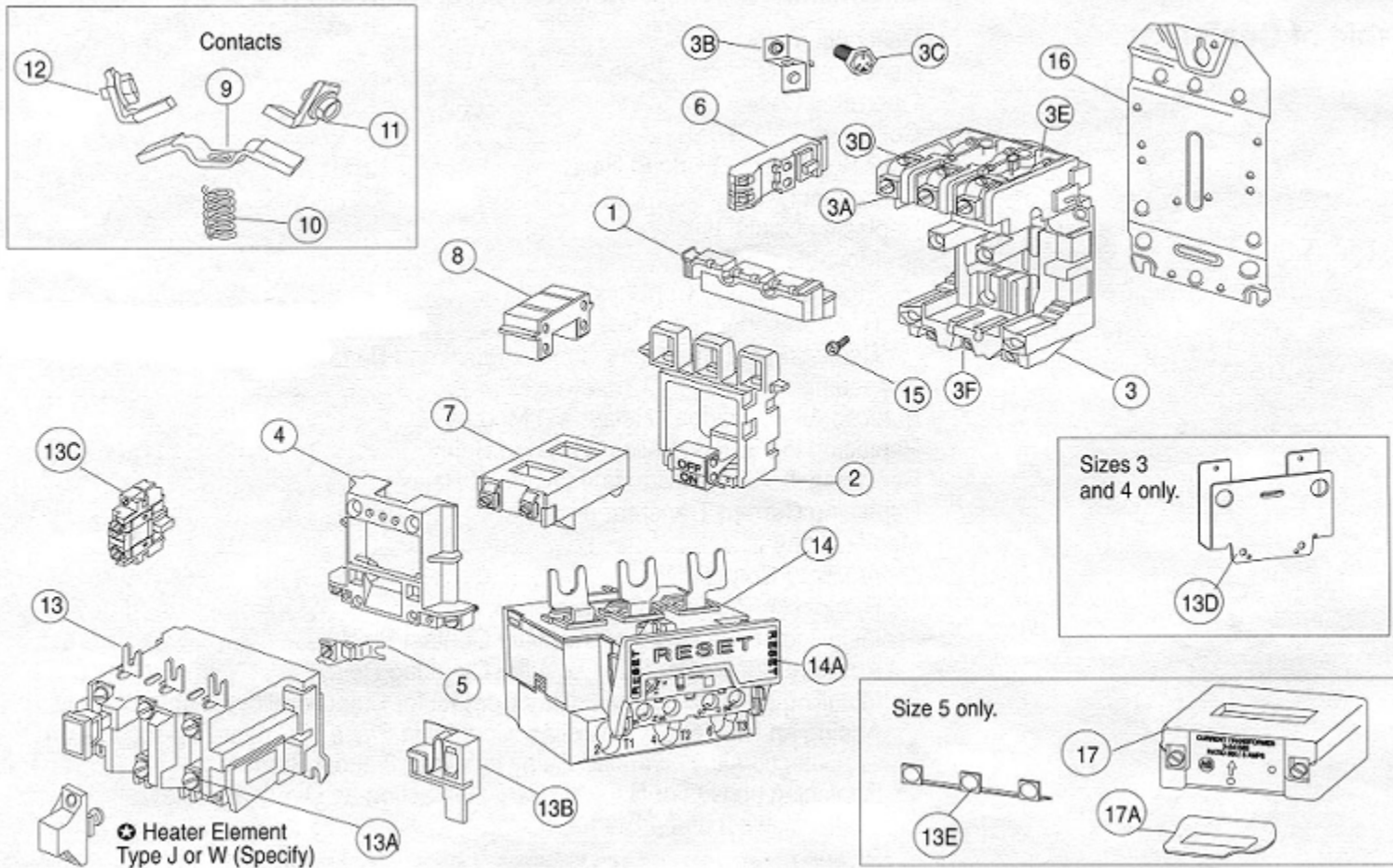


### Repair Parts for Bulletin 505 Three Phase Full Voltage Reversing NEMA Starters with Eutectic Alloy or Solid-State Overload Relays Sizes 0 through 4 (all series letters), Size 5 (Series E, L)



Figure 1 is an exploded view of the right-hand side of the starter, the left-hand side contactor is similar. Parts such as coils and contacts are similar in appearance for all sizes. Parts such as mounting plates, overloads, etc. will vary in appearance. See page 2 for corresponding description of the component part and part number to order.

Figure 1



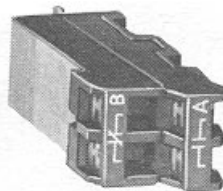
Page 4 contains the corresponding part numbers for the parts illustrated below.

Power Connector Kit

Mechanical Interlock

Electrical Interlock (1 NO – 1 NC)

Common Mounting Plate for Left and Right-Hand Contactors



**Repair Parts for Figure 1**

Item	Part Description	Size 0	Size 1	Size 2	Size 3	Size 4	Size 5 (Ser. E, L)
		Part No.	Part No.	Part No.	Part No.	Part No.	Part No.
1	Contact Block Cover	40410-499-01	40410-499-02	40420-499-01	40430-457-51	40440-456-51	42450-800-01
2	Movable Contact Support and Armature Assembly ①	40410-498-01 Series A 40410-498-03 Series B		40420-498-01	40430-452-51	40440-453-51	42450-801-01
3	Right Hand Stationary Contact Block and Base Assembly ①	40410-494-03	Not Available	40420-495-02	40430-462-52	40440-462-52	42450-307-62
	Left Hand Stationary Contact Block and Base Assembly ①	Not Available	40410-495-04	Not Available	Not Available	Not Available	Not Available
3A	Saddle Clamp Assembly (lug)	X-225492		Does Not Apply			
3B	Lug	See Item 3A		1494R-N1	40430-461-51	40440-461-51	42450-804-01
3C	Bolt	See Item 3A		M-6289	M-6532	M-6834	Included in 3D
3D	Front Terminal without Contact	(See p. 5 for exploded view of Items 3D - 3F parts for nema sizes 3 through 5)			40430-022-02	40440-030-02	42450-302-52
3E	Rear Terminal without Contact				40430-024-02	40440-314-51	40440-314-51
3F	Front/Rear Terminal Screw				②		28168-107-26
4	Coil Cover	40410-496-01		40420-497-01	40430-454-51	40440-454-51	42450-803-01
5	Tie Point Terminal	599-TP02			599-TP34		
6	Auxiliary Contact Block	595-A (used as a hold-in contact)					
7	Operating Coil	See table on page 4					
8	Yoke (50-60 Hz)	40410-497-01		40410-497-02	40430-455-51	40440-458-01	
9	Movable Contact	Order Single Pole Contact Set					
10	Contact Spring						
11	Front Stationary Contact						
12	Rear Stationary Contact						
9-12	Single Pole Contact Set (includes [1] each of items 9-12) ⑦	40410-331-51	40410-331-52	40420-322-51	40430-300-51	40440-300-51	42450-805-01
13	Overload Relay (includes Item 13B)	42185-800-01 or 592-EUTB		40185-800-01 or 592-EUTC	40185-801-01 or 592-EUTD	40185-802-01 or 592-EUTE	592-BOV16 ④
13A	Heater Element Screw	M-1552					
13B	Test Module	40185-499-01			Not Available		Not Available
13C	Overload Relay Auxiliary Contact (included with item 13)	Not Available			595-A34 ⑤		Not Available
13D	Overload Relay Mounting Plate	See Item 16			40430-045-02	40440-028-02	42450-028-02
13E	Jumper (size 5 only)	Does Not Apply					Not Available
14	Solid-State Overload Relay	See pages 6 or 7					
14A	SMP/E1 Plus Reset Bar	Not available for SMP-1, SMP-2 overloads / 193-ERA (for E1 Plus)					
15	Mtg. Screw w/Washer (3 req'd)	Not Available		Not Available	Not Available	Not Available ④	
16	Mounting Plate for Right-Hand Contactor and Overload Relay ⑥	40410-124-02		40420-083-02	40430-044-02	40440-027-02	
	Mounting Plate for SMP-3 ⑥	Not Available		Not Available			
	Mounting Plate for Left Hand Contactor	Not Available		Not Available	40430-044-02	40440-027-02	
17	Current Transformer	Does Not Apply					X-241563 ④
17A	Transformer Spring	Does Not Apply					Not Available ④

① Less Contacts, order Single Pole Contact Set as required.

② Front and rear terminal assembly not available as a renewal part. Replace the complete stationary contact block and base assembly.

③ Front Terminal Screw Part No. is 28168-503-26 and Rear Terminal Screw Part No. is 28168-502-26.

④ For Size 5 starter a current transformer assembly (which includes items 13, 15, 17, and 17A) can be ordered as part number 42452-800-01.

⑤ Auxiliary mounted on right-hand side provides N.O. contact function., mounting on left-hand side provides N.C. contact function.

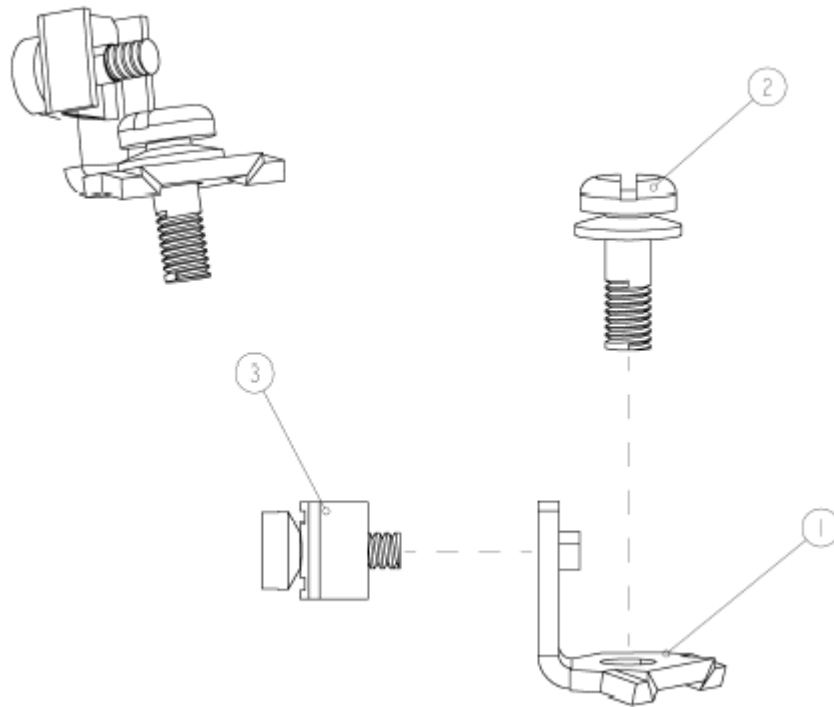
⑥ Overload relays, for sizes 0-2, are attached directly to the mounting plate. Overload Relays, for sizes 3-5, require a separate mounting plate.

See Item 13D for sizes 3 and 4. Size 5 overload relay mounting plate is similar.

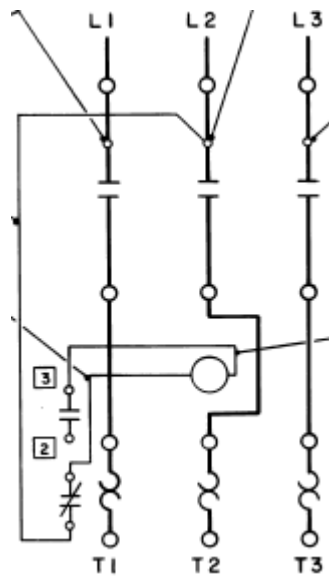
⑦ Bulletin 505 reversing starters have six power poles. Order as many single pole contact kits as needed.

Repair Parts, Bulletin 505, Three Phase, Sizes 0 through 4 (all series), Size 5 (series E, L)

### Repair Parts for Control Circuit Terminals



NEMA Size	Mounting Terminal (item 1)	Mounting Screw (Item 2)	Saddle Clamp Assembly (item 3)
0 - 2	Included with 599-CT02. Previously sold as 40410-053-02	Included with 599-CT02. Previously sold as 28158-072-26	Included with 599-CT02. Previously sold as 28192-076-33
3	Included with 599-CT3. Previously sold as 40430-047-02	Included with 599-CT3. Previously sold as M-6289	Included with 599-CT3. Previously sold as 28192-076-33
4 - 5	Included with 599-CT4. Previously sold as 40440-035-02	Included with 599-CT4. Previously sold as 28168-676-26	Included with 599-CT4. Previously sold as 28192-076-33



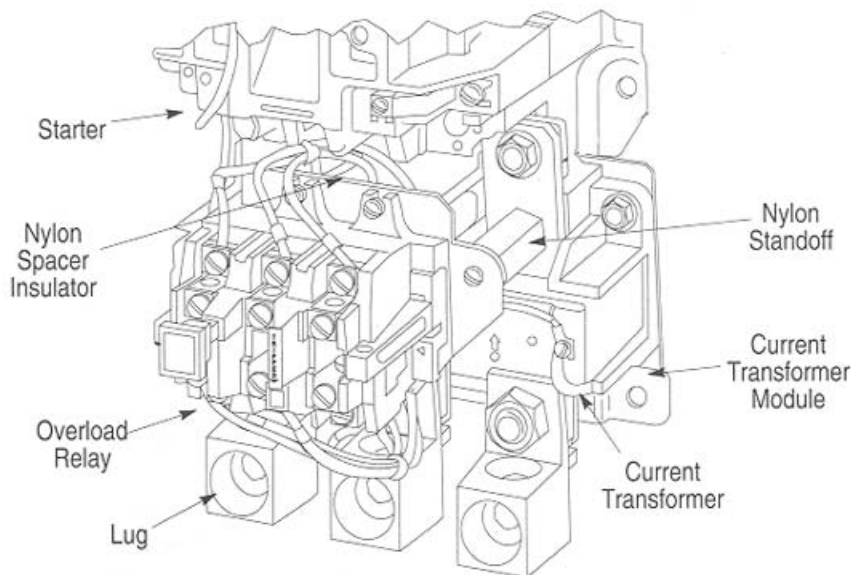
Repair Parts, Bulletin 505, Three Phase, Sizes 0 through 4 (all series), Size 5 (series E, L)

Size	Power Connector Kit	Mechanical Interlock	Electrical Interlock (1 NO – 1 NC)	Common Mounting Plate for Left and Right-Hand Contactors
0	599-B01R	40410-341-51	595-AB (2 req'd)	40410-090-02
1	599-B01R	40410-341-51	595-AB (2 req'd)	40410-090-02
2	599-B2R	40410-341-51	595-AB (2 req'd)	40420-058-02
3	40434-300-51	40410-341-51	40495-462-08 & 40495-462-09	40430-078-02
4	40444-300-51	40410-341-52	40495-462-08 & 40495-462-09	40440-078-02
5	42454-300-51	40410-341-52	40495-462-08 & 40495-462-09	Not Available

Operating Coils

Catalog Number Suffix Code	AC Volts	Hz	Coil Repair Part Number				
			Size 0-1	Size 2	Size 3	Size 4	Size 5 (Series E, L)
J	24	60	CB013	CC013	CD013	NA	Not Available
K	24	50	Not Available				
D	115-120 60Hz, 110V 50Hz		CB236	CC236	CD236	CE236	AF236
S	110-115	50	CB236	CC236	CD236	CE236	AF236
H	200-208	60	CB249	CC249	CD249	CE249	AF249
P	220-230	50	CB254	CC254	CD254	CE254	AF254
A	230-240	60	CB254	CC254	CD254	CE254	AF254
T	230-240	50	CB254	CC254	CD254	CE254	AF254
F	277	60	CB260	CC260	CD260	CE260	AF260
N	380	50	CB354	CC354	CD354	CE354	AF354
KN	380-400	50	CB357	CC357	CD357	CE357	AF357
I	415	50	CB357	CC357	CD357	CE357	AF357
Q	440-460	50	CB360	CC360	CD360	CE360	AF360
B	460-480	60	CB273	CC273	CD273	CE273	AF273
M	500	50	Not Available				
C	575-600	60	CB278	CC278	CD278	CE278	AF278

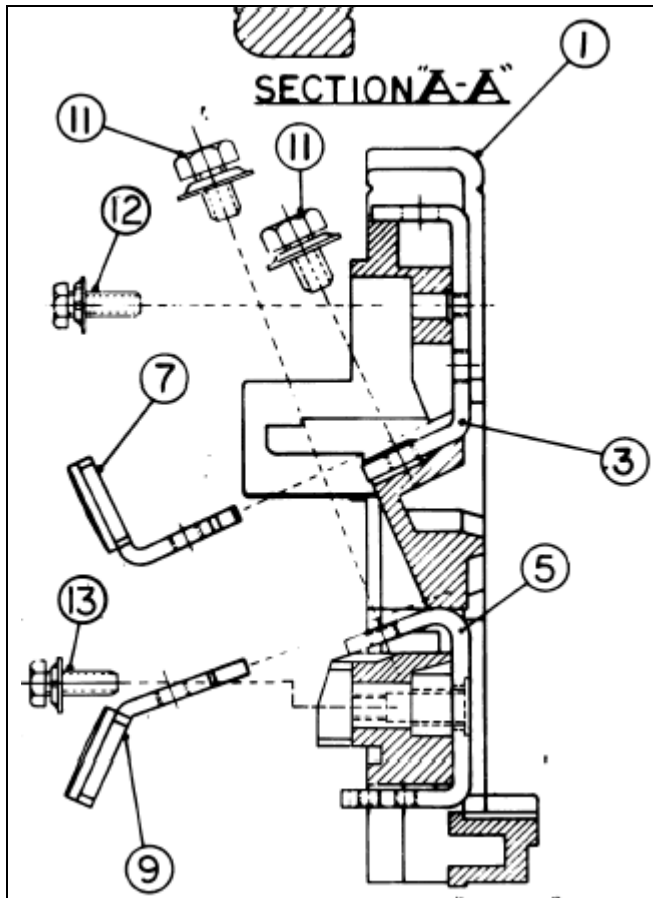
Size 5 Eutectic Overload Relay Assembly with Current Transformers – Repair Part Number 42452-800-01



Components from Part Number 42452-800-01	Part Number
Nylon Spacer Insulator	42450-031-01
Overload Relay	592-BOV16
Overload Relay Mounting Plate (not labeled)	42450-028-02
Lug	42450-804-01
Nylon Standoff (qty 3 req'd)	42450-029-01
Housing/Holder for Current Transformer Modules	42450-032-01
Current Transformer Module Mounting Plate (not labeled)	42450-009-02
Current Transformer (300 to 5A ratio) qty 3 req'd	X-241563

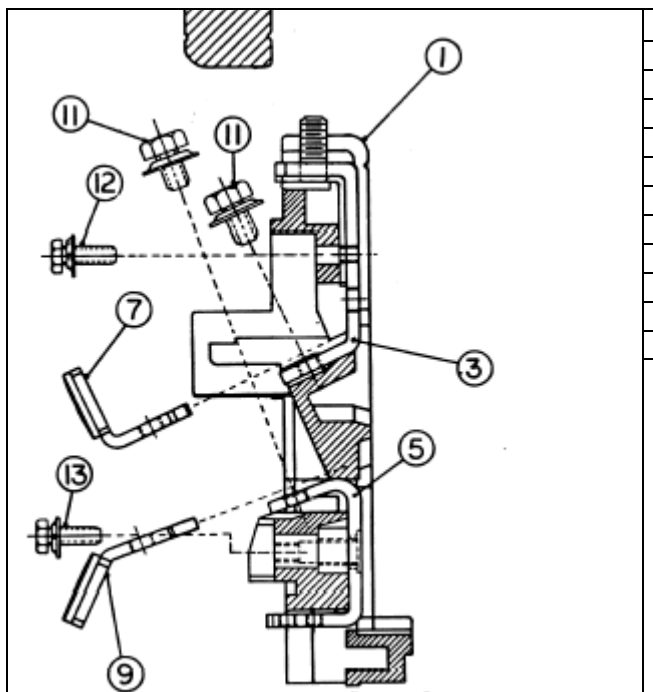
Repair Parts Bulletin 505, Three Phase, Sizes 0 through 4 (all series), Size 5 (series E, L)

**Repair Parts for Arc Hood Assembly Components – For Nema Sizes 3 and 4**



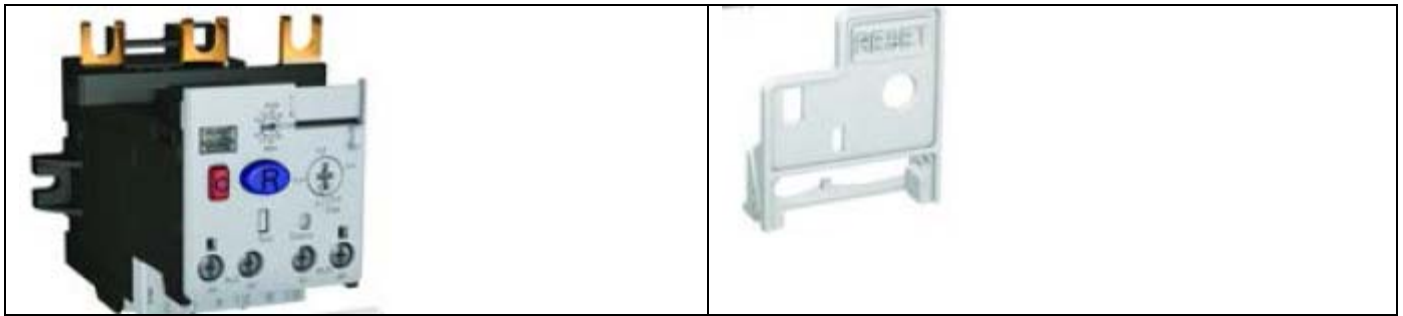
Repair Parts for Nema Size 3 Starters		
Item #	Description	Part Number ①
1	Arc Hood	Order Stationary Contact Block & Base Assembly (see p.2)
3	Front Terminal	40430-022-02
5	Rear Terminal	40430-024-02
7	Front Stationary Contact	Order Single Pole Contact Kit 40430-300-51
9	Rear Stationary Contact	
11	Screw for Front/Rear Contact	28168-601-26 ②
12	Screw for Front Terminal	28168-107-26
13	Screw for Rear Terminal	28168-107-26
Repair Parts for Nema Size 4 Starters		
1	Arc Hood	Order Stationary Contact Block & Base Assembly (see page 2)
3	Front Terminal	40440-030-02
5	Rear Terminal	40440-314-51
7	Front Stationary Contact	Order Single Pole Contact Kit 40440-300-51
9	Rear Stationary Contact	
11	Screw for Front/Rear Contact	28168-676-26 ②
12	Screw for Front Terminal	28168-502-26
13	Screw for Rear Terminal	28168-502-26
① Each part number listed below contains one piece. ② The screw for the front and rear stationary contacts is included in single pole contact kit part number(s) listed above.		

**Repair Parts for Arc Hood Assembly Components – For Nema Size 5**



Item #	Description	Part Number ①
1	Arc Hood	Order Stationary Contact Block & Base Assembly (see page 2)
3	Front Terminal	42450-302-51
5	Rear Terminal	40440-314-51
7	Front Stationary Contact	Order Single Pole Contact Kit 42450-805-01
9	Rear Stationary Contact	
11	Screw for Front/Rear Contact	28168-676-26 ②
12	Screw for Front Terminal	28168-503-26
13	Screw for Rear Terminal	28168-502-26
① Each part number listed below contains one piece. ② The screw for the front and rear stationary contacts is included in single pole contact kit part number 42450-805-01.		

## Repair Parts Bulletin 505, Three Phase, Sizes 0 through 4 (all series), Size 5 (series E, L, 1)

**E100 Solid-State Overload Relays (E100 shown above white plastic reset bar included with 592 E100 part numbers)**

The E100 part numbers can be used for existing 505 starters that were ordered with a eutectic, SMP or E1 Plus overload.

Starter Size	Full Load Current Adjustment Range (A)	Class 10 Cat. No. Suffix Code	Class 10 Overload Cat. No.	Class 20 Cat. No. Suffix Code	Class 20 Overload Cat. No.	Class 30 Cat. No. Suffix Code	Class 30 Overload Cat. No.
<b>E100 Overload Relay Auto or Manual Reset, Phase Loss Protection, Class 10, 15, 20, or 30</b>							
0, 1	0.19 to 0.6	-A1B	592-1EFBC	-A2B	592-1EFBC	-A3B	592-1EFBC
0, 1	0.32 to 1.0	-A1C	592-1EFBC	-A2C	592-1EFBC	-A3C	592-1EFBC
0, 1	1.0 to 2.9	-A1D	592-1EFCC	-A2D	592-1EFCC	-A3D	592-1EFCC
0, 1	1.6 to 5.0	-A1E	592-1EFCC	-A2E	592-1EFCC	-A3E	592-1EFCC
0, 1	3.7 to 12	-A1F	592-1EFDC	-A2F	592-1EFDC	-A3F	592-1EFDC
0, 1	5.7 to 18	-A1G	592-1EFEC	-A2G	592-1EFEC	-A3G	592-1EFEC
1	12 to 38	-A1H	592-1EFEC	-A2H	592-1EFFC	-A3H	592-1EFEC
2	5.7 to 18	-A1G	592-1EFEC	-A2G	592-1EFEC	-A3G	592-1EFEC
2	12 to 38	-A1H	592-1EFFC	-A2H	592-1EFFC	-A3H	592-1EFFC
2	14 to 45	-A1J	592-1EFFC	-A2J	592-1EFFC	-A3J	592-1EFFC
3	14 to 45 ①	-A1J	592-1EFGD	-A2J	592-1EFGD	-A3J	592-1EFGD
3	23 to 75	-A1K	592-1EFGD	-A2K	592-1EFGD	-A3K	592-1EFGD
3	66 to 110	-A1L	592-1EFGD	-A2L	592-1EFGD	-A3L	592-1EFGD
4	23 to 75 ②	-A1K	②	-A2K	②	-A3K	②
4	66 to 110	-A1L	592-A1LE	-A2L	592-A2LE	-A3L	592-A3LE
4	57 to 180	-A1M	592-A1ME	-A2M	592-A2ME	-A3M	592-A3ME
5	96 to 300	-A1N	592-A1NF	-A2N	592-A2NF	-A3N	592-A3NF
<b>E100 Overload Relay Automatic/Manual Reset, Phase Loss Protection, Class 10, 15, 20, or 30</b>							
0, 1	0.19 to 0.6	-A4B	592-1EFBC	-A5B	592-1EFBC	-A6B	592-1EFBC
0, 1	0.32 to 1.0	-A4C	592-1EFBC	-A5C	592-1EFBC	-A6C	592-1EFBC
0, 1	1.0 to 2.9	-A4D	592-1EFCC	-A5D	592-1EFCC	-A6D	592-1EFCC
0, 1	1.6 to 5.0	-A4E	592-1EFCC	-A5E	592-1EFCC	-A6E	592-1EFCC
0, 1	3.7 to 12	-A4F	592-1EFDC	-A5F	592-1EFDC	-A6F	592-1EFDC
0, 1	5.7 to 18	-A4G	592-1EFEC	-A5G	592-1EFEC	-A6G	592-1EFEC
1	12 to 38	-A4H	592-1EFEC	-A5H	592-1EFFC	-A6H	592-1EFEC
2	5.7 to 18	-A4G	592-1EFEC	-A5G	592-1EFEC	-A6G	592-1EFEC
2	12 to 38	-A4H	592-1EFFC	-A5H	592-1EFFC	-A6H	592-1EFFC
2	14 to 45	-A4J	592-1EFFC	-A5J	592-1EFFC	-A6J	592-1EFFC
3	14 to 45 ①	-A4J	592-1EFGD	-A5J	592-1EFGD	-A6J	592-1EFGD
3	23 to 75	-A4K	592-1EFGD	-A5K	592-1EFGD	-A6K	592-1EFGD
3	66 to 110	-A4L	592-1EFGD	-A5L	592-1EFGD	-A6L	592-1EFGD
4	23 to 75 ②	-A4K	②	-A5K	②	-A6K	②
4	66 to 110 ③	-A4L	③	-A5L	③	-A6L	③
4	57 to 180 ③	-A4M	③	-A5M	③	-A6M	③
5	96 to 300 ③	-A4N	③	-A5N	③	-A6N	③

① There is no product offering in the E100 product line for a direct mounted overload relay with a current range of 14 to 45 amps for NEMA Size 3 contactors/starters. The 592-1EFGD has a current range of 20 to 100 amps and direct mounts to NEMA Size 3 contactors and starters. The 193-1EFFP panel mounted relay has an overload adjustment range of 11 to 55 amps.

② There is no product offering in the E100 product line for a direct mounted overload relay with a current range of 23 to 75 amps for NEMA Size 4 starters. The 193-1EFGP panel mounted relay has a range of 20 to 100 amps and does not require external current transformers.

③ There is no product offering in the E100 product line for a direct mounted overload relay with a current range above 100 amps for NEMA Size 4 and Size 5 starters. The 193-1EFKZ panel mounted relay has a range of 60 to 300 amps and requires external CT kit 193-CT-UL-300A.

## Repair Parts Bulletin 505, Three Phase, Sizes 0 through 4 (all series), Size 5 (series E, L, 1)



(E100 shown above white plastic reset bar included with 592 E100 part numbers)

Add part numbers 193-1EGJ plus 193-1EIKIT1 to the E100 part number if Ground Fault or Jam Protection is required. The 193-1EGJ Universal Ground Fault or Jam Module will not direct mount to 592 E100 overload relays. The 193-1EIKIT1 panel adapter kit is required to panel mount the 193-1EGJ Universal Ground Fault or Jam Module next to the 592 E100 Overload Relay. The 193-1EIKIT1 panel adapter kit includes a communications cable to make a connection between the 592 E100 Overload Relay and the 193-1EGJ Universal Ground Fault or Jam Protection Module.

The E100 part numbers can be used for existing 505 starters that were ordered with a eutectic, SMP or E1 Plus overload.

<b>E100 Overload Relay Automatic/Manual Reset, Field Selectable Trip Class 10, 15, 20, or 30, Phase Loss, Jam Protection, and Ground Fault Protection</b>				
<b>Starter Size</b>	<b>Full Load Current Adjustment Range (A)</b>	<b>Catalog No. Suffix Code</b>	<b>Overload Relay Catalog No.</b>	<b>E100 Ground Fault or Jam Module</b>
0, 1	0.19 to 0.6	-B1B	592-1EFBC	193-1EGJ plus 193-1EIKIT1
0, 1	0.32 to 1.0	-B1C	592-1EFBC	
0, 1	1.0 to 2.9	-B1D	592-1EFCC	
0, 1	1.6 to 5.0	-B1E	592-1EFCC	
0, 1	3.7 to 12	-B1F	592-1EFDC	
0, 1	5.7 to 18	-B1G	592-1EFEC	
1	12 to 38	-B1H	592-1EFFC	
2	5.7 to 18	-B1G	592-1EFEC	
2	12 to 38	-B1H	592-1EFFC	
2	14 to 45	-B1J	592-1EFFC	
3	14 to 45	-B1J	592-1EFGD	
3	23 to 75	-B1K	592-1EFGD	
3	66 to 110	-B1L	592-1EFGD	
4 ①	23 to 75 ①	-B1K	①	
4 ②	66 to 110 ②	-B1L	②	
4 ②	57 to 180 ②	-B1M	②	
5 ②	96 to 300 ②	-B1N	②	

① There is no product offering in the E100 product line for a direct mounted overload relay with a current range of 23 to 75 amps for NEMA Size 4 starters. The 193-1EFGP panel mounted relay has a range of 20 to 100 amps and does not require external current transformers.

② There is no product offering in the E100 product line for a direct mounted overload relay with a current range above 100 amps for NEMA Size 4 and Size 5 starters. The 193-1EFKZ panel mounted relay has a range of 60 to 300 amps and requires external CT kit 193-CT-UL-300A.

## Repair Parts Bulletin 505, Three Phase, Sizes 0 through 4 (all series), Size 5 (series E, L)



( a 193 E100 is shown above - the 592 E100 is similar in appearance)

All E300 DeviceNet overload relays require a selection of one Sensing module, one Communications module and one Control Module to make up a complete assembly.

<b>E300 DeviceNet Overload Relay with Automatic/Manual Reset, Field Selectable Trip Class 10, 15, 20, or 30, Phase Loss, Jam Protection, with DeviceNet Communication Capability</b>			
<b>Full Load Current Adjustment Range (A)</b>	<b>Catalog No. Suffix Code</b>	<b>E300 Sensing Module</b>	<b>E300 DeviceNet Communications Module</b>
1.0 to 5.0	-EC1A	592-ESM-I-30A-S2	193-ECM-DNT
3.0 to 15.0	-EC1B	592-ESM-I-30A-S2	
5.0 to 25.0	-EC1C	592-ESM-I-30A-S2	
9.0 to 45.0	-EC1D	592-ESM-I-60A-S2	
9.0 to 45.0	-EC1D	592-ESM-I-60A-S2	
18.0 to 90.0	-EC1E	592-ESM-I-100A-S3	
<b>E300 DeviceNet Overload Relay with Automatic/Manual Reset, Field Selectable Trip Class 10, 15, 20, or 30, Phase Loss, Jam Protection, PTC, and Ground Fault Protection with DeviceNet Communication Capability</b>			
1.0 to 5.0	-EC2A	592-ESM-IG-30A-S2	193-ECM-DNT
3.0 to 15.0	-EC2B	592-ESM-IG-30A-S2	
5.0 to 25.0	-EC2C	592-ESM-IG-30A-S2	
9.0 to 45.0	-EC2D	592-ESM-IG-60A-S2	
9.0 to 45.0	-EC2D	592-ESM-IG-60A-S2	
18.0 to 90.0	-EC2E	592-ESM-IG-100A-S3	

Select an E300 Control Module from the table below;

<b>IO Control Module Type</b>	<b>No. of Inputs/Outputs</b>	<b>Rated Control Voltage</b>	<b>Control Module Part Number</b>
I/O Module with no Ground Fault or PTC Protection	6 in / 3 out	24V DC	193-EIO-63-24D
	2 in / 2 out	24V DC	193-EIO-22-24D
	4 in / 3 out	110...120V AC, 50/60 Hz	193-EIO-43-120
	2 in / 2 out	110...120V AC, 50/60 Hz	193-EIO-22-120
	4 in / 3 out	220...240V AC, 50/60 Hz	193-EIO-43-240
	2 in / 2 out	220...240V AC, 50/60 Hz	193-EIO-22-240
I/O Module with Thermistor (PTC) and External Ground Fault Current Protection ①	4 in / 3 out	24V DC	193-EIOGP-42-24D
	2 in / 2 out	110...120V AC, 50/60 Hz	193-EIOGP-22-120
	2 in / 2 out	220...240V AC, 50/60 Hz	193-EIOGP-22-240

① Requires Core Balanced Ground Fault Sensor part number 193-CBCT1, 193-CBCB2 or 193-CBCT3.

Knowledgebase technotes can be found at <http://support.rockwellautomation.com/>



## Repair Parts Bulletin 505, Three Phase, Sizes 0 through 4 (all series), Size 5 (series E, L)

(E1 Plus shown below)

**E1 Plus Solid-State Overload Relays**

Order the replacement overload relay catalog number from the table below. For example, the E1 Plus Class 10 overload relay for a 505-AOD-A1B would be ordered as catalog number 592-EEBC. The replacement overload part numbers are only for existing bulletin 505 starters that were ordered with a eutectic, SMP or E1 Plus overload. The part numbers below contain one overload relay.

Starter Size	Full Load Current Adjustment Range (A)	Class 10 Cat. No. Suffix Code	Class 10 Overload Cat. No.	Class 20 Cat. No. Suffix Code	Class 20 Overload Cat. No.	Class 30 Cat. No. Suffix Code	Class 30 Overload Cat. No.
<b>E1 Plus/SMP-1 Overload Relay Manual Reset, Phase Loss Protection, Class 10, 15, 20, or 30</b>							
0, 1	0.19 to 0.6	-A1B	592-EEBC	-A2B	592-EEBC	-A3B	592-EEBC
0, 1	0.32 to 1.0	-A1C	592-EEBC	-A2C	592-EEBC	-A3C	592-EEBC
0, 1	1.0 to 2.9	-A1D	592-EECC	-A2D	592-EECC	-A3D	592-EECC
0, 1	1.6 to 5.0	-A1E	592-EECC	-A2E	592-EECC	-A3E	592-EECC
0, 1	3.7 to 12	-A1F	592-EEDC	-A2F	592-EEDC	-A3F	592-EEDC
0, 1	5.7 to 18	-A1G	592-EEEC	-A2G	592-EEEC	-A3G	592-EEEC
1	12 to 38	-A1H	592-EEEC	-A2H	592-EEEC	-A3H	592-EEEC
2	5.7 to 18	-A1G	592-EEEC	-A2G	592-EEEC	-A3G	592-EEEC
2	12 to 38	-A1H	592-EEFC	-A2H	592-EEFC	-A3H	592-EEFC
2	14 to 45	-A1J	592-EEFC	-A2J	592-EEFC	-A3J	592-EEFC
3	14 to 45	-A1J	592-EEFD	-A2J	592-EEFD	-A3J	592-EEFD
3	23 to 75	-A1K	592-EEGD	-A2K	592-EEGD	-A3K	592-EEGD
3	66 to 110	-A1L	592-EEGD	-A2L	592-EEGD	-A3L	592-EEGD
4	23 to 75	-A1K	592-A1KE	-A2K	592-A2KE	-A3K	592-A3KE
4	66 to 110	-A1L	592-A1LE	-A2L	592-A2LE	-A3L	592-A3LE
4	57 to 180	-A1M	592-A1ME	-A2M	592-A2ME	-A3M	592-A3ME
5	96 to 300	-A1N	592-A1NF	-A2N	592-A2NF	-A3N	592-A3NF
<b>E1 Plus/SMP-1 Overload Relay Automatic/Manual Reset, Phase Loss Protection, Class 10, 15, 20, or 30</b>							
0, 1	0.19 to 0.6	-A4B	592-EEBC	-A5B	592-EEBC	-A6B	592-EEBC
0, 1	0.32 to 1.0	-A4C	592-EEBC	-A5C	592-EEBC	-A6C	592-EEBC
0, 1	1.0 to 2.9	-A4D	592-EECC	-A5D	592-EECC	-A6D	592-EECC
0, 1	1.6 to 5.0	-A4E	592-EECC	-A5E	592-EECC	-A6E	592-EECC
0, 1	3.7 to 12	-A4F	592-EEDC	-A5F	592-EEDC	-A6F	592-EEDC
0, 1	5.7 to 18	-A4G	592-EEEC	-A5G	592-EEEC	-A6G	592-EEEC
1	12 to 38	-A4H	592-EEEC	-A5H	592-EEEC	-A6H	592-EEEC
2	5.7 to 18	-A4G	592-EEEC	-A5G	592-EEEC	-A6G	592-EEEC
2	12 to 38	-A4H	592-EEFC	-A5H	592-EEFC	-A6H	592-EEFC
2	14 to 45	-A4J	592-EEFC	-A5J	592-EEFC	-A6J	592-EEFC
3	14 to 45	-A4J	592-EEFD	-A5J	592-EEFD	-A6J	592-EEFD
3	23 to 75	-A4K	592-EEGD	-A5K	592-EEGD	-A6K	592-EEGD
3	66 to 110	-A4L	592-EEGD	-A5L	592-EEGD	-A6L	592-EEGD
4	23 to 75	-A4K	592-A4KE	-A5K	592-A5KE	-A6K	592-A6KE
4	66 to 110	-A4L	592-A4LE	-A5L	592-A5LE	-A6L	592-A6LE
4	57 to 180	-A4M	592-A4ME	-A5M	592-A5ME	-A6M	592-A6ME
5	96 to 300	-A4N	592-A4NF	-A5N	592-A5NF	-A6N	592-A6NF

## Repair Parts Bulletin 505, Three Phase, Sizes 0 through 4 (all series), Size 5 (series E, L)

(E1 Plus shown below)

**E1 Plus Solid-State Overload Relays**

Order the replacement overload relay catalog number from the table below. For example, the E1 Plus Class 10 overload relay for a 505-AOD-B1B would be ordered as catalog number 592-EEBC. The replacement overload part numbers are only for existing bulletin 505 starters that were ordered with a eutectic, SMP or E1 Plus overload. The part numbers below contain one overload relay.

Add catalog numbers 193-EGM or 193-EJM to the E1 Plus catalog number if Ground Fault or Jam Protection is required. The E3/E3 Plus overloads include Ground Fault and Jam Protection, as standard, but must be configured via a DeviceNet network or a 193-DNCT hand held programming terminal, with a continuous power source of 24V DC from a DeviceNet network or a power supply.

<b>E1 Plus/SMP-2 Overload Relay Automatic/Manual Reset, Field Selectable Trip Class 10, 15, 20, or 30, Phase Loss, Jam Protection, and Ground Fault Protection</b>				
Starter Size	Full Load Current Adjustment Range (A)	Catalog No. Suffix Code	Overload Relay Catalog No.	<b>E1 Plus Ground Fault or Jam Module</b>
0, 1	0.19 to 0.6	-B1B	592-EEBC	193-EGM or 193-EJM
0, 1	0.32 to 1.0	-B1C	592-EEBC	193-EGM or 193-EJM
0, 1	1.0 to 2.9	-B1D	592-EECC	193-EGM or 193-EJM
0, 1	1.6 to 5.0	-B1E	592-EECC	193-EGM or 193-EJM
0, 1	3.7 to 12	-B1F	592-EEDC	193-EGM or 193-EJM
0, 1	5.7 to 18	-B1G	592-EEEC	193-EGM or 193-EJM
1	12 to 38	-B1H	592-EEEC	193-EGM or 193-EJM
2	5.7 to 18	-B1G	592-EEEC	193-EGM or 193-EJM
2	12 to 38	-B1H	592-EEFC	193-EGM or 193-EJM
2	14 to 45	-B1J	592-EEFC	193-EGM or 193-EJM
3	14 to 45	-B1J	592-EEFD	193-EGM or 193-EJM
3	23 to 75	-B1K	592-EEGD	193-EGM or 193-EJM
3	66 to 110	-B1L	592-EEGD	193-EGM or 193-EJM
4	23 to 75	-B1K	592-B1KE	Included as standard
4	66 to 110	-B1L	592-B1LE	Included as Standard
4	57 to 180	-B1M	592-B1ME	Included as Standard
5	96 to 300	-B1N	592-B1NF	Included as Standard
<b>E3 DeviceNet Overload Relay with Automatic/Manual Reset, Field Selectable Trip Class 10, 15, 20, or 30, Phase Loss, Jam Protection, with DeviceNet Communication Capability</b>				
0, 1, 2	1.0 to 5.0	-EC1A	592-EC1AC	Included as Standard
0, 1, 2	3.0 to 15.0	-EC1B	592-EC1BC	Included as Standard
0, 1, 2	5.0 to 25.0	-EC1C	592-EC1CC	Included as Standard
0, 1, 2	9.0 to 45.0	-EC1D	592-EC1DC	Included as Standard
3	9.0 to 45.0	-EC1D	592-EC1DD	Included as Standard
3	18.0 to 90.0	-EC1E	592-EC1ED	Included as Standard
<b>E3 Plus DeviceNet Overload Relay with Automatic/Manual Reset, Field Selectable Trip Class 10, 15, 20, or 30, Phase Loss, Jam Protection, and Ground Fault Protection with DeviceNet Communication Capability</b>				
0, 1, 2	1.0 to 5.0	-EC2A	592-EC2AC	Included as Standard
0, 1, 2	3.0 to 15.0	-EC2B	592-EC2BC	Included as Standard
0, 1, 2	5.0 to 25.0	-EC2C	592-EC2CC	Included as Standard
0, 1, 2	9.0 to 45.0	-EC2D	592-EC2DC	Included as Standard
3	9.0 to 45.0	-EC2D	592-EC2DD	Included as Standard
3	18.0 to 90.0	-EC2E	592-EC2ED	Included as Standard