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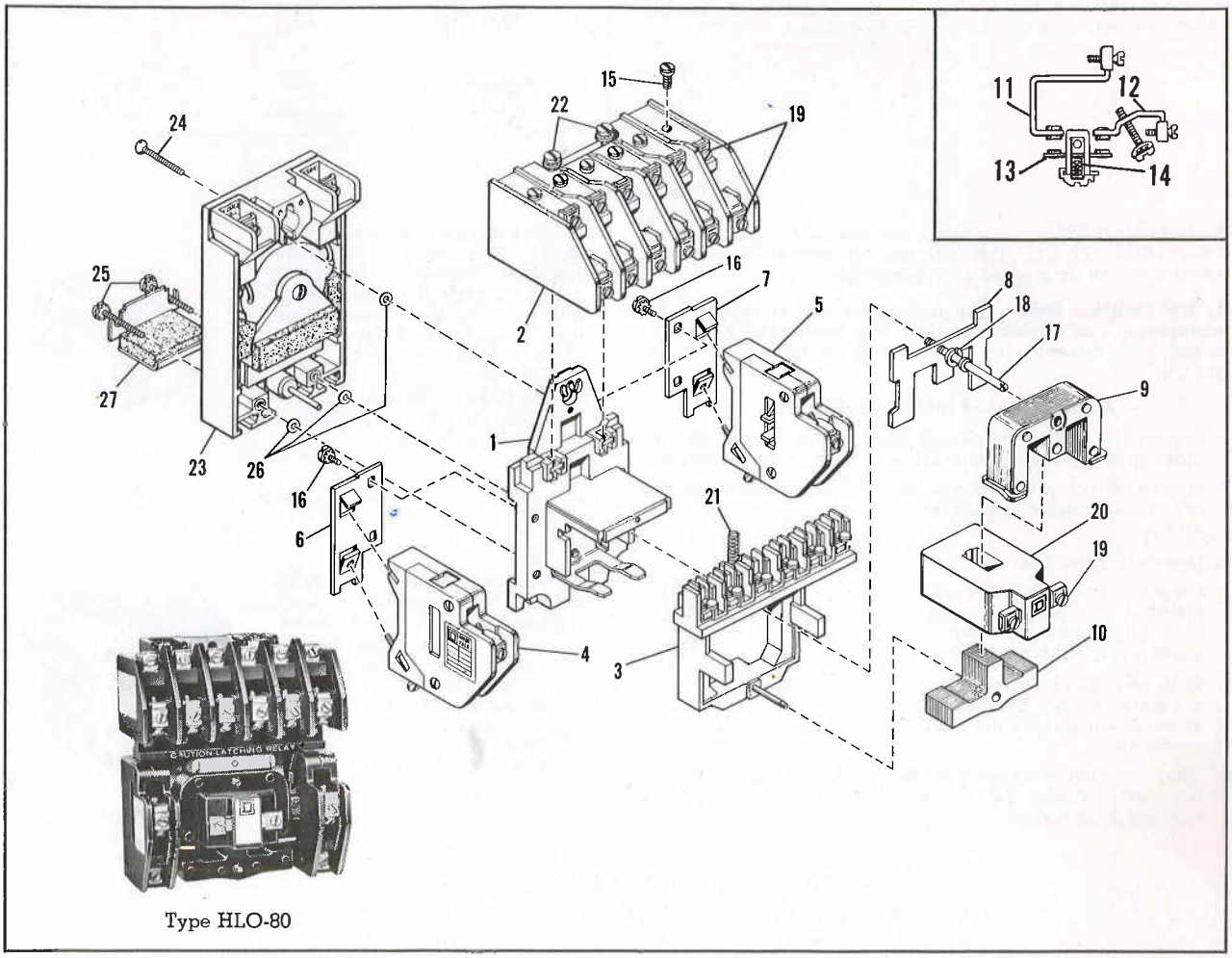
Find the *Schneider Electric / Square D Class 8501 Type HO 40* at our website: *Click HERE*

343 AS
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Class 8501 — Type H

AC and DC Control Relays — Type H (Series C) — Types HX, HL, HXL (Series B) — Type HD (Series A)

AC and DC Master Relays — Types HM, HXM, HML, HXML, HMD (Series A)



Type HLO-80

CONTACTS

A. General — All contacts are silver and are not harmed by slight pitting or discoloration. They should not be filed, as this merely wastes contact material, and should be replaced only after the silver has worn thin. Contacts for the control relays are rated for 10 amperes continuous duty while those contacts for the master relays are heavier and rated for 20 amperes continuous duty. A special late opening movable contact is needed on one pole of the Type HD and on one pole of the Type HMD. The same contact is used on both of these DC relays.

B. Replacement of Contacts — Contacts may be replaced either by substitution of the entire stationary and movable contact assemblies (Items 2 and 3) or by individual parts.

Individual replacement may be accomplished as follows:

1. Remove all normally closed front stationary contacts (Item 12).
2. Loosen two screws (Item 22) and remove stationary contact block.
3. Loosen screw (Item 17) and remove magnet assembly and movable contact carrier.
4. Replace movable contact (Item 13) and spring (Item 14).
5. Remove pressure wire connector from contact to be replaced (Item 19).
6. Loosen screw (Item 15) and remove rear stationary contact.
7. Reassemble in reverse order.

Supersedes 343AS dated September, 1972

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ORDERING INSTRUCTIONS: Specify quantity, part number and description of part, giving complete nameplate data of the device.

PARTS LIST FOR AC CONTROL AND MASTER RELAYS

Item No.	Description	Part Number	—10 AMP CONTACTS QUANTITY REQUIRED								—20 AMP CONTACTS QUANTITY REQUIRED							
			Types H and HL					Types HX and HXL			Types HM and HML					Types HXM and HXML		
			2P	3P	4P	6P	8P	8P	10P	12P	2P	3P	4P	6P	8P	8P	10P	12P
1	Base Assembly	31071-061-51	1	1	1	1	1	..	..	..	1	1	1	1	1	..	..	..
1	Base Assembly	31071-061-53	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-060-60	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-060-61	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-060-62	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-060-63	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-100-55	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-117-64	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-117-65	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-117-66	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
2	Stationary Contact Block Assembly	31071-117-68	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
2	Stationary Contact Block Assembly	31071-117-70	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1
3	Movable Contact Carrier Assembly	31071-059-50	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	Movable Contact Carrier Assembly	31071-059-51	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	Movable Contact Carrier Assembly	31071-059-52	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
3	Movable Contact Carrier Assembly	31071-059-54	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..
3	Movable Contact Carrier Assembly	31071-101-51	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..
3	Movable Contact Carrier Assembly	31071-116-50	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
3	Movable Contact Carrier Assembly	31071-116-51	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
3	Movable Contact Carrier Assembly	31071-116-52	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
3	Movable Contact Carrier Assembly	31071-116-54	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
3	Movable Contact Carrier Assembly	31071-116-56	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1
4	Adder Pole—Left Hand (Normally Open)	Class 8501, Type H1L	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
4	Dual Adder Pole—Left Hand (Normally Open)	Class 8501, Type H3L	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
4	Adder Pole—Left Hand (Normally Open)	Class 8501, Type HM1L	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
4	Dual Adder Pole—Left Hand (Normally Open)	Class 8501, Type HM3L	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
5	Adder Pole—Right Hand (Normally Open)	Class 8501, Type H1R	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
5	Dual Adder Pole—Right Hand (Normally Open)	Class 8501, Type H3R	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
5	Adder Pole—Right Hand (Normally Open)	Class 8501, Type HM1R	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
5	Dual Adder Pole—Right Hand (Normally Open)	Class 8501, Type HM3R	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
6	Adder Pole Mounting Bracket—LH	31071-038-02	..	..	..	1	1	1	1	1	..	..	..	1	1	1	1	1
7	Adder Pole Mounting Bracket—RH	31071-038-01	..	..	..	1	1	1	1	1	..	..	..	1	1	1	1	1
8	Guide Plate	31071-161-01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
* 9	Magnet Assembly	31071-005-50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
*10	Armature Assembly	31071-064-50	1	1	1	1	1	1	1	1	1	1	1	1	1	..	..	..
*10	Armature Assembly	1861-D3-G1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1
11	Rear Stationary Contact	Contained in Parts Kit.																
12	Front Stationary Contact																	
13	Movable Contact																	
14	Contact Spring	Class 9998,																
		3 Pole RA-3	1	1	..	2	..	..	2	..	..	..	..	..	..	..	..	..
		4 Pole RA-4	..	..	1	1	2	2	..	3	..	..	..	..	..	..	..	..
		4 Pole RA-5	..	..	..	..	..	..	..	..	1	1	1	2	2	2	3	3
15	SA #6-32 x 13/32 (Included in Item 2)	21937-12261	2	3	4	6	6	8	8	8	2	3	4	6	6	8	8	8
16	SA #6-32 x 5/16	21911-12100	..	..	..	4	4	4	4	4	..	..	..	4	4	4	4	4
17	Screw	31071-162-01	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	#10 Lockwasher	23701-00160	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	Screw and Clamp Assembly	31051-007-50	6	8	10	14	18	18	22	26	6	8	10	14	18	18	22	26
20	Magnet Coil	See Table 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	Return Spring	30017-184-01	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
21	Return Spring	30017-175-01	..	1	1	1	1	1	1	1	..	1	1	1	1	1	1	1
22	Screw—SA #8-32 x 1-1/16	Included in Item 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
			Type HL Only					Type HXL Only			Type HML Only					Type HXML Only		
23	Latch Assembly	31071-754-50	..	..	..	..	..	1	1	1	..	..	..	..	..	1	1	1
23	Latch Assembly	31071-754-51	1	1	1	1	1	..	..	..	1	1	1	1	1	..	..	..
24	S. #6-32 x 1-1/8	21716-12360	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	SA. #6-32 x 1-1/8	21911-12360	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
26	Washer	23615-00080	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
27	Plate Assembly	31071-186-50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

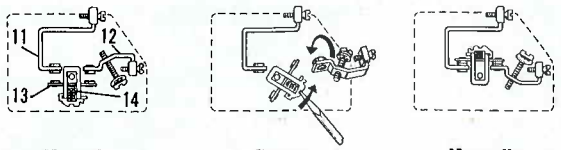
* Replace both Magnet and Armature Assembly if either is replaced.

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CONTACTS (Cont.)

C. Conversion of Contacts — The contacts are readily converted from normally open to normally closed as shown in Fig. A. All that is necessary is to remove the front stationary contact, then rotate the movable contact finger with a screwdriver and replace the front stationary contact in the inverted position. The NO or NC on the movable contact assembly together with the pointer on the front stationary contact indicates whether the contact is open or closed.

Figure A



Normally Open Contact | Contact Being Converted | Normally Closed Contact

AC MAGNET COILS

A. Latching Coil — To change magnet coil, loosen captive screw (Item 17) and slide out magnet assembly and coil. Install new coil on magnet and reassemble.

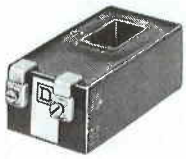
B. Unlatching Coil — The unlatching coil is replaced by substituting a new latch assembly. The latch assembly is removed from the relay by loosening three screws (Items 24 and 25).

Adjustment of latch mechanism

1. Loosen the 2 lower latch mounting screws (Items 25), remove plate assembly (Item 27), and then retighten screws.
2. Loosen set screw. See figure below. Rotate adjustment pin to position 1 and retighten set screw.
3. Manually close relay.
4. Loosen set screw. Rotate adjustment pin until armature assembly closes on magnet assembly. Retighten set screw.
5. With relay in closed position, armature should be free to move. If armature is not free, readjust.
6. After completing adjustment, loosen 2 lower latch mounting screws (Items 25), slip on plate assembly (Item 27), and retighten screws.



C. Transient Suppressed Coil — This coil is used where transient voltages, generated when opening the coil circuit, interfere with the proper operation of nearby solid state control circuits. Coil is available in 6, 12, 24, 48, 120, 208 and 240 volts at 60 hertz. To install, simply substitute for the standard coil on any 2-8 pole device.



D. Timing Coil — (On delay only) — Install coil in the same fashion and in place of the standard (2-8 pole) relay coil. For adjustment, turn adjusting screw in a clockwise manner to increase the timing period. The indicating light on the front of the coil will be illuminated while the timing function is taking place.



Type HTE-1

TABLE 1 — AC MAGNET COIL SELECTION

Heavy duty, molded coils are used. These coils are designed to operate on line voltage fluctuations as much as 15% below and 10% above nominal voltage.

Pick-up Coil For Type:	Coil Prefix	Hertz	SUFFIX NUMBERS (Coil part numbers consist of coil prefix followed by suffix number) 12 †◐ Volts	24 † Volts	48 † Volts	110 Volts	120 Volts	208 Volts	220 Volts	240 Volts	277 Volts	440 Volts	480 Volts	550 Volts	600 Volts	Coil Volt-Amps. In-Rush	Sealed
H, HM, HL, HML	31071-400-	60	14	23	32	..	44	50	..	53	55	..	62	..	65	150	30
		50	15	24	33	44	45	51	53	54	56	62	63	65	66	140	30
HX, HXM, HXL, HXML	31071-408-	60	14	23	32	..	44	50	..	53	55	..	62	..	65	180	35
		50	15	24	33	44	45	51	53	54	56	62	63	65	66	170	35

Unlatch Coil For Type: *	Part No.	Coil VA Rating Inrush and Sealed 50 Hz.	60 Hz.	Price	Discount Schedule
HL, HML	S31071-754-51	17 VA	18 VA	$28.	DS-14
HXL, HXML	S31071-754-50				

† VA values for these coils are 120% of values shown.
* Includes coil and portion of latching mechanism. Coil only is not replaceable. When ordering specify voltage and frequency.
◐ 12 volt coils for HL, HML, HXL and HXML are not available.

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ORDERING INSTRUCTIONS: Specify quantity, part number and description of part, giving complete nameplate data of the device.

PARTS LIST FOR DC CONTROL AND MASTER RELAYS

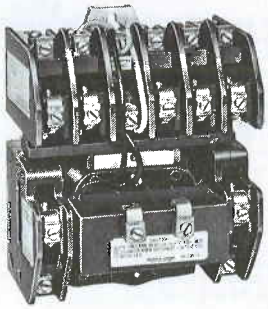
Item No.	Description	Part Number	—10 AMP CONTACTS QUANTITY REQUIRED Type HD 2P	3P	4P	6P	7P	—20 AMP CONTACTS QUANTITY REQUIRED Type HMD 2P	3P	4P	6P	7P
1	Base Assembly	31071-061-52	1	1	1	1	1	1	1	1	1	1
2	Stationary Contact Block Assembly	31071-060-61	1	...	...	...	...	...	...	...	...	...
2	Stationary Contact Block Assembly	31071-060-62	...	1	...	...	...	...	...	...	...	...
2	Stationary Contact Block Assembly	31071-060-63	...	...	...	1	1	...	...	...	...	...
2	Stationary Contact Block Assembly	31071-060-64	...	...	1	...	...	...	...	...	...	...
2	Stationary Contact Block Assembly	31071-117-65	...	...	...	...	...	1	...	...	...	...
2	Stationary Contact Block Assembly	31071-117-66	...	...	...	...	...	...	1	...	...	...
2	Stationary Contact Block Assembly	31071-117-67	...	...	...	...	...	...	...	1	...	...
2	Stationary Contact Block Assembly	31071-117-68	...	...	...	...	...	...	...	...	1	1
3	Movable Contact Block Assembly	31071-137-50	1	...	...	...	...	...	...	...	...	...
3	Movable Contact Block Assembly	31071-137-51	...	1	...	...	...	...	...	...	...	...
3	Movable Contact Block Assembly	31071-137-52	...	...	1	...	...	...	...	...	...	...
3	Movable Contact Block Assembly	31071-137-53	...	...	...	1	1	...	...	...	...	...
3	Movable Contact Block Assembly	31071-188-50	...	...	...	...	...	1	...	...	...	...
3	Movable Contact Block Assembly	31071-188-51	...	...	...	...	...	...	1	...	...	...
3	Movable Contact Block Assembly	31071-188-52	...	...	...	...	...	...	...	1	...	...
3	Movable Contact Block Assembly	31071-188-53	...	...	...	...	...	...	...	...	1	1
4	Adder Pole—Left Hand (Normally Open)	Class 8501, Type H1L	...	...	...	...	1	...	...	...	...	...
4	Adder Pole—Left Hand (Normally Open)	Class 8501, Type HM1L	...	...	...	...	...	...	...	...	...	1
5	Adder Pole—Right Hand (Normally Open)	Class 8501, Type H1R	...	...	...	1	1	...	...	...	...	...
5	Adder Pole—Right Hand (Normally Open)	Class 8501, Type HM1R	...	...	...	...	...	...	...	...	1	1
6	Adder Pole Mounting Bracket—LH	31071-038-02	...	...	...	1	1	...	...	...	1	1
7	Adder Pole Mounting Bracket—RH	31071-038-01	...	...	...	1	1	...	...	...	1	1
8	Guide Plate	31071-161-01	1	1	1	1	1	1	1	1	1	1
†9	Magnet Assembly	31071-005-51	1	1	1	1	1	1	1	1	1	1
†10	Armature Assembly	31071-064-50	1	1	1	1	1	1	1	1	1	1
11	Rear Stationary Contact } Contained in											
12	Front Stationary Contact } Contained in											
13	Movable Contact } Contained in Parts Kit	Class 9998,										
14	Contact Spring } Contained in Parts Kit — 3 Pole	RA-3	1	1	...	2	1	...	...	...	...	...
	Contact Spring } Contained in Parts Kit — 4 Pole	RA-4	...	...	1	...	1	...	...	...	...	...
	Contact Spring } Contained in Parts Kit — 4 Pole	RA-5	...	...	...	...	...	1	1	1	2	2
15	SA #6-32 x 13/32 (Included in Item 2)	21937-12261	3	4	5	6	6	3	4	5	6	6
16	SA #6-32 x 5/16	21911-12100	...	...	4	4	4	...	...	4	4	4
17	Screw	31071-162-01	1	1	1	1	1	1	1	1	1	1
18	#10 Lockwasher	23701-00160	1	1	1	1	1	1	1	1	1	1
19	Screw and Clamp Assembly	31051-007-50	8	10	12	16	18	8	10	12	16	18
20	Magnet Coil (DC) + Resistor Plate Assembly	See Table 2	1	1	1	1	1	1	1	1	1	1
21	Return Spring	30017-175-01	1	1	1	1	1	1	1	1	1	1
22	Screw—SA #8-32 x 1-1/16 (Included in Item 2)	21937-14342	2	2	2	2	2	2	2	2	2	2

† Replace both Magnet and Armature Assembly if either is replaced.

DC Coil — This intermittent duty coil is available in the voltages listed in table below. Coils must be used with their respective resistor plate assembly. The coil and resistor plate are prewired to an economizing contact on factory assembled devices. If Coil Economizing Contacts require replacement consult factory.

TABLE 2 — DC MAGNET COIL AND DC RESISTOR PLATE ASSEMBLY SELECTION▲

Types	Coil * Prefix	Coil Suffix * 24 Volts	32 Volts	36 Volts	115/125V	230/250V
HD, HMD	31071-412-	23	26	29	44	53
	Resistor * Plate Prefix	Resistor Plate Suffix *				
Resistor Plate Assembly	31071-160-	50	57	51	55	56



Type HDO-70

▲ When ordering replacement resistor plate or magnet coil give part number and voltage of coil being replaced.

* Complete part number of resistor plate or magnet coil consists of prefix followed by suffix. (EXAMPLE: For 24 volt coil order by part number 31071-412-23.)

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