NEMA Pump Control Panels

Product Selection — Disconnect Type (Fusible with Class R Fuse Clips)

Bulletin 1232X

- NEMA starter sizes 1…7
- Fusible disconnect switch
- Painted metal extra capacity enclosures: Type 3R
- Overload relays: Eutectic supplied as standard, solid-state available as an option
- Modifications — factory installed
- Accessories — field installed
- Service entrance rated

A Bulletin 1232X pump control panel (with fusible disconnect switch) consists of a Bulletin 509 starter mounted in an enclosure with extra panel space.

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Standards Compliance

UL 508
CSA 22.2, No. 14

Certifications

cULus Listed (File No. E125316, Guide No. NKJH, NKJH7)

Heater Elements — Starters with eutectic alloy overload relays require 3 heater elements. Located on page 1-167.

NEMA Size	Continuous Ampere Rating [A]	Maximum Horsepower Rating Full Load Current Must Not Exceed Continuous Ampere Rating — Motor Voltage 60 Hz 200V	60 Hz 230V	50 Hz 380…415V	60 Hz 460…575V	Line Voltage [V]	Fuse Clip Rating Amperes [A] Fuses not included. Select per NEC	Type 3R Rainproof with Extra Panel Space Cat. No.
1	27	7-1/2	7-1/2	—	—	208…240	30	**1232X-BN⊗-✪-24R**
		—	—	10	10	480…600	30	**1232X-BN⊗-✪-24R**
		7-1/2	7-1/2	—	—	208…240	60	**1232X-BN⊗-✪-25R**
		—	—	10	10	480…600	60	**1232X-BN⊗-✪-25R**
2	45	10	15	—	—	208…240	60	**1232X-CN⊗-✪-25R**
		—	—	25	25	480…600	60	**1232X-CN⊗-✪-25R**
		10	15	—	—	208…240	100	**1232X-CN⊗-✪-26J**
		—	—	25	25	480…600	100	**1232X-CN⊗-✪-26J**
3	90	25	30	—	—	208…240	100	**1232X-DN⊗-✪-26R**
		—	—	50	50	480…600	100	**1232X-DN⊗-✪-26R**
		25	30	—	—	208…240	200	**1232X-DN⊗-✪-27J**
		—	—	50	50	480…600	200	**1232X-DN⊗-✪-27J**
4	135	40	50	—	—	208…240	200	**1232X-EN⊗-✪-27R**
		—	—	75	100	480…600	200	**1232X-EN⊗-✪-27R**
		40	50	—	—	208…240	400	**1232X-EN⊗-✪-28J**
		—	—	75	100	480…600	400	**1232X-EN⊗-✪-28J**
5	270	75	100	—	—	208…240	400	**1232X-FN⊗-✪-28R**
		—	—	150	200	480…600	400	**1232X-FN⊗-✪-28R**
6	540	150	200	300	400	208…600	600∗	1232X-GN⊗-✪-29R
7	810	—	300	500	600	240…600	1200	1232X-HN⊗-✪-25L

∗ For 230V and 460V Hp ratings, limit the maximum fuse sizing to 125% of motor full load current.

⊗ Coil Voltage Code

The cat. no. as listed is incomplete. Select a coil voltage code from the table below to complete the cat. no.
Example: **Cat. No. 1232X-BN⊗-✪-24** becomes **Cat. No. 1232X-BNA-✪-24**. For other voltages, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

	[V]	208	230…240	460…480	575…600
Common Control	AC, 60 Hz	**H**	**A**	**B**	**C**
Transformer Control (See page 1-78 Note)					
120V Separate Control (without transformer)		**AD**	**AD**	**CD**	**CD**

✪ Overload Relay Code

Use to order solid-state overload relay. Do not use when ordering eutectic alloy overload relay. The cat. no. as listed is incomplete. Select an overload relay code from page 1-159 to complete the cat. no.
Example: **Cat. No. 1232X-BNA-✪-24** becomes **Cat. No. 1232X-BNA-A2E-24**.

Modifications — Factory Installed

NEMA Combination Contactors/Starters

For Use on Bulletins 502, 502L, 503, 503L, 506, 506X, 507, 507X, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 522, 522E, 522F, 522G, 523, 523E, 523F, 523G, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1232X, 1232V, 1233X, and 1233V

Description of Modification			Suffix No.	Enclosure Type	NEMA Size 0	1	2	3	4	5	6	7
Pilot Devices in Cover or Flange												
Full Voltage Non-Reversing Single Speed Starters	START-STOP push button		**1**	1	A	A	A	A	A	A	NA	NA
			1	3R/4/12, 4/4X	A	A	A	A	A	A	A	A
			1	Bolted	A	A	A	A	A	A	NA	NA
			1	Unilock	A	A	A	A	A	A	NA	NA
	ON-OFF push button		**1E**	1	A	A	A	A	A	A	NA	NA
			1E	3R/4/12, 4/4X	A	A	A	A	A	A	A	A
			1E	Bolted	A	A	A	A	A	A	NA	NA
			1E	Unilock	A	A	A	A	A	A	NA	NA
	START-STOP illuminated push button		**1L**	1	A	A	A	A	A	A	NA	NA
			1L	3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
	HAND-OFF-AUTO selector switch		**3**	1	A	A	A	A	A	A	NA	NA
			3	3R/4/12, 4/4X	A	A	A	A	A	A	A	A
			3	Bolted	A	A	A	A	A	A	NA	NA
			3	Unilock	A	A	A	A	A	A	NA	NA
	OFF-ON selector switch		**3E**	1	A	A	A	A	A	A	NA	NA
			3E	3R/4/12, 4/4X	A	A	A	A	A	A	A	A
			3E	Bolted	A	A	A	A	A	A	NA	NA
			3E	Unilock	A	A	A	A	A	A	NA	NA
	HAND-AUTO selector switch		**3H**	1	A	A	A	A	A	A	NA	NA
			3H	3R/4/12, 4/4X	A	A	A	A	A	A	A	A
			3H	Bolted	A	A	A	A	A	A	NA	NA
			3H	Unilock	A	A	A	A	A	A	NA	NA
	PILOT LIGHT	Transformer Type — incandescent bulb	**4**∗❄	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A	A
			4∗❄	Bolted	A	A	A	A	A	A	NA	NA
			4∗❄	Unilock	A	A	A	A	A	A	NA	NA
		Transformer Type—LED bulb	**4L**∗❄	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	PUSH-TO-TEST PILOT LIGHT Transformer—incandescent bulb		**5**∗❄	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A	A
			5∗❄	Bolted	A	A	A	A	A	A	A	A
			5L∗❄	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	START-STOP push button and HAND-OFF-AUTO selector switch **(unwired)**		**13**	1	A	A	A	A	A	A	A	A
			13	3R/4/12, 4/4X	A	A	A	A	A	A	A	A
Full Voltage Reversing and Multi-Speed Starters	FOR-REV-STOP push button	Bulletin 506…507	**1**	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
		Bulletin 507	**1**	Bolted (7 & 9)	A	A	A	A	A	A	NA	NA
	FOR-OFF-REV selector switch (Bulletin 506…507)		**3**	1, 3R/4X12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
			3	Bolted	A	A	A	A	A	A	NA	NA
			3	Unilock	A	A	A	A	A	A	NA	NA
	HAND-AUTO		**3H**	1	A	A	A	A	A	A	NA	NA
			3H	3R/4/12, 4/4X,	A	A	A	A	A	A	NA	NA
			3H	Bolted	A	A	A	A	A	A	NA	NA
			3H	Unilock	A	A	A	A	A	A	NA	NA
	HIGH-LOW-STOP push button	Bulletin 522…523	**1**	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
		Bulletin 523	**1**	Bolted	A	A	A	A	A	A	NA	NA
	HIGH-OFF-LOW selector switch	Bulletin 522…523	**3**	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
		Bulletin 523	**3**	Bolted	A	A	A	A	A	A	NA	NA
	HIGH-LOW-OFF-AUTO selector switch		**3J**	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
	PILOT LIGHT (2)	Transformer Type — Incandescent Bulb	**4**❄‡	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
		Transformer Type—LED Bulb	**4L**‡	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
	PUSH-TO-TEST PILOT LIGHT	Transformer— Incandescent Bulb	**5**❄	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
		Transformer—LED Bulb	**5L**∗	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA

A = Available
NA = Not Available
∗ "OFF" pilot lights for non-reversing and non-multi-speed applications require a normally closed auxiliary contact (-91).
❄ The suffix number is incomplete. Specify the lens with the following letters: **A** = Amber; **B** = Blue; **C** = Clear; **G** = Green; **W** = White.
‡ For multi-speed and reversing starters, one pilot light for each container. Add additional letter to identify two lens colors. The first letter specifies "FORWARD" or "HIGH", or "ON"; the second letter specifies "REVERSE" or "LOW" , or "OFF"; e.g. **4AG**.

Modifications — Factory Installed

NEMA Combination Contactors/Starters

For Use on Bulletins 502, 502L, 503, 503L, 506, 506X, 507, 507X, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 522, 522E, 522F, 522G, 523, 523E, 523F, 523G, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1232X, 1232V, 1233X, and 1233V, Continued

Description of Modification			Suffix No.	Enclosure Type	NEMA Size 0	1	2	3	4	5	6	7
Control Circuit Transformers Includes 2 Primary Fuses and 1 Secondary Fuse	With standard capacity, 60 or 50 Hz		**6P**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	With standard capacity with fuse covers		**6PC**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	With standard capacity, 60 or 50 Hz		**6P**	Bolted∗	A	A	A	A	A	A	NA	NA
	With standard capacity, 60 or 50 Hz		**6P**	Unilock❄	A	A	A	A	A	A	NA	NA
	With 100 W extra capacity, 60 or 50 Hz		**6XP**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	With 100 W extra capacity with fuse covers		**6XPC**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	With 100 W extra capacity, 60 or 50 Hz		**6XP**	Bolted∗	A	A	A	A	A	A	NA	NA
	With 100 W extra capacity, 60 or 50 Hz		**6XP**	Unilock❄	A	A	A	A	A	A	NA	NA
	With 200VA capacity		**6XXP**	1, 3R/4X/12, 4/4X, 3R	A	A	A	NA	NA	NA	NA	NA
	With 200VA capacity with fuse covers		**6XXPC**	1, 3R/4X/12, 4/4X, 3R	A	A	A	NA	NA	NA	NA	NA
	With 200 W extra capacity, 60 or 50 Hz		**6YP**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	With 200 W extra capacity with fuse covers		**6YPC**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	With 300 W extra capacity, 60 or 50 Hz		**6XYP**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	With 300 W extra capacity with fuse covers		**6XYPC**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	With 400 W extra capacity, 60 or 50 Hz		**6YYP**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	With 400 W extra capacity with fuse covers		**6YYPC**	1, 3R/4X/12, 4/4X, 4X	A	A	A	A	A	A	NA	NA
Auxiliary Contacts	Auxiliary contact installed on contactors	N.O.	**90‡**	1, 3R/4X/12, 4/4X	A	A	A	A	A	A	A	A
		N.C.	**91‡**	Bolted	A	A	A	A	A	A	NA	NA
	Auxiliary contact — contactor (four maximum) N.C. — late break		**97**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	Auxiliary contact installed on disconnect	N.O.	**98**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A	A
		N.C.	**99**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	Auxiliary contact installed on circuit breaker (external to breaker) to operate with handle (two maximum)	N.O.	**98**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
		N.O.	**98**	Bolted∗	A	A	A	A	A	A	NA	NA
		N.O.	**98**	Unilock❄	A	A	A	A	A	A	NA	NA
		N.C.	**99**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
		N.C.	**99**	Bolted∗	A	A	A	A	A	A	NA	NA
		N.C.	**99**	Unilock❄	A	A	A	A	A	A	NA	NA
Control Circuit	Control circuit fuse block less transformer	1 Fuse — Fuse Included	**21**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
		1 Fuse with Protective Cover — Fuse Included	**21C**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
		2 Fuses — Fuses Included	**22**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
		2 Fuse with Protective Cover — Fuse Included	**22C**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	Surge suppression for 120V or 240V AC Coil		**17**	1, 3R/4X/12, 4/4X, 3R Bolted∗ Unilock❄	A	A	A	A	A	A	NA	NA
	Terminal blocks (**Cat No. 1492-HC6**)	6-Point Block	**TB6**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
	Terminal blocks (**Cat No. 1492-HC12**)	12-Point Block	**TB12**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	A	A
Overload Relays (Eutectic Alloy)	N.O. alarm contact adder (Bulletin 592)		**9**	1, 3R/4X/12, 4/4X, 3R Bolted∗ Unilock❄	A	A	A	A	A	A	NA	NA
	N.C. alarm contact adder (Bulletin 592)		**9A**		A	A	A	A	A	A	NA	NA
	Omit overload relays	For Bulletins 506, 506X, 507, 507X Deduct	**23**	1, 3R/4X/12, 4/4X, 3R Bolted∗ Unilock❄	A	A	A	A	A	A	NA	NA
		For Bulletins 522, 523 Deduct	**23**		A	A	A	A	A	A	NA	NA
Accessories	3-phase Powermonitor (Timemark Model 258)		**400**	1, 3R/4X/12, 4/4X, 3R Bolted (3R, 7 & 9) Unilock (7 & 9)	A	A	A	A	A	A	A	A
	Bulletin 596 (used on Bulletin 500…509), 3-pole maximum	On Delay	**87A**		A	A	A	A	A	A	NA	NA
		Off Delay	**87B**		a	A	A	A	A	A	NA	NA
	Form A compelling relay (used on Bulletin 522…523)		**70**	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
	Form B auto. seq. accelerating relay for each higher speed (used on Bulletin 522…523)		**71**	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA
	Form C auto. seq. decelerating relay for each higher speed (used on Bulletin 522…523)		**72**	1, 3R/4/12, 4/4X	A	A	A	A	A	A	NA	NA

A = Available
NA = Not Available
∗ Bolted suitable for Type 7 & 9 or Type 3R, 7 & 9.
❄ Unilock suitable for Type 7 & 9 or Type 3R, 7 & 9 with the addition of a drain or a breather and drain. White LED option not available, incandescent only.
‡ For Bulletins 506, 507, 522 and 523 devices. One auxiliary contact is installed on each of the two contactors.

Modifications — Factory Installed

NEMA Combination Contactors/Starters

For Use on Bulletins 502, 502L, 503, 503L, 506, 506X, 507, 507X, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 522, 522E, 522F, 522G, 523, 523E, 523F, 523G, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1232X, 1232V, 1233X, and 1233V, Continued

Description of Modification			Suffix No.	Enclosure Type	NEMA Size 0	1	2	3	4	5	6	7
Circuit Breakers	Marine Requirements		**345**	—	A	A	A	A	A	A	NA	NA
	Current Limiters	Add the letter "C" to the instantaneous circuit breaker no. code.	**C**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	Thermal Magnetic Circuit Breakers	Add the letter "T" to the circuit breaker no. code.	**T**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	S	S
	Current Limiters	Add the letter "D" to the inverse time circuit breaker no. code.	**D**	1, 3R/4X/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
Accessories	Enclosure	Breather	**136**	Bolted∗	A	A	A	A	A	A	NA	NA
		Breather and drain	**137**	Unilock and Bolted∗❄	A	A	A	A	A	A	NA	NA
		Drain	**138**	Bolted and Unilock∗❄	A	A	A	A	A	A	NA	NA
	Enclosure Door Viewing Window		**203W**	1, 3R/4/12, 3R	A	A	A	A	A	A	NA	NA
	Handles For Disconnect Switch or Circuit Breaker	Painted metal	**412**	1, 3R/4/12, 3R	A	A	A	A	A	S	S	S
		Stainless steel	**413**	4/4X	A	A	A	A	A	S	S	S
		Molded plastic (deduct)	**419**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	NA	NA	NA
	Fuse Cover	Protective fuse cover for disconnect switch	**414**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	Control Relay (Plug-In)	2-Pole	**415**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A	A
		3-Pole	**416**		A	A	A	A	A	A	A	A
	Timing Relay (Plug-In)	On-Delay	**417**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	A	A
		Off-Delay	**418**		A	A	A	A	A	A	A	A
	Electrical Interlock	Early Break (1 N.O. and 1 N.C.)	**420**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
		Early Break (2 N.O. and 2 N.C.)	**421**	1, 3R/4/12, 4/4X, 3R	A	A	A	A	A	A	NA	NA
	Bracket Mounting Feet for Pump Panels‡		**424**	3R	NA	A	A	A	A	A	NA	NA
	Elapsed Time Meter (ENM - Series T50)		425	3R	NA	A	A	A	A	A	A	A
	Protective Covers for Contactors and Starters		**426**	1, 3R/12, 4/4X, 4	NA	A	A	A	A	A	NA	NA

A = Available
NA = Not Available
S = Standard
∗ Bolted suitable for Type 7 & 9 or Type 3R, 7, & 9.
❄ Unilock suitable for Type 7 & 9 or Type 3R, 7, & 9 with the addition of a drain or a breather and drain.
‡ Pump panel comes standard with pole mounting bracket.

Contactor Accessories

For use on Bulletins 500, 500F, 500L, 500FL, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V

Description		NEMA Size	Cat. No.
	Coils (60 Hz) 115…120V	0…1	**CB-236**
	200…208V		**CB-249**
	230…240V		**CB-254**
	460…480V		**CB-273**
	575…600V		CB-278
	115…120V	2	**CC-236**
	200…208V		**CC-249**
	230…240V		**CC-254**
	460…480V		**CC-273**
	575…600V		CC-278
	115…120V	3	**CD-236**
	200…208V		**CD-249**
	230…240V		**CD-254**
	460…480V		**CD-273**
	575…600V		CD-278
	115…120V	4	**CE-236**
	200…208V		CE-249
	230…240V		**CE-254**
	460…480V		**CE-273**
	575…600V		CE-278
	115…120V	5 (SER. L)	**AF-236**
	200…208V		AF-249
	230…240V		AF-254
	460…480V		AF-273
	575…600V	5	AF-278

Note: For complete listing of coils available, see page 1-157

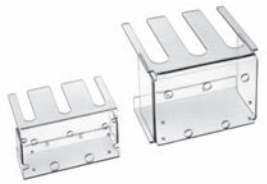
Surge Suppressor — Made to be easily mounted directly across the coil terminals of contactors and starters with 120V or 240V AC coils. The purpose of the suppressor is to limit voltage transients for applications requiring interface with solid-state components. One suppressor is required per coil.

Cat. No. 100-FSC280

Cat. No. 599-K04

	RC Module AC Operating Mechanism 24…48V AC, 50/60 Hz	00∗	**100-FSC48**
	110…280V AC, 50/60 Hz		**100-FSC280**
	380…480V AC, 50/60 Hz		**100-FSC480**
	Varistor Module AC/DC Operating Mechanism 12…55V AC/ 12…77V DC	00∗	**100-FSV55**
	56…136V AC/ 78…180V DC		**100-FSV136**
	137…277V AC/ 181…350V DC		**100-FSV277**
	278…575V AC		**100-FSV575**
	12…120V AC	0…5	**599-K04**
	240…264V AC Varistor		**599-KA04**
	12…120V AC	6	**199-FSMA1**❄
	12…120V AC Varistor		**199-GSMA1**‡
	120V AC	7…8	**700-N24**

∗ For non-combination starters only.
❄ For use on the interposing relay.
‡ For use on the contactor or starter.



Description		NEMA Size	Cat. No.
	Terminal and Lug Covers Line side terminal covers	0…1	**599-TC01N**
		2	**599-TC2N**
		3	**599-TC3N**
		4	**599-TC4N**
		5	**599-TC5N**
	Line side terminal covers (reversing)	0…1	**599-TC01R**
	Tie Point Terminal	0…2	599-TP02
		3…5	599-TP34

Cat. No. 599-PS01

Description	For Use With	No. of Poles	NEMA Size	Cat. No.
Protective Covers	500/F/FL, 500L, 500LP, 505	3	0…1	**599-PC01**
	509, 505, 520E (2), 520F/G	3	0…1	**599-PS01**➢
	500L, 500LP	5	0…1	599-PC01-5⌘
	520F/G	5	0…1	599-PS01-5➢
	500/F/FL, 500L, 500LP, 505	3	2	**599-PC2**
	509, 505, 520E (2), 520F/G	3	2	**599-PS2**➢
	500L, 500LP	5	2	599-PC2-5⌘
	520F/G	5	2	599-PS2-5➢
	500/F/FL, 500L, 500LP, 505	3	3	**599-PC3**
	509, 505, 520E (2), 520F/G	3	3	**599-PS3**➢
	500L, 500LP	5	3	599-PC3-5⌘
	520F/G	5	3	599-PS3-5➢
	500/F/FL, 500L, 500LP, 505	3	4	**599-PC4**
	509, 505, 520E (2), 520F/G	3	4	599-PS4➢
	500L, 500LP	5	4	599-PC4-5⌘
	520F/G	5	4	599-PS4-5➢
	500/F/FL, 500L, 500LP	3	5	599-PC5
	509	3	5	599-PS5➢

⌘ Used on 5-pole contactors and starters.
➢ Bul. 592 Eutectic alloy or solid-state overload relays.

Accessories — Field Installed

NEMA Non-Combination Contactors/Starters and Combination Contactors/Starters

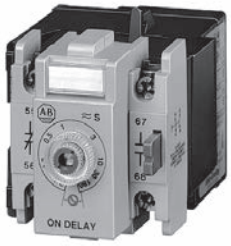
Contactor Accessories, continued

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X and 1233V

Timer Attachment Kit — A pneumatic timer attachment may be field installed in the space of two adjacent auxiliary contact blocks. Timing units are available for either ON-Delay or OFF-Delay operation with a timed set of one (1) N.O. and one (1) N.C. snap-action contacts that are electrically isolated.
Repetitive accuracy within the timer range is approximately ±10% provided a minimum reset time of 75 ms is allowed.
Note:
- Sizes 0…5: Timers can be added to the left- or right-hand side of the contactor body. On Size 00 they can be mounted to the front of the contactor.
- Size 0, 1 and 2: Timers cannot be used on the same side as power pole adders.
- Size 2 Devices: The operating coil must be changed. See [T-1678929] and refer to the size 2 operating coil listing. Order the coil listed for a 4-…5-pole device.

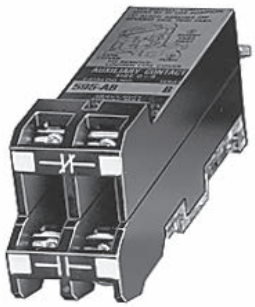
Note: These coils can also be factory installed.
- Enclosed Devices: Please contact your local Rockwell Automation sales office or Allen-Bradley distributor.

Contact Ratings: NEMA A600 (10 A, 600V AC max.)
NEMA P300 (5 A, 300V DC max.)

Description		NEMA Size	Cat. No.
	**On-Delay**	00§	**100-FPTA30**
	On-Delay		**100-FPTA180**
	Off-Delay		**100-FPTB30**
	Off-Delay		**100-FPTB180**
	Left-hand ON Delay	0…5	596-TL32
	Left-hand OFF Delay		**596-TL33**
	Right-hand ON Delay		**596-TR32**
Cat No. 596-TR32	Right-hand OFF Delay		596-TR33

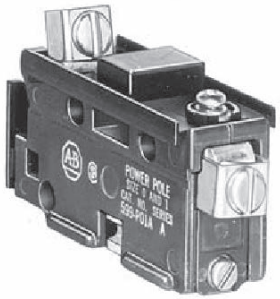
§ For open type, non-combination starters only.

Description		NEMA Size	Cat. No.
Auxiliary Contact — Contactors	1 N.O.	0…5	**595-A**
	2 N.O.	0…5	**595-AA**
	1 N.C.	0…5	**595-B**
	2 N.C.	0…5	**595-BB**
	1 N.O. and N.C.	0…5	**595-AB**
	1 N.C.L.B.	0…5	**595-BL**
	1 N.O.	6	**195-GA10**
	1 N.O.	7	♣ **1495-J6**
	2 N.O.	6	**195-GA20**
	2 N.O.	7…8	♣ **1495-K6**
	2 N.O.	9	♣ 1495-K8
	1 N.C.	6	**195-GB01**
	1 N.C.	7…9	♣ **1495-J6**
	2 N.C.	6	**195-GB02**
	2 N.C.	7…8	♣ **1495-K6**
	2 N.C.	9	♣ 1495-K8
	1 N.O. and N.C.	6	**195-GB11**
	2 N.O.	7…8	♣ **1495-K6**
	2 N.O.	9	♣ 1495-K8
	1 N.C.L.B.	6	**195-GL01**



♣ The normally open contacts can easily be changed to normally closed in the field.

Power Pole Adders — The 1 N.O. and 1 N.C. power poles may be field added to all size 0…4 Bulletin 500 line contactors and starters except the Bulletin 500L and 500FL. Two- and three-pole contactors will accept a maximum of two adder poles and four-pole devices will accept one adder pole. Each adder pole kit includes a mechanical load balancer to be used when only one power pole is added.
Note: When power poles are added to Size 2, 3, or 4 (2- or 3-pole devices) the operating coil must be changed. Refer to the listing for the size of your contactor or starter. Order the operating coil listed for a 4-…5-pole device.
Note: These coils can also be factory installed.

Description		NEMA Size	Cat. No.
	1 N.O.	0…1	**599-P01A**
	1 N.C.		**599-P01B**
	1 N.C. Late Break		599-P01BL
	1 N.O.	2	**599-P2A**
	1 N.C.		599-P2B
	1 N.C. Late Break		599-P2BL
	1 N.O.	3	599-P3A
	1 N.C.		599-P3B
Cat. No. 599-P01A (1 N.O.) Size 0…1, 27 Amps.	1 N.O.	4	599-P4A
	1 N.C.		599-P4B

Contactor Kick-off Springs — For horizontal mounting of 2- or 3-pole Bulletin 500 contactors and starters.
Note: When kick-off springs are added to Size 2, 3 or 4, the operating coil must be changed. Refer to the listing for the size of your contactor or starter. Order the operating coil listed for a 4-pole device.
Note: These coils can also be factory installed.

Description		NEMA Size	Cat. No.
	—	0…1	599-N11
		2	599-N12
		3	599-N13
		4…5	599-N14

	Wire Size	NEMA Size	Cat. No.
	Lug Connectors (3 per package)		
	#14…8 AWG Wire	0…1	✶
	#14…4 AWG Wire	2	**1494R-N1**
	#8…1/0 AWG Wire	3	**1494R-N2**
	#6…4/0 AWG Wire	4	**1494R-N3**
Cat. No. 1494R-N3	2 of #1/0…350 MCM Wire	5	42450-804-01

✶ All terminals of the 30 A switches are furnished with self-lifting pressure plate connectors as standard.

Description			NEMA Size	Cat. No.
	Terminal Lug Kit	Two #1/0 150…500 MCM 1 required per terminal	6	**199-LJ1**
	Terminal Lug Kit	#4 AWG…500 MCM 3 required per terminal for Size 7 and 4 required per terminal for Size 8	7…8	**199-LG1**

Contactor Accessories, continued

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X and 1233V

Description		NEMA Size	Cat. No.
Auxiliary Contact Adder Decks — The same 2- and 4-pole auxiliary contact blocks in various combinations of normally open and normally closed will slide and snap on to the front of the contactor. Adder decks have convenient backed out wire clamps to make lugging of control wires unnecessary. **Fits on Open Type devices only.**			
 *4-pole*	2 N.O.	00	**100-FA20**
	1 N.O. -1 N.C.		**100-FA11**
	2 N.C.		**100-FA02**
	4 N.O.		**100-FA40**
	3 N.O.-1 N.C.		**100-FA31**
	2 N.O. -2 N.C.		**100-FA22**
	4 N.C.		**100-FA04**
24V DC Interface Module — Mounts to the top of the contactor. It provides a 24V DC, 0.5 w input signal that can be used to operate the 24…240V AC coil of the contactor. **Fits on Open Type devices only.**			
	—	00	**100-JE**
Latch Attachment — On the front of the contactor. **Fits on Open Type devices only.**			
	—	00	100-FL11⊗
Interposing Contactor — For open type Bulletin 500 and 500L.	120V, 60 Hz	6	500-NX100D
	240V, 60 Hz	6	500-NX100A
Top Wiring Kit — Consists of (3) power lugs for the purpose of making extra connections to the load side of the contactor. A second set of overload relays can be wired to these lugs if two motors are being controlled by a single contactor.			
 *Cat No. 599-TW01*	—	0…1	**599-TW01**
	—	2	599-TW2
	—	3	599-TW3
	—	4	599-TW4
	—	5	599-TW5P

⊗ Voltage Suffix Code

The cat. no. as listed is incomplete. Select a voltage suffix code from the table below to complete the Cat. No. Example: 120V, 60 Hz: **Cat. No. 100-FL11⊗** becomes **Cat. No. 100-FL11D**. For other voltages, please consult your local Rockwell Automation sales office or Allen-Bradley distributor.

[V]	24	48	100	110	120	230… 240	240	277	380… 400	400… 415	400	480
50 Hz	K	Y	KP	D	—	VA	T	—	N	G	B	—
60 Hz	J	—	—	—	D	—	A	T	—	—	N	B

‡ To complete cat. no., insert in the third position the desired numeric symbol (0…5) or one of the following letters — A, B, C, D, E, F, H, L, M, P, R, S, T, U, or W.

Accessories — Field Installed

NEMA Non-Combination Contactors/Starters and Combination Contactors/Starters

Contactor Accessories, continued

Description	Enclosure Type	NEMA Size	Cat. No.
  **Adapter Plates —** For replacement of: • Allen-Bradley (Bulletin 709 Series K) • Cutler Hammer (Citation & Freedom Series) • Furnas (Class 14 and ESP 100) • General Electric (Series 300) • Joslyn-Clark (Type HP) • Square D (Type S) • Westinghouse (A200 and W200 Advantage)	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0, 1	599-CP01
		2	599-CP2

For use on Bulletins 512V, 513V, 1232V, 1233V

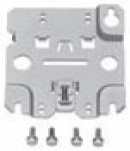
Contactors are supplied with one normally open and one normally closed auxiliary contact (A600 rating) as standard. Additional auxiliary contacts, two normally open and two normally closed, can be added in the field.

Description	Cat. No.
Auxiliary Contact (10 A @ 600V)	**1195C-N3**
Auxiliary Contact (10 mA @ 5V DC)	1195C-N4

Overload Accessories

For use on Bulletins 500, 500F, 500FL, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V

Description		NEMA Size	Cat. No.
 **Auxillary Contact —** For eutectic alloy overload relays only∗ **Contact Ratings —** NEMA A600 (10 A, 600V AC max.) NEMA P300 (5 A, 300V DC max.)	**Auxiliary Contact —** For eutectic alloy overload relays only∗		
	1 N.O.	00, 3-phase❄	**595-A00**
	1 N.C.	00, 3-phase❄	**595-B00**
	1 N.O.	0…2, 5…9	**595-A02**
	1 N.C.		**595-B02**
	1 N.O.	3…4	**595-A34‡**
	1 N.C.		**595-B34§**

Description		Max. Continuous Current Rating [A]	Cat. No.
	**DIN Rail Mounting Adapter** for Bulletin 592 compact type 3-pole overload relays	40	599-MP1
	DIN Rail Mounting Adapter for Bulletin 592 compact type 1-pole overload relays	62	599-MP2

∗ Auxiliary contact for solid-state overload relays is included in the product.
❄ Non-combination starters only.
‡ Auxiliary contact mounted on right-hand side of overload relay provides N.O. contact function. Auxiliary contact mounted on left-hand side of overload relay provides N.C. contact function.
§ To be mounted on right-hand side of overload to provide additional AC contact function.

Voltage Control Accessories

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V; excluding Modular Kits

Control Circuit Transformer with Top-Mounted Fuse Block Kits (pre-wired)∗❄

NEMA Size	Primary Voltage	Capacity – 120V Secondary Voltage									
		Standard		100 W Extra		200 W Extra		300 W Extra		400 W Extra	
		VA	Cat. No.	VA	Cat. No.	VA	Cat. No.	VA	Cat. No.	VA	Cat. No.
0…2	208V	80	**1497-N1PK**	130	1497-N15PK	250	1497-N7PK	350	1497-N10PK	500	1497-N18PK
	240V & 480V		**1497-N2PK**		**1497-N16PK**		**1497-N8PK**		**1497-N11PK**		**1497-N19PK**
	600V		**1497-N3PK**		1497-N17PK		1497-N9PK		**1497-N12PK**		**1497-N20PK**
3	208V	200	**1497-N4PK**	250	1497-N7PK	350	1497-N10PK	500	1497-N18PK	500	1497-N18PK
	240V & 480V		**1497-N5PK**		**1497-N8PK**		**1497-N11PK**		**1497-N19PK**		**1497-N19PK**
	600V		**1497-N6PK**		1497-N9PK		**1497-N12PK**		**1497-N20PK**		**1497-N20PK**
4	208V	250	1497-N7PK	350	1497-N10PK	500	1497-N18PK	—	—	—	—
	240V & 480V		**1497-N8PK**		**1497-N11PK**		**1497-N19PK**	—	—	—	—
	600V		1497-N9PK		**1497-N12PK**		**1497-N20PK**	—	—	—	—
5	208V	350	1497-N10PK	500	1497-N18PK	—	—	—	—	—	—
	240V & 480V		**1497-N11PK**		**1497-N19PK**	—	—	—	—	—	—
	600V		**1497-N12PK**		**1497-N20PK**	—	—	—	—	—	—
6	208V	500	1497-N18PK	—	—	—	—	—	—	—	—
	240V & 480V		**1497-N19PK**	—	—	—	—	—	—	—	—
	600V		**1497-N20PK**	—	—	—	—	—	—	—	—

∗ Transformers for NEMA sizes 7…9 are included as standard.

❄ Type 4/4X non-metallic enclosures and Type 7 & 9 hazardous location enclosures require transformers with separately mounted fuse blocks. For a complete listing of transformers, see page 8-39.

Control Circuit Transformers with Top Mounted Fuse Blocks‡❄

NEMA Size	Primary Voltage/ 3 Pole Fuse Block	Capacity – 120V Secondary Voltage	
		Standard	
		VA	Cat. No.
0…2	208V	80	**1497-B-HXDX-3-N**
	240V & 480V		**1497-B-BASX-3-N**
	600V		**1497-B-CXSX-3-N**
3	208V	200	**1497-D-HXDX-3-N**
	240V & 480V		**1497-D-BASX-3-N**
	600V		**1497-D-CXSX-3-N**
4	208V	250	1497-E-HXDX-3-N
	240V & 480V		**1497-E-BASX-3-N**
	600V		**1497-E-CXSX-3-N**
5	208V	350	**1497-F-HXDX-3-N**
	240V & 480V		**1497-F-BASX-3-N**
	600V		**1497-F-CXSX-3-N**

‡ Transformers can be installed in Type 1, 3R, 3R/4/12 painted enclosures and Type 4/4X stainless steel enclosures.

❄ Type 4/4X non-metallic enclosures and Type 7 & 9 hazardous location enclosures require transformers with separately mounted fuse blocks. For a complete listing of transformers, see page 8-39.

Accessories — Field Installed

NEMA Non-Combination Contactors/Starters and Combination Contactors/Starters

Voltage Control Accessories, continued

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1232X, and 1233V; excluding Modular Kits

For Use When Fuse Block Is Not Integrated with the Transformers

Cat. No. 1491-R165
1-Pole Fuse Block

Cat. No. 1491-R167
2-Pole Fuse Block

Cat. No. 1491-R171
3-Pole Fuse Block

Cat. No. 1491-R169
3-Pole Fuse Block

Cat. No. 1491-R150
Fuse Cover without Fuse♣

These control circuit fusing kits are intended to be used for control circuit transformer protection and protection of control circuits capable of delivering no more than 200 000 RMS symmetrical amperes, 600V maximum. (Fuses not included.)

Description✶	Cat. No.
One-pole kit — panel-mounted (midget fuse)❄	**1491-R165**
Control Circuit Fuse Block For Class CC rejection type fuses (fuses not included)❄	**1491-R162**
Two-pole kit — panel-mounted (two midget fuses)❄	1491-R167
Three-pole kit — panel-mounted (one midget fuse/two Class CC fuses)❄	1491-R169
Three-pole kit — panel-mounted (three Class CC fuses)	**1491-R171**
Single-pole kit — Bulletin 500 line controller mounted (Class CC fuses)‡	**599-FR04**
One-pole kit — panel-mounted (31…60 A Class J fuse)	1491-R173
One-pole kit — panel-mounted (61…100 A Class J fuse)	1491-R175

✶ For control circuit transformers with a 350 VA or larger rating, it is recommended that Bussmann Type FNQ-R, Ferraz-Shawmut Type ATDR, Littelfuse Type KLDR time delay fuses, or equivalent be used for primary fusing.

❄ These kits use only Class CC or midget fuses (rated 0.5…30 A) such as those offered by the following manufacturers:
- Bussmann KTK-R
- Ferraz-Shawmut ATM R
- Littelfuse KLK

‡ **Cat. No. 599-FR04** is rated for 6 A fuse maximum. Controller mounting applies to size 0…5 devices only.

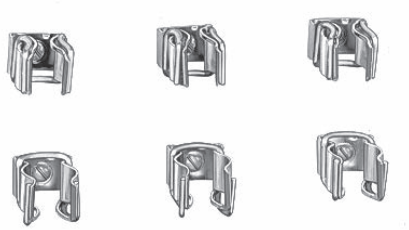
♣ One cover per pole is required. Example: transformer with top-mounted fuse block requires three covers. Fuse block kit for separate control requires two covers. Fuses not included.

Description		NEMA Size	Cat. No.
	Single-pole kit — Bulletin 500 line controller mounted (Class CC fuses)	0…5	**599-FR04**

Note: One cover per pole is required. Example: transformer with top-mounted fuse block requires three covers. Fuse block kit for separate control requires two covers.

Disconnect Switch Accessories

For use on Bulletins 502, 502L, 506, 506X, 512, 512H, 512M, 512V, 522, 532, 542, 572, 1242, 1272, 1282, 1232X, and 1232V

	Description	NEMA Size	Cat. No.
	**Fuse Clips** 0…30 A, 250V AC, Class H	0…2	**1401-N41**
	0…30 A, 250V AC, Class J 0…30 A, 600V AC, Class H 0…30 A, 600V AC, Class J 31…60 A, 250V AC, Class H	1…3	**1401-N42**
	31…60 A, 250V AC, Class J 31…60 A, 600V AC, Class H 31…60 A, 600V AC, Class J	1…3	**1401-N43**
	61…100 A, 250V AC, Class H 61…100 A, 250V AC, Class J 61…100 A, 600V AC, Class H 61…100 A, 600V AC, Class J	2…4	**1401-N44**
	101…200 A, 250V AC, Class H 101…200 A, 250V AC, Class J 101…200 A, 600V AC, Class H 101…200 A, 600V AC, Class J	3…5	**1401-N45**
	201…400 A, 250V AC, Class H 201…400 A, 250V AC, Class J 201…400 A, 600V AC, Class H 201…400 A, 600V AC, Class J	4…5	**1401-N46**
	0…30 A, 250V AC, Class R 0…30 A, 600V AC, Class R 31…60 A, 250V AC, Class R	0…2❄	**1401-N50** **1401-N51**
	31…60 A, 600V AC, Class R	1…3	**1401-N52**
	61…100 A, 250V AC, Class R 61…100 A, 600V AC, Class R	2…4	**1401-N53**
	101…200 A, 250V AC, Class R 101…200 A, 600V AC, Class R	3…5	**1401-N54**
	201…400 A, 250V AC, Class R 201…400 A, 600V AC, Class R	5…6	**1401-N55**
	0…30 A, 250V AC HRC Form II Fusing✶ 0…30 A, 600V AC HRC Form II Fusing✶ 31…60 A, 250V AC HRC Form II Fusing✶ 31…60 A, 600V AC HRC Form II Fusing✶	0…2❄ 1…3	⌘
	**Auxiliary Contacts for Disconnect Switches** 1 N.O.	0…5	**1495-N8**
	1 N.C.	0…5	**1495-N9**

✶ HRC Form II fusing for Canada only.
❄ For 0…30 A only.
⌘ Fuse clip not required. Fuse bolts directly to switch and trailer fuse block.

Accessories — Field Installed

NEMA Non-Combination Contactors/Starters and Combination Contactors/Starters

Disconnect Switch Accessories, continued

For use on Bulletins 502, 502L, 506, 506X, 512, 512H, 512M, 512V, 522, 532, 542, 572, 1242, 1272, 1282, 1232X, and 1232V

Cat. No. 1494R-N3

Description		For Use With	Cat. No.
Lug Connectors (3 per package)		1494C, 1494F, 1494G, and 1494V Disconnect Switches	
Disconnect Size [A]	**Wire Size**		
30	#14…8 AWG Wire		✶
60	#14…4 AWG Wire		§ **1494R-N1**
100	#8…1/0 AWG Wire		§ **1494R-N2**
200	#6…4/0 AWG Wire		§ **1494R-N3**
400	#6…250 MCM AWG 16 mm²…120 mm²		**1494R-N14**
400	#4 AWG…500 MCM Wire (oversized)		**1494R-N15**
600	(2) of #1/0…350 MCM Wire		§ **1494R-N10**
600	(2) of #1/0…350 MCM Wire	1491-N621 or 1491-R621 600 A fuse blocks	♣ **1494R-N11**

Protective Fuse Covers				
		Fuse Clip Rating [A]		
Switch Rating [A]	**Fuse Class**	**250V**	**600V**	**Cat. No.**
30 30 60 30 60 60 100	Non-fusible H, R H, R J J Non-fusible Non-fusible	— 30 60 30 60 — —	— — — 30 60 — —	**1495-N64**
30 60 100	H, R H, R J	— — 100	30 60 100	**1495-N65**
100	H, R J	100 200	100 200	**1495-N66**
200 200	Non-fusible H, J, R J	— — 200 400	— — 200 400	➢ **1495-N67**
200 200	Non-fusible H, J, R	— 200	— 200	⌘ **1495-N62**
400 400	Non-fusible H, J, R	— 400	— 400	➢ **1495-N68**
400 400	Non-fusible H, J, R	— 400	— 400	⌘ **1495-N63**
600	Non-fusible J	— 600	— 600	➢ **1495-N61**

✶ All terminals of the 30 A switches are furnished with self-lifting pressure plate connectors (N56, N57, and N58) as standard.
§ Each kit contains three lugs.
♣ Each kits contains two lugs.
➢ Switch with right-hand mechanism.
⌘ Switch with left-hand mechanism.

Accessories — Field Installed

NEMA Non-Combination Contactors/Starters and Combination Contactors/Starters

Pilot Device Accessories

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V

Description	Enclosure Type	NEMA Size	Cat. No.
Selector Switch Kits			
OFF-ON/HAND-OFF-AUTO∗❄	1 (Lift-off)	00…2	**599-SSL**
			599-SS2L
HAND-OFF-AUTO	1, 3R/4/12	0…5	**599-SS09HJ**
	4, 4X (stainless steel and non-metallic)		**599-SS09HS**
OFF-ON	1, 3R/4/12		**599-SS09OJ**
	4, 4X (stainless steel and non-metallic)		599-SS09OS
FOR-OFF-REV	1, 3R/4/12		599-SS09RJ
	4, 4X (stainless steel and non-metallic)		599-SS09RS
TEST-OFF-AUTO (spring return from TEST)	1, 3R/4/12		599-SS09TJ
	4, 4X (stainless steel and non-metallic)		599-SS09TS
FOR-OFF-REV (Unilock)	3R, 7 & 9	0…2	1481-N48
OFF-ON (Unilock)			1481-N54
HAND-OFF-AUTO (Unilock)			1481-N55
OFF-ON (Unilock)		3…5	1481-N59
HAND-OFF-AUTO (Unilock)			1481-N60
FOR-OFF-REV (Unilock)			1481-N62
Push Button Kits			
START-STOP∗❄	1 (Lift-off)	00…2	**599-PBL**
START-STOP	1, 3R/4/12	0…5	**599-PB09SJ**
	4, 4X (stainless steel and non-metallic)		**599-PB09SS**
FOR-REV-STOP	1, 3R/4/12		**599-PB09RJ**
	4, 4X (stainless steel and non-metallic)		599-PB09RS
HIGH-LOW-STOP	1, 3R/4/12		599-PB09WJ
	4, 4X (stainless steel and non-metallic)		599-PB09WS
START-STOP (Unilock)	7 & 9	0…2	1481-N53
		3…5	1481-N58
START-STOP (bolted)		0…9	Use **800H-DPH16AAXX64**

∗ Must order mounting bracket (**Cat. No. 599-BRL**) separately.

❄ For Type 1, lift-off, non-combination starters only (Bulletins 500, 500L, 505, and 509).

Pilot Device Accessories, continued

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V

Description		Enclosure Type	NEMA Size	Cat. No.
Pilot Light Kits‡ 120V		1, 3R/4/12	0…5	**599-PL09DJ**
120V		4, 4X (stainless steel and non-metallic)		**599-PL09DS**
240V		1, 3R/4/12		**599-PL09AJ**
240V		4, 4X (stainless steel and non-metallic)		599-PL09AS
480V		1, 3R/4/12		**599-PL09BJ**
480V		4, 4X (stainless steel and non-metallic)		599-PL09BS
600V		1, 3R/4/12		599-PL09CJ
600V		4, 4X (stainless steel and non-metallic)		599-PL09CS
ON✶❄♣	120V AC	1 (lift-off)	00…2	599-PLLD
	240V AC			599-PLLA
Optional Pilot Light Lens Covers Red		All	0…5	**800T-N26R**
Green				**800T-N26G**
Amber				**800T-N26A**
Blue				**800T-N26B**
Clear				**800T-N26C**
White				**800T-N26W**
ON (Unilock 120V) — Red❄§		3R, 7 & 9 (Unilock)	0…5	1481-N56A120R
ON (Unilock 120V) — Green❄§				1481-N56A120G

Push-to-Test Pilot Light Kits‡ 120V		1, 3R/4/12	0…5	599-PT09DJ
120V		4, 4X (stainless steel and non-metallic)		599-PT09DS
240V		1, 3R/4/12		**599-PT09AJ**
240V		4, 4X (stainless steel and non-metallic)		599-PT09AS
480V		1, 3R/4/12		599-PT09BJ
480V		4, 4X (stainless steel and non-metallic)		599-PT09BS
600V		1, 3R/4/12		599-PT09CJ
600V		4, 4X (stainless steel and non-metallic)		599-PT09CS
Optional Push-to-Test Pilot Light Lens Covers Red		All	0…5	**800T-N40**
Green				**800T-N41**
Amber				**800T-N42**
Blue				**800T-N43**
Clear				**800T-N45**
White				**800T-N44**
Mounting bracket❄		All lift-off pilot devices, Type 1	00…2	**599-BRL**

✶ Must order mounting bracket (**Cat. No. 599-BRL**) separately.
❄ For Type 1, lift-off, non-combination starters only (Bulletins 500, 500L, 505, and 509).
‡ Pilot light kits and push-to-test pilot light kits include one green and one red cover as standard.
§ An adapter (**Cat. No. 1481-N61**) is required for each pilot light added to Size 3, 4, and 5 Unilock enclosures.
♣ Supplied with red lens only.
Note: Bulletins 505 and 520 with two pilot lights are supplied in hinged enclosures, with or without control circuit transformers.

Accessories — Field Installed

NEMA Non-Combination Contactors/Starters and Combination Contactors/Starters

Pilot Device Accessories, continued

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V

Description		Enclosure Type	NEMA Size	Cat. No.
	ON ❄ (Unilock) — Red Lens (120V)	3R, 7 & 9 (Unilock)	0…5	1481-N56A120R
	ON ❄ (Unilock) — Green Lens (120V)			1481-N56A120G
	Transformers for pilot lights 240V, 60 Hz and 220V, 50 Hz∗		00…5	1481-NX1
	480V, 60 Hz and 440V, 50 Hz			1481-NX2
	600V, 60 Hz and 550V, 50 Hz			1481-NX3
	**Replacement Bulbs for all Pilot Lights** 120V coil voltage - incandescent Amber, green, red, or blue lens color	—	—	**800T-N169**
	120V coil voltage - LED Amber lens color	—	—	**800T-N320A**
	Green lens color	—	—	**800T-N320G**
	Red lens color	—	—	**800T-N320R**
	Blue lens color	—	—	**800T-N320B**
	240/480/600V coil voltage - incandescent Amber, green, red, or blue lens color	—	—	**800T-N65**
	240/480/600V coil voltage - LED Amber lens color	—	—	**800T-N318A**
	Green lens color	—	—	**800T-N318G**
	Red lens color	—	—	**800T-N318R**
	Blue lens color	—	—	**800T-N318B**
	Additional Pilot Devices Additional pilot devices	1, 3R/4/12	0…9	Use Bulletin 800T devices (See page 10-2)
	Additional pilot devices	4/4X, 4X	0…9	Use Bulletin 800H Type 4X devices (See page 10-2)
	Additional pilot devices (bolted)	3R, 7 & 9	0…9	Use Bulletin 800H Type 7 & 9 devices (See page 10-152)

∗ When the control voltage is other than 120V, 60 Hz or 110V, 50 Hz it is necessary to also use one of the following transformers.
❄ An adaptor (**Cat. No. 1481-N61**) is required for each pilot light added to size 3, 4, and 5 Unilock enclosures.

Enclosure Accessories

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V

	Description	Enclosure Type	NEMA Size	Cat. No.
	**Non-metallic Conduit Connectors** 1/2 in. (12.7 mm)	4, 4X (stainless steel and non-metallic)	0…1	**1490-N1**
	3/4 in. (19 mm)			**1490-N9**
	1 in. (24.5 mm)			**1490-N10**
	1-1/4 in. (31.75 mm)		2	**1490-N11**
	1-1/2 in. (38.1 mm)		3	**1490-N5**
	2 in. (50.8 mm)		4	1490-N6
	2-1/2 in. (63.5 mm)			1490-N7
	3 in. (76.2 mm)		5	1490-N8
	**Grounding Adapters** 1/2 in. (12.7 mm), #14…10 AWG	4, 4X (stainless steel and non-metallic)❄	0…1	1490-N19
	3/4 in. (19 mm), #14…8 AWG			**1490-N20**
	1 in. (24.5 mm), #14…8 AWG			**1490-N21**
	1-1/4 in. (31.75 mm), #14…4 AWG		2	1490-N22
	1-1/2 in. (38.1 mm), #8…1/0 AWG		3	1490-N23
	2 in. (50.8 mm), #8…1/0 AWG		4	1490-N24
	2-1/2 in. (63.5 mm), #6…2/0 AWG			1490-N25
	3 in. (76.2 mm), #6…4/0 AWG		5	1490-N26
	**Handle Kits with Universal Link for Switch and Breaker** Painted Metal 5-1/2 in. base	1, 3R, 3R/4/12✶	0…4	**1494F-M1**
	Painted Metal 7-1/2 in. base		5	**1494F-M2**
	Stainless Steel 5-1/2 in. base	4/4X (stainless steel)	0…4	**1494F-S1**
	Stainless Steel 7-1/2 in. base		5	**1494F-S2**
	Nonmetallic Handle 5-1/2 in. base	1, 3R, 3R/4/12, 4/4X (non-metallic)	0…4	**1494F-P1**
	**Hole Plugs** 30.5 mm hole plug for pilot devices	All	0…5	**800T-N1**
	19.5 mm hole plug for resets and door safety hardware			**598-N1**

✶ For combination starters only.

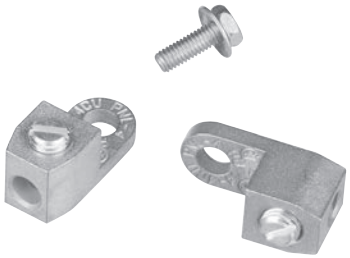
❄ Bulletin 1490 grounding adapters are available for use with these conduit hubs. These bushings provide a convenient method of connecting a ground wire to the conduit system. See conduit connector (hub) above proper size.

Accessories — Field Installed

NEMA Non-Combination Contactors/Starters and Combination Contactors/Starters

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512M, 512V, 513, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V

Enclosure Accessories, continued

Description		Enclosure Type	NEMA Size	Cat. No.
	**Door Safety Hardware Kits** **Enclosure Size (H x W x D)** 27 x 10 x 8.2 in.	3R/4/12❄	0…2	**1494F-V1**
	30 x 20 x 9.7 in.		0…4	**1494F-V2**
	50 x 22 x 11.1 in.		3…4	**1494F-V3**
	56 x 30 x 14 in.		5	**1494F-V4**
	Breather Bulletin 505, 507, 509, and 513 — Unilock and bolted Class I, Groups C and D Class II, Groups E, F and G♣‡		0…5	1401-N1
	Drain Bulletin 505, 507, 509, and 513 — Unilock and bolted Class I, Groups C and D Class II, Groups E, F and G♣‡			1401-N2
	Breather Drain Combination§ Bulletin 505, 507, 509, and 513 — Unilock and bolted Class I, Groups C and D Class II, Groups E, F and G♣‡			1401-N3
	**Ground Lug Kits**		0…2	**599-GR1**
			3…5	599-GR2
			6…7	599-GR3

Description of Accessory Kit	Size 0…2 Cat. No.	Size 3 Cat. No.	Size 4 Cat. No.	Size 5 Cat. No.	Size 6…9 Cat. No.
Reset Buttons (Each Kit Contains One Reset)					
Type 1, 3R/12 Bulletin 506…507 — One Kit Required Per Starter	**1493-N21**	**1493-N21**	1493-N31⌘	—	—
Bulletin 512…513 — One Kit Required Per Starter				**1493-N21**➢	—
Bulletin 522…523 — Two Kits Required Per Starter				—	—
Type 4/4X	—	—	1493-N32	—	—
Pneumatic Timer Mounting Plate Adapter (For Mtg. Bulletin 849A Timer) Bulletin 509 and 513 — Unilock♣	1401-N4	—	—	—	—

❄ Converts combination starter enclosure **F** to enclosure code **D** or **J** with door safety hardware.
‡ Standard on bolted Type 3R, 7 & 9.
§ The breather-drain combination can be in enclosure top as a breather or bottom as a drain. Specify (2) when both functions are required.
♣ Unilock suitable for Types 7 & 9 or Types 3R, 7 & 9 with the addition of a drain or a breather and drain.
➢ For Bulletins 512…513 only.
⌘ Also use for NEMA sizes 0…2 lift-off enclosure.

System Accessories

For use on Bulletins 500, 500F, 500L, 500LP, 502, 502L, 503, 503L, 505, 505V, 506, 506X, 507, 507X, 509, 512, 512H, 512M, 512V, 513, 513H, 513M, 513V, 520, 520V, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1242, 1243, 1272, 1273, 1282, 1283, 1232X, 1232V, 1233X, and 1233V

Description		Enclosure Type	NEMA Size	Cat. No.
	**Power Monitor Kit**∗❄ 3-phase, 240V AC — (Time Mark Model A258)	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0…7	599-PM1
	3-phase, 480V AC — (Time Mark Model A258B)			599-PM2
	**Terminal Block**∗ Panel Mount (6 point)‡	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0…7	**1492-HC6**
	**Timing Relays**∗ 120V AC, ON-Delay — 8-pin socket (Cat. No. 700-HN125) required 0.1…10 s	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0…7	**700-HT12AU120**
	120V AC, ON-Delay — 8-pin socket (Cat. No. 700-HN125) required 1.0…180 s			**700-HT12BU120**
	120V AC, OFF-Delay — 11-pin socket (Cat. No. 700-HN126) required 0.1…10 s	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0…7	**700-HT22AU120**
	120V AC, OFF-Delay — 11-pin socket (Cat. No. 700-HN126) required 1.0…180 s	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0…7	**700-HT22BU120**
	**Control Relays**∗ DPDT 2-pole 2 Form C Single AgNi Contact	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0…7	**700-HA32A1**
	3PDT 3-pole 3 Form C Single AgNi Contact	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0…7	**700-HA33A1**
	**Relay Sockets**∗ 8-pin socket	1 (hinged), 3R, 3R/4/12, 4/4X (stainless)	0…7	**700-HN125**
	11-pin socket		0…7	**700-HN126**

∗ For combination starters only.
❄ 3-phase power monitor kit includes the time mark phase monitor and socket.
‡ Up to two 6-point terminal blocks may be added to each combination starter.

NEMA Specifications

NEMA Non-Combination and Combination Contactors/Starters

Electrical Ratings

NEMA Size	Load Voltage [V]	Continuous Current Rating [A]	Service Limit Current Rating [A]✶	Maximum Hp Rating (Non-plugging and non-jogging duty)		Maximum Hp Rating (Plugging and jogging duty)❄		Transformer Primary Switching kVa Rating (Inrush Current ≤ 20 times Continuous Current)		Transformer Primary Switching kVa Rating (Inrush Current = 20 to 40 times Continuous Current)		Capacitor Switching kVAR‡	Maximum Circuit Closing Inrush Current [A] Peak Including Offset
				1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	3Ø	3Ø
00	115	9	11	1/3	—	1/4	—	—	—	—	—	—	87
	200			—	1-1/2	—	1	—	—	—	—	—	
	230			1	1-1/2	1/2	1	—	—	—	—	—	
	380			—	1-1/2	—	1	—	—	—	—	—	
	460			—	2	—	1-1/2	—	—	—	—	—	
	575			—	2	—	1-1/2	—	—	—	—	—	
0	115	18	21	1	—	1/2	—	0.6	—	0.3	—	—	140
	200			—	3	—	1-1/2	—	1.8	—	0.9	—	
	230			2	3	1	1-1/2	1.2	2.1	0.6	1	—	
	380			—	5	—	1-1/2	—	—	—	—	—	
	460			—	5	—	2	2.4	4.2	1.2	2.1	—	
	575			—	5	—	2	3	5.2	1.5	2.6	—	
1	115	27	32	2	—	1	—	1.2	—	0.6	—	—	288
	200			—	7-1/2	—	3	—	3.6	—	1.8	—	
	230			3	7-1/2	2	3	2.4	4.3	1.2	2.1	6	
	380			—	10	—	5	—	—	—	—	—	
	460			—	10	—	5	4.9	8.5	2.5	4.3	13.5	
	575			—	10	—	5	6.2	11	3.1	5.3	17	
1P	115	36	42	3	—	1-1/2	—	—	—	—	—	—	—
	230			5	—	3	—	—	—	—	—	—	—
2	115	45	52	3	—	2	—	2.1	—	1	—	—	483
	200			—	10	—	7-1/2	—	6.3	—	3.1	—	
	230			7-1/2	15	5	10	4.1	7.2	2.1	3.6	12	
	380			—	25	—	15	—	—	—	—	—	
	460			—	25	—	15	8.3	14	4.2	7.2	25	
	575			—	25	—	15	10	18	5.2	8.9	31	
3	115	90	104	7-1/2	—	7-1/2	—	4.1	—	2	—	—	947
	200			—	25	—	15	—	12	—	6.1	—	
	230			15	30	15	20	8.1	14	4.1	7.0	27	
	380			—	50	—	30	—	—	—	—	—	
	460			—	50	—	30	16	28	8.1	14	53	
	575			—	50	—	30	20	35	10	18	67	
4	115	135	156	—	—	—	—	6.8	—	3.4	—	—	1581
	200			—	40	—	25	—	20	—	10	—	
	230			—	50	—	30	14	23	6.8	12	40	
	380			—	75	—	50	—	—	—	—	—	
	460			—	100	—	60	27	47	14	23	80	
	575			—	100	—	60	34	59	17	29	100	
5	115	270	311	—	—	—	—	14	—	6.8	—	—	3163
	200			—	75	—	60	—	41	—	20	—	
	230			—	100	—	75	27	47	14	24	80	
	380			—	150	—	125	—	—	—	—	—	
	460			—	200	—	150	54	94	27	47	160	
	575			—	200	—	150	68	117	34	59	200	
6	115	540	621	—	—	—	—	27	—	14	—	—	6326
	200			—	150	—	125	—	81	—	41	—	
	230			—	200	—	150	54	94	27	47	160	
	380			—	300	—	250	—	—	—	—	—	
	460			—	400	—	300	108	188	54	94	320	
	575			—	400	—	300	135	234	68	117	400	
7	230	810	932	—	300	—	—	—	—	—	—	240	9470
	460			—	600	—	—	—	—	—	—	480	
	575			—	600	—	—	—	—	—	—	600	
8	230	1215	1400	—	450	—	—	—	—	—	—	360	14205
	460			—	900	—	—	—	—	—	—	720	
	575			—	900	—	—	—	—	—	—	900	
9	230	2250	2590	—	800	—	—	—	—	—	—	665	25380
	460			—	1600	—	—	—	—	—	—	1325	
	575			—	1600	—	—	—	—	—	—	1670	

✶ **Service-Limit Current Ratings —** The service-limit current ratings shown represent the maximum rms current, in amperes, which the controller shall be permitted to carry for protracted periods in normal service. At service-limit current ratings, temperature rises shall be permitted to exceed those obtained by testing the controller at its continuous current rating. The current rating of overload relays or the trip current of other motor protective devices used shall not exceed the service-limit current rating of the controller.

❄ **Plugging or Jogging Service —** The listed horsepower ratings are recommended for those applications requiring repeated interruption of stalled motor current encountered in rapid motor reversal in excess of five openings or closings per minute and shall not be more than ten in a ten minute period.

‡ If maximum available current (at capacitor terminals) is greater than 3000 A, please contact your local Rockwell Automation sales office, Allen-Bradley distributor, or NEMA ICS-2 Standard.

Mechanical Ratings

NEMA Size	Mechanical Life (Millions of Operations)	Maximum Number of Auxiliary Contacts	Operating Time [ms]	
			Pick-up (Average)	Drop-out (Average)
00	10	5	20	16
0	10	8	21	16
1	10	8	22	14
2	10	8	27	13
3	5	8	37	20
4	5	8	27	20
5	5	8	25	18
6	5	4	25…79	10…22
7	—	8	88	40
8	—	8	88	45
9	—	8	118	84

Construction

NEMA Size	Wire Size for Power Terminals	Required Torque on Power Terminal Wire Clamps and Pressure Connectors or Lugs	Type of Power Terminal	Contact Material		Requirements for Sizing of Wire
				Power Contacts	Auxiliary Contacts	
00	#16…10 AWG	9 lb•in	Pressure terminals	Silver alloy	Silver	All wire rated 167 °F (75 °C) or higher must be sized per the local Electrical Code for 167°F (75 °C) wire.
0	#14…10 AWG	20 lb•in	Saddle or wire clamps			
1	#14…8 AWG	20 lb•in				
2	#14…4 AWG	45 lb•in	Pressure terminals			
3	#8…1/0 AWG	150 lb•in				
4	#6…4/0 AWG	275 lb•in				
5	#4 AWG…500 MCM	375 lb•in				
6	Lugs sold separately. See page 1-113.					
7						
8						
9	Direct bus connections only.					

Environmental

NEMA Size	Operating Position	Operating Temperature Range	Altitude	Corrosion-Resistance
00	Horizontal	Starters with eutectic alloy Overload relay –13…+149 °F (–25…+65 °C) Starters with SMP Overload relay –13…+131 °F (–25…+55 °C) (provided condensation is prevented)	10 000 feet before derating	All metal parts are treated for corrosion-resistance
0	Vertical			
1				
2				
3				
4				
5				
6	Horizontal			
7	Vertical			
8				
9				

Short Circuit Rating

Combination contactors and starters with disconnect switch: Bulletin 502, 506, 512, 522E, 522F, 522G, and 1232X

Combination Contactors and Starters with Disconnect Switch: Bulletin 502, 506, 512, 522E, 522F, 522G, and 1232X			
NEMA Size	Fuse Type	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
0…3	H, K	5000	600
4…5	H, K	10 000	
0…5	J, R	100 000	
6	L	18 000	
7	L	18 000	
Combination Lighting Contactors with Disconnect Switch: Bulletin 502L			
Lighting Contactor Rating [A]	Fuse Type	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
20…100	H, K	5000	600
200…300	H, K	10 000	
20…300	J, R	100 000	
Combination Contactors and Starters with Circuit Breaker: Bulletin 503, 507, 513, 523E, 523F, 523G, and 1233X∗			
Enclosure Type	NEMA Size	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
1, 3R, 3R/4/12, 4/4X (stainless)	0…5	65 000	480
Unilock 3R, 7, & 9	0…5	65 000	
Bolted 3R, 7, & 9	0…2	65 000	
1, 3R, 3R/4/12, 4/4X (stainless)	0…5	25 000	600
Unilock 3R, 7, & 9	0…3	5000	
Unilock 3R, 7, & 9	4…5	10 000	
Bolted 3R, 7, & 9	0…2	5000	
3R, 3R/4/12	6…7	10 000	
Combination Lighting Contactors with Circuit Breaker: Bulletin 503L∗			
Enclosure Type	Lighting Contactor Rating [A]	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
1, 3R, 3R/4/12, 4/4X (stainless)	20…300	65 000	480
Unilock 3R, 7, & 9	20…300	65 000	
Bolted 3R, 7, & 9	20…300	65 000	
1, 3R, 3R/4/12, 4/4X (stainless)	20…300	25 000	600
Unilock 3R, 7, & 9	20…100	5000	
Unilock 3R, 7, & 9	20…300	10 000	
Bolted 3R, 7, & 9	20…300	5000	

∗ For the most up-to-date SCCRs, please see the on-line Industrial Controls catalog at www.ab.com/catalogs.

AC Coil Data

NEMA Size	Operating Volt Amperes Burden [VA] 60 Hz Coils		Heat Dissipation [W]	Coil Operating Limits
	Inrush	Sealed		
00	70	8	2.7	85…110%
0	192	29	5.9	
1 & 1P	192	29	5.9	
2 (2…3 poles)	240	29	5.9	
2 (4…5 poles)	315	38	5.9	
3 (2…3 poles)	660	45	10	
3 (4…5 poles)	840	58	10	
4 (2…3 poles)	1225	69	14.8	
4 (4…5 poles)	1490	96	14.8	
5 (Series L)	1490	96	19.8	
6∗	4860	254	65.7	
6 (Interposing relay)	52.44	3.96	—	
7❄	Economized DC Coil		—	
7 (Interposing relay)	74.40	9.84	—	
8‡	Economized DC Coil		—	
8 (Interposing relay)	74.40	9.84	—	
9§	Economized DC Coil		—	
9 (Interposing relay)	144	19.20	—	

∗ This rating is for the size 6 contactor coil only. All starters are shipped with an interposing relay as standard.

❄ Size 7 starters are shipped with a 250 VA control circuit transformer and an interposing relay with a 120V coil. Voltage is then rectified to DC for the contactor coil.

‡ Size 8 starters are shipped with a 350 VA control circuit transformer and an interposing relay with a 120V coil. Voltage is then rectified to DC for the contactor coil.

§ Size 9 starters are shipped with a 750 VA control circuit transformer and an interposing relay with a 120V coil. Voltage is then rectified to DC for the contactor coil.

Auxiliary Contacts (NEMA A600 and P300) — Bulletin 595, 596

Maximum AC Contact Rating Per Pole						
AC Rating Designation	Maximum Voltage 60 or 50 Hz	[A]		Continuous Carrying Current [A]	[VA]	
		Make	Break		Make	Break
A600	120	60	6	10	7200	720
	240	30	3	10	7200	720
	480	15	1.5	10	7200	720
	600	12	1.2	10	7200	720

Maximum DC Contact Rating Per Pole for 595, 596 Auxiliary Contacts (Maximum Continuous Carrying Current is 5 A)			
DC Rating Designation	125V DC	250V DC	600V DC
P300	0.55 A	0.55 A (Requires 2 Contacts in Series)	—
	1.1 A (Requires 2 Contacts in Series)		

1

Load-Life Curves

Bulletin 500 Line contactors and starters are designed to provide superior performance in a variety of applications. These load-life curves are based on Rockwell Automation tests according to the requirements defined in IEC 947-4. Actual contact life may vary based on the application, duty cycle, and environmental conditions from that indicated by the curves.
To find the contactor's estimated electrical life, follow these guidelines:

- Choose the appropriate graph that most closely approximates the utilization category of the application.
- Locate the intersection of the life-load curve of the appropriate contactor with the application's operational current (I^e) found on the horizontal axis.
- Read the estimated contact life in millions of operations along the vertical axis.

Contact Life for Mixed Utilization Categories AC3 and AC4

In many applications, the utilization category cannot be defined as either purely AC3 or AC4. In those applications, the electrical life of the contactor can be estimated from the following equation:

$$L_{mixed} = \frac{L_{AC3}}{1 + P_{AC4}\left(\frac{L_{AC3}}{L_{AC4}} - 1\right)}$$

Where:

L_{mixed} = Approximate contact life for a mixed AC3/AC4 utilization category application

L_{AC3} = Approximate contact life in operations for AC3 utilization category (from AC3 life-load curves below)

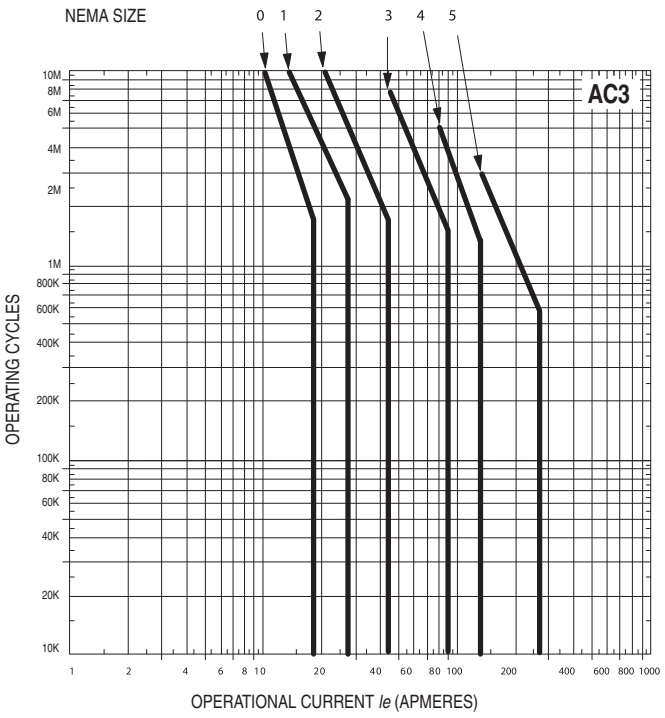
L_{AC4} = Approximate contact life in operations for AC4 utilization category (from AC4 life-load curves below)

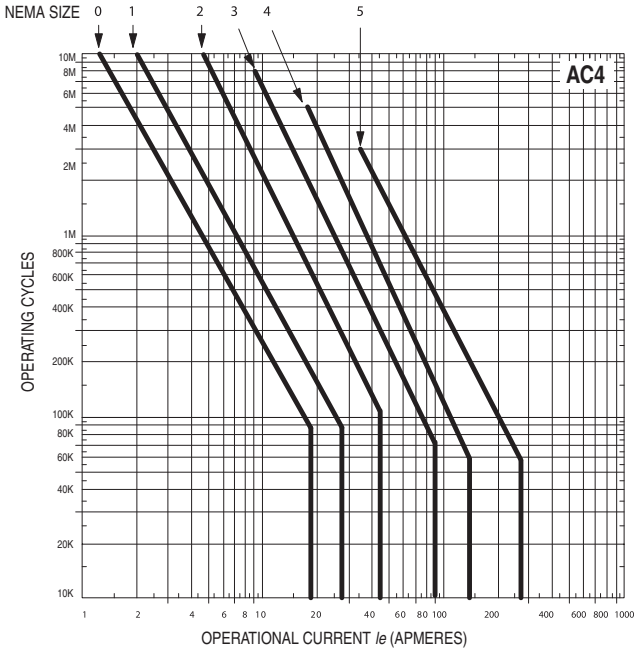
P_{AC4} = Percentage of AC4 operations

Utilization Categories

Category	Typical Duty
AC3	Starting of squirrel cage motors and switching off only after the motor is up to speed.
AC4	Starting of squirrel cage motors with inching and plugging duty.

Bulletin 500 Load/ Life Curves — AC3 and AC4





1

Group Motor Ratings for NEMA Contactors/Starters

Manual Starters	FLA Range (Amps)	Group Rating (480V)		Contactors				
		w/o Limiter	with Limiter	Size 00	Size 0	Size 1	Size 2	Size 3
140-MN-0016	0.10…0.16	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-0025	0.16…0.25	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-0040	0.25…0.40	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-0063	0.40…0.63	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-0100	0.63…1.0	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-0160	1.0…1.6	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-0250	1.6…2.5	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-0400	2.5…4.0	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-0630	4.0…6.3	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-1000	6.3…10.0	42 kA	42 kA	500-TO∗	500-AO∗	500-BO∗	—	—
140-MN-1600	10.0…16.0	10 kA	42 kA	—	500-AO∗	500-BO∗	500-CO∗	—
140-MN-2000	16.0…20.0	10 kA	14 kA	—	500-AO∗	500-BO∗	500-CO∗	—
140-MN-2500	20.0…25.0	10 kA	10 kA	—	—	500-BO∗	500-CO∗	—
190-MN+190-P320	24.0…32.0	—	42 kA	—	—	—	500-CO∗	500-DO∗
190-MN+190-P400	32.0…42.0	—	30 kA	—	—	—	500-CO∗	500-DO∗

Manual Starters	FLA Range (Amps)	Group Rating (480V)		Starters				
		w/o Limiter	with Limiter	Size 00	Size 0	Size 1	Size 2	Size 3
140-MN-0016	0.10…0.16	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-0025	0.16…0.25	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-0040	0.25…0.40	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-0063	0.40…0.63	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-0100	0.63…1.0	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-0160	1.0…1.6	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-0250	1.6…2.5	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-0400	2.5…4.0	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-0630	4.0…6.3	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-1000	6.3…10.0	42 kA	42 kA	509-TO❄	509-AO❄	509-BO❄	—	—
140-MN-1600	10.0…16.0	10 kA	42 kA	—	509-AO❄	509-BO❄	509-CO❄	—
140-MN-2000	16.0…20.0	10 kA	14 kA	—	509-AO❄	509-BO❄	509-CO❄	—
140-MN-2500	20.0…25.0	10 kA	10 kA	—	—	509-BO❄	509-CO❄	—
190-MN+190-P320	24.0…32.0	—	42 kA	—	—	—	509-CO❄	509-DO❄
190-MN+190-P400	32.0…42.0	—	30 kA	—	—	—	509-CO❄	509-DO❄

∗ Cat. No. is incomplete. Refer to page 1-31.
❄ Cat. No. is incomplete. Refer to page 1-46.

NEMA Specifications

NEMA Non-Combination and Combination Contactors/Starters

Full Load Currents of 3-Phase, 60 Hertz AC Induction Motors

The full load currents listed below are "average values" for horsepower rated motors of several manufacturers at the more common rated voltages and speeds. These "average values", along with the similar values listed in the U. S. National Electrical Code (NEC), should be used only as a guide for selecting suitable components for the Motor Branch Circuit. The rated full load current, shown on the motor nameplate, may vary considerably from the listed value depending on the specific motor design.

ATTENTION: The motor nameplate full load current should always be used in determining the rating of the devices used for Motor Running Overcurrent Protection.

HP	RPM∗	Full Load Current [A]					
		208V	240V	480V	600V	2200V	4000V
1/4	**3600**	1.20	1.04	0.52	0.42	—	—
	1800	1.39	1.20	0.60	0.48	—	—
	1200	1.62	1.40	0.70	0.56	—	—
	900	—	—	—	—	—	—
1/3	**3600**	1.48	1.28	0.64	0.51	—	—
	1800	1.69	1.46	0.73	0.58	—	—
	1200	1.89	1.64	0.82	0.66	—	—
	900	—	—	—	—	—	—
1/2	**3600**	2.08	1.80	0.90	0.72	—	—
	1800	2.54	2.20	1.10	0.88	—	—
	1200	2.89	2.50	1.25	1.00	—	—
	900	—	—	—	—	—	—
3/4	**3600**	2.89	2.50	1.25	1.00	—	—
	1800	3.47	3.00	1.50	1.20	—	—
	1200	3.81	3.30	1.65	1.32	—	—
	900	—	—	—	—	—	—
1	**3600**	3.51	3.04	1.52	1.22	—	—
	1800	4.25	3.68	1.84	1.47	—	—
	1200	4.60	3.98	1.99	1.59	—	—
	900	—	—	—	—	—	—
1-1/2	**3600**	5.04	4.36	2.18	1.74	—	—
	1800	5.80	5.02	2.51	2.01	—	—
	1200	6.49	5.62	2.81	2.25	—	—
	900	—	—	—	—	—	—
2	**3600**	6.51	5.64	2.82	2.26	—	—
	1800	7.18	6.22	3.11	2.49	—	—
	1200	8.20	7.10	3.55	2.84	—	—
	900	—	—	—	—	—	—
3	**3600**	9.24	8.00	4.00	3.20	—	—
	1800	10.4	9.04	4.52	3.62	—	—
	1200	11.6	10.1	5.04	4.03	—	—
	900	—	—	—	—	—	—
5	**3600**	15.7	13.6	6.80	5.44	—	—
	1800	15.9	13.8	6.88	5.50	—	—
	1200	18.6	16.1	8.07	6.46	—	—
	900	—	—	—	—	—	—
7-1/2	**3600**	22.1	19.1	9.57	7.66	—	—
	1800	25.0	21.7	10.8	8.66	—	—
	1200	26.6	23.1	11.5	9.22	—	—
	900	—	—	—	—	—	—
10	**3600**	29.7	25.7	12.9	10.3	—	—
	1800	31.5	27.3	13.7	10.9	—	—
	1200	32.9	28.4	14.2	11.4	—	—
	900	—	—	—	—	—	—
15	**3600**	43.0	37.2	18.6	14.9	—	—
	1800	46.7	40.4	20.2	16.2	—	—
	1200	49.1	42.5	21.3	17.0	—	—
	900	—	—	—	—	—	—
	600	—	—	—	—	—	—
20	**3600**	59.2	51.3	25.6	20.5	5.2	2.9
	1800	59.6	51.6	25.8	20.6	5.3	3.0
	1200	61.7	53.4	26.7	21.4	5.4	3.1
	900	—	—	—	—	5.8	3.2
	600	—	—	—	—	6.4	3.5
25	**3600**	70.9	61.4	30.7	24.6	6.3	3.4
	1800	74.7	64.7	32.3	25.9	6.5	3.6
	1200	76.0	65.8	32.9	26.3	6.7	3.7
	900	—	—	—	—	6.9	3.8
	600	—	—	—	—	8.1	4.4
30	**3600**	85.7	74.2	37.1	29.7	—	—
	1800	88.2	76.4	38.2	30.5	7.8	4.3
	1200	91.6	79.3	39.7	31.7	8.0	4.4
	900	—	—	—	—	8.2	4.5
	600	—	—	—	—	9.3	5.0
40	**3600**	111	96.0	48.0	38.4	—	—
	1800	117	102	50.8	40.6	10.0	5.5
	1200	119	103	51.7	41.4	10.3	5.7
	900	—	—	—	—	10.6	5.8
	600	—	—	—	—	11.5	6.3
50	**3600**	141	122	61.2	49.0	—	—
	1800	144	125	62.3	49.8	12.3	6.8
	1200	147	127	63.4	50.7	12.4	6.8
	900	—	—	—	—	13.1	7.2
	600	—	—	—	—	14.2	7.8
60	**3600**	165	143	71.6	57.3	—	—
	1800	172	149	74.3	59.4	14.6	8.0
	1200	173	150	74.9	59.9	14.9	8.2
	900	—	—	—	—	15.4	8.5
	600	—	—	—	—	16.7	9.2
75	**3600**	204	177	88.5	70.8	—	—
	1800	211	183	91.4	73.1	18.0	9.9
	1200	215	186	93.1	74.5	18.2	10.0
	900	—	—	—	—	19.0	10.5
	600	—	—	—	—	21.0	11.6
100	**3600**	267	231	116	92.6	—	—
	1800	276	239	119	95.5	23.6	13.0
	1200	281	243	122	97.2	24.2	13.3
	900	—	—	—	—	24.8	13.6
	600	—	—	—	—	26.4	14.5
	450	—	—	—	—	29.8	16.4
125	**3600**	333	288	144	115	—	—
	1800	340	294	147	118	29.2	16.1
	1200	347	300	150	120	29.9	16.4
	900	—	—	—	—	30.9	17.0
	720	—	—	—	—	31.3	17.2
	600	—	—	—	—	32.8	18.0
	450	—	—	—	—	36.0	19.8
150	**3600**	397	344	172	138	—	—
	1800	404	350	175	140	34.8	19.1
	1200	414	358	179	143	35.5	19.5
	900	—	—	—	—	37.0	20.4
	720	—	—	—	—	37.0	20.4
	600	—	—	—	—	38.8	21.3
	450	—	—	—	—	42.0	23.1
200	**3600**	524	454	227	182	—	—
	1800	531	460	230	184	46.7	25.7
	1200	538	466	233	186	47.0	25.9
	900	—	—	—	—	49.4	27.2
	720	—	—	—	—	49.0	27.0
	600	—	—	—	—	50.9	28.0
	450	—	—	—	—	53.7	29.5
250	**3600**	642	556	278	222	—	—
	1800	658	570	285	228	57.5	31.6
	1200	682	590	295	236	58.5	32.2
	900	—	—	—	—	61.5	33.8
	720	—	—	—	—	61.5	33.8
	600	—	—	—	—	61.0	33.6
	450	—	—	—	—	65.3	35.9
	360	—	—	—	—	70.0	38.5
300	**3600**	774	670	335	268	—	—
	1800	790	684	342	274	69.0	38.0
	1200	804	696	348	278	70.0	38.5
	900	—	—	—	—	73.5	40.4
	600	—	—	—	—	72.3	39.8
	450	—	—	—	—	76.0	41.8
	360	—	—	—	—	82.8	45.5
350	**3600**	—	748	374	299	—	—
	1800	—	762	381	305	—	—
	1200	—	774	387	310	—	—
400	**3600**	—	874	437	350	—	—
	1800	—	892	446	357	—	—
	1200	—	902	451	361	—	—
450	**3600**	—	972	486	389	—	—
	1800	—	992	496	397	—	—
	1200	—	1004	502	402	—	—
500	**3600**	—	1074	537	430	—	—
	1800	—	1096	548	438	—	—
	1200	—	1108	554	443	—	—

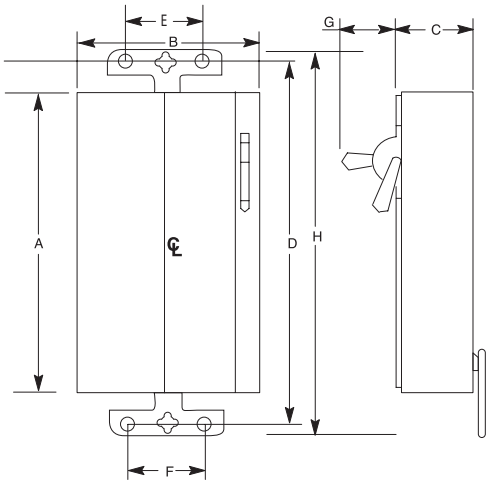
∗ Synchronous speed nameplate is usually less due to slip.

Approximate Dimensions

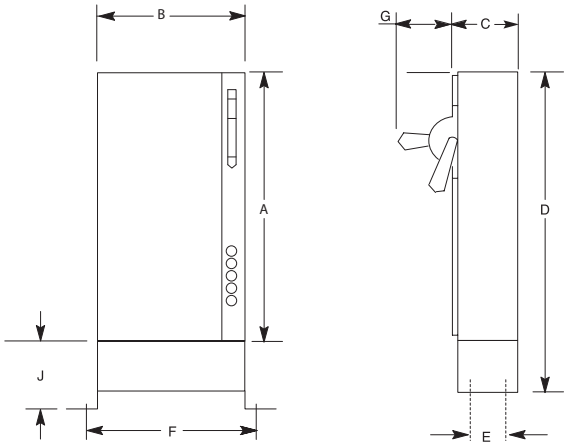
For NEMA AC Starters

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

Type 3R (Enclosure Code "N") Rainproof. Enclosures with Extra Panel Space Bulletins 1232X, 1233X, 1242, 1243, 1272, 1273, 1282, 1283



Size 1,2, 3, 4



Size 5,6,7

NEMA Size	Bulletin No.	Approximate Dimensions in Inches (Millimeters)									Approx. Shipping Weight [lb (kg)]
		A Height	B Width	C Depth	D Mounting	E Mounting	F Mounting	G Handle Depth	H	J	
1…2	1232X	30 (762)	20.5 (521)	8.72 (221)	34.88 (886)	10 (254)	10 (254)	5.56 (141)	36.38 (924)	—	90 (40.82)
1…2	1233X										
3…4	1232X, 1233X	50 (1270)	22 (559)	9.90 (251)	54.88 (1394)	15.25 (387)	15.25 (387)	5.56 (141)	56.38 (1432)	—	250 (113.4)
1PW, 2PW	1282, 1283										
1YD, 2YD	1242, 1243										
2	1272, 1273										
4	1232X										
3PW, 4PW	1282	56 (1422)	30.5 (775)	13.78 (350)	—	11 (279)	40.72 (1034)	7.62 (194)	—	—	360 (163.3)
3PW…5PW	1283										
3YD, 4YD	1242										
3YD…5YD	1243										
3, 4	1272										
3…5	1273										
5	1232X, 1233X	56 (1422)	30.5 (775)	13.78 (350)	65.68 (1668)	11 (279)	33.84 (860)	7.62 (194)	—	9.68 (246)	360 (163.3)
6	1233X										
5PW	1282										
5YD	1242										
5, 6	1272										
6	1273										
6	1232X✶										
6	1232X❄	60 (1524)	37.38 (949)	16 (406)	69.68 (1769.9)	11 (279)	40.72 (1034)	7.62 (194)	—	9.68 (246)	420 (190.5)
7	1232X, 1233X	84 (2134)	39.5 (1003)	18 (457)	93.68 (2379.5)	11 (279)	42.84 (1088)	7.62 (194)	—	9.68 (246)	650 (294.8)

✶ Fusible disconnect switch with Class J fuses.
❄ Fusible disconnect switch with Class R fuses.

Bulletin 500 Line of Contactors and Starters (excluding Modular Kits)

Used on Size 00, Series B

Used on Size 00, Series D

Used on Size 0...5

AC Operating Coils							
		Size 00		Size 0...1 Size 15/20...30 A		Size 2 Size 60 A	
		Series B	Series D	2-...3-Pole∗❄	4-Pole∗ 4-...5-Pole❄	2-Pole∗ 2-...3-Pole❄	3-...4-Pole∗ 4-...5-Pole❄
Voltage [V]	Frequency [Hz]	Part. No.					
24	50	**GA407**	TA407	—	—	—	—
	60	**GA013**	**TA013**	**CB013**		**CC013**	CC013C
110 120	50 60	GA473‡ —	**TA473**	**CB236**		**CC236**	**CC236C**
200...208	60	GA049	**TA049**	**CB249**		**CC249**	CC249C
220 240	50 60	GA474§	**TA474§**	**CB254**		**CC254**	CC254C
277	60	GA060	TA480	**CB260**		CC260	CC260C
380	50	GA454	TA071	CB354	CB354C	CC354	CC354C
415	50	GA457	TA457	CB357	CB357C	CC357	CC357C
440 480	50 60	GA475 —	**TA475** —	**CB273**		**CC273**	CC273C
550 600	50 60	— GA476	TA476	CB278		CC278	CC278C
		Size 3 Size 100 A		Size 4 Size 200 A		Size 5 Size 300 A	
		2-Pole∗ 2-...3-Pole❄	3-...4-Pole∗ 4-...5-Pole❄	2-Pole∗ 2-...3-Pole❄	3-...4-Pole∗ 4-...5-Pole❄	Series L	
Voltage [V]	Frequency [Hz]	Part. No.					
24	60	CD013	CD013C	—	—	—	—
110 120	50 60	**CD236**	**CD236C**	**CE236**	**CE236C**	**AF236**	
200...208	60	**CD249**	CD249C	CE249	CE249C	AF249	
220 240	50 60	**CD254**	CD254C	**CE254**	CE254C	AF254	
277	60	CD260	CD260C	CE260	CE260C	AF260	
380	50	CD354	CD354C	CE354	CE354C	AF354	
415	50	CD357	CD357C	CE357	CE357C	AF357	
440 480	50 60	**CD273**	CD273C	**CE273**	CE273C	AF273	
550 600	50 60	CD278	CD278C	CE278	CE278C	AF278	

∗ For non-motor loads (Bulletin 500L).
❄ For motor rated contactors and starters.
‡ Also for 120V, 60Hz.
§ Also for 240V, 60Hz.

Bulletin 500 Line of Contactors and Starters (excluding Modular Kits), Continued

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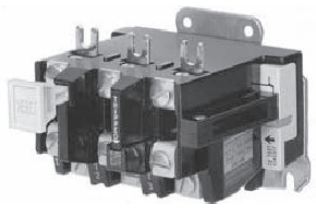
Single Pole Contact Kit — Sizes 00…5 (Includes Front and Rear Stationary Contact, Movable Contact and Contact Spring)

Motor Rated Contactors and Starters (Bulletin 500, 505, 509, and 520)			Non-Motor Rated Contactors (Bulletin 500L)			
Size	Part No.		Size	No. of Poles	Part No.	
0	‡	**40410-331-51**	15/20 A	2…3	‡	**40410-331-53**
1	‡	**40410-331-52**	30 A	2…3	‡	**40410-331-54**
1P	‡	40410-331-55	60 A	2…3	‡	**40420-322-52**
2	‡	**40420-322-51**	100 A	2…3		**40430-300-52**
				4		40430-300-53
3		**40430-300-51**	200 A	2…3		**40440-325-52**
4		**40440-300-51**		4		40440-325-53
—			300 A (Series A)	2		Z-34119
				3		Z-34120
5 (Series L)		**42450-805-01**	300 A (Series L)	2…3		42450-805-02
6 (Series B&C)		**40783-802-02**	540A (Series B&C)	3		**40783-802-02**

Manual Reset (Eutectic Alloy) Overload Relays

Heater Elements — Order heater elements as a separate item. See page 1-167 for heater element selection tables.



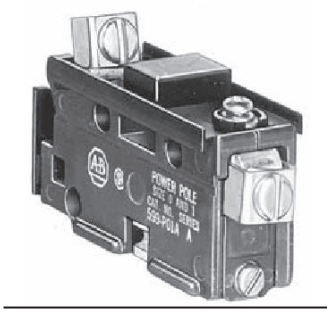
Size	Cat. No.
3-Phase or 1-Phase (3 elements)	
00 (Series B & D)	**592-JOV16**
0, 1	**592-EUTB**
2	**592-EUTC**
3	**592-EUTD**
4	**592-EUTE**
5	**592-BOV16**
1-Phase (1 element)	
Size	Part No.
00 (Series B & D)	Cat. No. **592-BOV4**
0, 1	➢ 42185-804-01
1P	➢ 40185-803-01
2	➢ 40185-804-01
3	➢ 40185-805-01

Note: Auxiliary contacts on Size 3 and 4 overload relays are replaceable. Order Cat. No. 595-A34. See page 1-112 for complete information.

‡ Not for use on Power Pole Adders. Replace complete Power Pole Adder Kit with one selected from the listing on page 1-112.

➢ Mounting plate is not included.

Power Pole Adder Kit (Used Only for 4- and 5-Pole Devices)



Motor Rated Contactors and Starters	
Size	Cat. No.
0…1	**599-P01A**
2	**599-P2A**
3	599-P3A
4	599-P4A
Non-Motor Rated Contactors	
Rating [A]	Part No.
15/20	40410-452-04
30	40410-452-08
60	40420-452-04
100	40430-453-51
200	40440-452-51
300	42450-600-01

Starters Without Overload Relays for Field Assembly of Starters Using Bulletin 592 Overload Relays ❖

These products are intended for field installation of Bulletin 592 Eutectic, or 592 electronic overload relays (select Bulletin 592 overload relays from page 1-161…page 1-164). The overload relays ship in a starter carton with provisions for mounting the overload relay (includes a starter mounting plate, screws/bolts, and instructions).

Eutectic Alloy Overload Relays — Overload relay codes do not apply. Use Cat. No. as listed in the product selection tables. Select heater elements from page 1-167.

❖ All Sizes — No overload relay.
Bulletins 520, 522, and 523 require two overload relays.
Bulletins 530, 1282, and 1283 require two overload relays. When selecting the proper electronic overload relay or heater, divide motor nameplate full load amperes by 2.00. Use this value to select the proper overload relays.
Bulletins 540, 1242, and 1243 have one overload relay. When selecting the proper electronic overload relay or heater, divide motor nameplate full load amperes by 1.73. Use this value to select the proper overload relays.

E1 Plus Solid-State Three-Phase Overload Relay (Selectable Class 10, 20, or 30) (Automatic/Manual Reset)

For use with Bulletins 505, 505V, 506, 507, 509, 512, 512M, 513, 520, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1232, 1232X, 1233, 1233X, 1242, 1243, 1272, 1273, 1282, and 1283.♣➢⌘

NEMA Size	Full Load Current Adjustment Range [A]	Overload Relay Code Class 10, 15, 20, 30
00	0.1…0.5	A2A
	0.2…1.0	A2C
	1.0…5.0	A2E
	3.2…16	A2F
0, 1 1PW 1YD	0.2…1.0	A2C
	1.0…5.0	A2E
	3.2…16	A2F
	5.4…27	A2G
1	9…45	A2J
2 2PW 2YD	5.4…27	A2G
	9…45	A2J
3 3PW 3YD	9…45	A2J
	18…90	A2L
4 4PW 4YD	30…150	A2M
5 5PW 5YD	60…300	A2N
6 6PW 6YD	120…600	A2R
7✦	256…810	A2T
8✦	384…1215	A2U
9✦	800…2250	A2V

E1 Plus Solid-State Single-Phase Overload Relay (Selectable Class 10, 20, or 30) (Automatic/Manual Reset)

For use with Bulletins 505, 505V, 506, 507, 509, 512, 512M, 513, 520, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1232, 1232X, 1233, 1233X, 1242, 1243, 1272, 1273, 1282, and 1283.♣➢⌘

NEMA Size	FLC Adjustment Range [A]	Overload Relay Code
00	1.0…5.0	S2E
	3.2…16	S2F
	5.4…27	S2G
0…2	1.0…5.0	S2E
	3.2…16	S2F
	5.4…27	S2G
	9…45	S2J
3	18…90	S2L

E3 Electronic Overload Relay: 2 Inputs/1 Output

For use with Bulletins 509, 512, 512M, 513, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1232, 1232X,1233, 1233X, 1242, 1243, 1272, 1273, 1282, and 1283.

NEMA Size	FLC Adjustment Range [A]	Overload Relay Code❄
00	1…5	EC1A
	3…15	EC1B
0…2	1…5	EC1A
	3…15	EC1B
	5…25	EC1C
	9…45	EC1D
3	9…45	EC1D
	18…90	EC1E
4	28…140	EC1F
5	60…302	EC1H
6	125…630	EC1K

E3 Plus Electronic Overload Relay: 4 Inputs/2 Outputs, Built-In Ground Fault Sensor, PTC Thermistor Input

For use with Bulletins 505, 505V, 506, 507, 509, 512, 512M, 513, 520, 522, 523, 530, 532, 533, 540, 542, 543, 570, 572, 573, 1232, 1232X, 1233, 1233X, 1242, 1243, 1272, 1273, 1282, and 1283; **excluding Modular Kits.**✶

NEMA Size	FLC Adjustment Range [A]	Overload Relay Code❄
00	1…5	EC2A
	3…15	EC2B
0…2	1…5	EC2A
	3…15	EC2B
	5…25	EC2C
	9…45	EC2D
3	9…45	EC2D
	18…90	EC2E
4	28…140	EC2F
5	60…302	EC2H

✶ Bulletin 520 requires two overload relay codes to complete the cat. no. The first code will denote the high speed overload relay and the second code will denote the low speed overload relay.

❄ Rockwell Automation recommends using 120 or 240V AC coils on all NEMA Starters with E3 or E3 Plus electronic overload relays. When using coil voltages other than 120 or 240V AC, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

✦ These overload relays have an interposing relay with a 120V AC coil.

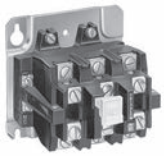
♣ Bulletins 520, 522, and 523 require two overload relay codes to complete the Cat. No. The first code will denote the high speed overload relay and the second code will denote the low speed overload relay.

➢ Bulletins 530, 532, 533, 1282, and 1283 have two overload relays and require two overload relay codes to complete the Cat. No. When selecting the proper overload relay, divide motor nameplate full load amperes by 2.00. Use this value to select the proper overload relay codes.

⌘ Bulletins 540, 542, 543, 1242, and 1243 have one overload relay. When selecting the proper overload relay, divide motor nameplate full load amperes by 1.73. Use this value to select the proper overload relay code.

1

Overload Relays

					
Bulletin	**592-EE**	**592-EC1**	**592-EC2/EC3**	**592-EC5**	**592**
Type	E1 Plus Electronic Overload Relay	E3 Electronic Overload Relay	E3 Plus Electronic Overload Relay	E3 Plus Electronic Overload Relay	Eutectic Alloy Overload Relay
Rated Current (Range)	0.1…800 A	0.4…5000 A			0.2…2250 A
NEMA Operating Voltage, Nominal	600V				
IEC Operating Voltage, Nominal	690/1000V	690/1000V			—
Overload Type	Electronic	Microprocessor-Based			Euctectic Alloy
Trip Class (Fixed)	—	—			10, 20, 30
Trip Class (Adjustable)	10, 15, 20, 30	5…30			—
Ambient Temperature Compensated	✓	✓	✓	✓	—
Reset Type	Automatic and Manual	Automatic and Manual	Automatic and Manual	Automatic and Manual	Manual Only
Adjustment Range	5:1	5:1	5:1	5:1	—
Phase Loss	3 s	Adjustable Delay	Adjustable Delay	Adjustable Delay	—
Ground (Earth) Fault	Optional	—	Sensitive	Sensitive	—
Overcurrent (Jam) Detection	Optional	✓	✓	✓	—
Stall Detection	—	✓	✓	✓	—
Underload Detection	—	✓	✓	✓	—
Current Imbalance	—	✓	✓	✓	—
PTC Thermistor Monitoring	Optional	—	✓	✓	—
Warning Settings	—	✓	✓	✓	—
N.C. Trip Contact	✓	✓	✓	✓	✓
N.O. Alarm Contact	✓	—	—	—	✓ (Option)
No. of Outputs	—	1	2	2	—
No. of Inputs	—	2	4	6	—
ODVA (DeviceNet) Conformance	Optional	✓	✓	✓	—
Variable Frequency Drive (VFD) Compatible	—	✓	✓	✓	✓
Voltage Detection	—	—	—	✓	—
Power Monitoring	—	—	—	✓	—
Product Selection	**Page 1-161**	**Page 1-163**			**Page 1-164**