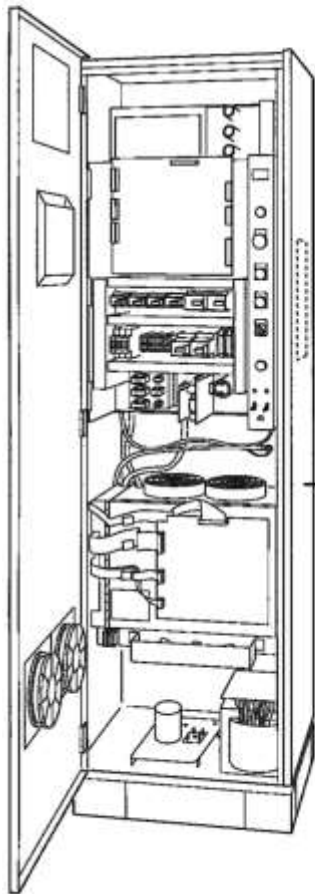


**Controllers:**  
**E311M<sup>®</sup>/E411M<sup>®</sup> and**  
**E311MV<sup>®</sup>/E411MV<sup>®</sup>**  
**(Direct Drive & Ward-Leonard Controls)**

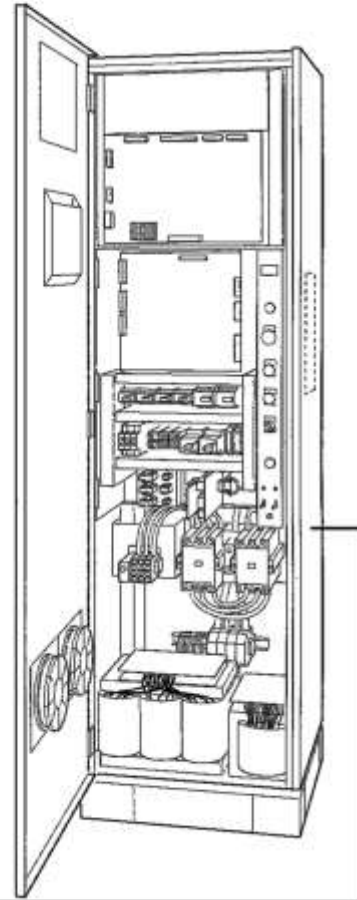
**Spare Parts Leaflet**  
**10-AAA21250C**  
**February 16, 2022 / Page 1 of 57**

**NOTE:** This leaflet supports both E311M/E411M (A\_A21250C) and E311MV/E411MV (A\_A21250AF) controllers.

**E411M Controller with Direct Drive Control**



**E411M Controller with Ward-Leonard Control**



CONTROLLER	
SERIAL No.	
SERVICE ORDER No.	
CONTRACT No.	
MODEL No.	
VOLTS	AMPS
H. P.	PHASES
WIRE	HERTZ
COMPONENT VOLTAGE IS	
AAA21250C	
COMPONENT CODE IS	
E311MV-E411MV-E411MV	
WIRING DIAGRAM	
WIRING DIAGRAM	
DATE	



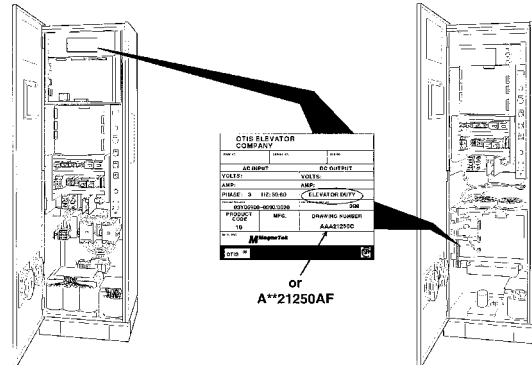
This document does not contain any technical data subject to EAR or ITAR

**SERVICE ENGINEERING**  
**Otis Elevator Company**  
**Bloomfield, Connecticut USA**

Unpublished Work—© Otis Elevator Co.; 2022

**Leaflet Description**

This leaflet details E311M®/E411M®, and E311MV®/E411MV® controllers. Main components, such as the operational control panel, door panels, and other segments are broken out.



Within this document, parts are specified to meet your installation's individual requirements. To correctly define a part number, refer to the duty number indicated on your unit's nameplate as illustrated above.

Dentro de este documento partes han sido especificadas para satisfacer los requisitos de sus 2nstalaciones individuales para correctamente definir el numero de una parte 2efiérase a el numero del "Duty" de la maquina indicado en la plancha de identificación de su unidad como ilustrado arriba.

Les pièces référencées 2ans ce document sont spécifique à l' installation sur laquelle elles doivent etre installées. Pour definir correctement un numero de piece se référer au "Duty Number" qui est indiqué sur la plaque d' identification de l' installation, comme 2ECl est indiqué ci dessus.

**Leaflet Revisions**

<b>Date Revised</b>	<b>Subject Matter Expert</b>	<b>Reason for Revision</b>
01/1991	- - -	New leaflet
02/1992	- - -	Update parts
10/1995	- - -	Update parts
04/1998	Jack Cegelka	Update parts, add history page
October 10, 2003	Mike Boles	Updated DO, RDO relays, and ESC relay; corrected some typos.
February 28, 2006	John Doane	Updated to conform with drawing ADA21250C dated 2004-03-09.
March 9, 2007	Anh Pham	Add new pages (pp 50-53) for drive cables.
November 15, 2007	Anh Pham	Updated parts and corrected typos.
April 25, 2008	John Doane	Update parts information in ref. 1 on p. 23
June 1, 2009	Matt Fournier	Update description of R51 resistor on p. 35.
November 4, 2009	Matt Fournier	Updated 613BY arrangement and illustration on page 33.
January 6, 2010	Matt Fournier	Added p/n AAA21241F2 in ref. 1 on p. 8
May 18, 2011	Anh Pham	Updated parts on pp. 42–44; deleted p. 45

(Continued on Next Page)

# History (Cont.)

**10-AAA21250C**

## Leaflet Revisions *(continued)*

Date Revised	Subject Matter Expert	Reason for Revision
October 16, 2013	Anh Pham	Updated parts throughout
February 17, 2016	Anh Pham	Added pn AAA21305DJ1 in Ref. 6 on p.8 and NOTE
December 7, 2016	Ali Bozorgzadeh	Added p/ns AAA27076EK1 and AAA27076CM2 on p. 22
November 20, 2019	Ali Bozorgzadeh	Added p/n AAA27076HY1 on p. 28
October 21, 2020	Ali Bozorgzadeh	Updated part number in Ref. 1 on p. 27
January 13, 2021	Merlene Buchanan	Replaced p/n AAA635B9 with AAA635B11
April 21, 2021	Ali Bozorgzadeh	Updated illustration on p. 47
February 16, 2022	Merlene Buchanan	Superseded p/n AAA635B10 to p/n AAA635B12 on pages 27 and 29

## Related Drawings

Drawing No.	Title	Drawing No.	Title
ACA21250C	Assembly, Controller, Gearless E411M	ACA21250AF	Assembly, Controller, E311MV/E411MV
ABA29000C	Arrangement, Elevonic 311	ADA21250C	Assembly, Controller, Gearless E411M

## Related Documents

Document ID	Title
SPL 10-232AA	Resistors
SPL 10-232AP	Resistors (Heater Element)
SPL 10-AAA447AC	PC Board Mating Connectors
SPL 10-7151A	AC & DC Contactors Reversing/Y-Delta Contactors Starters
TIP 1.1.3.1-90	Wiring Changes When Replacing a Siemens 5NO-5NC Relay

## Subject Matter Expert

Name	Department
Anh Pham and Ali Bozorgzadeh	OSC Service Engineering

## About Spare Parts Leaflets...

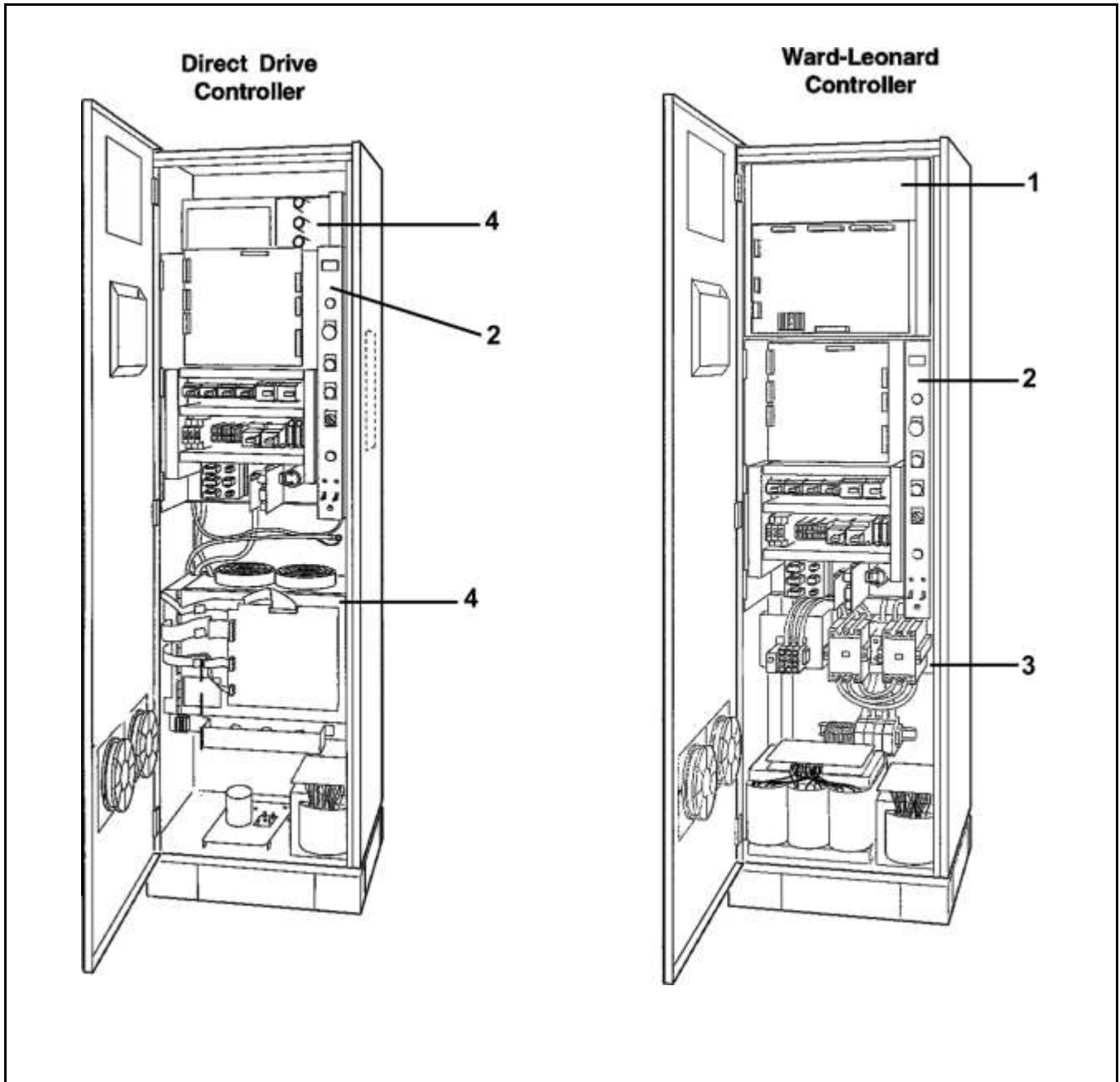
This document lists the lowest replaceable units (LRUs) for the standard version of the product. The LRUs are chosen by a team of Otis associates representing engineering and manufacturing.

While goal of this document is to make parts identification as easy as possible, the document cannot be all-inclusive. Elevator and escalator contracts classified as "special" or "custom" are not addressed here. For such contracts, please refer to specified information, the contract folder, TIPs, Field Education Articles, Construction Letters, etc. for further information.

If you have any suggestions about this document, please contact the subject matter expert listed on this page.

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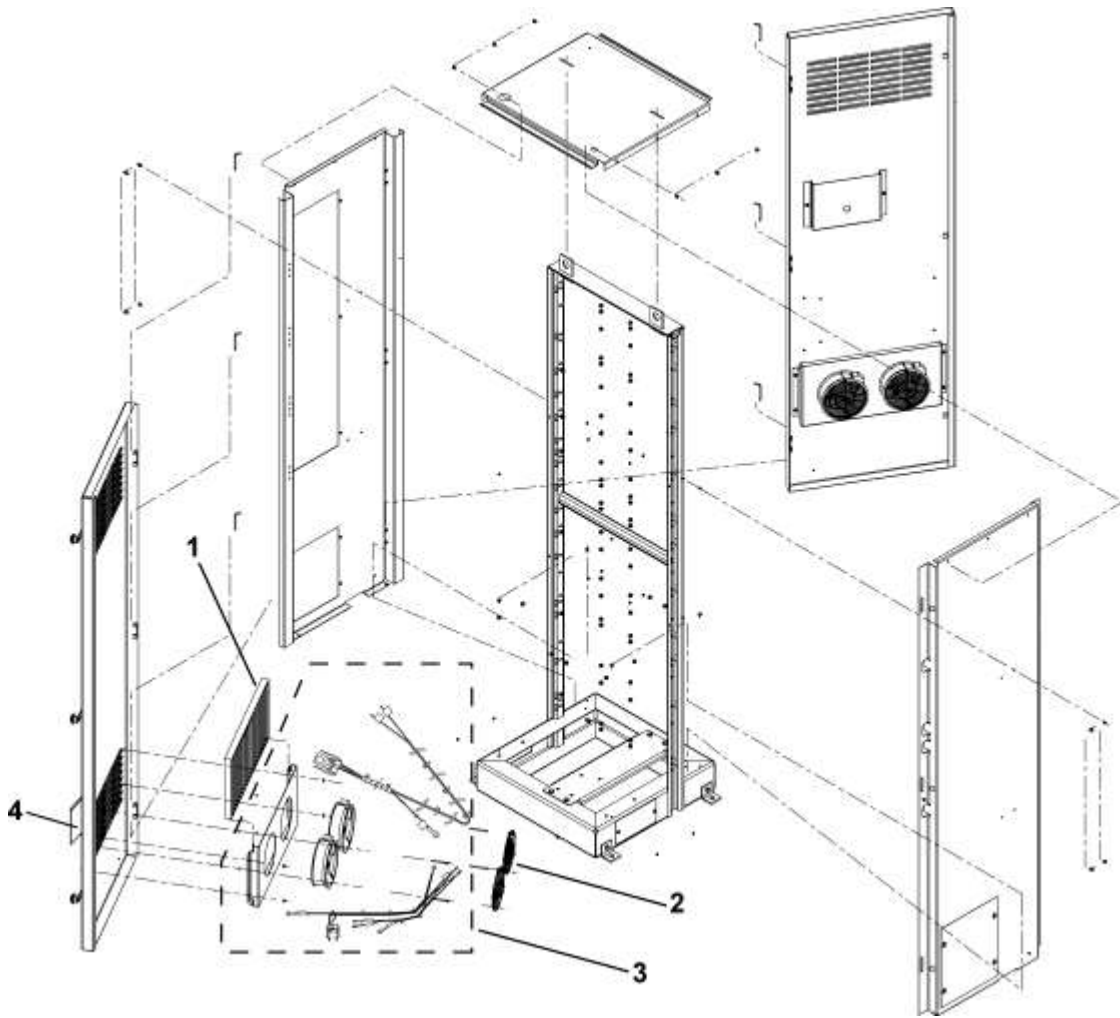
## Controller, Front Side Parts



REF. No.	PAGE No.	DESCRIPTION
1	34-35	Panel, DBSS, A**21250P, Ward-Leonard Control Only
2	22-27	Panel, Motion, A**21250R, for E311/411M
	28-31	Panel, Motion, A**21250Z, for E311/411MV
3	32-33	Panel, Starter, A**21250H, Ward-Leonard Control Only
4	40-51	Panel, Drive and SCR, A**21250AB, Direct Drive Control Only

# Air Filters and Fans

**10-AAA21250C**

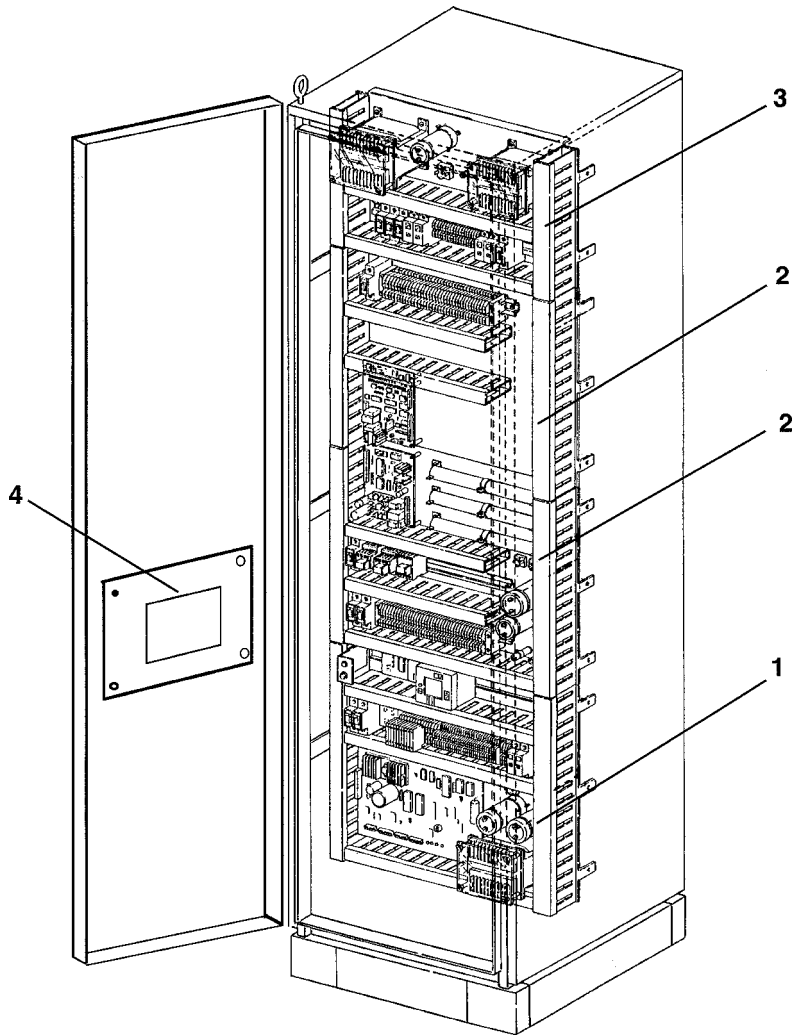


<b>AAA21250C</b>	<b>ACA21250C</b>
<b>AAA21250AF</b>	<b>ACA21250AF</b>
<b>ABA21250C</b>	<b>ADA21250C</b>
<b>ABA21250AF</b>	

REF. No.	PART No.		DESCRIPTION
1	AAA737E2	---	Element, Filter, Air 190 x190 mm
	---	AAA737R1	Element, Filter, Air, 10 x 20 in. (shown)
	AAA737E4	---	Element, Filter, Air, 310 x 310 mm
2	AAA384YE1		Guard, Fan
3	2700CCD1		Kit, Fan and Cables (front door), <b>W</b> → Ward-Leonard Control
	2700CCD2		Kit, Fan and Cables (rear door), <b>W</b> → Ward-Leonard Control
	2700CCD3		Kit, Fan and Cables (front door), <b>W</b> → Direct Drive Control
	2700CCD4		Kit, Fan and Cables (rear door), <b>W</b> → Direct Drive Control
4	AAA396LH2	---	Louver, Fan

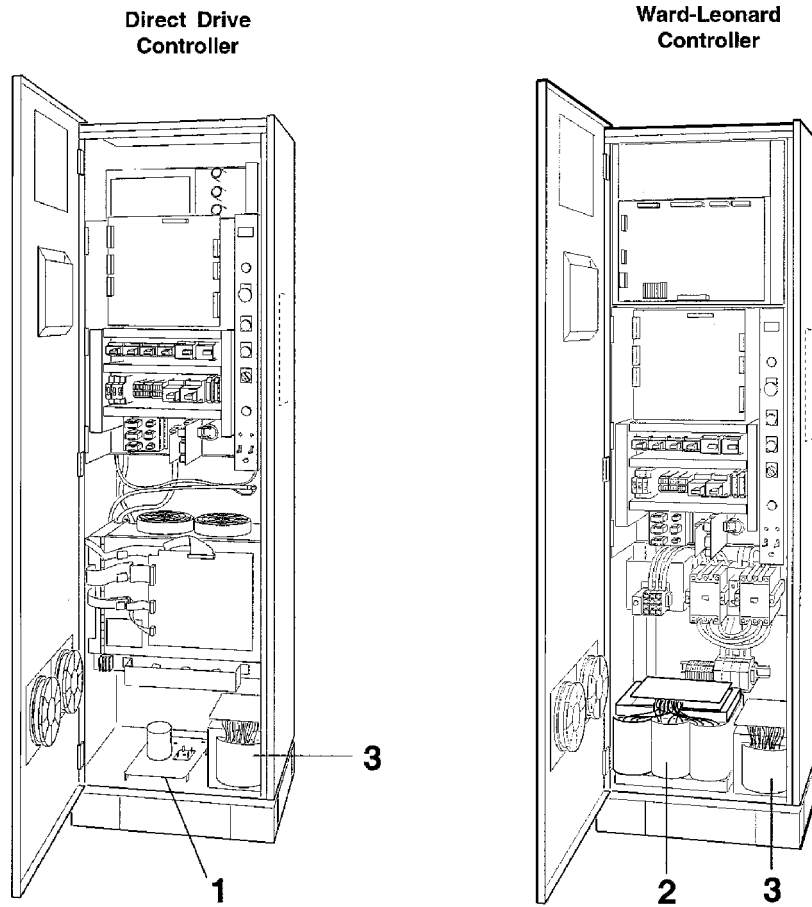
# Table of Contents

## Controller, Rear Side



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION
1	---	Panel, Operational Control, AAA21250D, See Pages 8–10
2	---	Panel, Front/Rear Door, AAA21250E/AAA21250F, See Pages 12–18
3	---	Panel, Power Supply, AAA21250G Fixture, See Pages 19–21
4	<del>BSAS800485-2</del> BSAS800485-3	PC Board, Slave, Remote Elevator Monitoring (REM®)

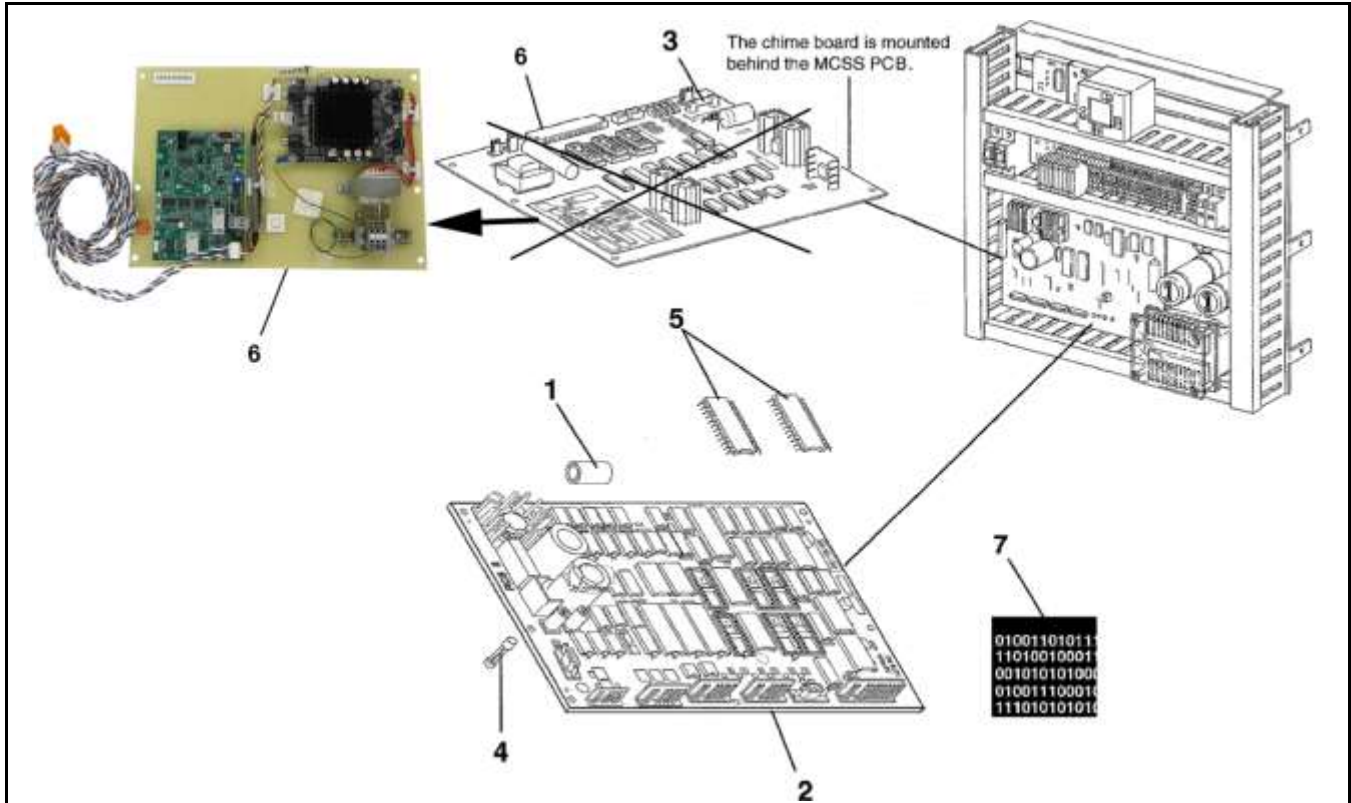


**NOTE:**  
Transformer (Ref. 2) is mounted externally for E411MV units with Position Recovery System.

	A**21250C	A**21250AF		
REF. No.	PART No.		DESCRIPTION	
1	---	AAA621AS3 AAA621AS4	UPS (Uninterruptible Power Supply), 120 VAC, 60 Hg, 175 W, 300 VA	
2	AAA225FM1		Transformer, TRF1, $\overline{W}$ →	200-240 V
	AAA225FM2		Transformer, TRF1, $\overline{W}$ →	346-440 V
	AAA225FM3		Transformer, TRF1, $\overline{W}$ →	460-600 V
Ward-Leonard Control Only				
3	AAA225FN1		Transformer, TRF2, $\overline{W}$ →	200-240 V
	AAA225FN2		Transformer, TRF2, $\overline{W}$ →	346-440 V
	AAA225FN3 ABA225FN3		Transformer, TRF2, $\overline{W}$ →	460-600 V

# 10-AAA21250C

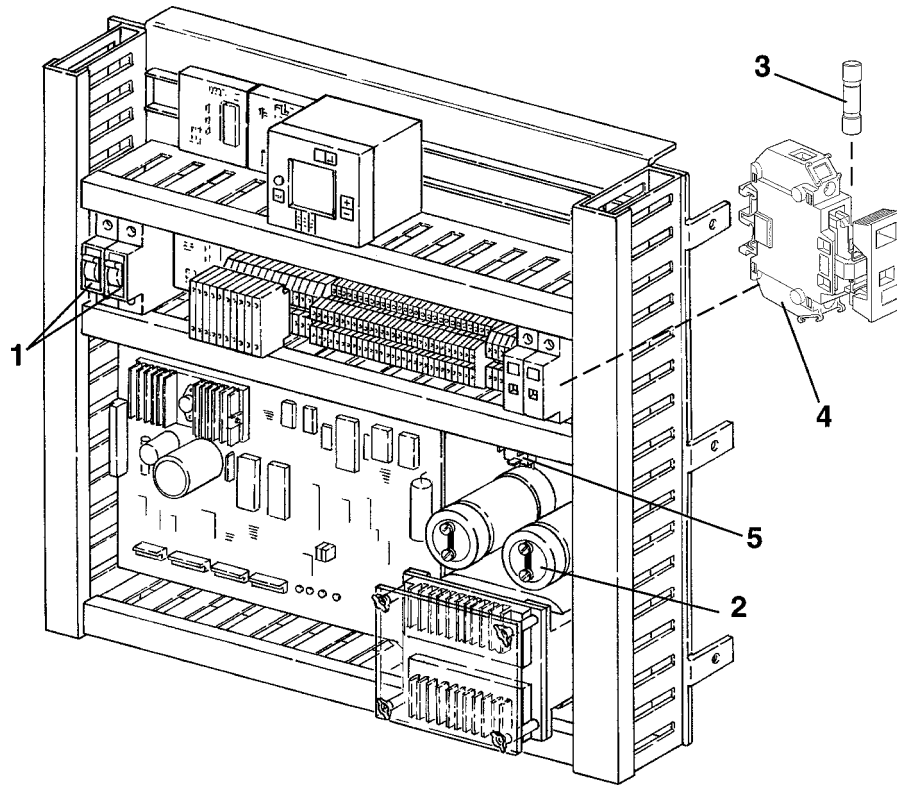
# Operational Control Panel (A\*\*21250D)



REF. No.	PART No.	DESCRIPTION	SYMBOL
1	<del>GAA718C4</del> AAA21241F2	Assembly, Battery, 3 V	RCB II
2	<del>GCA21270A3</del> <del>GDA21270A3</del> <del>GEA21270A3</del> <del>GFA21270A3</del> <del>GGA21270A3</del> <del>GHA21270A3</del>	Board, Ring Car (OCSS), w/o EPROM, EEPROM	RCB II
3	<del>375P4</del> AAA375BT17	Fuse, 1 A (used on Chime PC Board)	F1
4	<del>GO375AF22</del> AAA375BY8	Fuse, 2 A	F1, F2
5	AAA616KM2	EEPROM, Blank, 64K Electrically Erasable	Z34, Z39
	AAA616LX2 AAA616LX3 GAA616HK1	EPROM, Blank, 128K x 8, UV Erasable	Z37, Z53
6	ABA26800ABL001 AAA21305DJ1	PC Board, Chime Kit, Chime Replacement <b>NOTE</b>	
7	<del>AAA30005AAE</del> <del>AAA30005AAJ</del> <del>AAA30005AAJ-CN1</del> AP130005AAN1	Software, OCSS Baseline, for Ring Car Board II (Contact OSC Customer Service for latest version)	

**NOTE:** TIP 4.5-8 to replace the obsolete type ABA26800ABL chime board with the AAA21305DJ1 chime replacement kit.



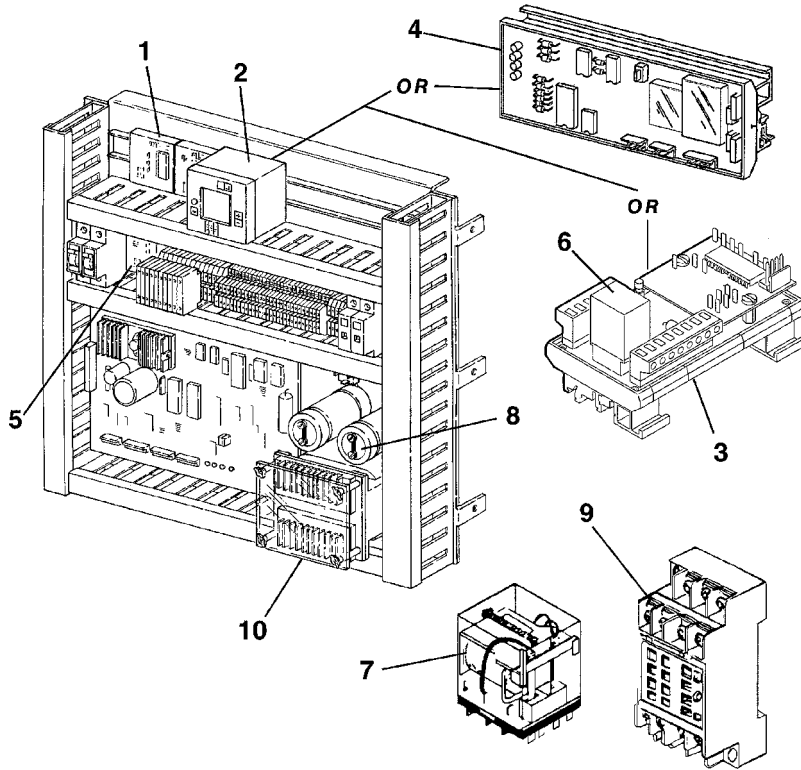


A**21250C A**21250AF			
REF. No.	PART No.	DESCRIPTION	SYMBOL
*	AAA26800JN1	Board, Emergency Operation Interface	EOIB
1	AAA00375AAF007	Breaker, Circuit, 6 A, 1-Pole	CB01 CB02
	AAA00375AAF002	Breaker, Circuit, 1 A, 1-Pole	CB03
2	226EJ2	Capacitor, 9,000 μF, 50 VDC	C01, C02
3	AAA375BK18	Fuse, 1.5 Amp,  200-240 V Supply Voltage	F01, F02
	AAA375BK13	Fuse, 1.0 Amp,  346-440 V Supply Voltage	F01, F02
	AAA375BK10	Fuse, 0.6 Amp,  550-600 V Supply Voltage	F01, F02
	AAA375BK11	Fuse, 0.75 Amp,  460-480 V Supply Voltage	F01, F02
4	AAA180DT1	Holder, Fuse, 600 V	F01, F02
*	ABA26890A2	Module, Plug-In, 150 V	IOM1-8
5	230BS3	Rectifier, Bridge, 1-Phase, 25 A, 600 V	RF01, RF02

\* Part not shown.

# 10-AAA21250C

# Operational Control Panel (A\*\*21250D)



**A\*\*21250C**  
**A\*\*21250AF**

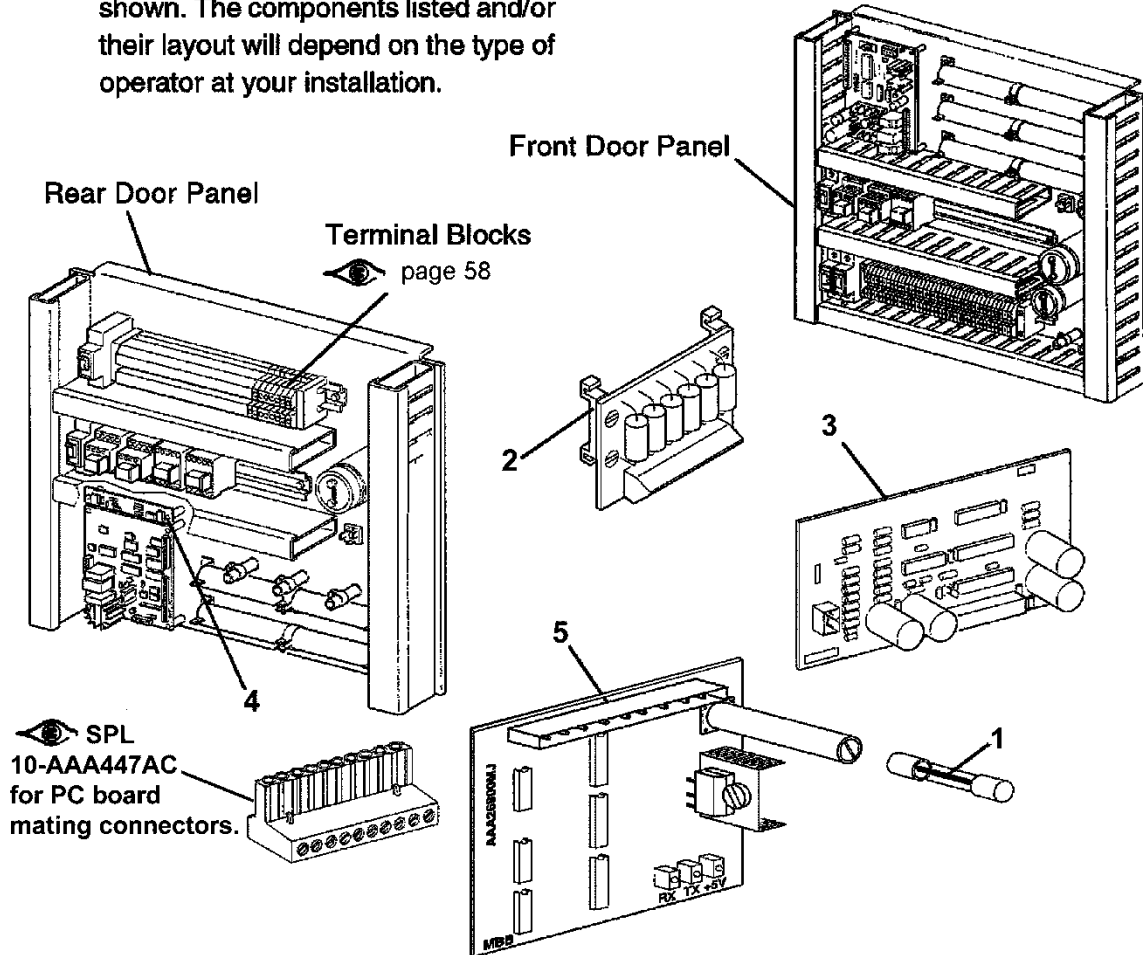
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA26810A1 AAB26810A1	Assembly, Remote Station PC Board	CIRS, CHIME RS5
2	623T3	Clock, Up/Down Peak	UP/DOWN
3	AAA21380E1 AAB21380E1 ABB21380E1	Module, Seismic (earthquake option)	EQO
4	A9693F4 GEA26800AL1	Module, Switch Over	SOM
	<del>GDA26800AL4</del> GEA26800AL1	Module II, Switch Over	SOM
5	AAA00613AAB003	Relay, 2 Contacts, SPDT, 110 VAC/DC	GT
6	AAA613CZ2	Relay, 24 VDC Coil	EQR
7	AAA613CZ9	Relay, 115 VAC Coil	PSO
8	232T46 AAA232FP89 AAA232HR65	Resistor, 47 KΩ	R01, R02
9	618AE2	Socket, Relay	PSO
10	AAA225FP1	Transformer  200-240 V	MPTRF
	AAA225FP2	Transformer  346-440 V	MPTRF
	AAA225FP3	Transformer  460-600 V	MPTRF


# Front Door Panel, A\*\*21250E

## Rear Door Panel, A\*\*21250F

**10-AAA21250C**

**NOTE:** Typical illustration of door panels shown. The components listed and/or their layout will depend on the type of operator at your installation.

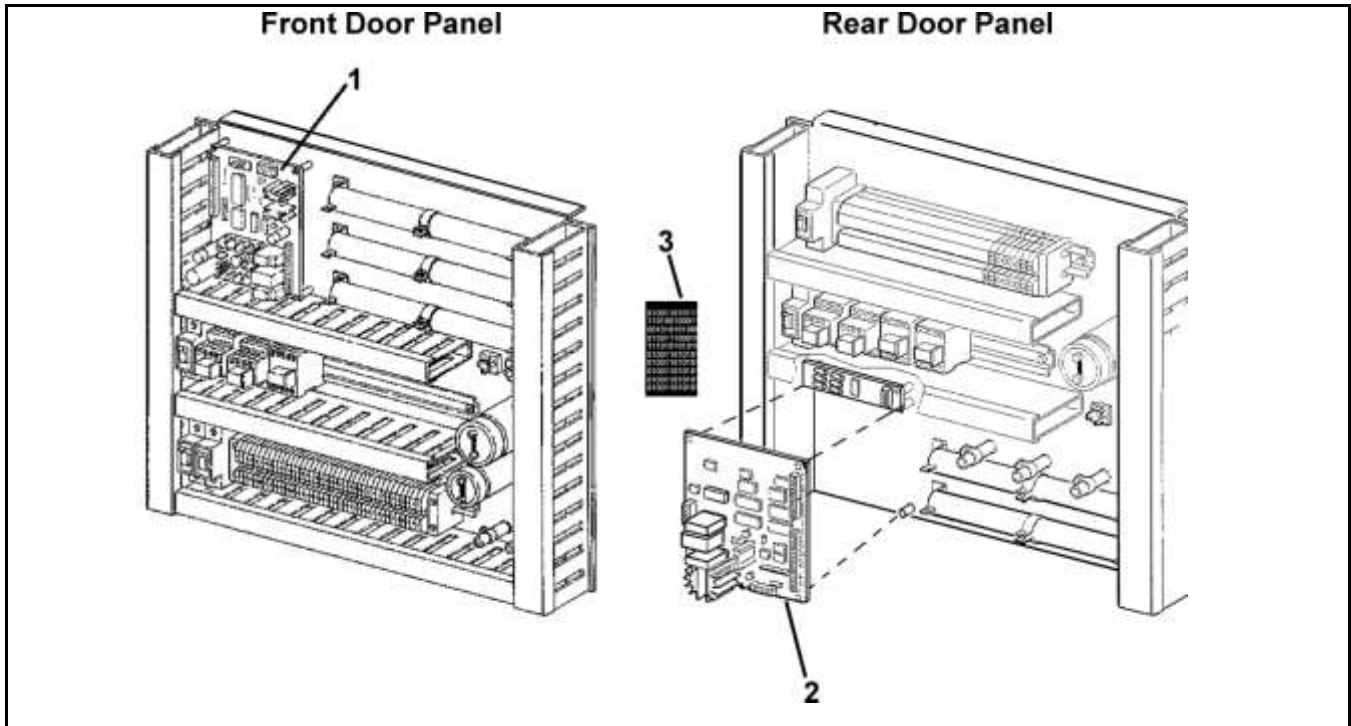


A**21250C A**21250AF				
REF. No.	PART No.	DESCRIPTION	SYMBOL	
1	AAA375BT2	Fuse, 250 V, 0.5 A	F1 (MBB)	
2	AAA26800NL1	PC Board, DISS Termination	See <b>NOTE</b>	
3	AAA26800LM1	PC Board, Load Weighing Interface		LVDT
4	AAA26800GM1	PC Board, LWI		LWI
5	AAA26800MJ1	PC Board, Multi-Drop Buffer,  Closed-Loop Operator, w/Fuse		MBB

**NOTE:** See SPL 10-AAA447AC for PC board mating connectors.

**10-AAA21250C**

**Front Door Panel, A\*\*21250E**  
**Rear Door Panel, A\*\*21250F**



**A\*\*21250C**  
**A\*\*21250AF**

REF. No. 1	REF. No. 2
<b>PC Board, Alternate Door Interface Subsystem</b>	<b>PC Board, Door Interface Subsystem (DISS)</b>
PART No.	
9693MG1 A9693MG1 A9693MG2 B9693MG1 B9693MG2 AAA26800NR1 AAA26800KK1 AAA26800KK2 AAA26800KK3 ABA26800KK4	A9693MB1 B9693MB1 AAA26800KJ1 AAA26800KJ2 AAA26800KJ3 AAA26800KJ4 ABA26800KJ3 ABA26800KJ4 C9693MB1 C9693MB2

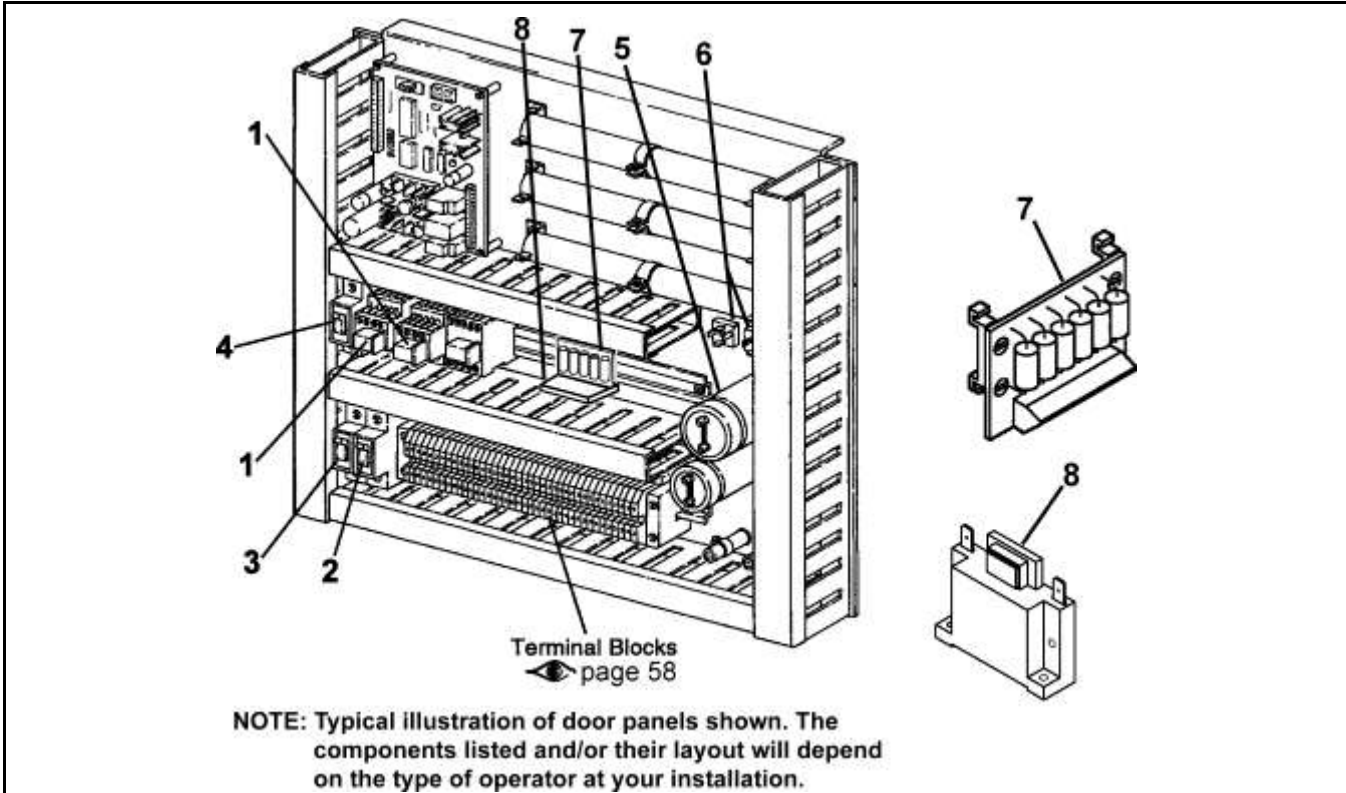
**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
3	---	Software, DISS (G_30154_) <b>NOTE:</b> Contact your OSC Customer Service Representative for the latest version of software.	DISS/Z9

# Front Door Panel, A\*\*21250E

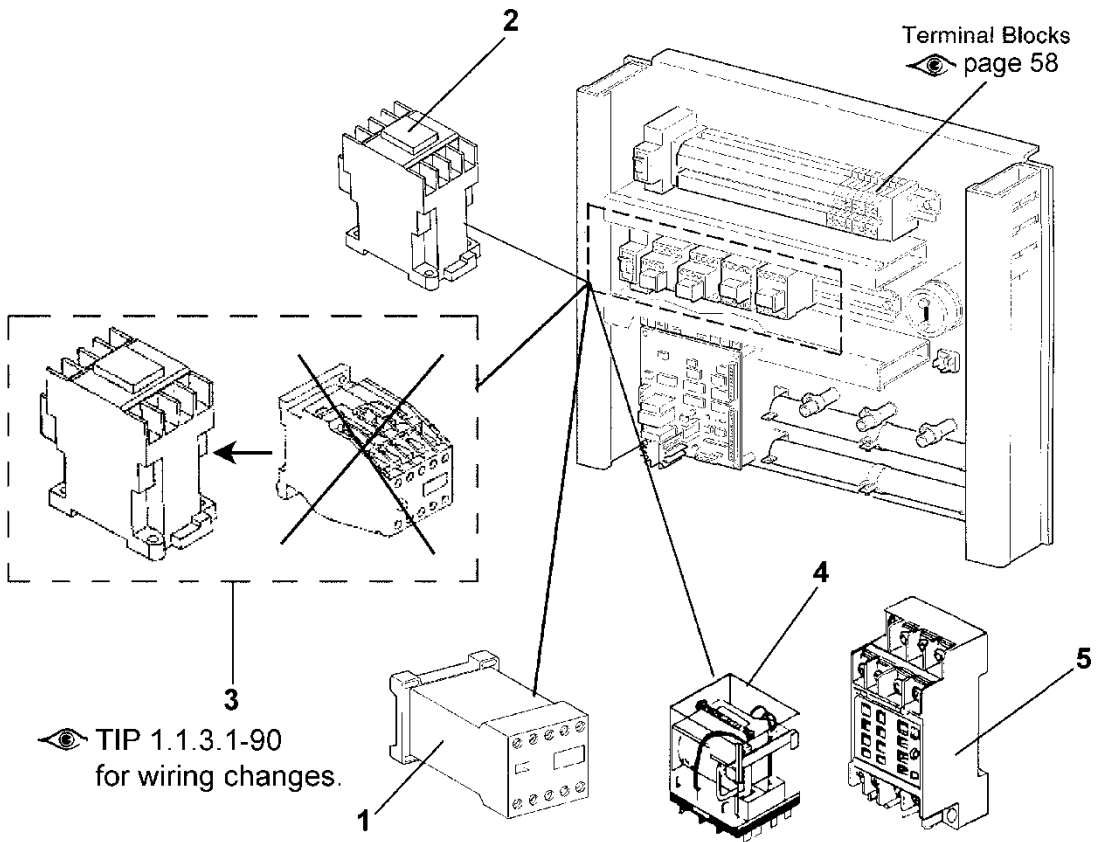
## Rear Door Panel, A\*\*21250F

**10-AAA21250C**



<b>A**21250C</b> <b>A**21250AF</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	AAA638S201 AAA613CV102	Block, Auxiliary Contact, 3NO, 1NC Contacts	IDO, DC
2	AAA00375AAF004	Breaker, Circuit, 2 A, 1-Pole	CB12, 22
3	AAA00375AAF007	Breaker, Circuit, 6 A, 1-Pole	CB11
4	AAA637E8	Breaker, Circuit, 4 A, 1-Pole	CB13, 23
	AAA637E4	Breaker, Circuit, 4 A, 3 Pole (6970A)	CB14, 24
5	226DR1	Capacitor, 1400 µF, 450 VDC (except 6970A, CLDO, & i-MOTION®)	C13, 23
	226H2 226DR2	Capacitor, 250 µF, 150 VDC (6970A, CLDO, & i-MOTION®)	C13, 14, 23, 24
	226EJ2	Capacitor, 9000 µF, 50 VDC	C11
6	230BS3	Rectifier, Bridge, 1-Phase, 25 A, 600 V	RF11, 13, 21, 23
	<del>P230BP3</del> AAA612AJ1	Rectifier, Bridge, 3-Phase, 25 A, 800 V (6970A operator)	RF14, 24
7	AAA26800NL1	PC Board, Termination	DTB
8	AAA623AA7	Timer, 19-288 V, 1-1024 Seconds	TIMER

**Front Door Panel, A\*\*21250E**  
**Rear Door Panel, A\*\*21250F**



**NOTE:** Typical illustration of door panels shown. The components listed and/or their layout will depend on the type of operator at your installation.

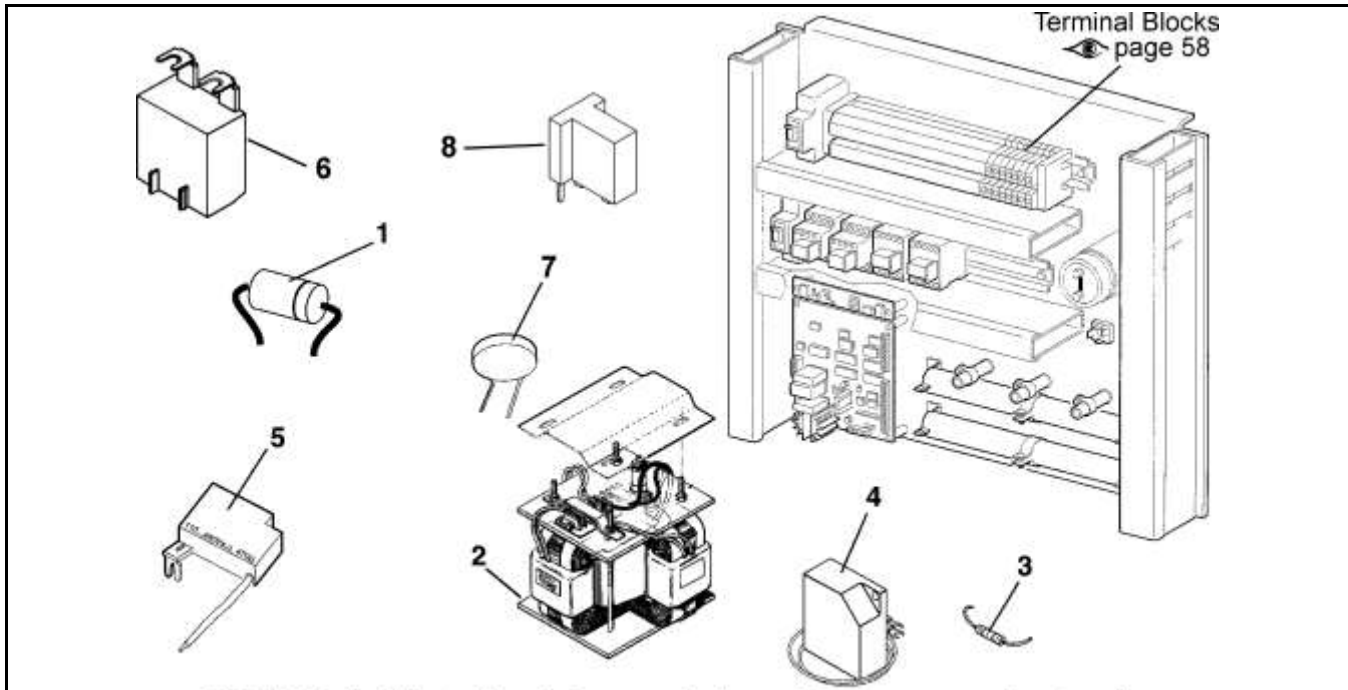
<b>A**21250C</b> <b>A**21250AF</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	AAA638B2 AAA638B102	Relay, 3NO, 1NC, 120 VAC, 60 Hz, w/o Aux. Contact	DO, DC, NR, REV
	AAA638S102 AAA613CV102	Block, Auxiliary Contact, 3NO, 1NC, 110 VAC, 60 Hz	
2	AAA613DL29	Relay, 4NO, 100-110 V, 50 Hz, 110-120 V, 60 Hz	DDR
3	AAA00613AAF013 AAA613DL21	Relay, 5NO, 3NC, 110 VAC-120 VAC, 60 Hz	DO, RDO
4	AAA613CZ8	Relay, 24 VDC Coil,  GAA26800AL1 (SOM II)	I LR, DOLR
	AAA613CZ10	Relay, 12 VDC Coil,  A9693F1 (SOM)	I LR
*	AAA00613AAB001	Relay, SPDT, 24 VDC Coil,  6970CL Control & DLB	OLR, ROLR
5	618AE2	Socket, Relay	I LR, DOLR

\* Part not shown.

# Front Door Panel, A\*\*21250E

# Rear Door Panel, A\*\*21250F

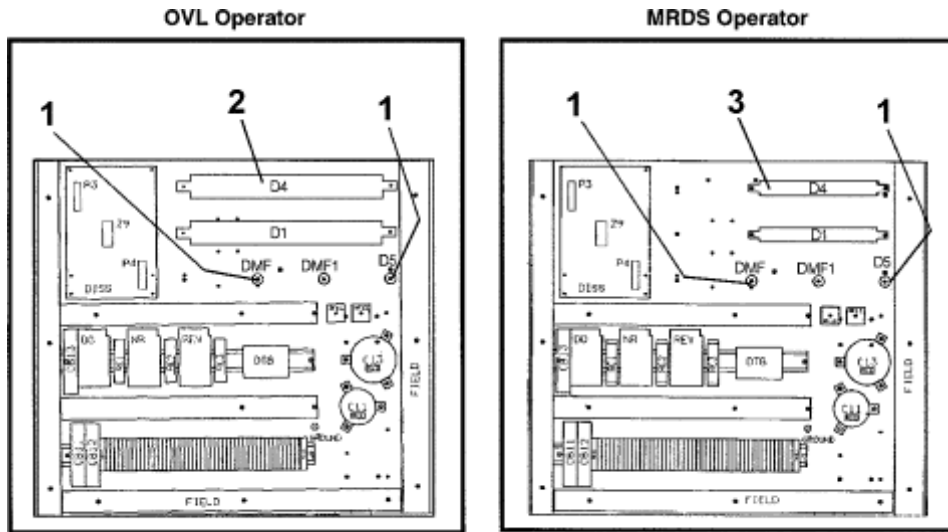
**10-AAA21250C**



**NOTE:** Typical illustration of door panels shown. The components listed and/or their layout will depend on the type of operator at your installation.

A**21250C A**21250AF			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA612AF1	Diode, Rectifier, 200 V, 1 A	I LR, DOLR
	AAA612AF2	Diode, Rectifier, 400 V, 1 A	D2
2	A7011A3	Reactor Assembly, Saturable, w/232Y52 Resistor, 605R14 Suppressor	I REA
3	<del>232T46</del> AAA232HR65	Resistor, w/Sleeving, 2 W, 47 K $\Omega$	R11-14, I R23-24
	AAA232FT55	Resistor, 0.5 W, 180 $\Omega$ (to TB11-44, 45)	RLR
	AAA232FC61	Resistor, 3.0 W, 1 K $\Omega$ (to TB11-10, 19)	RFSO
4	<del>AAA00605AAA004</del> AAA00605AAA026	Suppressor, 48-127 VAC, 0.68 $\mu$ FD	D1, R1
	AAA00605AAA006	Suppressor, 48-127 VAC, 1.0 $\mu$ FD	ASN
5	<del>AAA00605AAA018</del> <del>AAA00605AAA004</del> AAA00605AAA014	Suppressor, Surge, 125 VAC, 200 VDC, 0.5 $\mu$ f	IRC1 (DO/RDO), IRC2 (DC), IRC3(REV), IRC4(NR)
6	AAA613DL60	Suppressor, Varistor	DO, RDO
7	604F2	Varistor, 10 Joules	SUP11-13, 21-23
	AAA605AA36	Varistor, 95 Joules	F1, R2, ASN
8	AAA613CX702	Varistor, 48-127 VAC	SUP1-SUP4

**Front Door Panel, A\*\*21250E**  
**Rear Door Panel, A\*\*21250F**



👁 SPL 10-232AA for resistor details.

<b>A**21250C</b> <b>A**21250AF</b>				
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>	<b>OPERATOR</b>
1	232B164	Resistor, 30 W, 75 Ω, 1 Jumper	I DMF	MRDS, OVL
	232B207 232B47 232B207	Resistor, 30 W, 75 Ω, 1 Slider	I DMF1	
	232B169	Resistor, 30 W, 300 Ω, 1 Jumper	I D5	OVL
	232B220	Resistor, 30 W, 2 KΩ, 1 Slider	I D5	MRDS
2	232EH36 AAA617K10	Resistor, 225 W, 250 Ω, 1 Slider, 1 Jumper	I D1, D4	OVL
3	232EG57 AAA617L14	Resistor, 100 W, 300 Ω, 1 Jumper	I D1	MRDS
	232EG38 AAA617L11	Resistor, 100 W, 150 Ω, 1 Jumper	I D4	

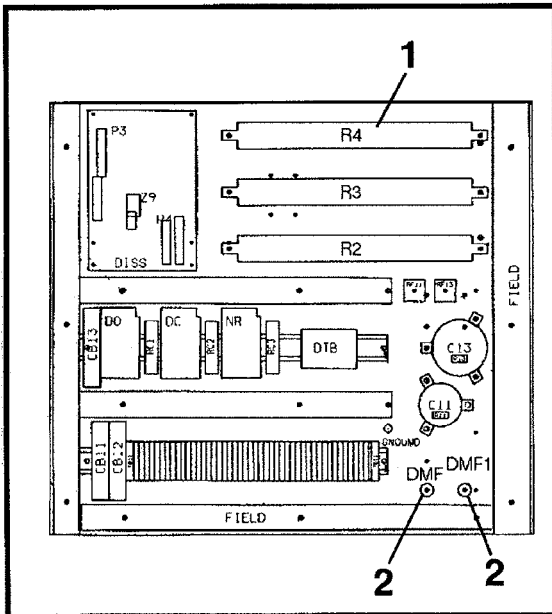


# Front Door Panel, A\*\*21250E

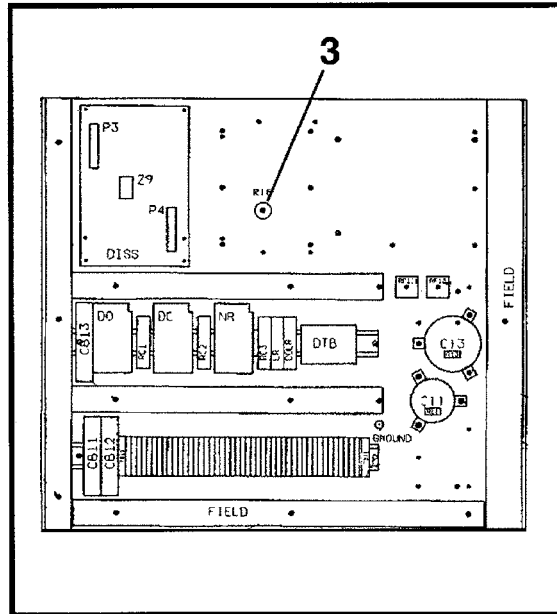
## Rear Door Panel, A\*\*21250F

**10-AAA21250C**

QL Operator




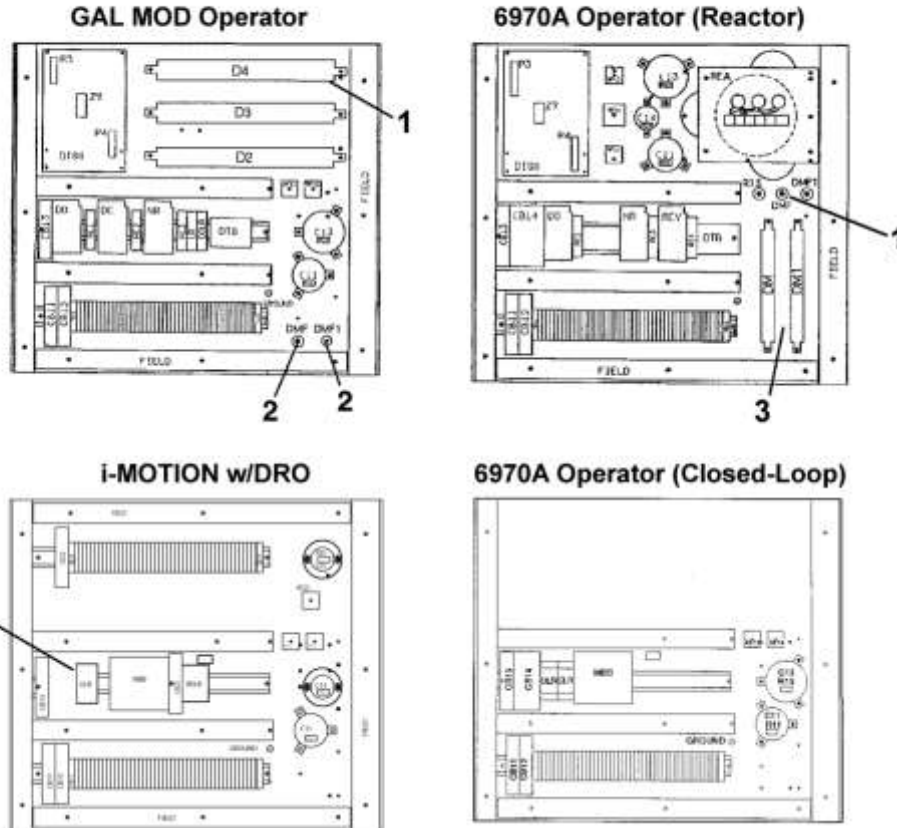
GAL MOM/MOH Operator



SPL 10-232AA for resistor details.

A**21250C A**21250AF		REF. No.	PART No.	DESCRIPTION	SYMBOL	OPERATOR
1	232B164		Resistor, 30 W, 75 Ω, 1 Jumper	I DMF	QL	
	232B207 232B47 232B207		Resistor, 80 W, 75 Ω, 1 Slider	I DMF1		
2	232EH3 AAA617K8		Resistor, 225 W, 50 Ω, 1 Slider	I D2		
	232EH33		Resistor, 225 W, 50 Ω, 1 Slider, 1 Jumper	I D3		
	232EH23 AAA617K8		Resistor, 225 W, 50 Ω, 1 Jumper	I D4		
3	AAA617H3		Resistor, 50 W, 3 Ω	I R16		GAL-MOM/MOH

 SPL 10-232AA for resistor details.

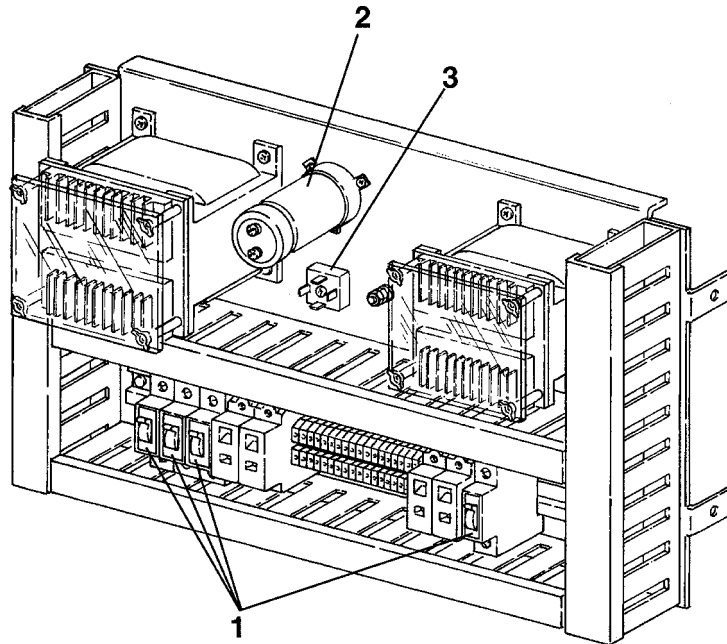


**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL	OPERATOR
1	232B1	Resistor, 30 W, 5 Ω	I R15	6970A
	232B169	Resistor, 30 W, 300 Ω, 1 Jumper	I DMF	GAL-MOD
	232B171	Resistor, 30 W, 500 Ω, 1 Jumper	I DMF, DMF1	6970A
	232B212	Resistor, 30 W, 300 Ω, 1 Slider	I DMF1	GAL-MOD
2	<del>232EH6</del> AAA617K10	Resistor, 225 W, 250 Ω, 1 Slider	I R3	
	<del>232EH26</del> AAA617K10	Resistor, 225 W, 250 Ω, 1 Jumper	I R4	
	<del>232EH36</del> AAA617K10	Resistor, 225 W, 250 Ω, 1 Slider, 1 Jumper	I R2	
3	232EG36	Resistor, 100 W, 50 Ω, 1 Jumper	I DM, DM1	6970A
	AAA232FC61	Resistor, 2 W, 1 K Ω	I OLR	CLDO, i-MOTION®
	<del>232T46</del> AAA232HR65	Resistor, 2 W, 47 K Ω	I R11, R12, R13	6970A

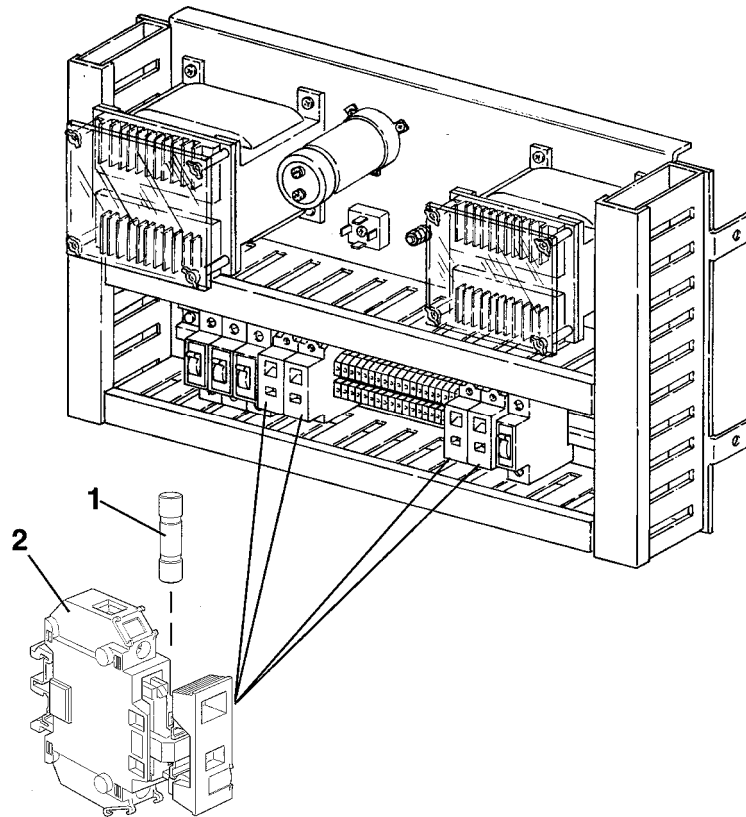
# Fixture Power Supply Panel, A\*\*21250G

**10-AAA21250C**



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA00375AAF011	Breaker, Circuit, 20 A, 1-Pole	CB31
	AAA00375AAF007	Breaker, Circuit, 6 A, 1-Pole, 30 V Car Fixtures	CB32
	AAA00375AAF005	Breaker, Circuit, 3 A, 1-Pole, 105 V Car Fixtures	
	AAA00375AAF007	Breaker, Circuit, 6 A, 1-Pole, 30 V Hall Fixtures	CB33
	AAA00375AAF004	Breaker, Circuit, 2 A, 1-Pole, 105 V Hall Fixtures	
	AAA00375AAF010	Breaker, Circuit, 16 A, 1-Pole, 30 V Group Fixtures	CB34
	AAA00375AAF005	Breaker, Circuit, 3 A, 1-Pole, 105 V Group Fixtures	
	AAA00375AAF007	Breaker, Circuit, 6 A, 1-Pole	CB35
2	226EJ2	Capacitor, 9000 $\mu$ F, 50 VDC	C31, C34
3	230BS3	Rectifier, Bridge, 1-Phase, 25 A, 600 V	RF31, RF34

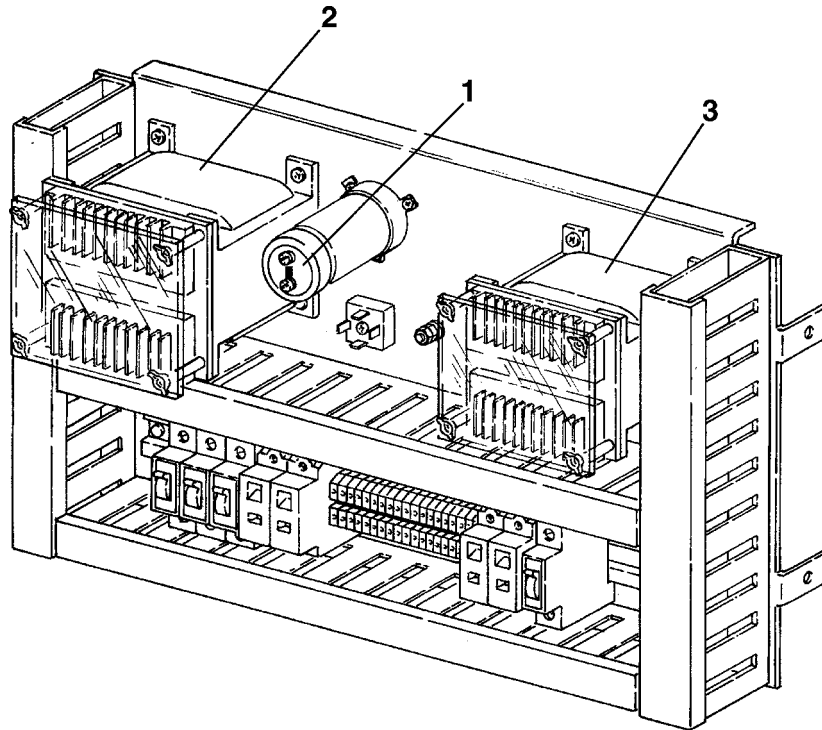
**10-AAA21250C****Fixture Power Supply Panel,  
A\*\*21250G****A\*\*21250C  
A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL	
1	AAA375BK29	Fuse, 4 A, 600 V,  200-240 V Supply Voltage	F31, F32	
	AAA375BK26	Fuse, 3 A, 600 V,  346-416 V Supply Voltage		
	AAA375BK21	Fuse, 2 A, 600 V,  440-600 V Supply Voltage		
	1	AAA375BK26	Fuse, 3 A, 600 V,  200-240 V Supply Voltage	F33, F34
		AAA375BK21	Fuse, 2 A, 600 V,  346-480 V Supply Voltage	
		AAA375BK13	Fuse, 1 A, 600 V,  550-600 V Supply Voltage	
		AAA375BJ36	Fuse, 12 A, 500 V,  200-208 V Supply Voltage	
	1	AAA375BK39	Fuse, 10 A, 600 V,  220-240 V Supply Voltage	F35, F36
		AAA375BK33	Fuse, 6 A, 600 V,  346-416 V Supply Voltage	
		AAA375BK31	Fuse, 5 A, 600 V,  440-480 V Supply Voltage	
		AAA375BK29	Fuse, 4 A, 600 V,  550-600 V Supply Voltage	
AAA375BK29		Fuse, 4 A, 600 V,  550-600 V Supply Voltage		
2	AAA180DT1	Holder, Fuse, 600 V	F31-F36	
	AAA180DT2	Holder, Fuse Rejection,  550-600 V Supply		

# Fixture Power Supply Panel

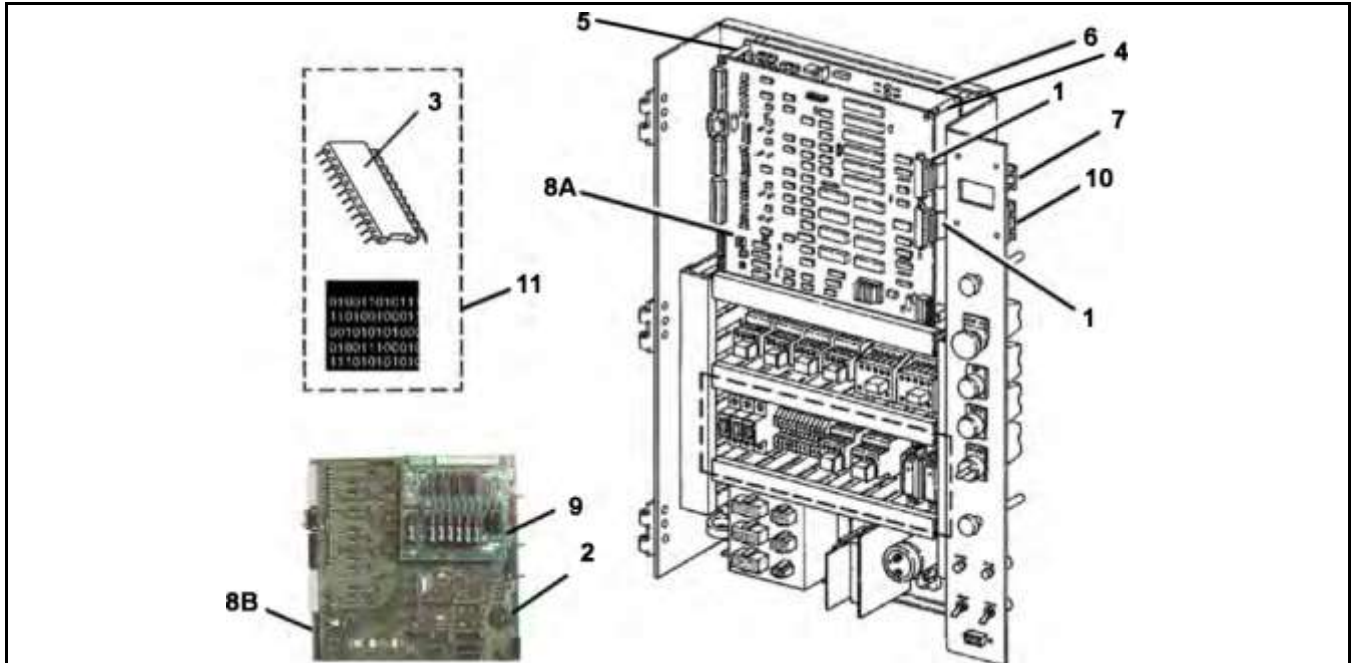
**10-AAA21250C**

## A\*\*21250G



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	232T46	Resistor, 47 KΩ	R31, R34
2	AAA225FR1	Transformer,  200-240 V Supply Voltage	CPTRF
	AAA225FR2	Transformer,  346-440 V Supply Voltage	
	AAA225FR3	Transformer,  460-600 V Supply Voltage	
3	AAA225FS1	Transformer,  200-240 V Supply Voltage	HPTRF
	AAA225FS2	Transformer,  346-440 V Supply Voltage	
	AAA225FS3	Transformer,  460-600 V Supply Voltage	



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA174KV1	Assembly, Cable, Ribbon	---
2	AAA718F4	Battery, 3V, 500 mA/h	---
3	AAA616KM1	EEPROM, Blank	U48, U59
	AAA616MB2	EPROM, Blank	U45, U46, U56
4	AAA27076EK1	Kit, Standoffs Hinge, Hardware	---
5	AAA27076CM2	Kit, Hardware, MCSS I/O and Processor	---
6	<del>AAA26800ABB001</del>	PC Board, Motion Control I/O	MCSS I/O
	<del>ABA26800ABB001</del>		
	ACA26800ABB001		
7	9693R3	PC Board, Position Indicator	PI
8A	<del>ABA26800ABA001</del>	PC Board, Processor	---
	ABA23800ABA002		
8B	<del>AAA26800ANX1</del>	PC Board, Processor, Flash Memory Base <b>NOTE 1</b>	MCSS
	<del>ABA26800ANX1</del>		
	ACA26800ANX1		
9	AAA26800ARS1	PC Board, MCSS Extender I/O	---
10	<del>AAA26810A1</del>	PC Board, Remote Station 5 w/Holder	MIB
	<del>ABA26810A1</del>		
	AAB26810A1		
	<del>GBA23550D1</del>	PC Board, Remote Station 5	
	GFA23550D10		
GFA23550D1			
---	AAA26800QQ1	PC Board, Resistor (not shown)	DRB
11	<del>AAA30045AAE</del>	Software, Set of EEPROM and EPROM ( <b>NOTE 2</b> )	---
	<del>AAA30045AAK1</del>		
	AP130045AAK1		

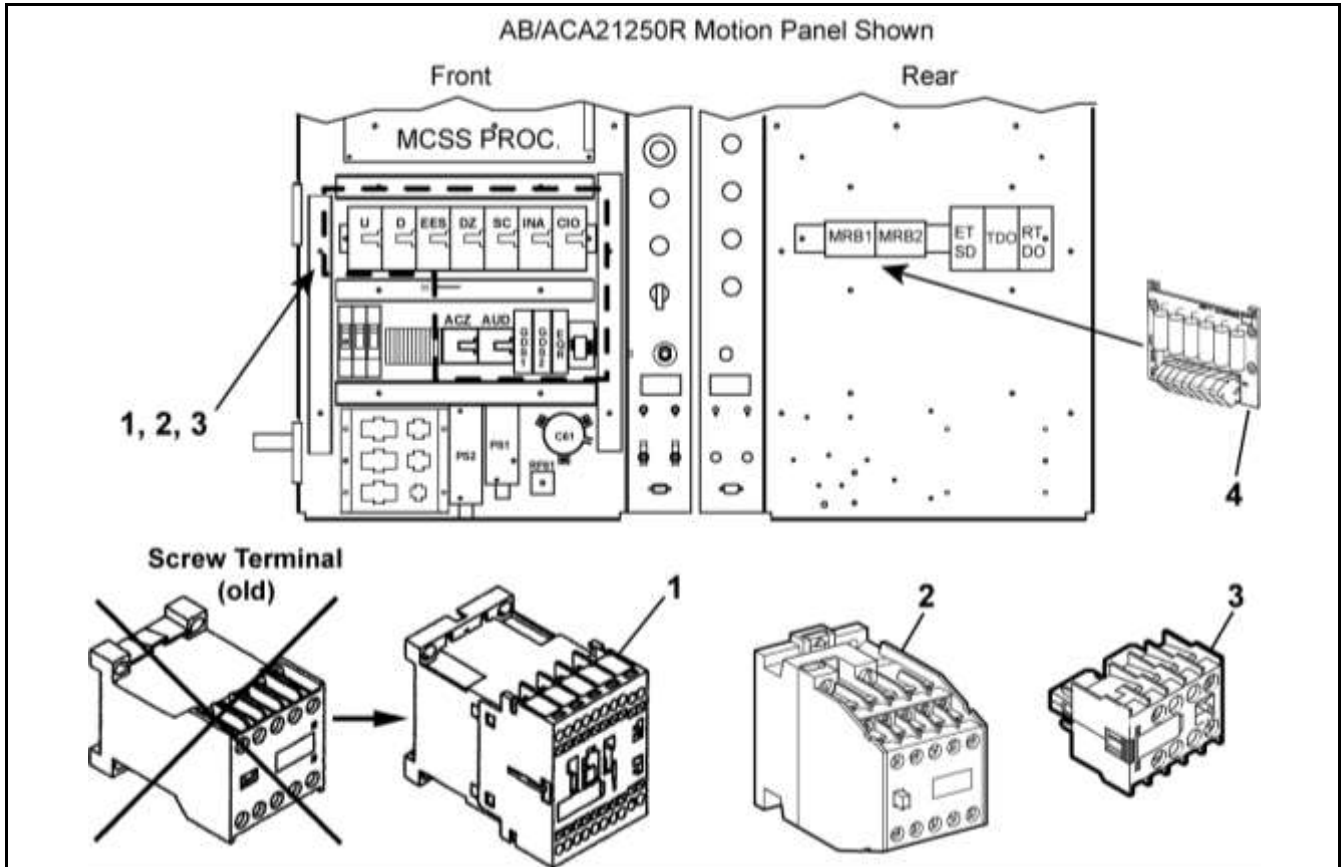
**NOTE 1:** See TIP 31.4-46 for upgrade of ABA26800ABA002 to flash base ACA26800ANX1. This upgrade is possible for NAA baseline only.

**NOTE 2:** Contact OSC Customer Service for latest software version.

# E311M/E411M Motion Panel

**10-AAA21250C**

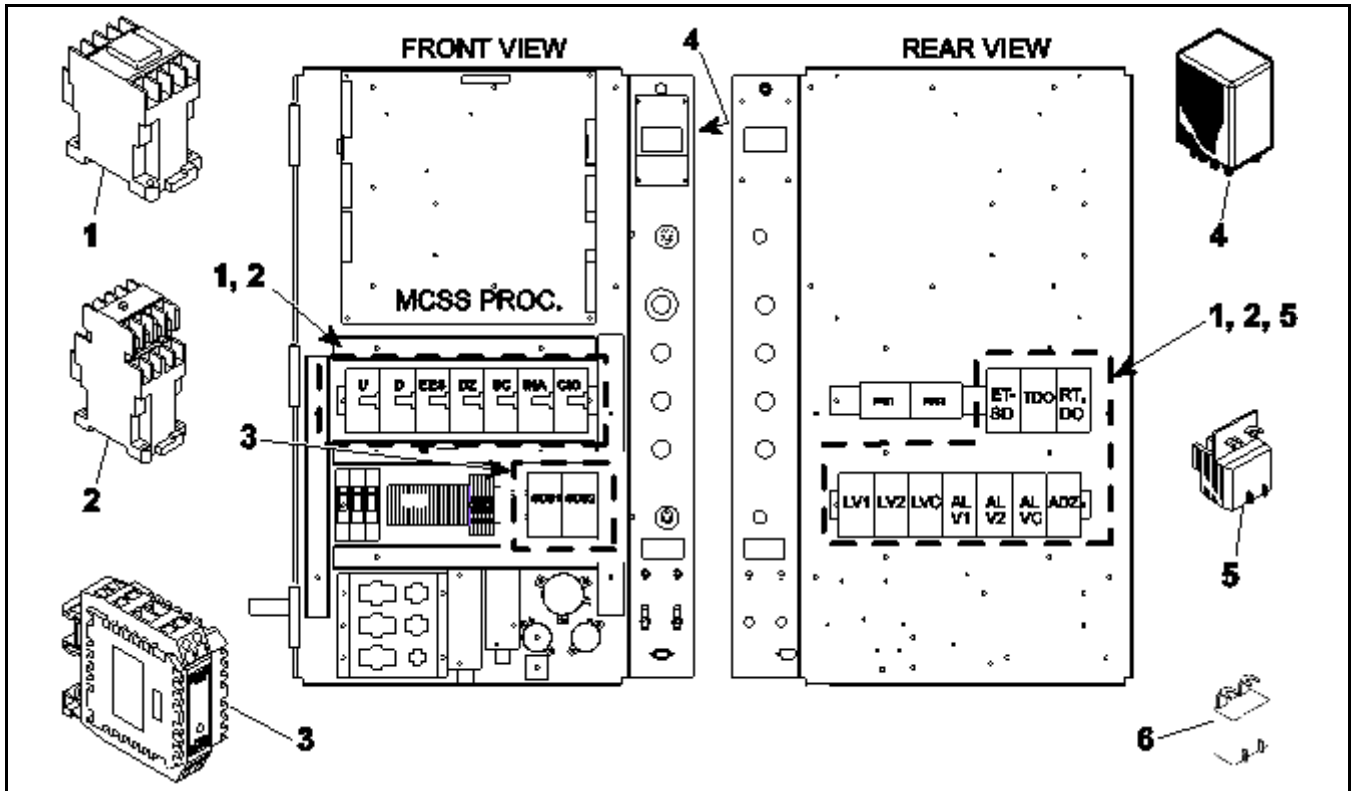
**(A\*\*21250R), with Siemens Relays**



--- 21250C						
		AAA	ABA	ACA, ADA		
REF. No.	SYMBOL			PART NO.	DESCRIPTION	
1	U, D, EES, DZ, ADZ, AUD	---	---	<del>AAA613CN2</del> <del>AAA613CX104</del> <del>AAA613CX505</del>	Relay, 4NO Contacts	
	---	U, D, EES, DZ, ADZ, AUD	---	<del>AAA613CX105</del> <del>AAA613CX133</del> <del>AAA613CX505</del>		
	---	SC, INA, CIO, AUD	---	<del>AAA613CX104</del> <del>AAA613CX132</del> <del>AAA613CX504</del>		
2	SC	---	---	AAA613CP13	Relay, 8NO, 2NC Contacts	
	INA	---	---	AAA00613AAF013	Relay, 5NO, 5NC Contacts	
3	---	SC, INA, DZ, ADZ	---	AAA613CX205	Contact, Auxiliary, 3NO, 1NC	
	---	CIO, AUD	---	AAA613CX208	Contact, Auxiliary, 4NC	
4	MRB1, MRB2			AAA26800NL1	PC Board, Resistor, MCSS	

**10-AAA21250C**

# E311M/E411M Motion Panel, with Fuji Relays (A\*\*21250R)

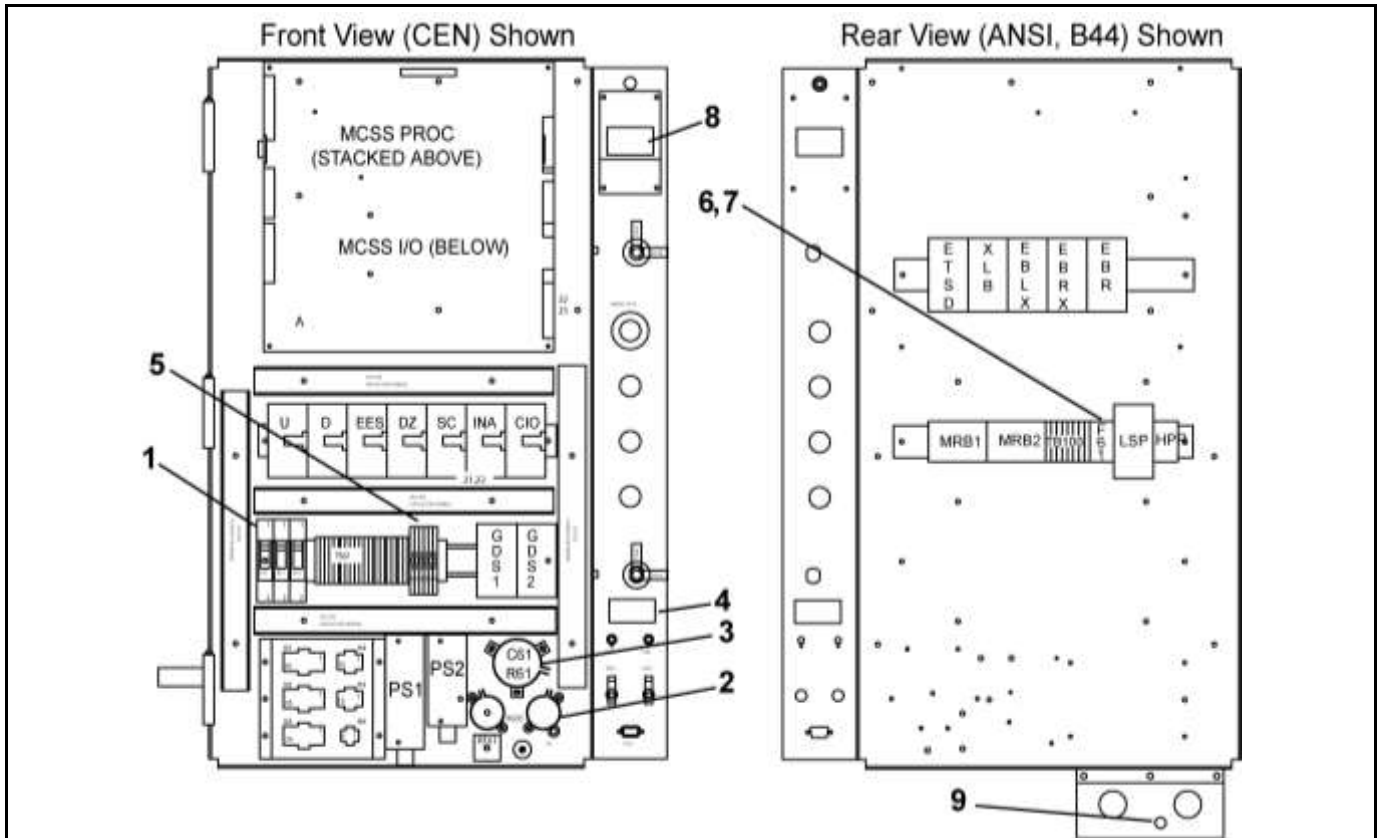


		--- 21250C			
		AAA	ABA	ACA, ADA	
REF. No.	SYMBOL			PART NO.	DESCRIPTION
1	---	---	U, D, EES, ETSD, TDO, RTDO, UCM, EBR, EBRX, EBLX, XLB	AAA613DL30	Relay, 3NO, 1NC Contacts
	---	---	GDS1, GDS2	AAA613DL31	Relay, 2NO, 2NC Contacts
2	---	---	SC	AAA613DL33	Relay, 7NO, 1NC Contacts
	---	---	ADZ, DZ, INA, LVC, LV1, LV2, ALVC, ALV1, ALV2, LSP	AAA613DL34	Relay, 6NO, 2NC Contacts
	---	---	AUD, CIO	AAA613DL36	Relay, 4NO, 4NC Contacts
3	EQR	---	---	AAA00613AAB001	Relay, 24 VDC (seismic operation)
			GDS1, GDS2	AAA00613AAB003	Relay, 2 SPDT Contacts
4	---	---	HPR	AAA613CZ8	Relay (HPI cutout)
5	---	---	(A) LV1P, (A) LV2P, (A) LVCP, XLBP	AAA613DL80 AAA613DL81	Relay Driver, 24 VDC
6			DZ, EES, U, D, AUD, RTDO, ETSD, LSP, EBR, EBRX, EBLX	AAA613DL61	Suppressor (rectifier-capacitor)



# E311M/E411M Motion Panel, (A\*\*21250R)

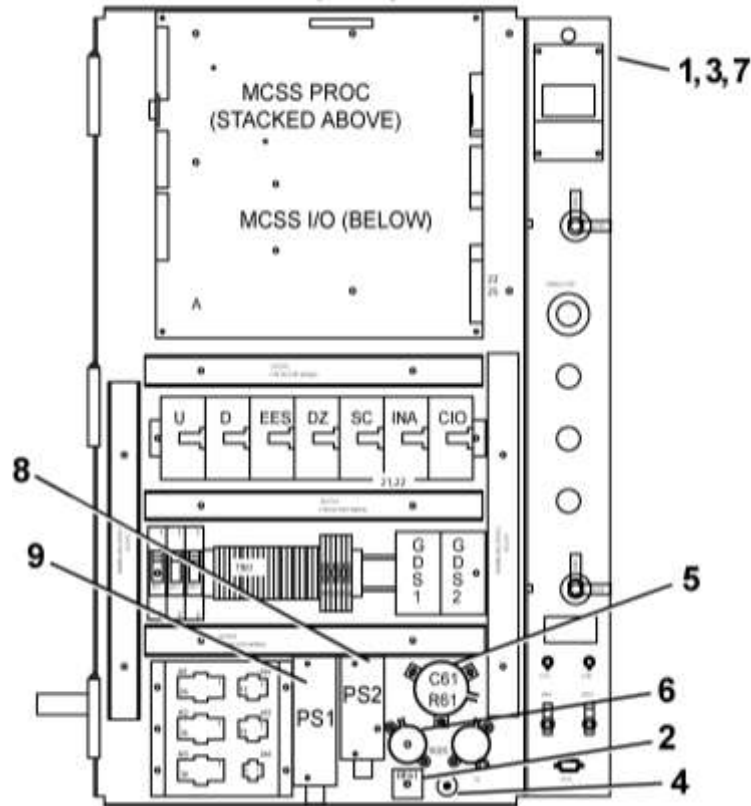
**10-AAA21250C**



	<b>AAA21250C AABA21250C</b>	<b>ACA21250C ADA21250C</b>			
<b>REF. No.</b>	<b>PART No.</b>		<b>DESCRIPTION</b>	<b>CODE*</b>	<b>SYMBOL/REMARKS</b>
1	AAA00375AAF007	---	Breaker, Circuit, 4 A, 1-Pole	ALL	CB61, CB63
	AAA00375AAF004	---	Breaker, Circuit, 2 A, 1-Pole		CB62
	---	AAA00375AAF006	Breaker, Circuit, 4 A, 1-Pole		CB62, CB63
	---	AAA00375AAF007	Breaker, Circuit, 6 A, 1-Pole		CB61
2	---	226DR6	Capacitor, 470 $\mu$ F, 200 VDC	CEN	CLVC, ACLVC
3	226EJ2		Capacitor, 9000 $\mu$ F, 50 VDC	ALL	C61
4	---	CAA623C2	Counter		COUNTER
5	---	AAA612T2	Diode (not shown)	CEN	CR1–CR6
6	---	AAA375BJ28	Fuse (for GTD)	ANSI, B44	F61
---	AAA653K100		Fuse Puller (not shown)	---	---
7	---	AAA653K1	Fuse, Holder (for GTD)	ANSI, B44	---
8	AAA443DE1		Lens	ALL	---
9		AAA635L3	Pushbutton, LSP Reset	ANSI, B44	LSPR

\* Codes are ANSI, B44, and CEN.

Front View (CEN) Shown



<b>AAA21250C</b>	<b>ACA21250C</b>
<b>ABA21250C</b>	<b>ADA21250C</b>

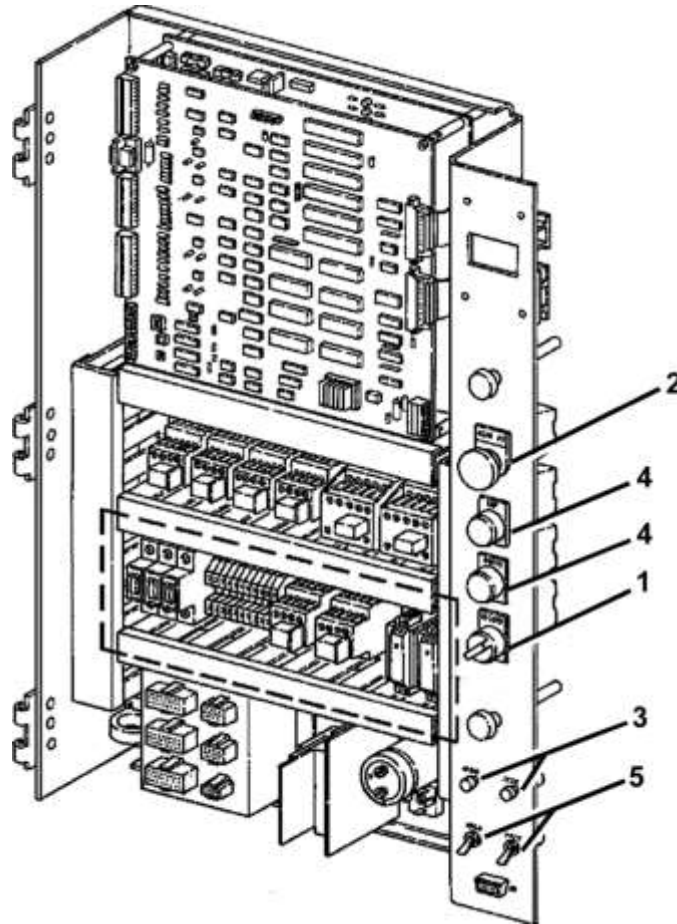
REF. No.	PART No.	DESCRIPTION	CODE*	SYMBOL/REMARKS
1	---	AAA612T7	ANSI, B44	for HPR
2	230BS3	Rectifier, Bridge, 1-Phase, 25 A, 600 V	ALL	RF61, (RF62, ANSI,B44 only)
3	---	AAA232FT55	HPR	for HPR
4	---	232B20	ALL	RGDS
5	<del>232T45</del> 232T46	<del>232T28</del> AAA232HR65		R61
6	---	232AE1	CEN	RLVC, ARLVC
7	---	618AE2	ANSI, B44	HPR
8	<del>AAA621AN2</del> → AAA621AN6 AAA621AN28	Supply, Power, 12 VDC <b>NOTE</b>	ALL	PS2
9	<del>AAA621AN1</del> → AAA621AN5 AAA621AN26	Supply, Power, 5 VDC <b>NOTE</b>		PS1

\* Codes are ANSI, B44, and CEN.

**NOTE:** The AAA27076FM1 mounting kit must be ordered when ordering replacement power supply on Ref. 8 or 9 for the first time.

# E311M/E411M Motion Panel, (A\*\*21250R)

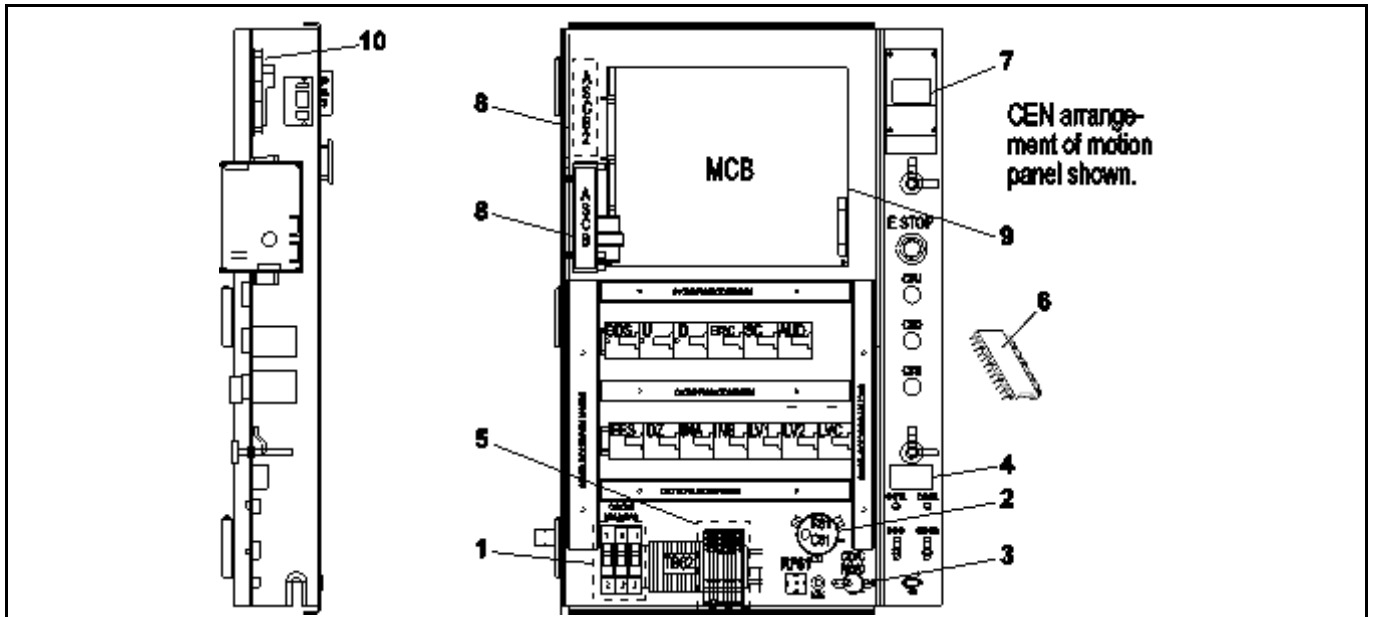
**10-AAA21250C**



	<b>AAA21250C AABA21250C</b>	<b>ACA21250C ADA21250C</b>			
<b>REF. No.</b>	<b>PART No.</b>		<b>DESCRIPTION</b>	<b>CODE*</b>	<b>SYMBOL</b>
1	AAA636B1	AAA636B7 AAA636B16	Switch, Lever	ANSI, B44	NORM/INSP (CIS)
2	AAA635B2 AAA635B10 AAA635B12		Switch, Pushbutton	ALL	CCES
3	AAA635C3 →	AAA635C1	Switch, Pushbutton		CCTL, CCBL
4	AAA635B4 →	AAA635B4 AAA635B9 AAA635B11	Switch, Pushbutton (UP/DOWN)	ANSI, B44	CID, CIU
5	AAA177EM1		Switch, Toggle	ALL	DDO, CHCS
6	---	AAA605AA43	Varistor, for GTD (Not shown. Mounts on terminal board (TB100) on rear of panel.)	ANSI, B44	VR61

\* Codes are ANSI, B44, and CEN.

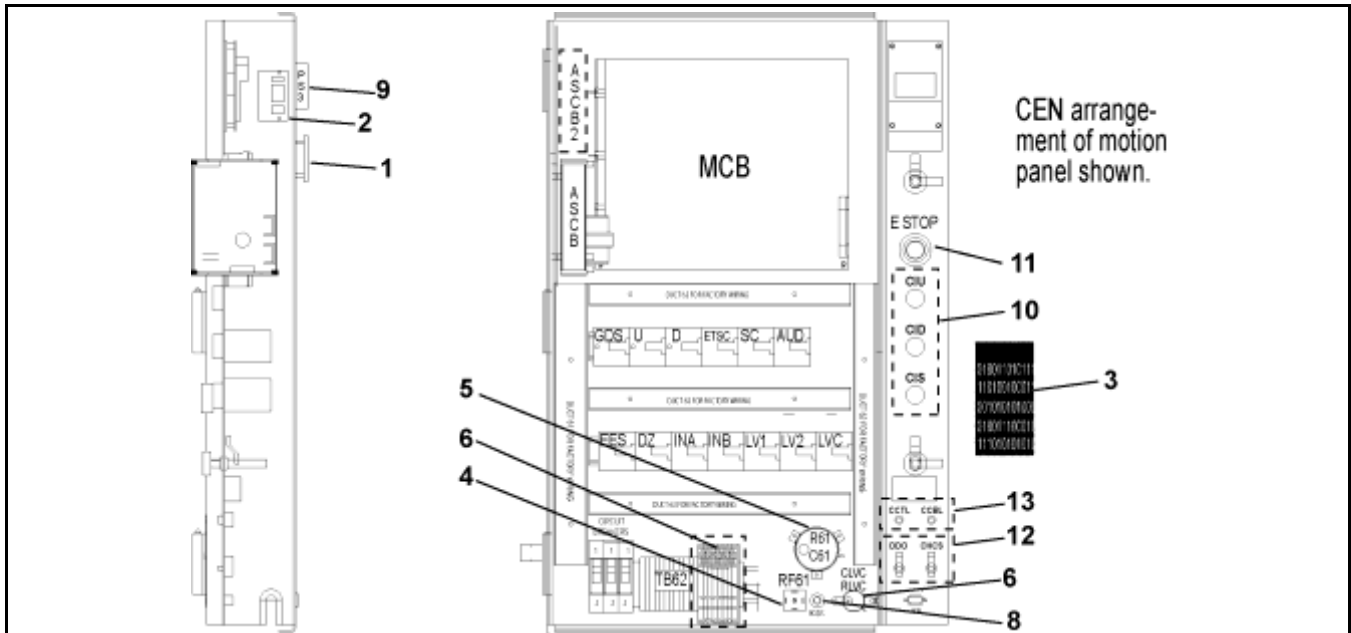
**E311MV/E411MV Motion  
Panel, A\*\*21250Z**



REF. No.	PART No.	DESCRIPTION	SYMBOL	
	<b>AAA21250AF ABA21250AF</b>	<b>ACA21250AF</b>		
1	AAA00375AAF004	---	Breaker, Circuit, 2 A, 1-Pole	CB62
	AAA00375AAF007	---	Breaker, Circuit, 6 A, 1-Pole	CB61, CB63
	---	AAA00375AAF006	Breaker, Circuit, 4 A, 1-Pole	CB62, CB63
	---	AAA00375AAF007	Breaker, Circuit, 6 A, 1-Pole	CB61
2	226EJ2		Capacitor, 9000 μF, 50 VDC	C61
3	---	226DR6	Capacitor, 470 μF, 200 VDC (CEN only)	CLVC
4	---	CAA623C1 CAA623C2	Counter	---
5	---	AAA612T7	Diode	CR1–CR4
	---	AAA612T2	Diode (CEN only)	CR5, CR6, CR7
6	AAA616KM2		EEPROM, Blank, 64K Elect. Erasable	U44
	AAA616LX2 AAA616LX3 GAA616HK1		EPROM, Blank, 128K x 8, UV Erasable	U37
	AAA443DE1		Lens	PI
8	AAA26800GG1 AAA26800ARG1		PC Board, ANSI Speed Check	ASCB, ASCB2
9	JEA26801AAF002 JFA26801AAF002 JGA26801AAF002 JFA26801AAF002		PC Board, Motion Control	MCB
10	---	9693R3 AAA27076HY1	PC Board, Position Indicator	PI

# E311MV/E411MV Motion Panel, A\*\*21250Z

**10-AAA21250C**



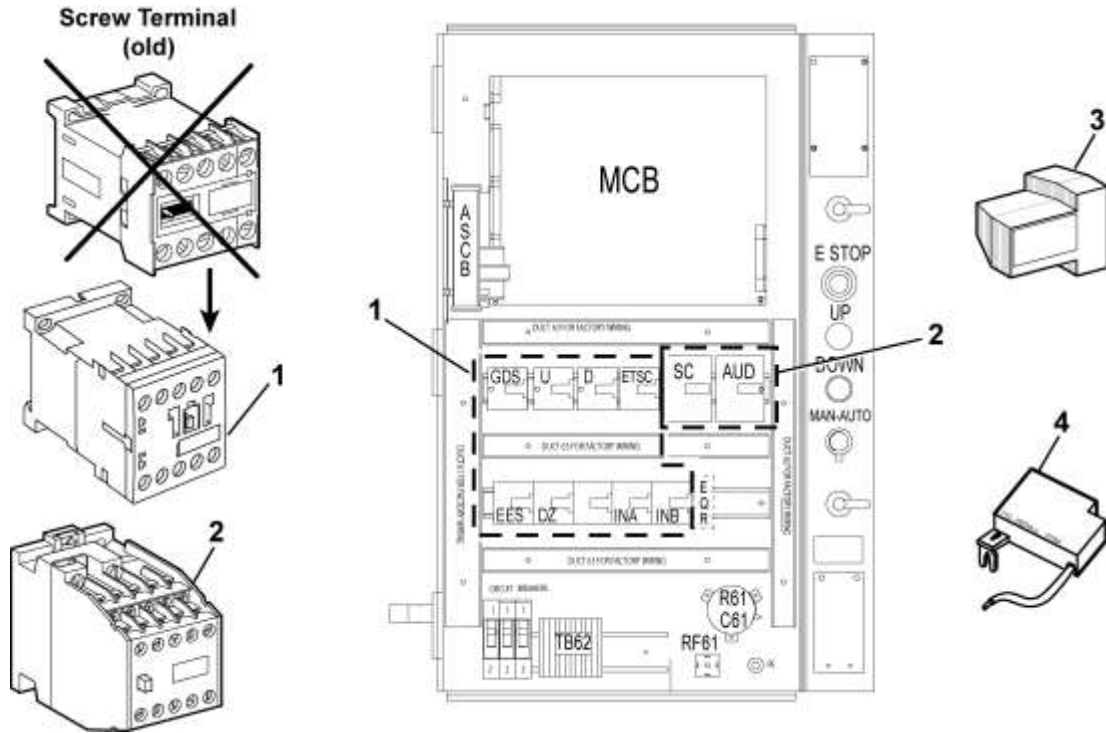
REF. No.	PART No.	DESCRIPTION	SYMBOL	
1	AAA26800QZ1 ABA26800QZ1 ACA26800QZ1	PC Board, PVT Buffer	PVTB	
2	---	GCA23350D4 GFA23550D1	MIB	
3	AAA30085AAF AAA30085AAG AAA30085AAH3 AAA30085AAJ3	Software, Baseline (see NOTE 1)	---	
4	230BS3	Rectifier, Bridge, 1-Phase, 25 A, 600 V	RF61	
5	232T45 → 232T4	Resistor, 1 KΩ, 2 W	R61	
6	---	232AE1	Resistor, 250 KΩ, 5 W (CEN only)	RLVC
7	232AT3 → AAA232GJ11 → AAA232FJ17	Resistor	RNPR	
8	---	232B20	Resistor	RGDS
9	---	AAA621AN2 AAA621AN6 AAA621AN28	Supply, Power (see NOTE 2)	PS3
10	AAA636B1 → AAA636B7	Switch, Lever (NORM/INSP) (not CEN)	CIS, CIU, CID	
11	AAA635B2 → AAA635B10 → AAA635B12	Switch, Pushbutton	CCES	
12	---	AAA177EM1	Switch, Toggle	DDO, CHCS
13	---	AAA635C1	Switch, Push Button with Cap	CCTL, CCBL

**NOTE 1:** Contact OSC Customer Service for latest version.

**NOTE 2:** The AAA27076FM1 must be ordered when ordering a replacement for AAA621AN2 or AAA621AN6.

**10-AAA21250C**

# E311M/E411MV Motion Panel, with Siemens Relays (A\*\*21250Z)



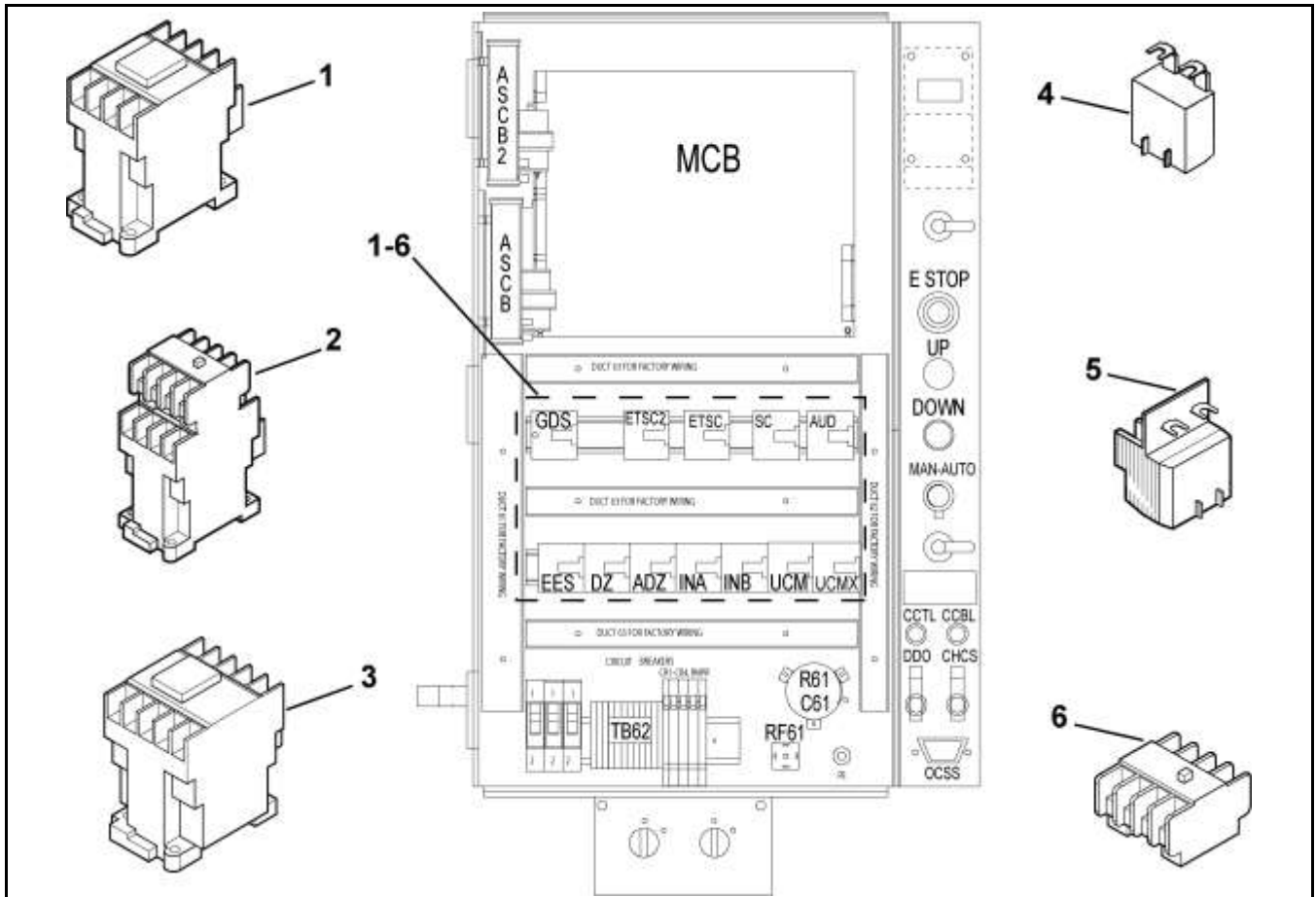
<b>__ _21250AF</b>	
<b>AAA</b>	<b>ABA</b>

REF. No.	SYMBOL	PART NO.	DESCRIPTION
1	U, D, INA, INB	<del>AAA613CX106</del> AAA613CX506	Relay, 120 VAC, 2NO, 2NC Contacts
		AAA613CN2	
	GDS1, ETSC, EES, DZ	<del>AAA613CX104</del> AAA613CX132	Relay, 120 VAC, 60 Hz, 4NO Contacts
		AAA613CX504	Relay, 110 VAC, 50 Hz, 4NO Contacts Relay, 4 NO Contacts
2	SC	AAA613CP9	Relay, 110 VAC, 50 Hz, 8NO, 2NC Contacts
		AAA613CP13	Relay, 120 VAC, 60 Hz, 8NO, 2NC Contacts
	AUD	<del>AAA613AAF001</del> AAA00613AAF013	Relay, 120/110 VAC, 60/50 Hz, 5NO, 5NC
3A	GDS1, ETSC, EES, DZ	<del>AAA605W2</del> AAA613CX302	Surge Suppressor, 48-127 VAC NOTE
3B	U, D, INA, INB	<del>G0604A1</del> AAA613CX702	
4	SC, AUD	AAA00605AAA002	Surge Suppressor, 48-127 VAC

**NOTE:** The AAA613CX302 is suppressor for AAA613CX106, CX104, and CX132. Part number AAA613CX702 must be ordered when ordering new replacement relay AAA613CX506 or CX504. Refer to TIP 1.2.0-39 for more information.

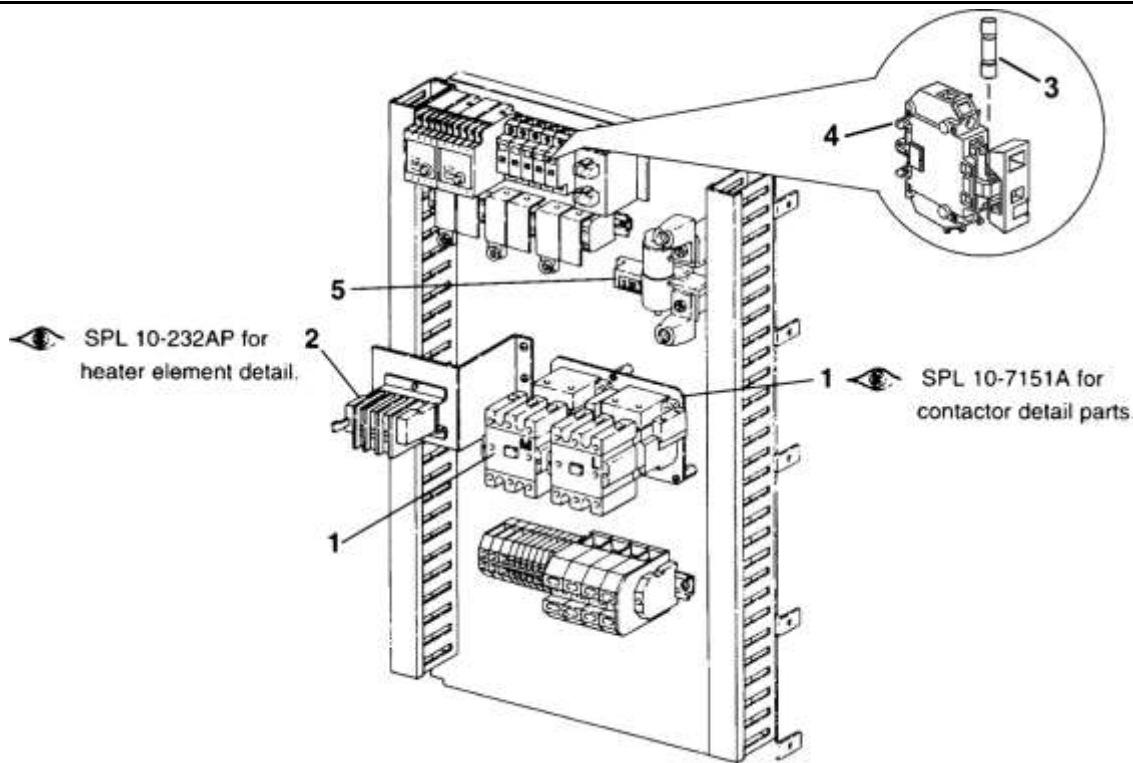
# E311MV/E411MV Motion Panel, with Fuji Relays (ACA21250Z)

**10-AAA21250C**



ACA21250AF					
REF. No.	CODE and SYMBOL			PART NO.	DESCRIPTION
	ANSI	B44	CEN		
1	GDS, ETSC, EES			AAA613DL29	Relay, 4NO Contacts, 110-120/120-130 VAC 50/60 Hz
	DZ		---		
	---	---	DZ, LV1, LV2, LVC, RTDO, TDO	AAA613DL30	Relay, 3NO, 1NC Contacts
	INA, INB			AAA613DL31	Relay, 2NO, 2NC Contacts
2	SC			AAA613DL34	Relay, 6NO, 2NC Contacts
3	AUD			AAA613DL42	
4	---	---	LV1, LV2, LVC	AAA613DL80 AAA613DL81	Relay Driver, 24 VDC
5	GDS, ETSC, SC, EES, INA, INB			AAA613DL61	Suppressor (rectifier-capacitor), 100-240 VAC
	DZ, AUD		---		
6	AUD			AAA613DL70	Aux. Contact Block, 4NO Contacts
	---		LV1, LV2	AAA613DL71	Aux. Contact Block, 3NO, 1NC Cntk.
	---		LVC	AAA613DL72	Aux. Contact Block, 2NO, 2NC Cntk.

**Ward-Leonard Controller  
Starter Panel A\*\*21250H**



**AAA21250AF  
ABA21250AF  
ACA21250AF**

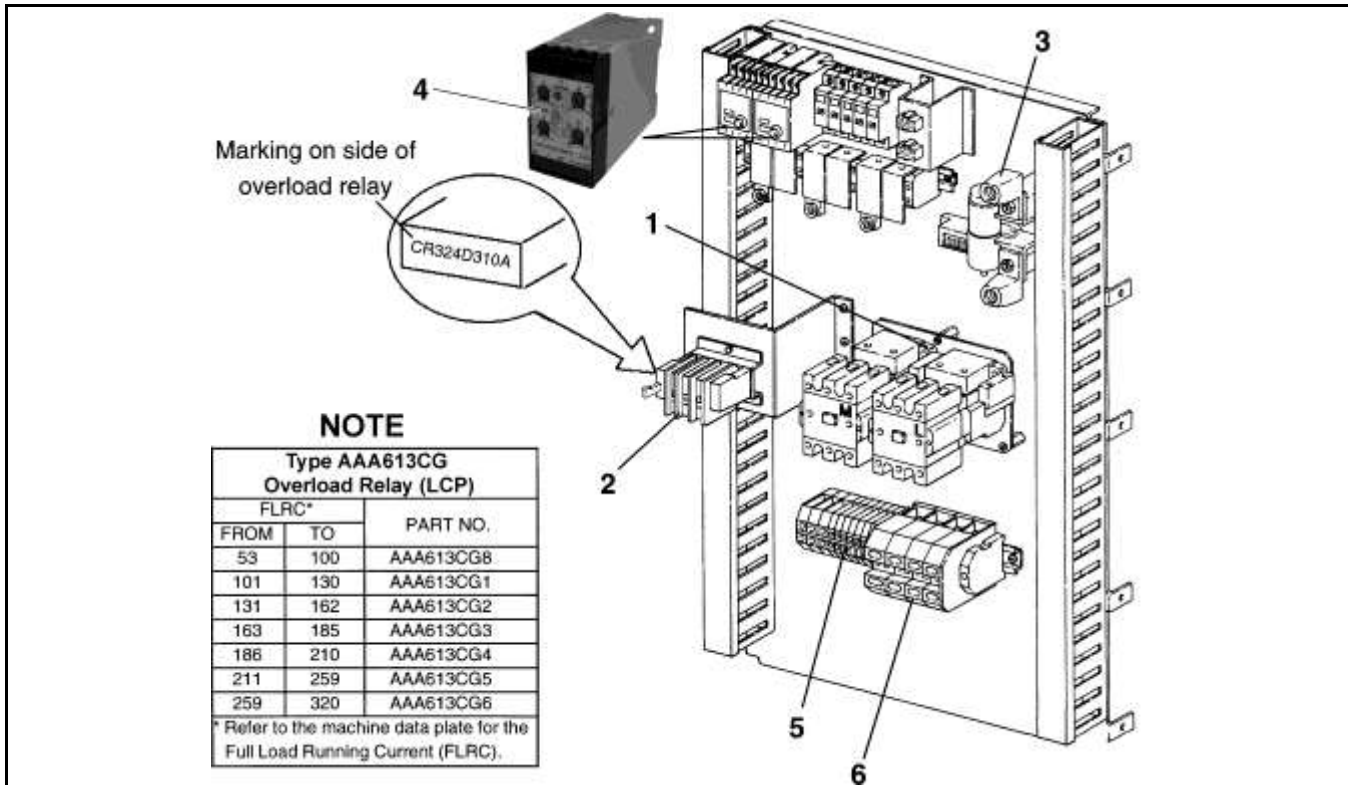
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	---	Contactor, w/Interlock, Type AAA638,  NOTE	L, M
2	---	Element, Heater, Type 232AP,  NOTE	---
	---	Element, Heater, Type 232AR,  NOTE	---
3	AAA375BJ36	Fuse, 12 A,  200-208 V Supply Voltage	F41-F45
	AAA375BJ39	Fuse, 10 A,  220-240 V Supply Voltage	
	AAA375BK35	Fuse, 6 A,  346-416 V Supply Voltage	
	AAA375BK31	Fuse, 5 A,  440-480 V Supply Voltage	
	AAA375BK29	Fuse, 4 A  550-600 V Supply Voltage	
4	AAA180DT1	Holder, Fuse,  200-500 V Supply Voltage	F41-F45
	AAA180DT2	Holder, Fuse,  550-600 V Supply Voltage	
5	<del>AAA622AB1</del> AAA622AB2	Sensor, Current	CS
6	AAA00605AAA026	Suppressor Contactor AAA638C2, AAA638D2, AAA638E2	L, M
	AAA00605AAA006	Suppressor Contactor AAA638F2, AAA638G2	

**NOTE:** Refer to pages 55, 56 to determine the replacement parts for contactor and heater element.



# Ward-Leonard Controller Starter Panel A\*\*21250H

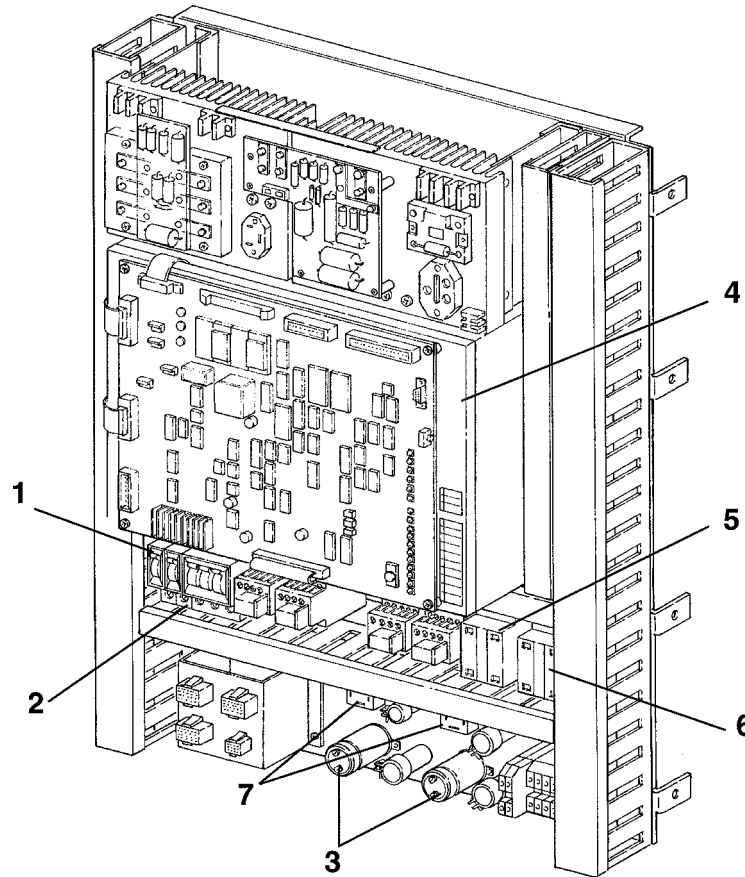
**10-AAA21250C**



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA654A2	Interlock, Mechanical	---
2	6315Y1	Overload, Thermal,  Contactor AAA638C2, D2	P1A
	6315Y5	Overload, Thermal,  Contactor AAA638E2, F2	
	6315Y10	Overload, Thermal,  Contactor AAA638G2	
3	---	Overload, Type AAA613CG, <b>NOTE</b> in Illustration	LCP
4	613BY2 613BY17 613BY23	Phase Relay,  200–480 Supply Voltage	J1, J2
	613BY10 613BY18 613BY23	Phase Relay,  200–480 Supply Voltage	J1, J2
	613BY4 613BY19 613BY23	Phase Relay,  200–480 Supply Voltage	J1, J2
	613BY6 613BY20 613BY24	Phase Relay,  500–600 Supply Voltage	J1, J2
5	AAA232GD1	Resistor, Armature, 51 KΩ, 5 W	R41, R42
6	AAA303FM19	Terminal	GSF, GA/MA, MA1

**Ward-Leonard Controller  
DBSS Panel A\*\*21250P**

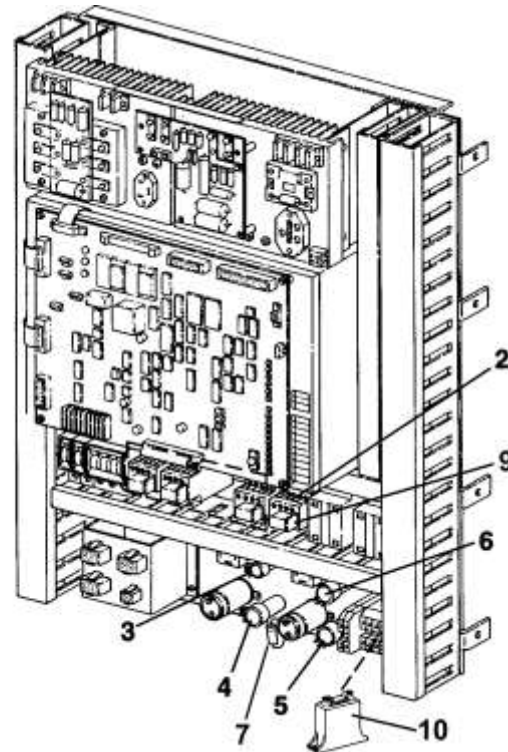
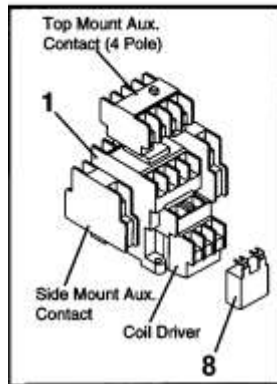


<b>A**21250C A**21250AF</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	AAA00375AAF006	Breaker, Circuit, 4 A, 1-Pole	CB52
	AAA00375AAF007	Breaker, Circuit, 6 A, 1-Pole	CB51
2	AAA00375AAJ013	Breaker, Circuit, 32 A, 3-Phase	CB53
	AAA637E1	Breaker, Circuit, 20 A, 3-Phase	CB53
3	226DR7	Capacitor, 850 $\mu$ F, 200 V	C52
	226DR9	Capacitor, 220 $\mu$ F, 250 V	C51
4	AAA21260AAC001	DBSS Module	PCM
5	AAA638J9	DC Contactor, 110 VDC	H
6	AAA638J2	DC Contactor, 120 VAC	GFS
7	230BS3	Rectifier, Bridge, 1-Phase, 25 A, 600 V	RF51, RF52

# Ward-Leonard Controller

## DBSS Panel A\*\*21250P

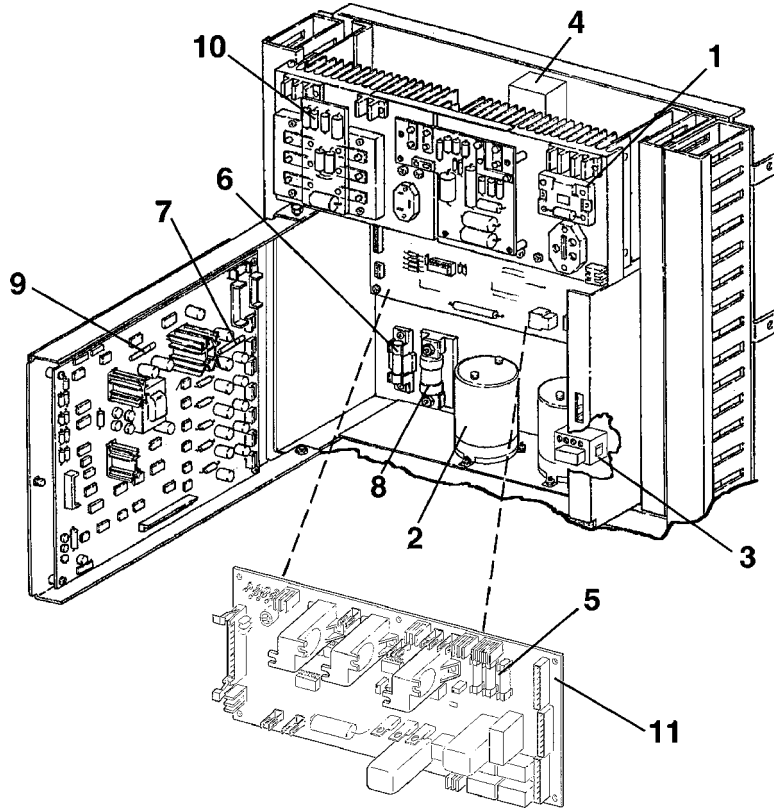
**10-AAA21250C**



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA613DL34	Relay, 6NO, 2NC Contacts	C1, C2
	AAA613DL36	Relay, 4NO, 4NC Contacts	GFSX
2	<del>AAA00613AAF038</del>	Relay, 5NO, 5NC Contacts	ESC
	AAA613DL100	Relay, 6NO, 2NC Contacts	
	AAA613DL20		
3	<del>232B6</del>	Resistor, Variable, Power, 500 $\Omega$ , 25 W, 2.0 in. L (for Ward-Leonard only)	R51
	AAA617M19		
4	<del>232B220</del>	Resistor, 2 K $\Omega$ , 25 W	R52
	<del>232B24</del>		
	AAA617M23		
5	<del>232EG34</del>	Resistor, 15 $\Omega$ , 100 W	R54
	AAA617L7		
6	<del>232EG36</del>	Resistor, 15 $\Omega$ , 100 W (E311M/MV)	R53
	AAA617L7		
	AAA617L9		
7	AAA232HR65	Resistor, 47 K $\Omega$ , 2 W	R55
8	AAA613DL61	Suppressor, RC Network, 100-240 VAC	C1, C2, GFSX
9	<del>AAA00605AA008</del>	Suppressor, Diode, 20 VAC/26 VDC Maximum	ESC
	<del>AAA00605AA019</del>		
	AAA00605AAA34		
---	AAA00605AAA026	Suppressor, Surge (not shown)	GFS, H
10	CAA604B2	Varistor, MOV, 150 VAC/200 VDC Maximum	GV
---	AAA605AA36	Varistor, 95 Joules (not shown)	BV

**Ward-Leonard Power  
Control Module A\*\*21260AAC**

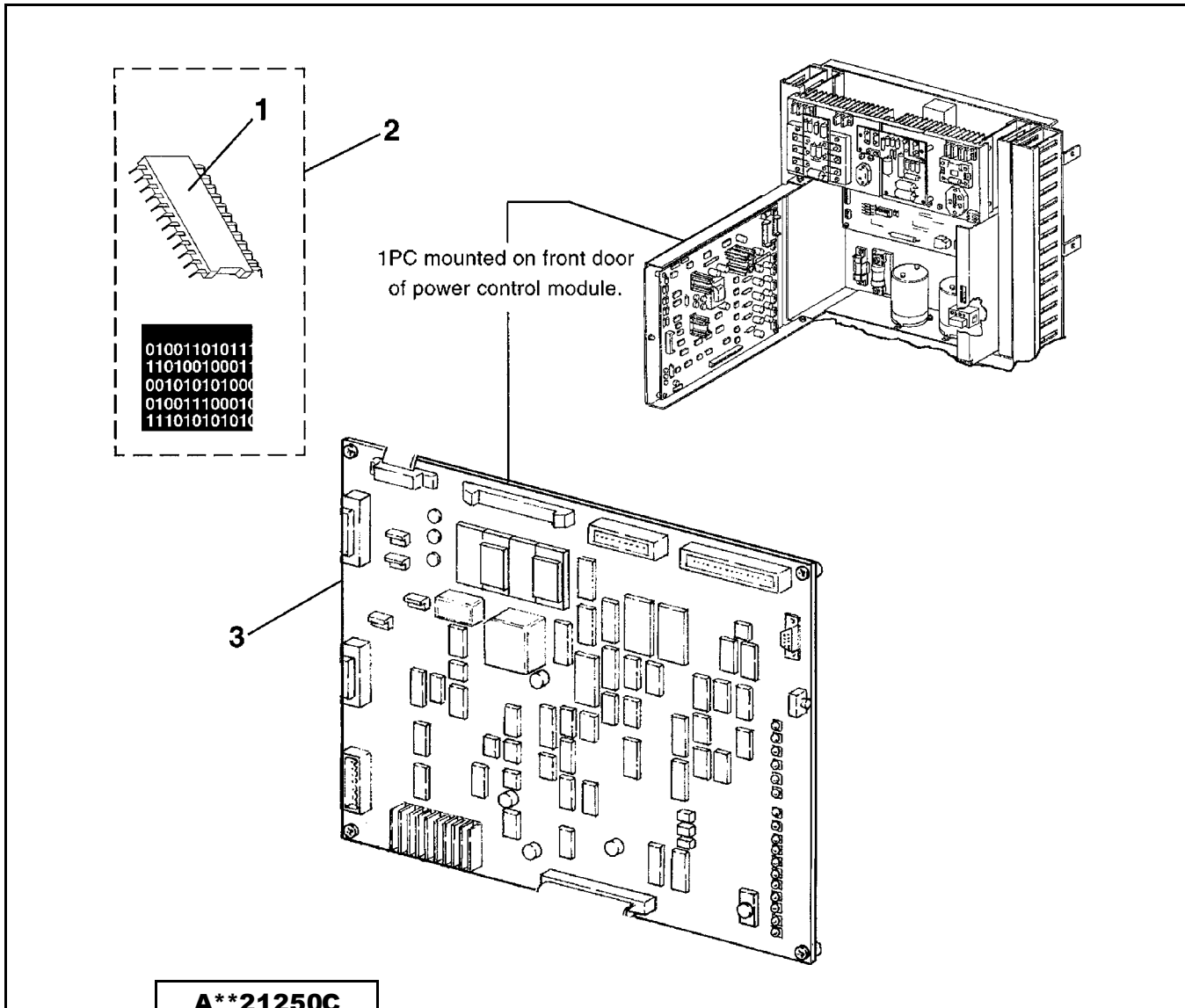


**A\*\*21250C  
A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	LA5P3-0052	Capacitor, AC Line Snubber	1C
2	LA5P206-0230	Capacitor, Electrolytic	2C, 3C
3	LA5P32-0081	Contactor, AC	1M
4	LA5P16-0027	Fan, 115 VAC	1MTR
5	<del>LA5P17-0253</del> AAA375BT27	Fuse, 2 A, 250 V	1F4, 2F4, 3F4
6	<del>LA5P17-0103</del> AAA375CK7	Fuse, Brake, 15 A, 250 V, Fast Acting	2F
7	<del>LA5P17-0268</del> AAA375BT18	Fuse, Control Power Supply, 3 A, 250 V, Fast Acting	2F-2
8	<del>LA5P17-0176</del> LA5P17-0384	Fuse, Field, 60 A, 250 V	1F
9	<del>LA5P17-0137</del> AAA375BT2	Fuse, Tach Power, 0.5 A, 250 V	1F-2
10	LA46S2869-0011	PC Board, H-Bridge Snubber	3PC
11	LA46S2868-0030	PC Board, Hall/Relay Interface, w/o Sensor 3CS (import from board being replaced)	4PC

# Ward-Leonard Power Control Module A\*\*21260AAC

**10-AAA21250C**



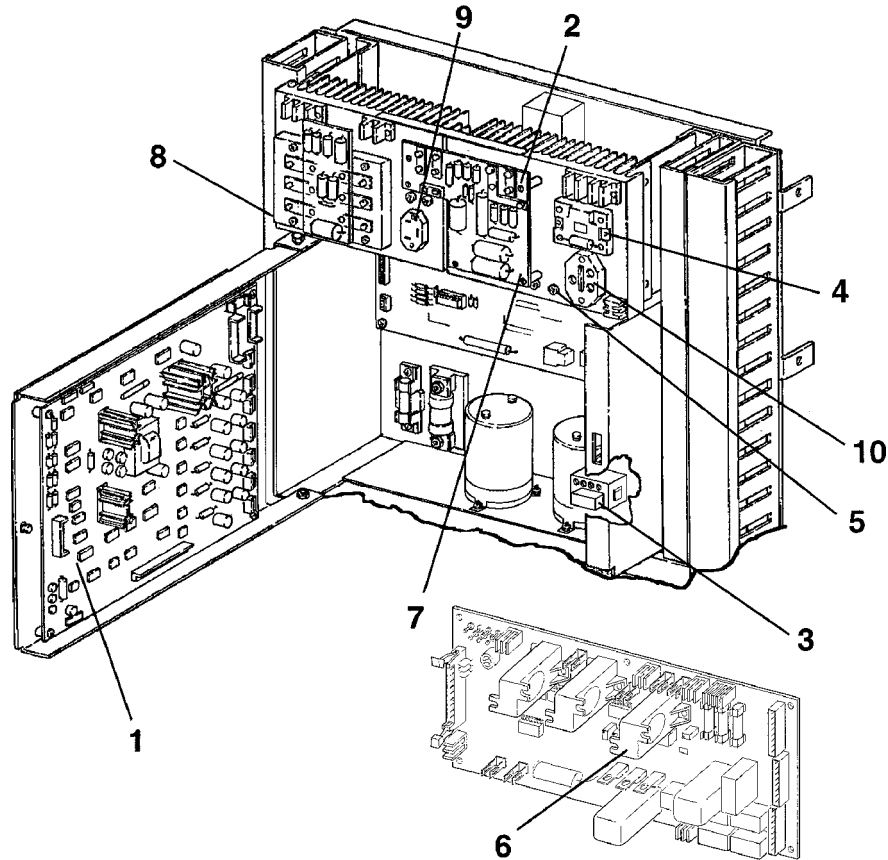
**A\*\*21250C  
A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA616KH4 AAA616KH5	EPROM, Blank, 32K	---
2	AAA30188AAB AAA30188AAE	Kit, Software, EPROM & Box,  LA46S2691-0030/-0040	U18, U29
	AAA30188AAE	Kit, Software, EPROM, & Box,  LA46S2691-0041	U18, U29
3	LA46S2691-0030 LA46S2691-0040 LA46S2691-0041	PC Board, DBSS Control	1PC

**NOTE:** PC board is upward compatible if software is in agreement with PC board.

**10-AAA21250C**

# Ward-Leonard Power Control Module A\*\*21260AAC

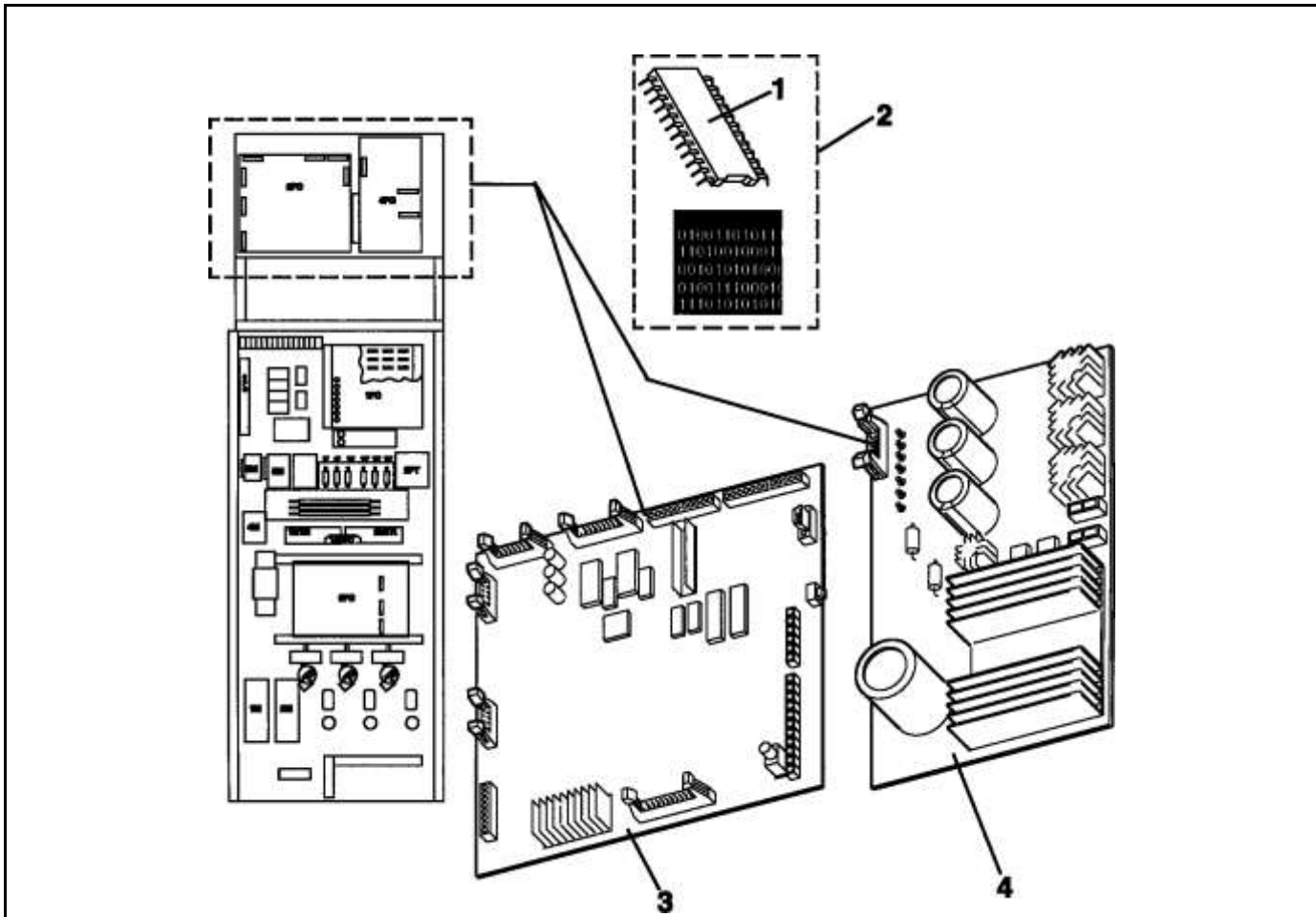


**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	LA46S2871-0021	PC Board, MG Interface	2PC
2	LA46S2870-0012	PC Board, Motor/Brake Snubber	5PC
3	LA5P90-0059	RC Network	RC
4	LA5P50-0437	Rectifier	1RT
5	LA5P50-0322	Rectifier	2RT, 3RT
6	AAA234AG2 AAA234AG6	Sensor, Current, > 10 A to $\leq$ 20 A	3CS
	AAA234AG3 AAA234AG7	Sensor, Current, > 5 A to $\leq$ 10 A	
	AAA234AG4 AAA234AG8	Sensor, Current, > 1 A to $\leq$ 5 A	
7	LA5P218-0006	Thermostat	1THG
8	LA5P30-0062	Transistor Module, H-Bridge	3TS, 4TS
9	LA5P30-0059	Transistor, Darlington, 15 A	2TS
10	LA5P30-0060	Transistor, Darlington, 50 A	1TS

# Direct Drive Controller Drive Panel A\*\*21250AB

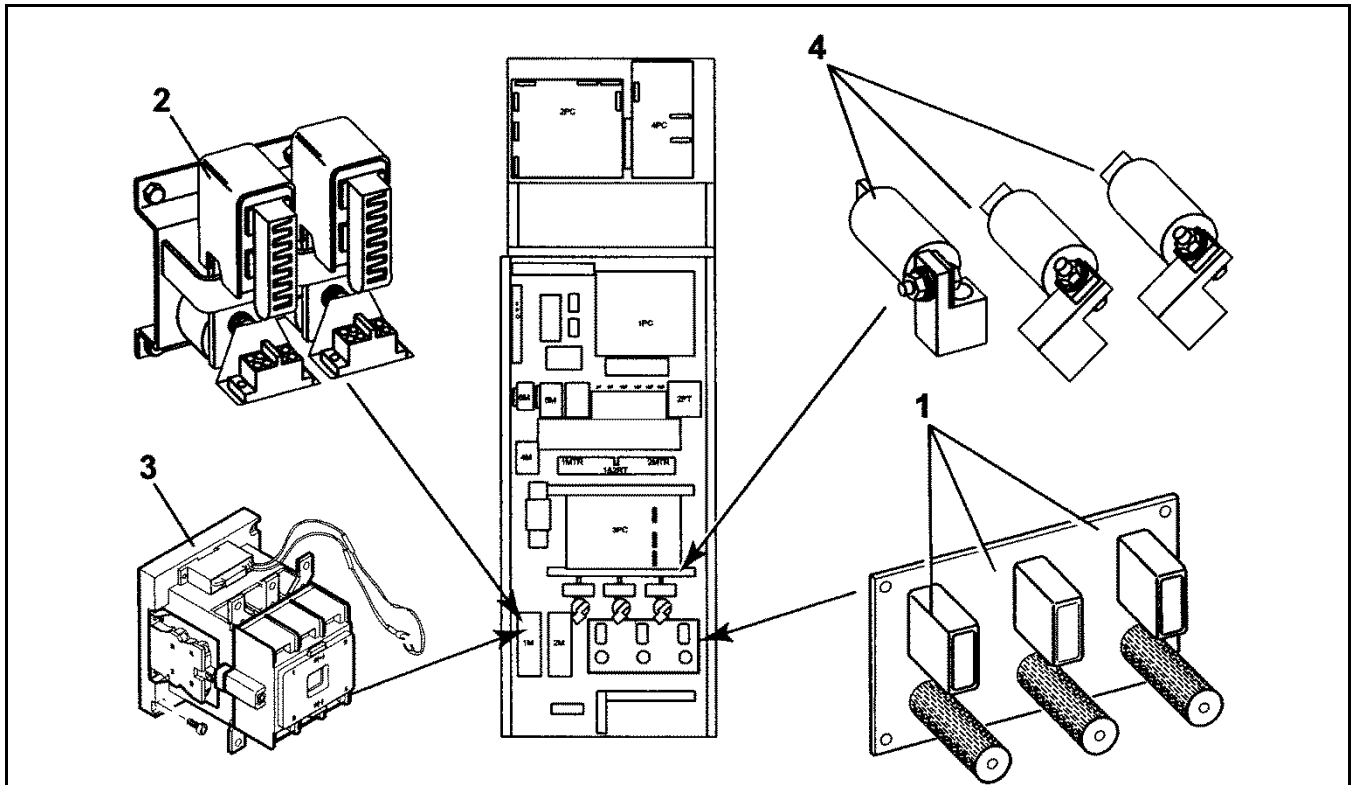
**10-AAA21250C**




A**21250C A**21250AF			
REF. No.	PART No.	DESCRIPTION	SYMBOL
*	LA46S2425-1152	Cable, Ribbon (from DBSS control J10 to field brake J2)	---
1	AAA616KH4 AAA616KH5	EPROM, Blank, 32K	---
*	AAA616KM3 AAA616KM2	EEPROM, Blank	U21
2	AAA30185AAB AAA30185AAF	Kit, Software, EPROM, & Box, for 1PC or LA46S2691-0030/-0040	U18, U29
	AAA30188AAC AAA30185AAF	Kit, Software, EPROM, & Box for LA46S2691-0041	U18, U29
3	LA46S2691-0030 LA46S2691-0040 LA46S2691-0041	PC Board, DBSS Control <b>NOTE:</b> PC Board is upward compatible if software is in agreement with PC Board.	2PC
4	LA46S2692-0030 LA46S2692-0031	PC Board, Power Supply	4PC

\* Part not shown.

**Direct Drive Controller Drive  
Panel A\*\*21250AB**



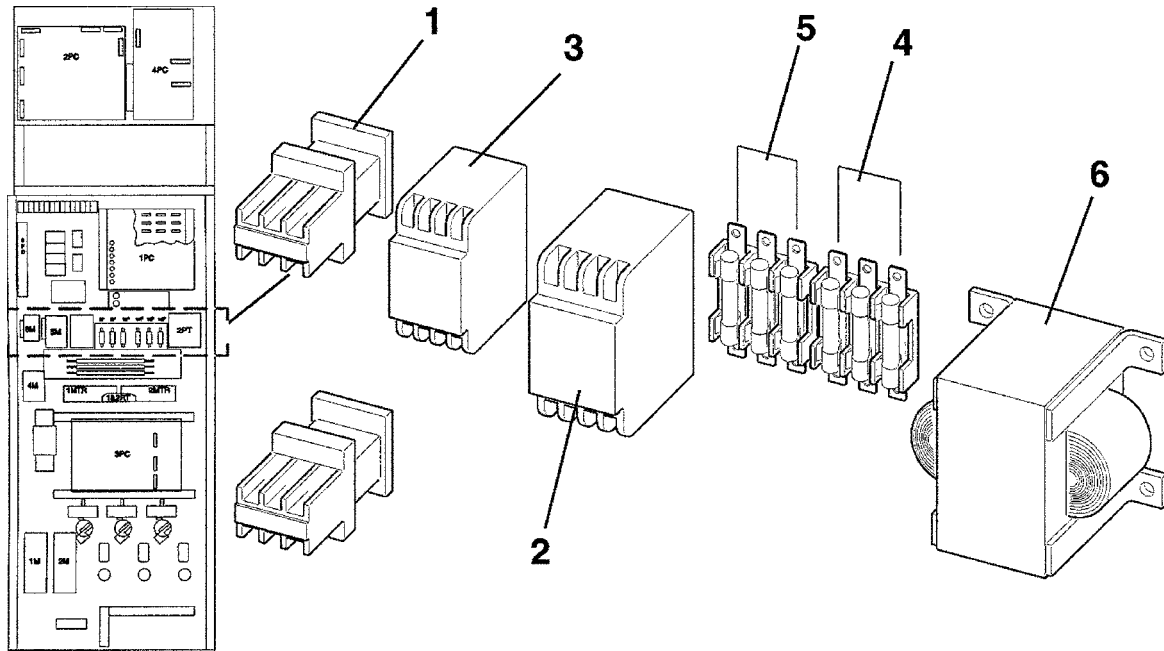
A**21250C A**21250AF			
REF. No.	PART No.	DESCRIPTION	DUTY (See NOTE)
1	LA5P224-0058	Capacitor, AC Line Snubber, 1C, 2C, 3C	---
2	<del>LA5P31-0093</del> SA14-193-770-568	Contactor, Armature Loop, 1M, 2M	
3	<del>LA5P31-0152</del> AAA638AE3 AAA638AE5 AAA638AE6	Contactor, Armature Loop, ME (280 A)	 SPL 10-7151A
	AAA638AE4 AAA638AE7 AAA638AE9	Contactor, Armature Loop, ME (130 A)	
4	RBA50P250	Fuse, AC Input, 1F, 2F, 3F, 250 A, 500 V	003 007 010 011 012 017 018 019 024 025 031 033
	<del>RBA50P350</del> AAA375CD7	Fuse, AC Input 1F, 2F, 3F, 350 A, 500 V	038 A03 302 304-314 001 002 004 005 006 008 009 013 015 016 022 023 029 030 032 035 036 040A10 A11 A16 A17 A18 A22 A23 A24 A29 A30 B18 301 303
	RBA50P500	Fuse, AC Input, 1F, 2F, 3F, 400 A, 700 V	014 020 021 026 027 034 039 041
	<del>LA5P17-0234</del> AAA21255J122	Fuse, AC Input, 400 A, 700 V, 1F, 2F, 3F	028 037 042

**NOTE:** "Duty" is the elevator duty number marked on the data plate. See leaflet description on page 2.



# Direct Drive Controller Drive Panel A\*\*21250AB

**10-AAA21250C**

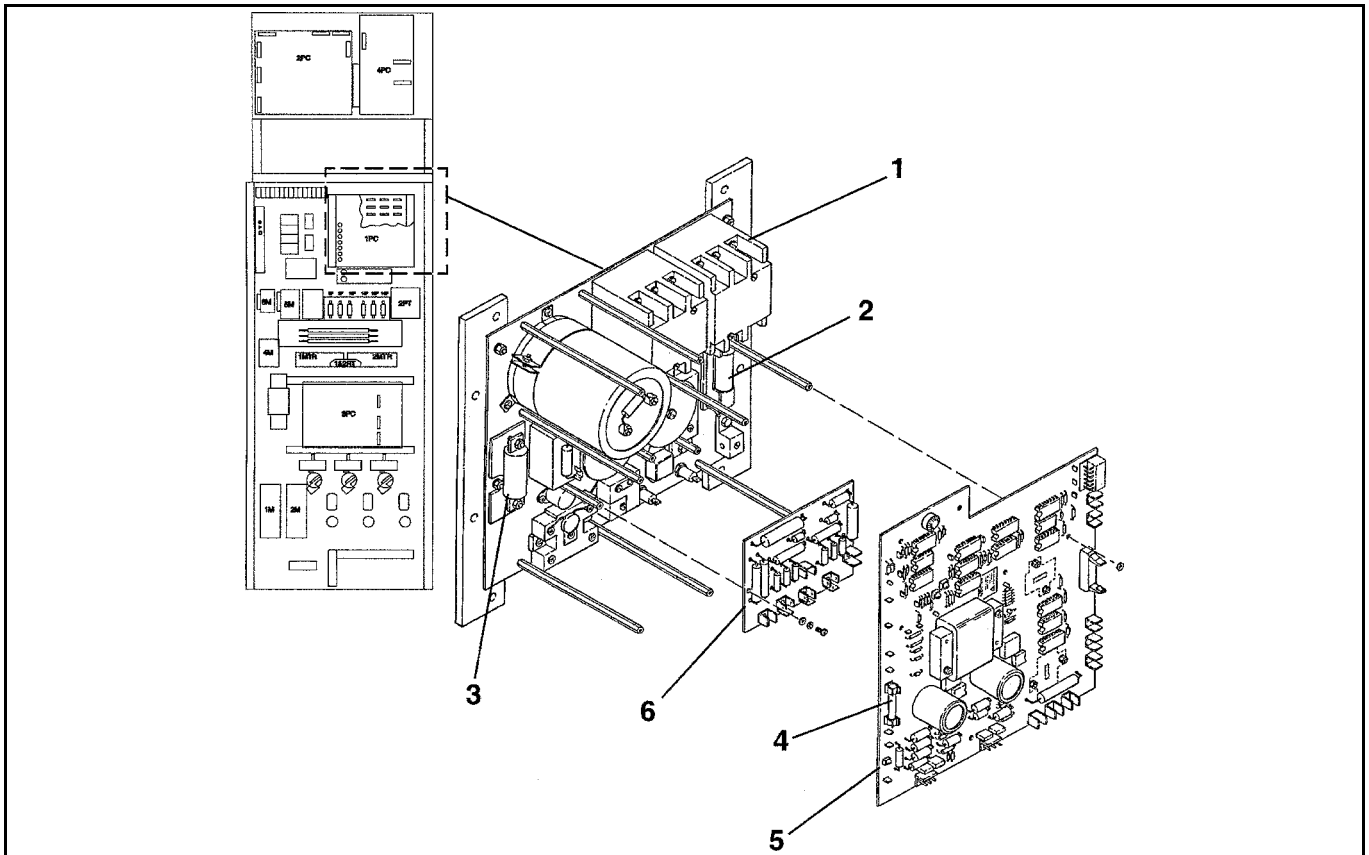


**A\*\*21250C  
A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL	DUTY (See NOTE)
1	LA5P31-0097 LA5P32-0103	Contactors, Field Switching, 40 A, 600 VDC, 120 VAC Coil	3M, 4M	013 014 020 021 026 027 028 037 042
2	LA5P32-0081	Contactors, Field/Brake Power	5M	---
3	LA5P32-0077 LA5P32-0102	Contactors, Machine Blower	6M	001 002 004 005 006 008 009 010 012 015 017 022 023 028 029 030 035 036 037 040 041 042 A03 A07 A10 A11 A16 A17 A18 A22 A23 A24 A29 A30 B18
4	LA5P17-0196 LA5P17-0078 AAA375BW30	Fuse, 6.25 A, 250 V	14F	---
	LA5P17-0249 AAA375BW17	Fuse, 1.8 A, 250 V	15F, 16F	001 002 004 005 006 008 009 015 A03 A07 A10 A11 A16 A17 A18 A22 A23
	LA5P17-0381	Fuse, 1-4/10 A, 25 V	---	028 035 036 037 040 041 042
5	LA5P17-0014 AAA375BW41	Fuse, Field & Brake, 30 A, 250 V	8F, 9F, 10F	---
6	LA5P58-0947	Transformer, Power Supply	2PT	---

**NOTE:** "Duty" is the elevator duty number marked on the data plate. See leaflet description on page 2.

**Direct Drive Controller Drive  
Panel A\*\*21250AB**

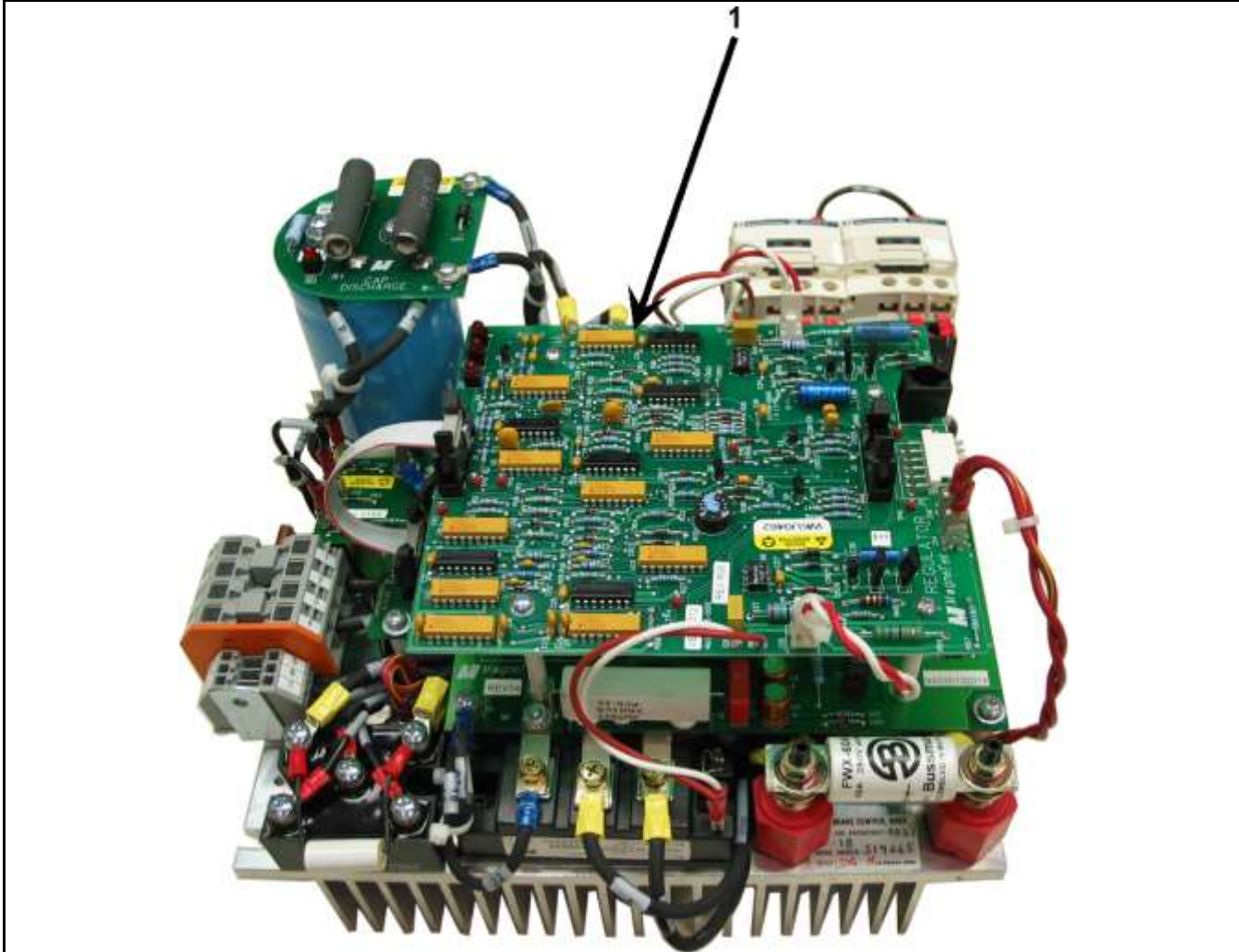


<b>A**21250C A**21250AF</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	<u>LA5P31-0092</u>	Contactor, Field Loop	H1-2, H2-2
	<u>LA5P32-0092</u>		
	<u>LA5P32-0102</u> <u>LA5P32-0095</u>		
2	<u>LA5P17-0383</u> HT2E5150/07-0002	Fuse, Bridge, 15 A, 250 V	1F-2
3	LA5P17-0384	Fuse, Bridge, 60 A, 250 V	2F-2
4	<del>375P3</del> AAA375BT18	Fuse, 3 A, 250 V (AGC3)	F1
5	LA46S2689-0061	PC Board, Field & Brake Controller	1PC-2
6	LA46S2877-0022	PC Board, Snubber	2PC-2
*	<u>LA5P30-0128</u> <u>LA5P30-1128</u>	Transistor, Field Brake Current Control	1TS
	LA5P30-1128	Transistor, Field Brake Current Control, Motor Field Current <35 Amps	2TS
	AAA21190L1	Transistor, Field Brake Current Control, Motor Field Current up to 40 Amps. Use for application where full field current is 35 Amps, up to 40 Amps max.	

\* Part not shown.

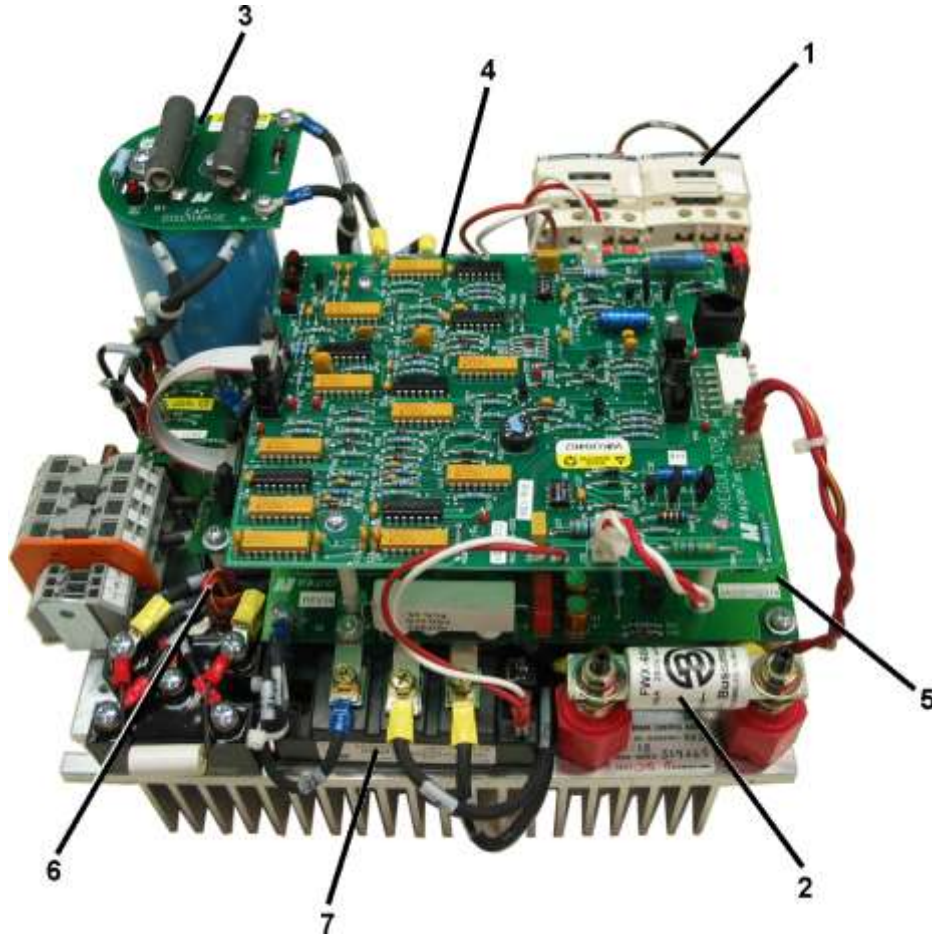
# Direct Drive Controller Drive Panel A\*\*21250AB

**10-AAA21250C**



**A\*\*21250C**  
**A\*\*21250AF**

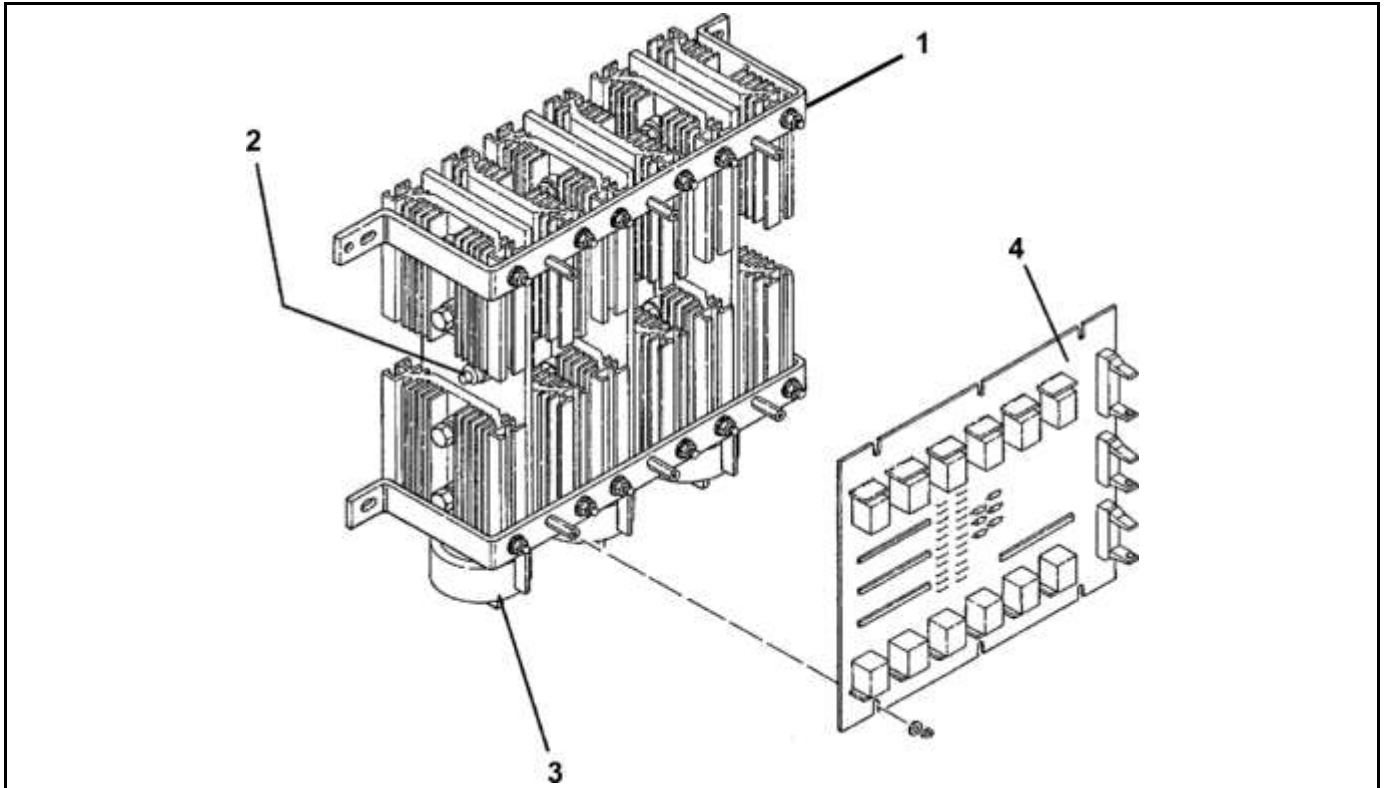
REF. No.	PART No.	DESCRIPTION
1	LA46S2965-0011	Field Brake Power Supply Assembly, with Motor Full Field Current up to 34.9 amps and Brake Current up to 8 amps; for Duty Speed up to 5.0 m/s
	LA46S2965-0021	Field Brake Power Supply Assembly, with Motor Full Field Current up to 34.9 amps and Brake Current up to 8 amps; for Duty Speed up to 9.0 m/s
	LA46S2965-0300	Field Brake Power Supply Assembly, with Motor Full Field Current up to 34.9 amps and Brake Current up to 16 amps; for Duty Speed up to 9.0 m/s
	LA46S2965-7021	Field Brake Power Supply Assembly, with Motor Full Field Current up to 40 amps and Brake Current up to 8 amps; for Duty Speed up to 9.0 m/s
	LA46S2965-7300	Field Brake Power Supply Assembly, with Motor Full Field Current up to 40 amps and Brake Current up to 16 amps; for Duty Speed up to 9.0 m/s

**10-AAA21250C****Direct Drive Controller Drive  
Panel A\*\*21250AB****A\*\*21250C  
A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	LA5P32-0095	Contactor, Field Loop	H1, H2
2	LA5P17-0384	Fuse, 60 A, 250 V	1F
3	LA46S2966-0012	PC Board, Capacitor Discharge	---
4	LA46S2945-0012	PC Board, Field & Brake Controller	---
5	LA46S3013-0020	PC Board, Snubber	---
6	LA5P218-0026	Thermostat	1THG
7	LA5P30-1128	Transistor, Field Brake Current Control	1TS
	LA5P30-1128	Transistor, Field Brake Current Control, Motor Field Current <35 Amps	2TS
	AAA21190L1	Transistor, Field Brake Current Control, Motor Field Current up to 40 Amps. Use for application where full field current is 35 Amps, up to 40 Amps max.	
*	LA5P50-0437	Rectifier, 1RT	---

\* Parts not shown.

**Direct Drive Controller Drive  
Panel A\*\*21250AB**



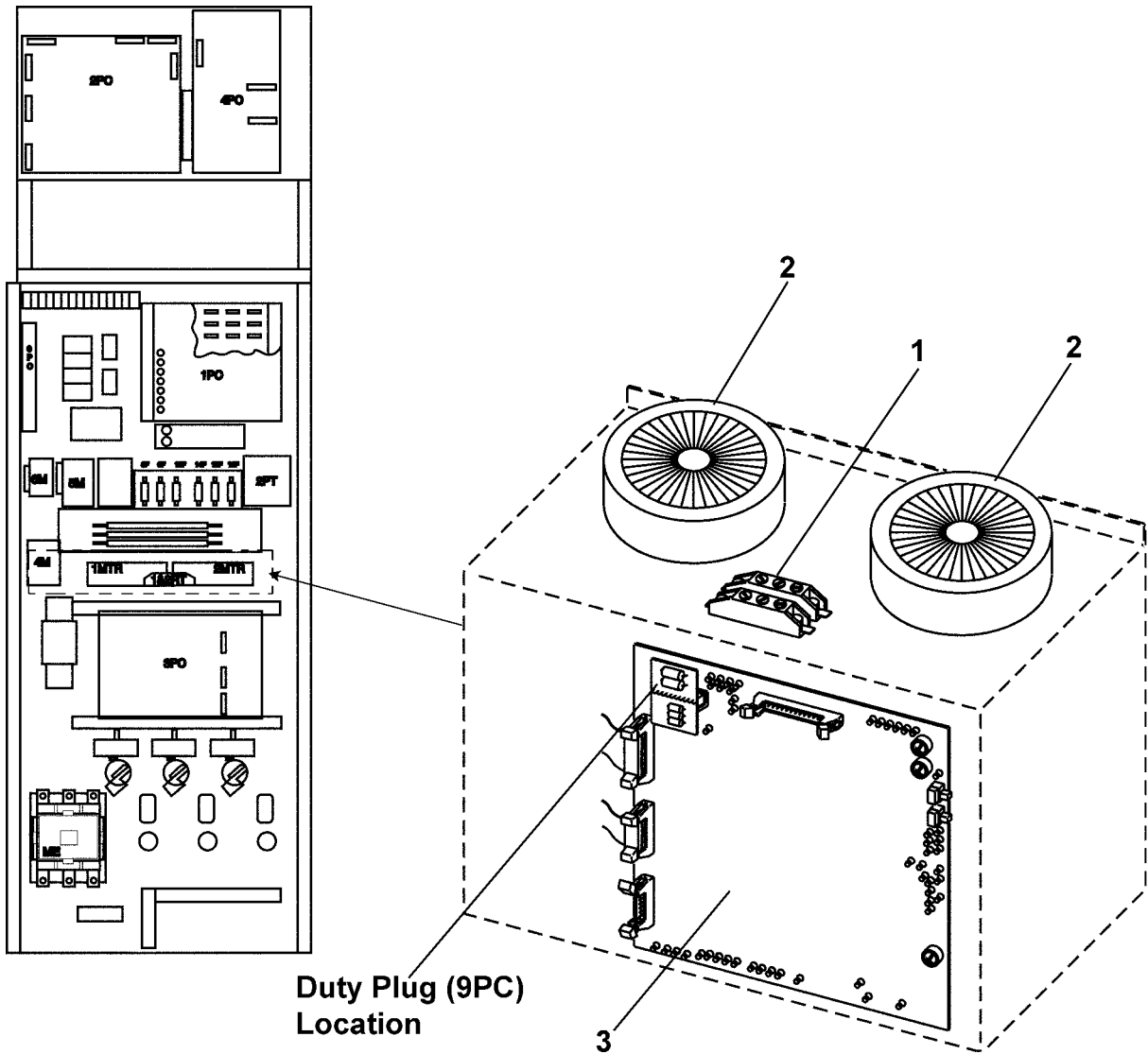
<b>A**21250C A**21250AF</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>DUTY</b>
1	LA46S2685-0040	Assembly, Heat Sink, 12 SCR	1-11, 13, 15-18, 22-24, 29, 30, 32, 35, 36, 40, A1-A11, A15-A18, B18, A22-A24, A29, A30, 301-314
	LA46S2685-0060		12, 19, 25, 31, 33, 38
	LA46S2685-0070		14, 20, 21, 26, 27, 34, 37, 39, 41, 42
*	LA46S3918-0000	Kit*, DC Snubber PC Board (see NOTE)	---
2	LA5P218-0006	Thermostat, 1THG-2	---
3	LA5P68-0066	Transformer, 1CT, 2CT, 3CT	---
4	<del>LA46S2686-1010</del> LA46S2686-2010	Voltage Divider PCB, 3PC	001, 002, 004, 005, 006, 008, 009, 015, 016, 022, 029, 030, A01, A02, A04, A05, A06, A08, A09, A15, A16, A22, A29, A30, 301, 303
	<del>LA46S2686-1020</del> LA46S2686-2020		010, 013, 014, 017, 020, 021, 023, 026, 027, 032, 034, 035, 040, A03, A07, A10, A11, A17, A18, A23, A24, B18, 302, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314
	<del>LA46S2686-1030</del> LA46S2686-2030		003, 007, 011, 012, 018, 019, 024, 025, 028, 031, 033, 036, 037, 038, 039, 041, 042

\* Part not shown.

**NOTE:** The snubber PC board kit must be ordered when ordering a new heat sink.

# 10-AAA21250C

# Direct Drive Controller Drive Panel A\*\*21250AB



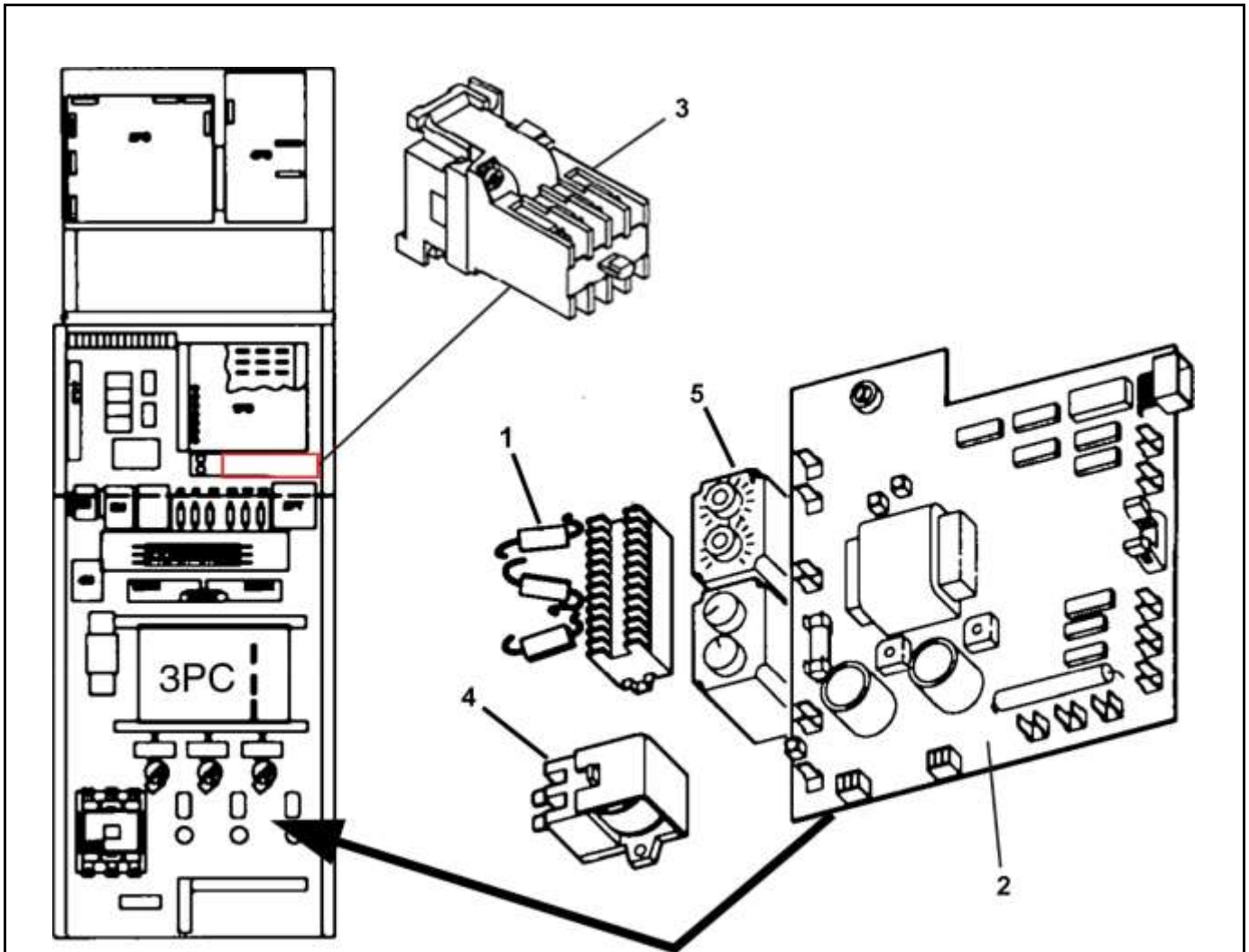
**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	DUTY (See NOTE)
1	LA5P50-0328	Assembly, Diode, 1RT, 2RT	013 014 020 021 026 027 028 037 042
2	<del>LA5P16-0012</del> AAA21255J101	Fan, Cabinet, 1MTR, 2MTR	
3	<del>LA46S2690-0021</del> <del>LA46S2690-0022</del> LA46S2690-0023	PC Board, 12 SCR Controller, 1PC <b>NOTE:</b> PC board is not supplied with duty plug (9PC).	

**NOTE:** "Duty" is the elevator duty number marked on the data plate. See leaflet description on page 2.



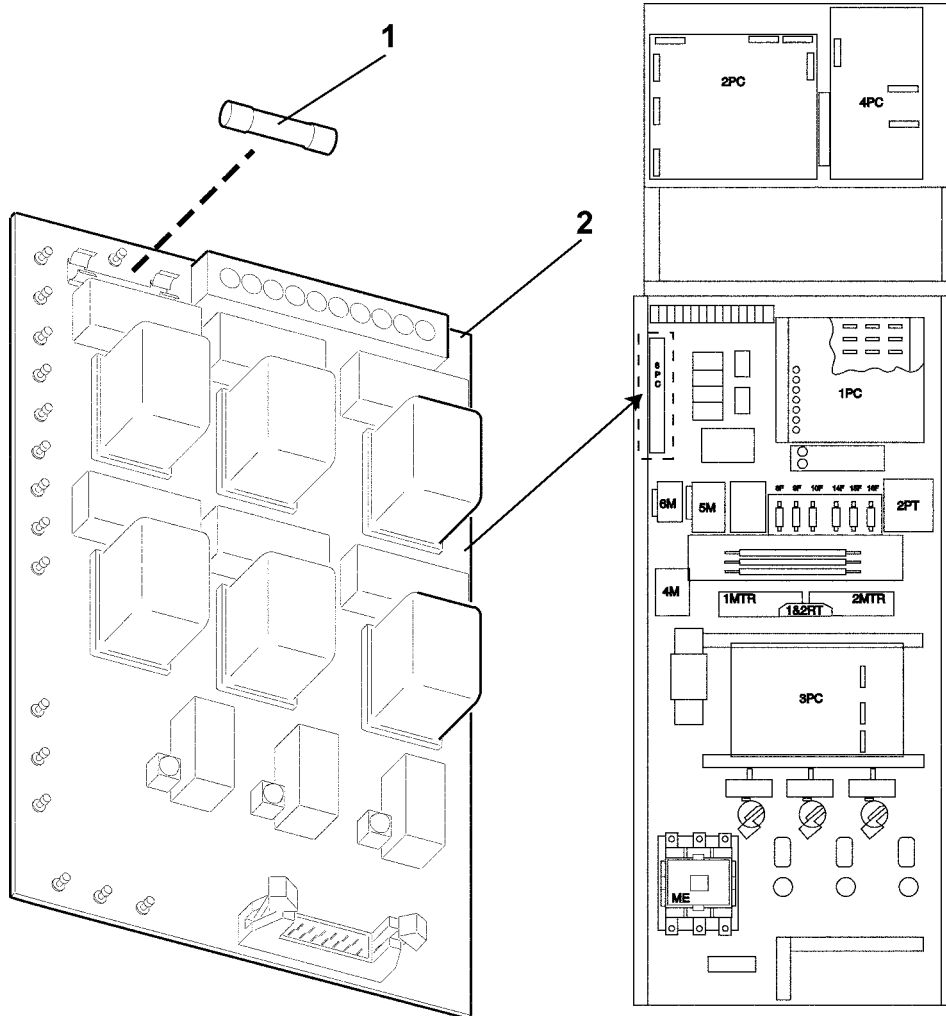
## Panel A\*\*21250AB



REF. No.	PART No.	DESCRIPTION	SYMBOL
	<b>A**21250C</b> <b>A**21250AF</b>		
1	LA5P90-0059	Network, Resistor-Capacitor (RC)	RC
2	LA46S2728-0041	PC Board, Relay Interface	6PC
3	LA5P36-0318 AAA613CX505	Relays	C1 C2, 4CR, 5CR
4	LA5P205-0026	Relay, Loop Contactor Pilot, 24 VDC	1CR
5	LA5P34-0633 AAA630T4 AAA630T5	Relay, Low Voltage Detection	J1, J2

**10-AAA21250C**

**Direct Drive Controller Drive  
Panel A\*\*21250AB**



**A\*\*21250C  
A\*\*21250AF**

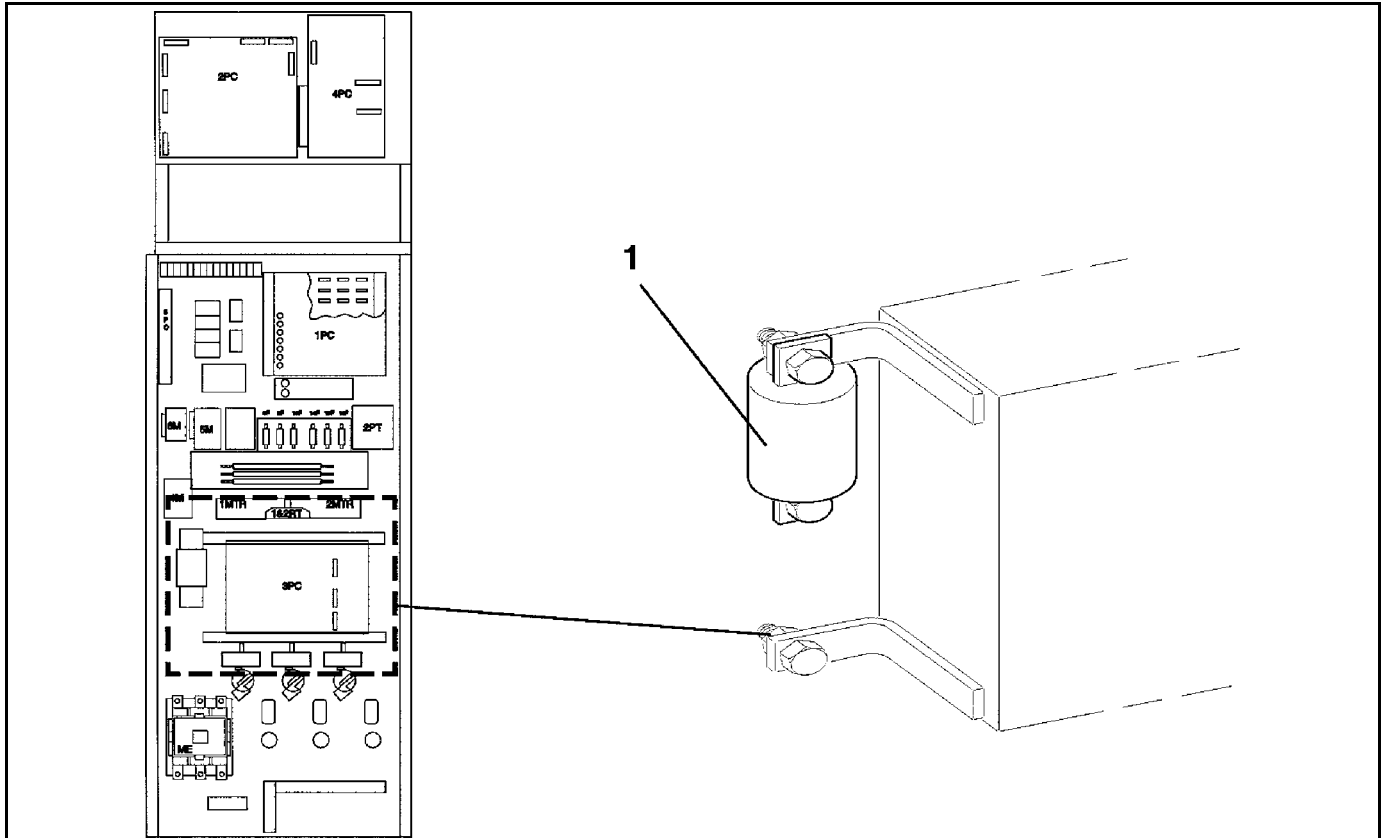
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	LA5P17-0365 AAA375BR9	Fuse, 2 A, 250 V	1F-6PC
2	LA46S2728-0041	PC Board, Relay Interface	6PC



# Direct Drive Controller Drive

**10-AAA21250C**

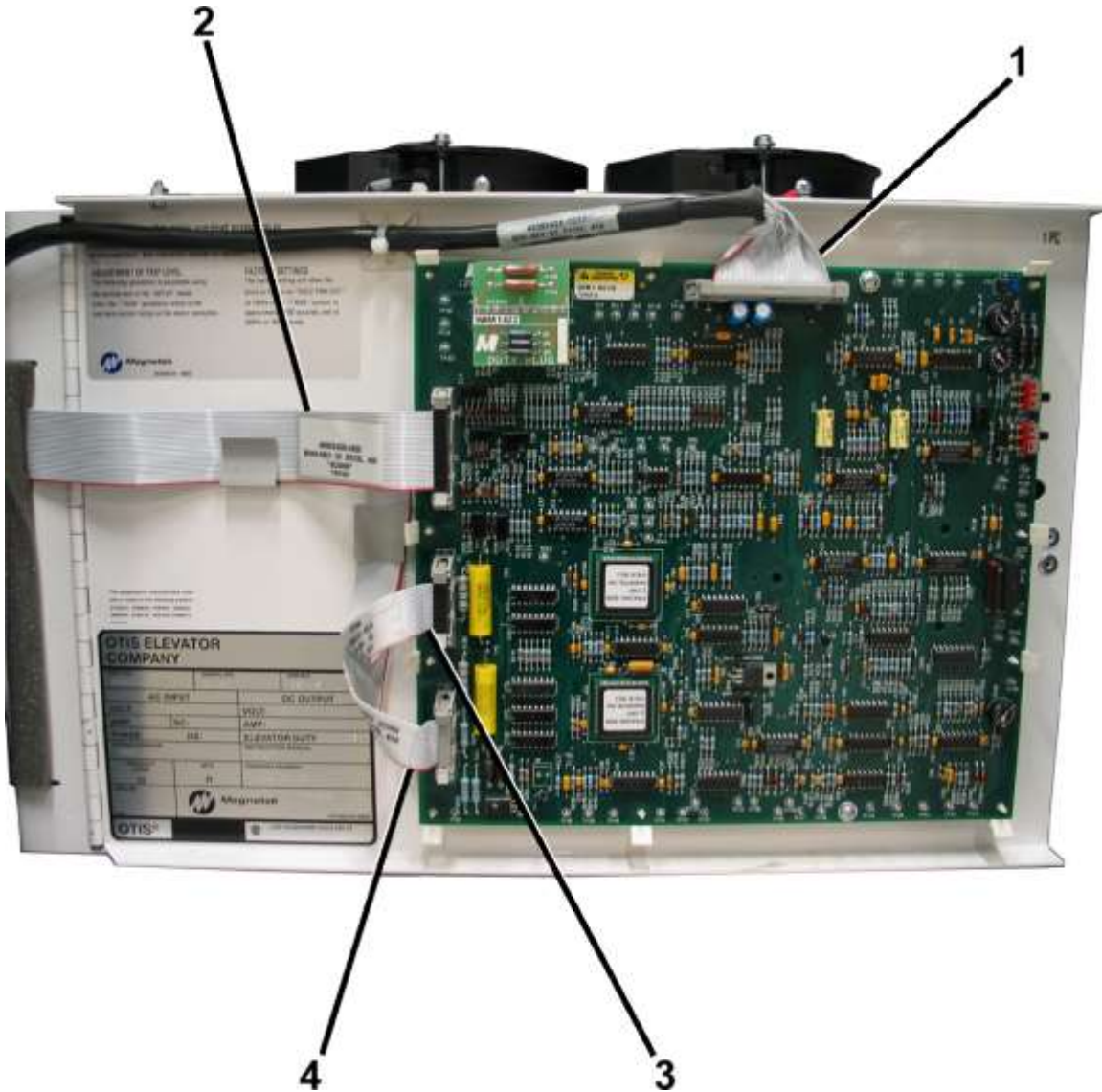
## Panel A\*\*21250AB



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	DUTY (See NOTE)
1	<del>LA5P17-0234</del> RBA50P250	Fuse, Armature Loop, 250 A, 500 V, 4F	001 002 010 016 A03 301 303
	RBA50P300	Fuse, Armature Loop, 300 A, 500 V, 4F	004 005 006 017 022 A07 A10
	<del>RBA50P350</del> AAA375CD7	Fuse, Armature Loop, 350 A, 500 V, 4F	008 009 015 023 029 030 A11 A16 A17 A18 A22 A23 A30
	<del>LA5P17-0234</del> AAA21255J122	Fuse, Armature Loop, 400 A, 700 V, 4F	013 014 032 034 A24
	<del>LA5P17-0235</del> AAA21255J123	Fuse, Armature Loop, 500 A, 700 V, 4F	A29 B18 020 021 026 027 039
	LA5P17-0236	Fuse, Armature Loop, 100 A, 1000 V, 4F	003 302 304-314
	LA5P17-0329	Fuse, Armature Loop, 150 A, 1000 V, 4F	007 011 031
	<del>LA5P17-0330</del> AAA375CD4	Fuse, Armature Loop, 200 A, 1000 V, 4F	012 018 019 024 025 033 038
	LA5P17-0331	Fuse, Armature Loop, 300 A, 1000 V, 4F	028 037 042
	LA5P17-0332	Fuse, Armature Loop, 350 A, 1000 V, 4F	035 036 040 041

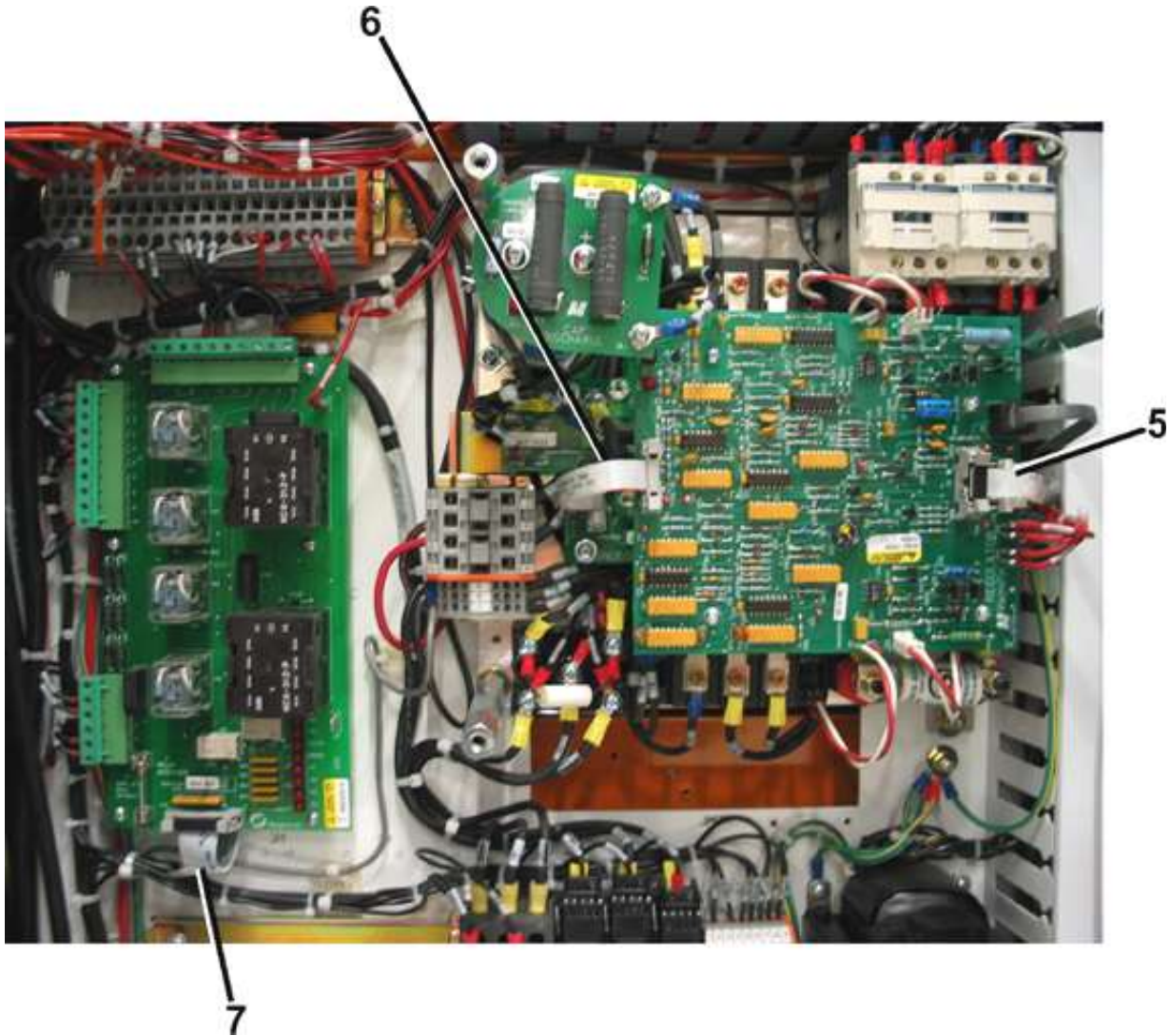
**NOTE:** "Duty" is the elevator duty number marked on the data plate. See leaflet description on page 2.



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION
1	LA46S2425-DD77	Ribbon Cable, 40 Position
2	LA46S2425-A928	Ribbon Cable, 26 Position
3	LA46S2425-6535	Ribbon Cable, 16 Position
4	LA46S2425-6537	Ribbon Cable, 16 Position

(Continued on next page)

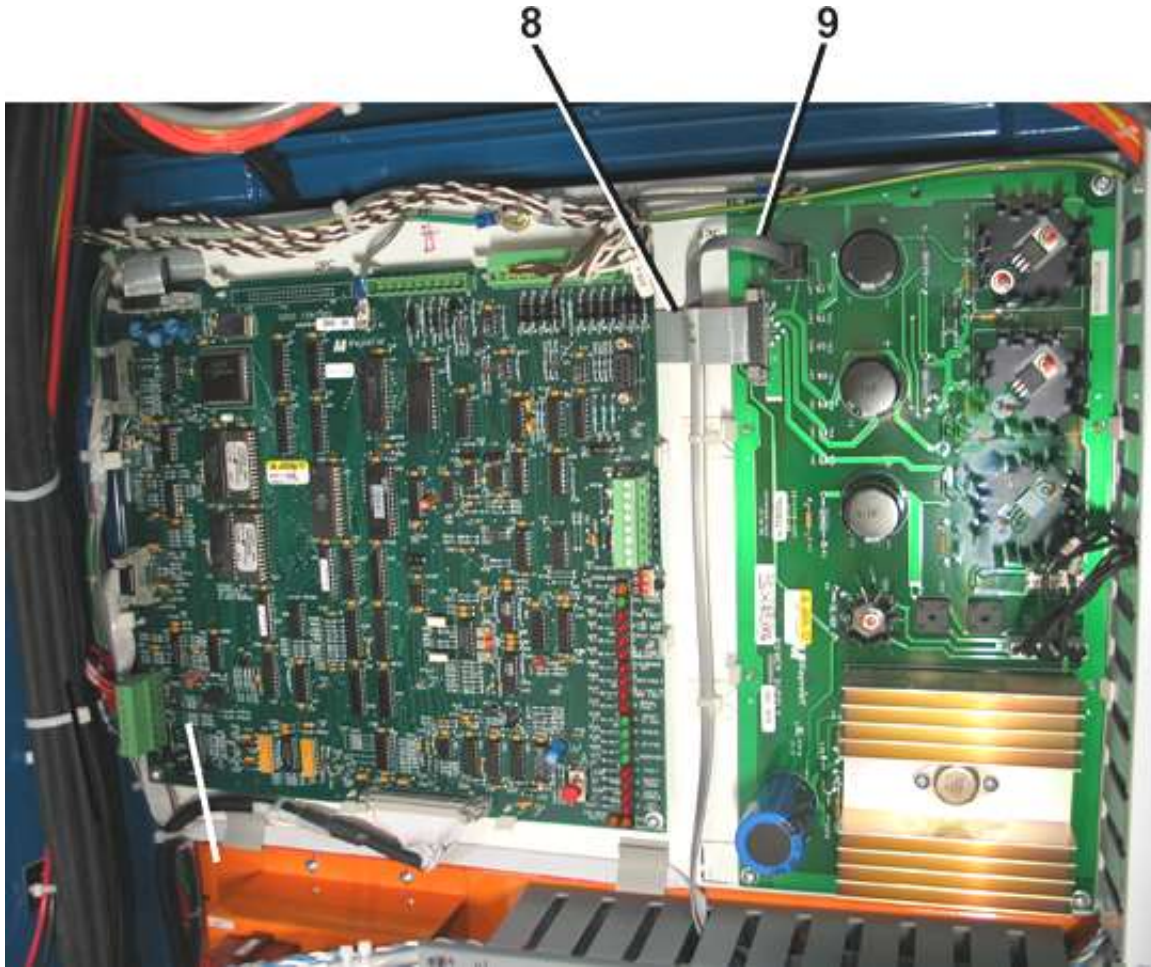


**A\*\*21250C**  
**A\*\*21250AF**

<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
5	LA46S2425-1152	Ribbon Cable, 10 Position
6	LA46S2425-2104	Ribbon Cable, 10 Position
7	LA46S2425-5643	Ribbon Cable, 16 Position

(Continued on next page)



**A\*\*21250C**  
**A\*\*21250AF**

<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
8	LA46S2425-7718	Ribbon Cable, 20 Position
9	LA46S3026-0200	Data Cable

# Contactor, Heater Element

## Part Numbers for Otis Motor-Generator Sets

**10-AAA21250C**

Motor-Generator			200–208 Volts		220–230 Volts		460–500 Volts		575–600 Volts	
Type	HP	KW	Contactor AAA638	Heater 232	Contactor AAA638	Heater 232	Contactor AAA638	Heater 232	Contactor AAA638	Heater 232
63GA	5	3	D107	AP20	C106	AP18	C106	AP11	C106	AP9
63GA	10	6	D107	AP18	C106	AP18	C106	AP11	C106	AP9
63GA	15	10	D107	AP24	C106	AP22	C106	AP17	C106	AP14
71GA	15	10	D107	AP21	C107	AP20	C106	AP13	C106	AP10
71GA	23	15	D107	AP23	D107	AP23	C106	AP16	C106	AP13
82GA	28	18	D107	AP26	D107	AP26	C106	AP18	C106	AP16
82GA	35	22	F107	AR8	E106	AR20	C106	AP19	C106	AP18
95GB	42	25	F107	AR24	F107	AR23	C106	AP24	C106	AP20
95GB	50	30	G107	AR24	F107	AR23	D107	AP24	D107	AP20
95GB	58	35	TBD	AR26	TBD	AR26	D107	AP27	D107	AP25
95GB	66	40	TBD	AR27	TBD	AR26	E106	AR20	E106	AR19
115GB	75	50	TBD	AR31	TBD	AR30	E106	AR23	E106	AR22
115GB	105	70	N/A	N/A	N/A	N/A	F107	AR27	F107	AR25
1B	25	15	D107	AP26	D107	AP24	C106	AP16	C106	AP15
1B	35	20	F107	AR11	E106	AR20	C106	AP19	C106	AP17
2B	42	25	F107	AR23	F107	AR23	C106	AP23	C106	AP21
2B	50	30	G107	AR26	F107	AR24	D107	AP25	D107	AP21
3B	58	35	TBD	AR16	TBD	AR26	E106	AR8	E106	AR14
3B	75	45	TBD	AR30	TBD	AR21	E106	AR22	E106	AR8
3B	83	50	TBD	AR32	TBD	AR30	F107	AR23	F107	AR11
3B	90	55	N/A	AR32	N/A	AR31	F107	AR24	F107	AR11
5B	110	70	N/A	N/A	N/A	N/A	G107	AR16	F107	AR26

**NOTE:**

AAA638C2 is substituted by AAA638C106.

AAA638D2 is substituted by AAA638D107.

AAA638F2 is substituted by AAA638F107.

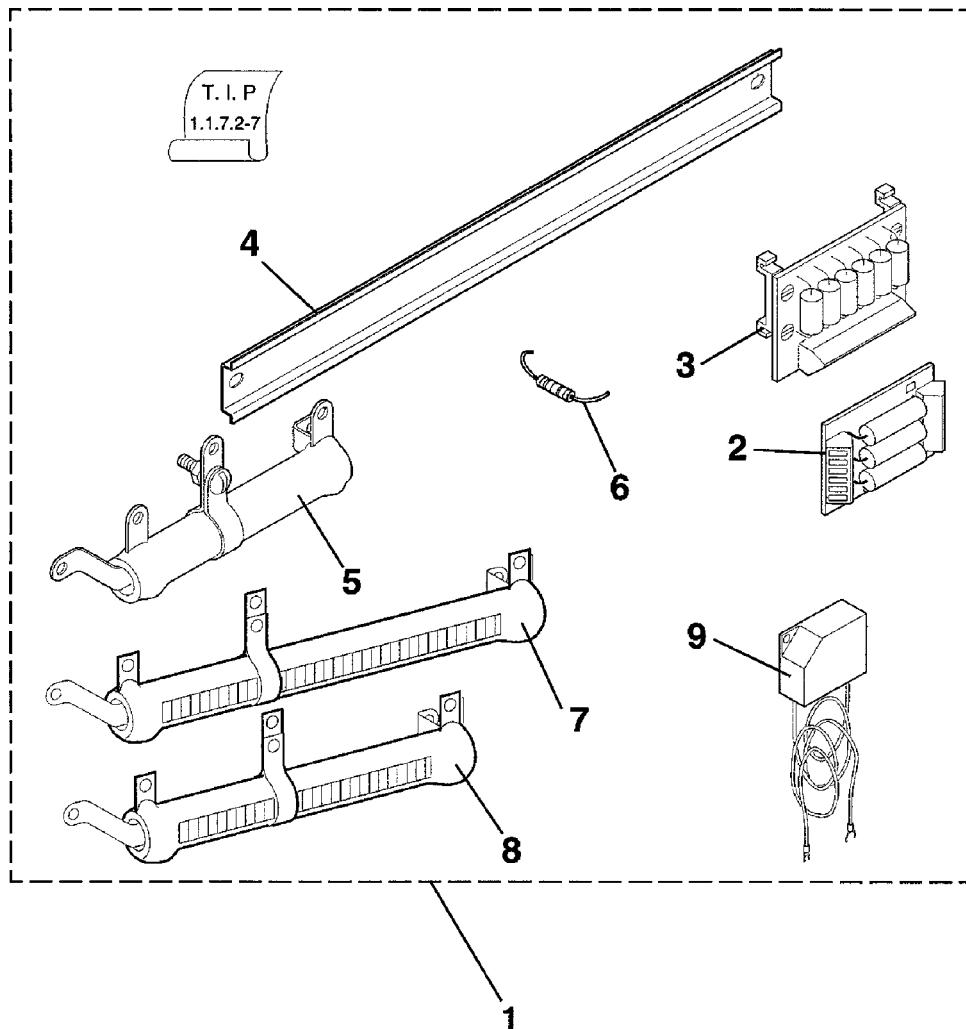
AAA638G2 is substituted by AAA638G107.

# Contactor Heater Element Part Numbers for Imperial Motors, Motor-Generator Sets

Motor-Generator			200–208 Volts		220–230 Volts		460–500 Volts		575–600 Volts	
Type A6390AF	HP	KW	Contactor AAA638_	Heater 232_	Contactor AAA638_	Heater 232_	Contactor AAA638_	Heater 232_	Contactor AAA638_	Heater 232_
31/32/33	20	12.5	D107	AP28	C106	AP27	C106	AP19	C106	AP18
1/2/3	33	20.7	F107	AR27	E106	AR26	C106	AP26	C106	AP24
34/35/36	33	20.7	F107	AR27	E106	AR26	C106	AP26	C106	AP24
37/38/39	33	20.7	F107	AR27	E106	AR26	C106	AP26	C106	AP24
40/41/42	38	23	F107	AR28	F107	AR26	C106	AP27	C106	AP25
4/5/6	40	25	F107	AR28	F107	AR26	C106	AP27	C106	AP25
43/44/45	40	25	F107	AR28	F107	AR26	C106	AP27	C106	AP25
7/8/9	47	30	G107	AR21	F107	AR28	D107	AP28	D107	AP26
10/11/12	53	35	TBD	AR31	G107	AR21	E106	AR23	D107	AP28
13/14/15	60	40	TBD	AR32	G107	AR31	E106	AR24	E106	AR22
16/17/18	68	45	TBD	AR32	G107	AR31	E106	AR24	E106	AR22
19/20/21	68	46	TBD	AR32	G107	AR31	E106	AR24	E106	AR22
22/23/24	80	53	N/A	N/A	N/A	N/A	F107	AR26	F107	AR24
25/26/27	90	60	N/A	N/A	N/A	N/A	F107	AR28	F107	AR26
28/29/30	96	64	N/A	N/A	N/A	N/A	F107	AR28	F107	AR26

# E311M/E411M Contact Loading Kit

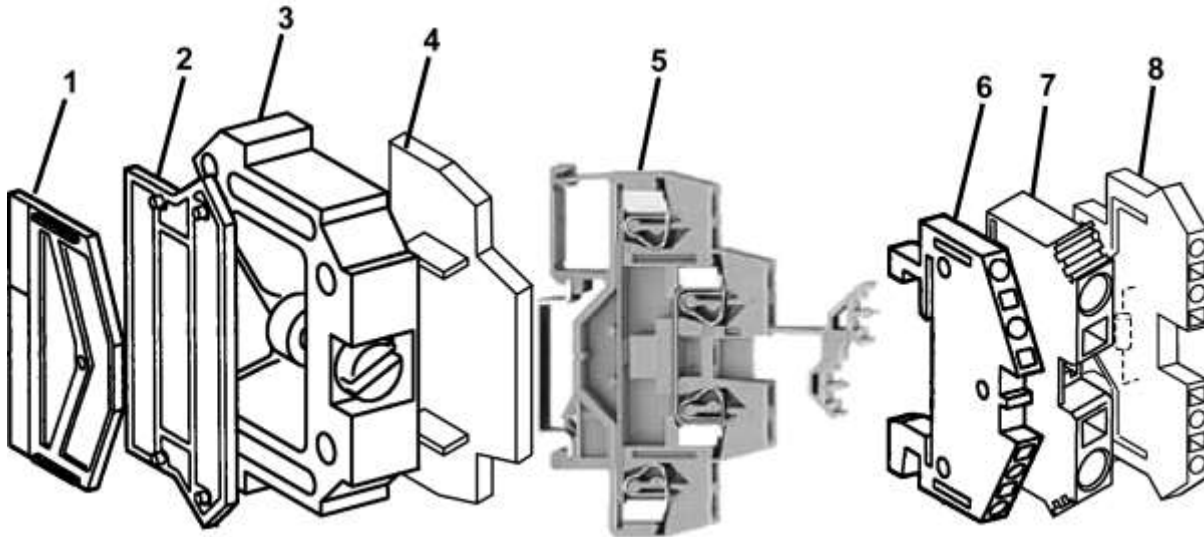
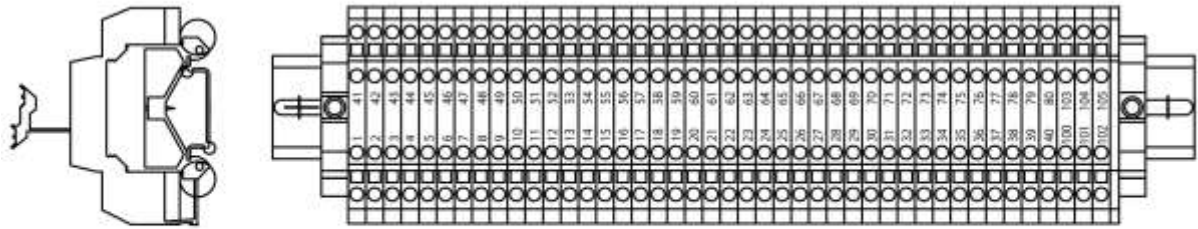
**10-AAA21250C**



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION
1	AAA7412Y1	Kit, Contact Loading Retrofit (w/TIP 1.1.7.2-7), for E311M(V)/E411M(V) Controllers: MCSS, LMCSS, DBSS
2	AAA26800QQ1	PC Board, Drive Load
3	AAA26800NL1	PC Board, Resistor Network
4	401B21	Rail, Din, 360 mm L
5	232B20	Resistor, 1.5 K $\Omega$ , 30W
6	232T46	Resistor, 47 K $\Omega$ , 2 W (Ward-Leonard only, R99)
7	AAA617L9	Resistor, 50 $\Omega$ , 100 W, 6.5 in. L (Ward-Leonard, Geared, R53)
8	AAA617M19	Resistor, Variable, Power, 500 $\Omega$ , 25 W, 2.0 in. L (Ward-Leonard only, R51)
9	AAA00605AAA014	Suppressor, RC Network, 120-220 VAC

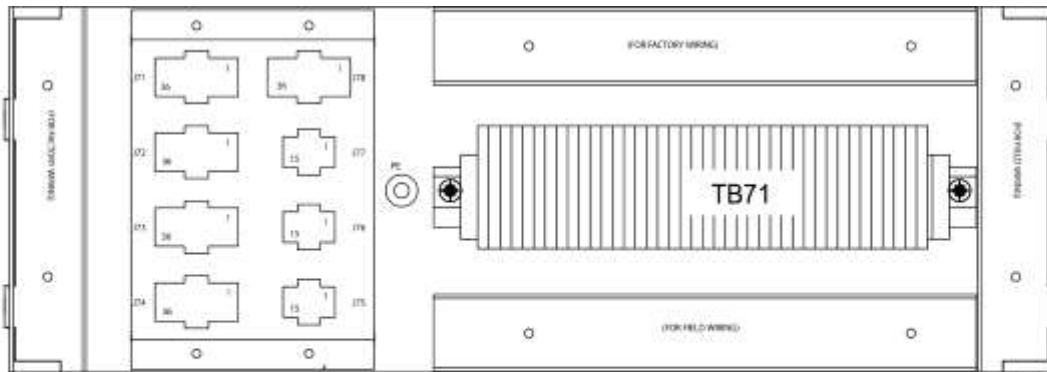
Typical terminal assembly. TB71 shown.



**A\*\*21250C**  
**A\*\*21250AF**

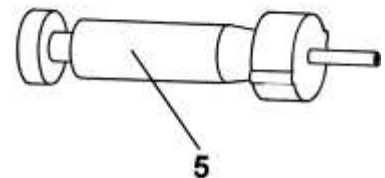
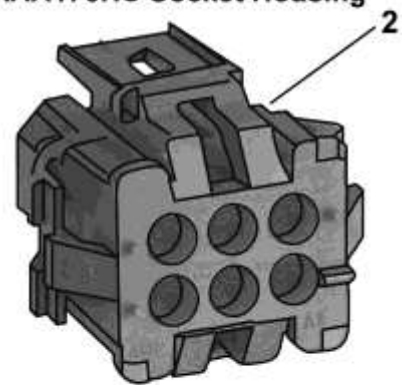
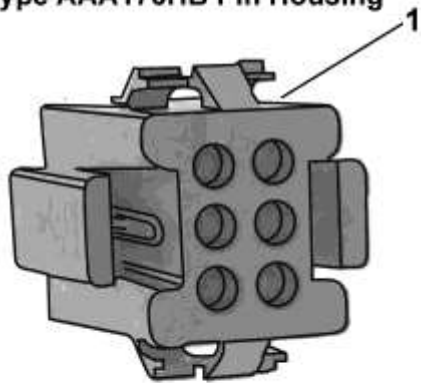
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA303EP3	End Plate	TB1, 11, 21, 31, 51, 61
2	AAA303EP37	End Plate, 2.87 x 1.0 in.	TB1
	AAA303EP52	End Plate, 2.72 X 1.26 in.	TB51
3	AAA303EP5 AAA303EP105	End Stop	TB1, 11, 21, 31, 51, 61, 71
4	AAA303EP7	End Plate	TB51, 61, 71
5	AAA303EP8	Terminal Block, Grey, 26-12 AWG, 4 Entries	TB51, 61, 71
	AAA303EP18	Terminal Block, Blue, 26-12 AWG, 4 Entries	TB71
6	AAA303EP1	Terminal Block, Grey, 28-12 AWG, 4 Entries	TB1, 11, 21, 31, 51, 61
	AAA303EP19	Terminal Block, Blue, 28-12 AWG, 4 Entries	TB1, 11, 21, 31
7	AAA303EP51	Terminal Block, Grey, 24-8 AWG, 2 Entries	TB51
8	AAA303EP36	Terminal Block, Grey, 26-14 AWG, 4 Entries	TB1





Type AAA176HB Pin Housing

Type AAA176HC Socket Housing



**A\*\*21250C**  
**A\*\*21250AF**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA176HB4	Housing, Pin, 6 Contacts	J54, J66, J81, J82, J84, J91, J92
2	AAA176HC4	Housing, Socket, 6 Contacts	
1	AAA176HB7	Housing, Pin 15 Contacts	J41, J51, J52, J55, J64, J65, J75, J83
2	AAA176HC7	Housing, Socket, 15 Contacts	
1	AAA176HB10	Housing, Pin, 36 Contacts	J61, J62, J63, J71, J72, J73, J74
2	AAA176HC10	Housing, Socket, 36 Contacts	
3	AAA176HD16	Socket, Gold (for AAA176HB housing)	---
4	AAA176HD14	Socket, Tin (for AAA176HC housing)	---
5	MT-115044	Tool, Contact Extraction	---