B	ACC530U30	-	400-DP50NA3	A77-288514A-2	3L50-C	CR353FE3BB1	8910DPA53V09	92461	3100-30U16
3	60	24	42EF35AJ	C25FNF360T	ACC630U10	DP60C3P-F	400-DP60NJ3	A77-288517A-3	3L60-A	CR353FF3BH1	8910DPA63V14	92462	3100-30Q17
-	60	120	42EF35AF	C25FNF360A	ACC630U20	DP60C3P-1	400-DP60ND3	A77-288517A-1	3L60-B	CR353FF3BA1	8910DPA63V02	92463	3100-30T17
-	60	208/240	42EF35AG	C25FNF360B	ACC630U30	DP60C3P-2	400-DP60NA3	A77-288517A-2	3L60-C	CR353FF3BB1	8910DPA63V09	92464	3100-30U17
3	75	24	42FE35AJ106	C25FNF375T	ACC730U10	-	400-DP75NJ3	A77-288520A-3	-	CR353EG3BH1	8910DPA73V14	92465	3186-30I75
-	75	120	42FE35AF106	C25FNF375A	ACC730U20	-	400-DP75ND3	A77-288520A-1	-	CR353EG3BA1	8910DPA73V02	92467	3186-30J75
-	75	208/240	42FE35AG106	C25FNF375B	ACC730U30	-	400-DP75NA3	A77-288520A-2	-	CR353EG3BB1	8910DPA73V09	92468	3186-30K75
3	90	24	42GE35AJ106	C25GNF390T	-	-	-	-	-	CR353EH3BH1	8910DPA93V14	92469	3186-30I90
-	90	120	42GE35AF106	C25GNF390A	ACC930U20	-	-	-	-	CR353EH3BA1	8910DPA93V02	-	3186-30J90
-	90	208/240	42GE35AG106	C25GNF390B	ACC930U30	-	-	-	-	CR353EH3BB1	8910DPA93V09	-	3186-30K90
3	120	24	42HF35AJ	C25HNF3120T	-	-	-	-	-	CR353GJ3AH1	8910DPA123V14	-	3100-30Q12
-	120	120	42HF35AF	C25HNF3120A	ACC1230U20	-	-	-	-	CR353GJ3AA1	8910DPA123V02	-	3100-30T12
-	120	208/240	42HF35AG	C25HNF3120B	ACC1230U20	-	-	-	-	CR353GJ3AB1	8910DPA123V09	-	3100-30U12
4	40	24	42CF25AJ	C25ENF440T	ACC440UM10	-	-	-	-	CR353AD4BH1	8910DPA44V14	-	3100-40Q10
-	40	120	42CF25AF	C25ENF440A	ACC440UM20	-	-	-	-	CR353AD4BA1	8910DPA44V02	-	3100-40T10
-	40	208/240	42CF25AG	C25ENF440B	ACC440UM30	-	-	-	-	CR353AD4BB1	8910DPA44V09	-	3100-40U10

This cross reference does not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the local Siemens Energy & Automation Controls sales office.

The contents of this cross reference shall not become part or modify any prior or existing agreement, commitment or relationship. The sales contract contains the entire obligation of Siemens Energy & Automation, Inc. The warranty contained in the contract between the parties is the sole warranty of Siemens Energy & Automation, Inc. Any statements contained herein do not create new warranties or modify the existing warranty.

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16FE35A*4	16	22	44EF30A*	44	28	75D70233D	16, 34, 42, 44	30
16GE32A*4	16	22	44EF31A*	44	28	75D70233E	16, 34, 42, 44	30
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Siemens Energy & Automation, Inc.

3333 Old Milton Parkway
Alpharetta, GA 30005

1-800-964-4114

infosea@siemens.com

www.sea.siemens.com/controls

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