



Pumping Panels

Outdoor Full-voltage and
Reduced-voltage Combination Starters



imagination at work

Pumping Panels

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Application

Specifically designed for outdoor installation, these pumping panels provide full-voltage control of squirrel-cage pump motors. They offer protection from motor burnouts due to overloading, protection against untimely restarts after power failure, and protection of the motor circuit against damage from short circuits. Wide enclosures provide additional space for customer to mount desired modifications and accessories.

Features

- UL Listed, NEMA Size 1 through NEMA Size 7 panels
- UL Listed circuit ratings available to 100,000 RMS symmetrical amperes, IC, for entire panel
- Fully service-entrance rated
- Fully gasketed Type 3R enclosure
- Heavy gauge steel enclosures are protected three ways for rugged outdoor use:
 - phosphate undercoating
 - acrylic eletro-coated paint
 - a polyester powder top coat for higher quality, rugged, scratch- and corrosion-resistant finish
- Removable door for easy access
- Stationary hinge prop on door to keep it open when working inside (wide cases, through Size 5)
- Type 4X oiltight, watertight, and corrosion-resistant push buttons and selector switches
- Provision for universal raintight hub for greater conduit flexibility, through Size 4
- Plastic pocket protector inside cover to hold product instructions is standard
- Special, rugged contactor design for pumping panels is field-proven for applications where lightning and brown-out may occur
- Oversized mounting bracket for ease of mounting
- Internal ground lugs standard in every panel
- Extra wide case for accessory mounting, narrow enclosure available through Size 2
- Pre-drilled split backplate for easy mounting accessories
- All parts are standard industrial grade; available at most GE distributors
- Contactor is a “General Purpose Type Control” with full NEMA rating
- No tools required to change coils through Size 4
- QMR disconnect switch, easily interchanged with breaker or MCP; selectable option
- Class 10 ambient compensated overloads available
- Adjustable trip overloads available for fine-tuned motor protection
- Flange mounted disconnect handle and pilot devices
- Full range of pump-panel accessories immediately available



NEMA Full-voltage Combination Starters CR341 Pumping Panels

Fusible Disconnect Type

With Thermal Overload Relay

Thermal Class 20 (Fuses not included except where footnoted)

Fusible Disconnect

Includes complete starter with fusible switch, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure. Three heaters should be ordered as separate items. See table on page 7. Fuses are not included except where footnoted.

Mag-Break and Thermal Magnetic

Includes complete starter with circuit breaker, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure. Three heaters should be ordered as separate items. See table on page 7.

Class H Fuse Clips

oil Voltage (60Hz)	NEMA Size	Horsepower	Fuse Clip Rating (Amps)	NEMA Type 3R Narrow	NEMA Type 3R Wide
				Product Number CR	Product Number CR
230-240	1	7 1/2	30	341K013BAA1AA	341C013BAA1AA
230-240	2	15	60	341L013CAA1AA	341D013CAA1AA
230-240	3	20	60	-	341E013CAA1AA
230-240	3	30	100	-	341E013DAA1AA
230-240	4	50	200	-	341F013EAC1AA ¹
230-240	5	60	200	-	341G013EAC1AA ¹
230-240	5	100	400	-	341G013FAC1AA ¹
460-480	2	10	30	341K014BAA1AA	341C014BAA1AA
460-480	2	15	30	341L014BAA1AA	341D014BAA1AA
460-480	2	25	60	341L014CAA1AA	341D014CAA1AA
460-480	3	30	60	-	341E014CAA1AA
460-480	3	50	100	-	341E014DAA1AA
460-480	4	60	100	-	341F014DAA1AA
460-480	4	100	200	-	341F014EAC1AA ¹
460-480	5	125	200	-	341G014EAC1AA ¹
460-480	5	200	400	-	341G014FAC1AA ¹
460-480	6	400	600	-	341H014GAD1AA ^{1,2}
460-480	7	500	1600	-	341J014NAD1AA ^{1,2}
460-480	7	600	1800	-	341J014PAD1AA ^{1,2}

For pump panel without overload, change 8th digit in product number from "1" to "4"

Class R Fuse Clips

Coil Voltage (60Hz)	NEMA Size	Horsepower	Fuse Clip Rating (Amps)	NEMA Type 3R Narrow	NEMA Type 3R Wide
				Product Number CR	Product Number CR
230-240	1	7 1/2	30	341K113BAA1AA	341C113BAA1AA
230-240	2	15	60	341L113CAA1AA	341D113CAA1AA
230-240	3	20	60	-	341E113CAA1AA
230-240	3	30	100	-	341E113DAA1AA
230-240	4	50	200	-	341F113EAC1AA ¹
230-240	5	60	200	-	341G113EAC1AA ¹
230-240	5	100	400	-	341G113FAC1AA ¹
460-480	1	10	30	341K114BAA1AA	341C114BAA1AA
460-480	2	15	30	341L114BAA1AA	341D114BAA1AA
460-480	2	25	60	341L114CAA1AA	341D114CAA1AA
460-480	3	30	60	-	341E114CAA1AA
460-480	3	50	100	-	341E114DAA1AA
460-480	4	60	100	-	341F114DAA1AA
460-480	4	100	200	-	341F114EAC1AA ¹
460-480	5	125	200	-	341G114EAC1AA ¹
460-480	5	200	400	-	341G114FAC1AA ¹

For pump panel without overload, change 8th digit in product number from "1" to "4"

¹Control Circuit Fusing included.

²Includes CLF fuses.

Heater Selection Tables: See page 7
Pumping Panel Enclosure Dimensions:
See pages 10 and 11



For additional information and pricing, reference the Control
Catalog, GEP-1260P, or go to www.geelectrical.com

NEMA Full-voltage Combination Starters

CR340 Pumping Panels

Mag-Break Type
With Thermal Overload Relay
Relay Class 20

Includes complete starter with circuit breaker, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure with manual reset. Horsepower ratings are based on standard NEC motor data and normal service conditions. All forms are UL listed and CSA certified.

Thermal Magnetic Circuit Breaker Type

Coil Voltage (60Hz) ¹	NEMA Size	Maximum Horsepower (3 phase) ²	CB Rating (Amps)	NEMA Type 3R Narrow	NEMA Type 3R Wide
				Product Number CR	Product Number CR
230-240	1	2	15	340K013AAA1AA	340C013AAA1AA
230-240	1	3	20	340K013BAA1AA	340C013BAA1AA
230-240	1	5	40	340K013FAA1AA	340C013FAA1AA
230-240	1	7 1/2	50	340K013HAA1AA	340C013HAA1AA
230-240	2	10	50	340L013HAA1AA	340D013HAA1AA
230-240	2	15	70	340L013KAA1AA	340D013KAA1AA

For pump panel without overload, change 8th digit in product number from "1" to "4"

Mag-Break Type

Coil Voltage (60Hz) ¹	NEMA Size	Maximum Horsepower (3 phase) ²	CB Rating (Amps)	NEMA Type 3R Narrow	NEMA Type 3R Wide
				Product Number CR	Product Number CR
230-240	1	3	15	340K213CAC1AA	340C213CAC1AA
230-240	1	7 1/2	30	340K213DAC1AA	340C213DAC1AA
230-240	2	15	50	340L213EAC1AA	340D213EAC1AA
230-240	3	30	100	-	340E213FAC1AA
230-240	4	50	150	-	340F213GAC1AA
230-240	5	100	400	-	340G213HAC1AA
460-480	1	7 1/2	15	340K214CAC1AA	340C214CAC1AA
460-480	1	10	30	340K214DAC1AA	340C214DAC1AA ³
460-480	2	25	50	340L214EAC1AA	340D214EAC1AA ³
460-480	3	50	100	-	340E214FAC1AA ³
460-480	4	100	150	-	340F214GAC1AA ³
460-480	5	200	400	-	340G214HAC1AA
460-480	6	400	600	-	340H214KAD1AA
460-480	7	600	1200	-	340J214NAD1AA

For pump panel without overload (sizes 0-5 only), change 8th digit in product number from "1" to "4"

¹50 Hertz forms are available. Contact nearest GE Consumer & Industrial Representative for proper selection and pricing.

²For single-phase ratings, contact nearest GE Consumer & Industrial Representative.

³Available with CL-type current limiter and UL listed 100kA/C short-circuit rating, contact a GE Consumer & Industrial Representative for availability and pricing. The 7th digit in the product number changes to "3".

General Note:

Control Circuit Fusing included for Mag-Break Type.



For additional information and pricing, reference the Control Catalog, GEP-1260P, or go to www.geelectrical.com

NEMA Full-voltage Combination Starters CR341 Pumping Panels

Fusible Disconnect Type
With Thermal Overload Relay
Thermal Class 10 with Differential Protection

Includes complete starter with fusible switch, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure with manual reset. Heaters are included in Class 10 overloads. Horsepower ratings are based on standard NEC motor data and normal service conditions. All forms are UL listed and CSA certified.

Class H Fuse Clips

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V ¹	Maximum Horsepower (3 phase) @ 440-480V ¹	Fuse Clip Rating (Amps)	Maximum Fuse Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow	NEMA Type 3R Wide
						Product Number CR	Product Number CR
1	-	1	30	6	1.3-1.9	341K09*BAA1AAG	341C09*BAA1AAG
1	1/2	1 1/2	30	10	1.8-2.7	341K09*BAA1AAH	341C09*BAA1AAH
1	1	2	30	15	2.5-4.1	341K09*BAA1AAJ	341C09*BAA1AAJ
1	1 1/2	3	30	20	4.0-6.3	341K09*BAA1AAK	341C09*BAA1AAK
1	2	5	30	25	5.5-8.5	341K09*BAA1AAL	341C09*BAA1AAL
1	3	7 1/2	30	30	8.0-12.0	341K09*BAA1AAM	341C09*BAA1AAM
1	5	10	30	30	10.0-16.0	341K09*BAA1AAP	341C09*BAA1AAP
1	-	-	30	30	14.5-18.0	341K09*BAA1AAR	341C09*BAA1AAR
1	-	-	30	30	17.5-22.0	341K09*BAA1AAS	341C09*BAA1AAS
1	7 1/2	-	30	30	21.0-26.0	341K09*BAA1AAT	341C09*BAA1AAT
2	-	15	60	60	17.5-22.0	341L09*CAA1AAG	341D09*CAA1AAG
2	-	-	60	60	21-26	341L09*CAA1AAH	341D09*CAA1AAH
2	10	20	60	60	25-32	341L09*CAA1AAJ	341D09*CAA1AAJ
2	-	25	60	60	30-43	341L09*CAA1AAK	341D09*CAA1AAK
2	15	-	60	60	42-55	341L09*CAA1AAL	341D09*CAA1AAL
3	-	30	100	100	30-43	-	341E09*DAA1AAG
3	20	40	100	100	42-55	-	341E09*DAA1AAH
3	-	-	100	100	54-65	-	341E09*DAA1AAJ
3	30	50	100	100	63-90	-	341E09*DAA1AAK
4	-	60	200	200	63-90	-	341F09*EAC1AAG ²
4	40	100	200	200	90-120	-	341F09*EAC1AAH ²
4	50	-	200	200	110-140	-	341F09*EAC1AAJ ²
5	75	150	400	400	120-190	-	341G09*FAC1AAG ²
5	-	200	400	400	175-280	-	341G09*FAC1AAH ²
5	100	-	400	400	200-310	-	341G09*FAC1AAJ ²

* Insert number from coil table on next page in place of asterisk in product number for voltage/frequency desired.

Class R Fuse Clips

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V ¹	Maximum Horsepower (3 phase) @ 440-480V ¹	Fuse Clip Rating (Amps)	Maximum Fuse Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow	NEMA Type 3R Wide
						Product Number CR	Product Number CR
1	-	1	30	6	1.3-1.9	341K19*BAA1AAG	341C19*BAA1AAG
1	1/2	1 1/2	30	10	1.8-2.7	341K19*BAA1AAH	341C19*BAA1AAH
1	1	2	30	15	2.5-4.1	341K19*BAA1AAJ	341C19*BAA1AAJ
1	1 1/2	3	30	20	4.0-6.3	341K19*BAA1AAK	341C19*BAA1AAK
1	2	5	30	25	5.5-8.5	341K19*BAA1AAL	341C19*BAA1AAL
1	3	7 1/2	30	30	8.0-12.0	341K19*BAA1AAM	341C19*BAA1AAM
1	5	10	30	30	10.0-16.0	341K19*BAA1AAP	341C19*BAA1AAP
1	-	-	30	30	14.5-18.0	341K19*BAA1AAR	341C19*BAA1AAR
1	-	-	30	30	17.5-22.0	341K19*BAA1AAS	341C19*BAA1AAS
1	7 1/2	-	30	30	21.0-26.0	341K19*BAA1AAT	341C19*BAA1AAT
2	-	15	60	60	17.5-22.0	341L19*CAA1AAG	341D19*CAA1AAG
2	-	-	60	60	21-26	341L19*CAA1AAH	341D19*CAA1AAH
2	10	20	60	60	25-32	341L19*CAA1AAJ	341D19*CAA1AAJ
2	-	25	60	60	30-43	341L19*CAA1AAK	341D19*CAA1AAK
2	15	-	60	60	42-55	341L19*CAA1AAL	341D19*CAA1AAL
3	-	30	100	100	30-43	-	341E19*DAA1AAG
3	20	40	100	100	42-55	-	341E19*DAA1AAH
3	-	-	100	100	54-65	-	341E19*DAA1AAJ
3	30	50	100	100	63-90	-	341E19*DAA1AAK
4	-	60	200	200	63-90	-	341F19*EAC1AAG ²
4	40	100	200	200	90-120	-	341F19*EAC1AAH ²
4	50	-	200	200	110-140	-	341F19*EAC1AAJ ²
5	75	150	400	400	120-190	-	341G19*FAC1AAG ²
5	-	200	400	400	175-280	-	341G19*FAC1AAH ²
5	100	-	400	400	200-310	-	341G19*FAC1AAJ ²

* Insert number from coil table on next page in place of asterisk in product number for voltage/frequency desired.

- NEMA sizes 1-3 rated 5,000 rms symmetrical amperes maximum.
- NEMA sizes 4 & 5 rated 10,000 rms symmetrical amperes maximum.

¹Horsepower ratings are based on standard NEC motor data and normal service conditions.

²Control Circuit Fusing included.



For additional information and pricing, reference the Control Catalog, GEP-1260P, or go to www.geelectrical.com

NEMA Full-voltage Combination Starters

CR340 Pumping Panels

Mag-Break Type With Thermal Overload Relay Thermal Class 10 with Differential Protection

Includes complete starter with Mag-Break circuit breaker disconnect, H-O-A selector switch, START push button, and three-leg ambient compensated overload protection in Type 3R enclosure with manual reset. Heaters are included in Class 10 overloads. Horsepower ratings are based on standard NEC motor data and normal service conditions. All forms are UL listed and CSA certified.

Mag-Break Type with Thermal Overload Relay, Thermal Class 10 with Differential Protection

NEMA Size	Maximum Horsepower (3 phase) @ 230-240V ¹	Maximum Horsepower (3 phase) @ 440-480V ¹	Maximum CB Rating (Amps)	Overload Range (Amps)	NEMA Type 3R Narrow	NEMA Type 3R Wide
					Product Number CR	Product Number CR
1	-	1	7	1.3-1.9	340K29*BAC1AAG	340C29*BAC1AAG
1	1/2	1 1/2	7	1.8-2.7	340K29*BAC1AAH	340C29*BAC1AAH
1	1	2	15	2.5-4.1	340K29*CAC1AAJ	340C29*CAC1AAJ
1	1 1/2	3	15	4.0-6.3	340K29*CAC1AAK	340C29*CAC1AAK
1	2	5	15	5.5-8.5	340K29*CAC1AAL	340C29*CAC1AAL
1	3	7 1/2	30	8.0-12.0	340K29*DAC1AAM	340C29*DAC1AAM
1	5	10	30	10.0-16.0	340K29*DAC1AAP	340C29*DAC1AAP
1	-	-	30	14.5-18.0	340K29*DAC1AAR	340C29*DAC1AAR
1	-	-	30	17.5-22.0	340K29*DAC1AAS	340C29*DAC1AAS
1	7 1/2	-	30	21.0-26.0	340K29*DAC1AAT	340C29*DAC1AAT
2	-	15	30	17.5-22.0	340L29*DAC1AAG	340D29*DAC1AAG
2	-	-	50	21-26	340L29*EAC1AAH	340D29*EAC1AAH
2	10	20	50	25-32	340L29*EAC1AAJ	340D29*EAC1AAJ
2	-	25	50	30-43	340L29*EAC1AAK	340D29*EAC1AAK
2	15	-	50	42-55	340L29*EAC1AAL	340D29*EAC1AAL
3	-	30	50	30-43	-	340E29*EAC1AAG
3	20	40	100	42-55	-	340E29*FAC1AAH
3	-	-	100	54-65	-	340E29*FAC1AAJ
3	30	50	100	63-90	-	340E29*FAC1AAK
4	-	60	100	63-90	-	340F29*FAC1AAG
4	40	100	150	90-120	-	340F29*GAC1AAH
4	50	-	150	110-140	-	340F29*GAC1AAJ
5	75	150	400	120-190	-	340G29*HAC1AAG
5	-	200	400	175-280	-	340G29*HAC1AAH
5	100	-	400	200-310	-	340G29*HAC1AAJ

* Insert number from coil table below in place of asterisk in product number for voltage/frequency desired

*Coil Table

(To Complete Product Number)

Coil Number ²	Voltage	Frequency
1	200-208 V	60 Hertz
3	230-240 V	60 Hertz
4	460-480 V	60 Hertz
5	575-600 V	60 Hertz
6	380-415 V	50 Hertz

• NEMA sizes 1-3 rated 5,000 rms symmetrical amperes maximum.

• NEMA sizes 4 & 5 rated 10,000 rms symmetrical amperes maximum.

¹Horsepower ratings are based on standard NEC motor data and normal service conditions.

²50 Hertz forms are available. Contact nearest GE Consumer & Industrial Representative for proper selection and pricing.

General Note:
Control Circuit Fusing included for Mag-Break Type.



For additional information and pricing, reference the Control Catalog, GEP-1260P, or go to www.geelectrical.com

NEMA Full-voltage Combination Starters

CR340, CR341

Heaters

Class 20 Overload Heaters

For use with single and polyphase motors. For continuous rated motors with a service factor of 1.15 to 1.25, select heaters from the heater table for the motor full-load amperes. This provides a maximum of 125% protection.

For continuous rated motors with 1.0 service factor, multiply the full-load amperes of the motor by 0.90 and use this value to select heaters.

Ordering Information

All heaters listed are packaged in multiples of three. Items of these heaters should be ordered in quantities of three-unit multiples (such as 3, 6, 9, 12, etc.). The minimum order quantity is three. Example: (For motors with FLA of 9.28)

Size 1 — Class 20 Overload Relay Heaters

Motor Full-Load Amps.					
1-Phase 2-Heaters	3-Phase 3-Heaters	Heater Product Number	Max. Fuse Rating	Max. Breaker Rating	TEC/TECL Rating
.46-.51	.41-.45	CR123C054A	3	—	—
.52-.55	.46-.49	CR123C060A	3	15	—
.56-.61	.50-.53	CR123C066A	3	15	—
.62-.65	.54-.59	CR123C071A	3	15	—
.66-.74	.60-.65	CR123C078A	3	15	—
.75-.88	.66-.76	CR123C087A	3	15	3
.89-.97	.77-.84	CR123C097A	3	15	3
.98-1.05	.85-.93	CR123C109A	3	15	3
1.06-1.10	.94-1.04	CR123C118A	3	15	3
1.11-1.24	1.05-1.15	CR123C131A	3	15	3
1.25-1.35	1.16-1.27	CR123C148A	3	15	3
1.36-1.57	1.28-1.39	CR123C163A	3	15	3
1.58-1.71	1.40-1.55	CR123C184A	6	15	3
1.72-1.91	1.56-1.73	CR123C196A	6	15	3
1.92-2.07	1.74-1.89	CR123C220A	6	15	3
2.08-2.26	1.90-2.05	CR123C239A	6	15	3
2.27-2.55	2.06-2.28	CR123C268A	6	15	3
2.56-2.76	2.29-2.47	CR123C301A	6	15	3
2.77-3.19	2.48-2.79	CR123C326A	10	15	7
3.20-3.67	2.80-3.31	CR123C356A	10	15	7
3.68-3.96	3.32-3.70	CR123C379A	10	15	7
3.97-4.60	3.71-4.06	CR123C419A	15	15	7
4.61-4.87	4.07-4.47	CR123C466A	15	15	7
4.88-5.57	4.48-4.95	CR123C526A	15	15	7
5.58-6.15	4.96-5.49	CR123C592A	20	20	7
6.16-6.62	5.50-5.91	CR123C630A	20	20	7
6.63-7.11	5.92-6.47	CR123C695A	25	20	15
7.12-7.92	6.48-7.20	CR123C778A	25	20	15
7.93-9.11	7.21-8.22	CR123C867A	30	30	15
9.12-9.59	8.23-8.72	CR123C955A	30	30	15
9.60-10.7	8.73-9.67	CR123C104B	35	30	15
10.8-12.5	9.68-10.4	CR123C113B	35	30	15
12.6-13.5	10.5-11.0	CR123C125B	40	40	15
13.6-14.3	11.1-12.4	CR123C137B	45	40	15
14.4-15.2	12.5-13.2	CR123C151B	50	50	15, 30
15.3-18.1	13.3-15.4	CR123C163B	60	50	30
18.2-19.7	15.5-17.1	CR123C180B	60	50	30
19.8-20.9	17.2-18.1	CR123C198B	70	50	30
21.0-22.1	18.2-20.0	CR123C214B	70	50	30
22.2-23.9	20.1-21.5	CR123C228B	80	50	30
24.0-25.2	21.6-22.5	CR123C250B	80	70	30
25.3-26.0	22.6-23.9	CR123C273B	80	70	30
26.1-27.0	24.0-26.3	CR123C303B	90	70	30, 50
—	26.4-27.0	CR123C330B	90	70	50

Size 2 — Class 20 Overload Relay Heaters

Motor Full-Load Amps.					
1-Phase 2-Heaters	3-Phase 3-Heaters	Heater Product Number	Max. Fuse Rating	Max Breaker Rating	TEC/TECL Rating
5.98-6.48	5.48-5.85	CR123C630A	20	—	—
6.49-7.27	5.86-6.47	CR123C695A	20	—	—
7.28-8.16	6.48-7.35	CR123C778A	25	—	—
8.17-9.03	7.36-8.06	CR123C867A	30	—	—
9.04-9.52	8.07-9.03	CR123C955A	30	—	—
9.53-10.4	9.04-9.61	CR123C104B	35	30	15
10.5-11.6	9.62-10.5	CR123C113B	35	30	15
11.7-12.9	10.6-11.6	CR123C125B	40	40	15
13.0-13.8	11.7-12.5	CR123C137B	45	40	15
13.9-15.0	12.6-13.6	CR123C151B	50	50	15
15.1-17.7	13.7-16.7	CR123C163B	60	50	30
17.8-20.1	16.8-17.9	CR123C180B	60	50	30
20.2-21.9	18.0-18.7	CR123C198B	70	70	30
22.0-23.7	18.8-20.4	CR123C214B	80	70	30
23.8-25.1	20.5-22.7	CR123C228B	80	70	30
25.2-27.8	22.8-24.7	CR123C250B	90	70	30
27.9-28.4	24.8-26.3	CR123C273B	90	70	30
28.5-31.9	26.4-29.5	CR123C303B	100	100	30, 50
32.0-35.3	29.6-32.5	CR123C330B	100	100	50
35.4-40.9	32.6-36.7	CR123C366B	100	100	50
41.0-45.0	36.8-41.9	CR123C400B	100	100	50
—	42.0-43.2	CR123C440B	100	100	50
—	43.3-45.0	CR123C460B	100	100	—

Size 3 — Standard Or Ambient Compensated Class 20 Overload Relay Heaters

Motor Full-Load Amps.				
3-Phase 3-Heaters	Heater Product Number	Max. Fuse Rating	Max. Breaker Rating	TEC/TECL Rating
17.4-18.4	CR123F233B	70	70	30
18.5-21.1	CR123F243B	80	70	30
21.2-22.1	CR123F270B	80	70	30
22.2-26.1	CR123F300B	90	70	30
26.2-28.0	CR123F327B	100	100	50
28.1-31.3	CR123F357B	100	100	50
31.4-33.3	CR123F395B	100	100	50
33.4-34.3	CR123F430B	100	100	50
34.4-40.9	CR123F487B	100	100	50
41.0-44.7	CR123F567B	100	100	50, 100
44.8-51.0	CR123F614B	100	125	100
51.1-52.0	CR123F658B	100	125	100
52.1-55.4	CR123F719B	100	125	100
55.5-63.3	CR123F772B	100	150	100
63.4-66.1	CR123F848B	100	150	100
66.2-73.5	CR123F914B	100	150	100
73.6-82.2	CR123F104C	100	150	100
82.3-90.0	CR123F114C	100	150	100

Size 4 — Class 20 Overload Relay Heaters

Motor Full-Load Amps.				
3-Phase 3-Heaters	Heater Product Number	Max. Fuse Rating	Max. Breaker Rating	TEC/TECL Rating
28.8-31.1	CR123F357B	110	100	50
31.2-33.3	CR123F395B	125	100	50
33.4-35.6	CR123F430B	125	100	50
35.7-42.6	CR123F487B	150	100	50, 100
42.7-45.2	CR123F567B	175	125	50, 100
45.3-51.1	CR123F614B	175	150	100
51.2-53.9	CR123F658B	200	150	100
54.0-56.9	CR123F719B	200	150	100
57.0-65.2	CR123F772B	200	175	100
65.3-68.6	CR123F848B	200	200	100
68.7-74.0	CR123F914B	200	200	100
74.1-86.0	CR123F104C	200	200	100, 150
86.1-90.7	CR123F114C	200	225	150
90.8-103	CR123F118C	200	225	150
104-109	CR123F133C	200	225	150
110-119	CR123F149C	200	225	150
120-131	CR123F161C	200	225	150
132-135	CR123F174C	200	225	150



For additional information and pricing, reference the Control Catalog, GEP-1260P, or go to www.geelectrical.com

NEMA Full-voltage Combination Starters CR340, CR341

Heaters

Class 20 Overload Heaters (continued)

See page 7 for ordering information.

Size 5 — Class 20 Overload Relay Heaters

Motor Full-Load Amps.

3-Phase, 3-Heaters	Heater Product Number	Maximum Fuse Rating	Maximum Circuit Rating
109-118	CR123C592A	400	600
119-128	CR123C630A	400	600
129-138	CR123C695A	400	600
139-155	CR123C778A	400	600
156-168	CR123C867A	400	600
169-184	CR123C955A	400	600
185-200	CR123C104B	400	600
201-221	CR123C113B	400	600
222-237	CR123C125B	400	600
238-262	CR123C137B	400	600
263-270	CR123C151B	400	600

Size 6 — Class 20 Overload Relay Heaters

Motor Full-Load Amps.

3-Phase, 3-Heaters	Heater Product Number
181-197	CR123C220A
198-214	CR123C239A
215-238	CR123C268A
239-258	CR123C301A
259-290	CR123C326A
291-346	CR123C356A
347-387	CR123C379A
388-424	CR123C419A
425-467	CR123C466A
468-516	CR123C526A
517-540	CR123C592A

Size 7 — Class 20 Overload Relay Heaters

Motor Full-Load Amps.

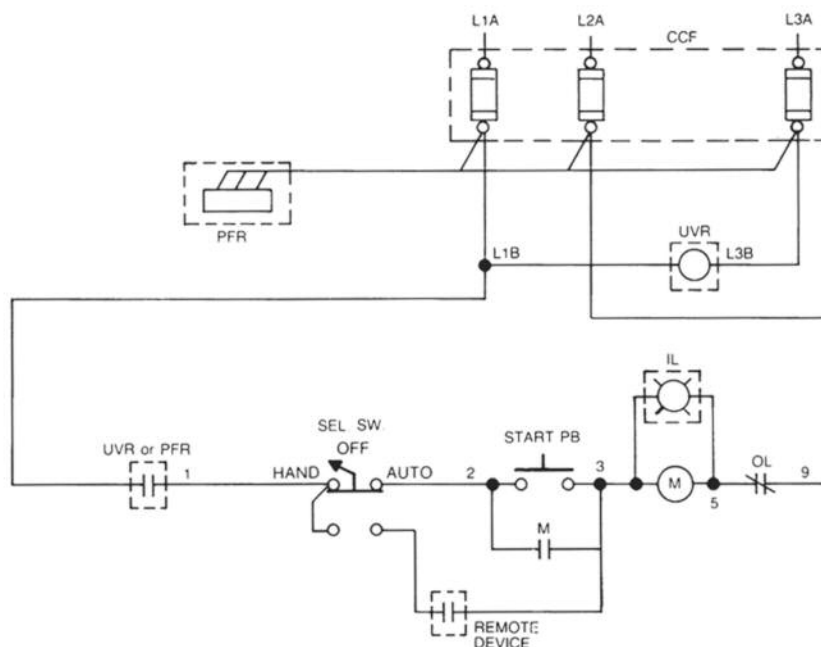
3-Phase, 3-Heaters	Heater Product Number
346-387	CR123C326A
388-461	CR123C356A
462-515	CR123C379A
516-565	CR123C419A
566-622	CR123C466A
623-688	CR123C526A
689-763	CR123C592A
764-810	CR123C630A



For additional information and pricing, reference the Control Catalog, GEP-1260P, or go to www.geelectrical.com

NEMA Full-voltage Combination Starters

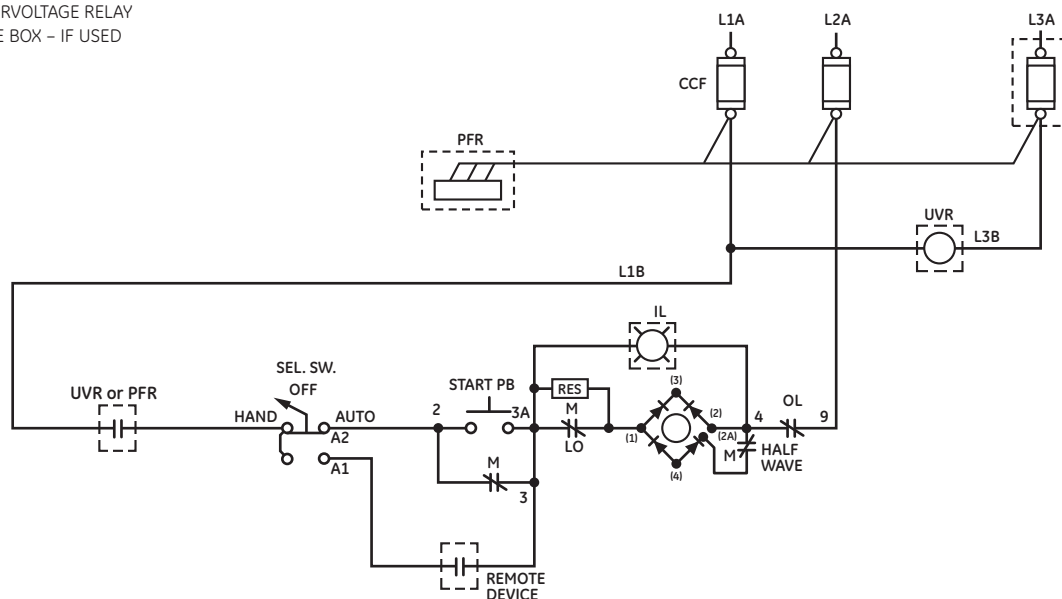
Typical Schematic Diagrams



Typical CR340 and CR341, NEMA Size 1 through 6

NOMENCLATURE

M – MOTOR CONTACTOR
IL – INDICATING LIGHT
LO – LATE OPENING
RES – HOLDING RESISTOR
CCF – CONTROL CIRCUIT FUSING
PFR – PHASE FAILURE RELAY
UVR – UNDERVOLTAGE RELAY
DOTTED LINE BOX – IF USED



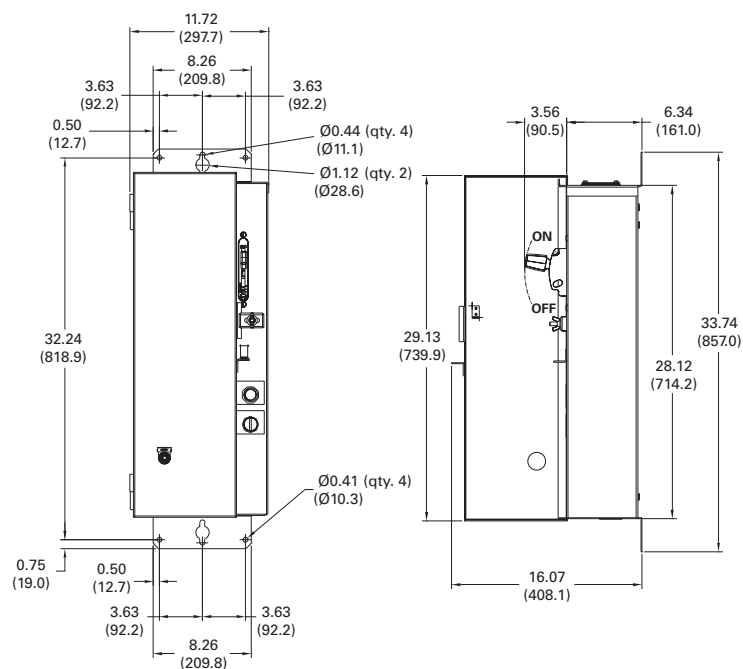
Typical CR340 and CR341, NEMA Size 7



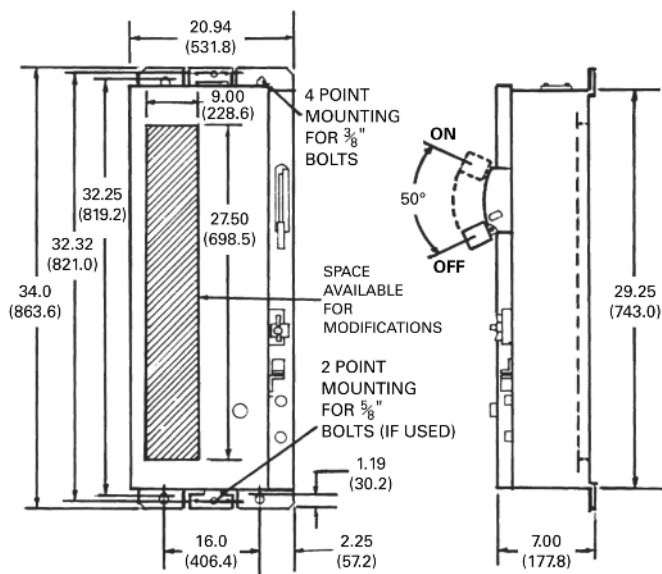
NEMA Full-voltage Combination Starters

CR340, CR341

Outlines, Dimensions in. (mm), and Weights (For Estimating Only)



CR340, CR341 NEMA Sizes 1 and 2 Narrow-Type Enclosures; 32 lbs. (Size 1), 47 lbs. (Size 2)



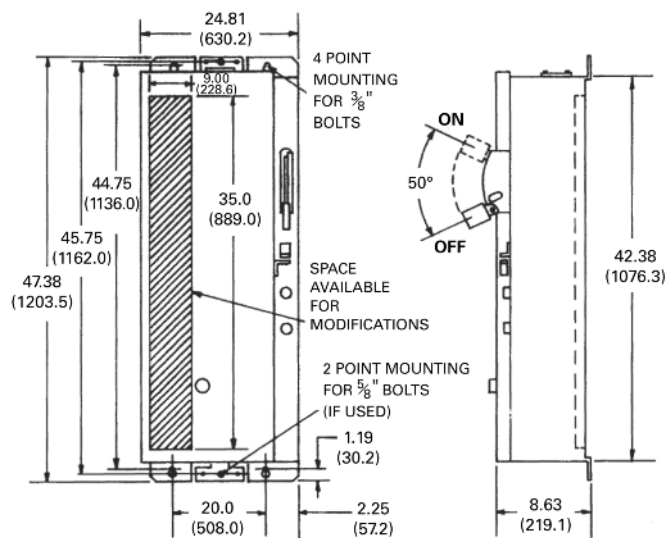
CR340, CR341 NEMA Sizes 1 and 2 Wide-Type Enclosures; 85 lbs. (Size 1), 90 lbs. (Size 2)



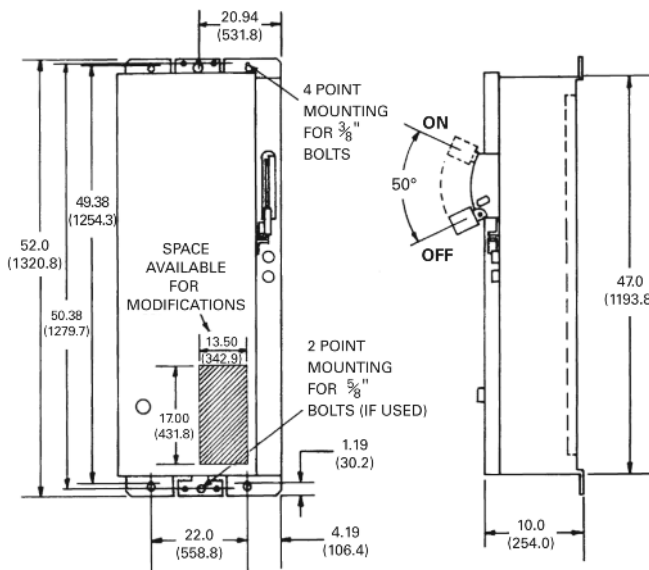
NEMA Full-voltage Combination Starters

CR340, CR341

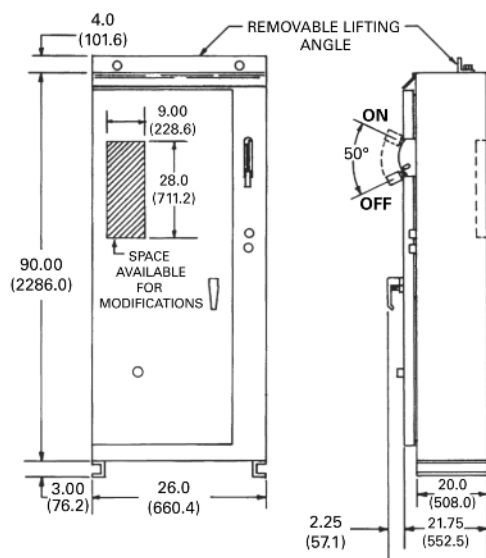
Outlines, Dimensions in. (mm), and Weights (For Estimating Only)



CR340, CR341 NEMA Sizes 3 and 4 Wide-Type Enclosures;
195 lbs.



CR340, CR341 NEMA Size 5 Wide-Type Enclosures; 285 lbs.



CR340, CR341 NEMA Sizes 6 and 7 Wide-Type Enclosures;
1,200 lbs. (Size 6), 1,300 lbs. (Size 7)



Reduced-voltage Combination Starters

Types and Description

Part Winding Starting

Fast Acceleration

This starter is designed for use on 230 volts with standard 230/460 volt motors having two separate windings. Or it may be used on 460 and 575 volts with special part-winding motors.

Part-winding starters draw approximately 65% of the normal starting current and develop about 42% of normal starting torque.

This starter is not a true reduced-voltage starter, but it accomplishes the same job—limiting inrush current and starting torque by utilizing part of the motor windings. And because it uses both the start and run contactors to carry the motor operating current, it costs less than the other reduced-voltage starters.

Magnetic Autotransformer Starting

Closed Circuit Transition

This starter consists of a 3-leg autotransformer, three contactors (start, run and wye), a pneumatic timing relay, bi-metallic overload relay, and an autotransformer with overtemperature device. Operation is initiated after the H-O-A selector switch is turned to the HAND position and the START button is pushed.

Magnetic autotransformer core and coils have taps at 65% and 80% of full-line voltage for 50 hp or less, and taps of 50%, 65%, and 80% above 50 hp. All autotransformers are connected to the 65% tap at the factory. They may be easily reconnected to another tap when starter is installed.

This method of closed circuit transition, standard in GE's magnetic autotransformer starter, is superior to open transition methods. Primary resistance starting, for example, provides smooth transition to full voltage by reducing the second transient inrush of current. But it also produces an excessively high initial inrush. GE autotransformer starters produce both a low transient inrush and a low initial inrush.

In summary, the principal advantage of autotransformer starting is the fact that more torque is available per line ampere. The addition of closed circuit transition makes this kind of reduced-voltage starting superior to all other kinds!

Wye-delta Starting

High Torque Efficiency

Wye-delta starting provides a low inrush current which results in low starting torque. This starter gets its characteristics by switching motor windings. It is connected in wye for starting, and switches to delta for running the motor.

The wye-delta starter consists of three contactors, bi-metallic overload relay, and a pneumatic timer. Wye and line contacts are energized when the selector switch is turned to the HAND position and the START button is pushed, placing full-line voltage on the wye connected motor winding. Each winding has 58% full voltage. At a predetermined interval regulated by a pneumatic timer, the wye contacts open and the run (delta) contacts close, putting 100% voltage on each winding.



Typical wall-mounted panel



Typical floor-mounted panel



For additional information and pricing, reference the Control Catalog, GEP-1260P, or go to www.geelectrical.com

Magnetic Motor Starters

General Information

1600 Hp Maximum, NEMA Sizes 1-7, 600 Volts Maximum

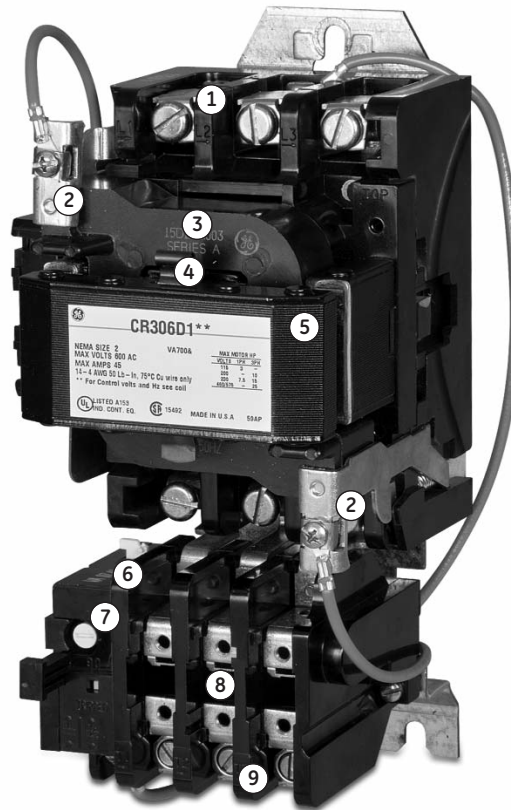
Power Contactor

- ① Captive saddle clamps, staggered terminals
- ② Coil retaining clips
- ③ Encapsulated coil
- ④ Armature retaining clip
- ⑤ Long-life magnet

Overload Relay

- ⑥ Manual weld check
- ⑦ $\pm 10\%$ trip adjustment
- ⑧ Overload relay heaters (not shown)
- ⑨ Captive saddle clamps, staggered terminals

Single, integral baseplate



Typical size 1 motor starter

Basic 300-Line Features

GE's full-voltage (600 V max.) magnetic motor starter has an encapsulated coil and a 3-leg block-type overload relay to protect against overloads in all phases. It is on standard specifications of major manufacturers. The line offers features and benefits most asked for by users.

- **Tool-less contactor disassembly (Sizes 1-4)** – allows quick access for inspection and maintenance. Just release two retainers and pull a clip to get at magnet, coil and contacts.
- **Saddle clamp terminals (Size 1)** – accommodate ring, space and stripped wire leads and carry permanent stamped-in identification.
- **Current-carrying components** – contact tips are weld-resistant, silver cadmium oxide. Contacts are installed in a wedge configuration for positive make with minimum bounce.
- **Weld check** – provides a convenient test against welding of overload relay contacts. Just depress the weld check operator to trip the relay, run a simple continuity test across the relay contacts, and then depress the reset arm to return the starter to service.
- **Dual bimetals** – anticipate overloads, responding to rising current and temperature with faster tripping on severe overloads for better motor protection. Trip points are factory-calibrated for accuracy.
- **$\pm 10\%$ trip adjustment** – by turning a dial in the overload relay face allows “tuning” the protection to the motor on the spot.
- **Large selection of modifications and accessory kits** – includes auxiliary contacts, coils, surge suppressors, control circuit fusing, control transformers, space heaters, and more.
- **Manual/Auto reset overload** – for field conversion.



For additional information and pricing, reference the Control Catalog, GEP-1260P, or go to www.geelectrical.com

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