

Controller
GEM, E311VF, MVS,
HVS, and GMP (Mod)

Spare Parts Leaflet

10-AAA21290R

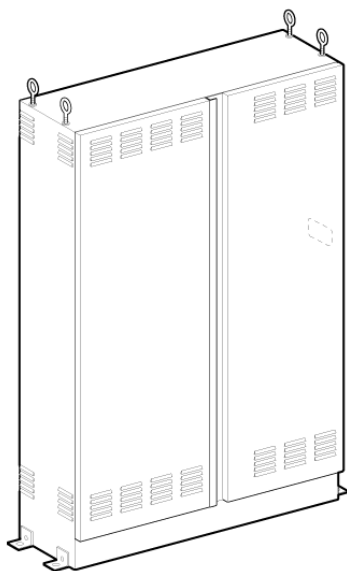
September 21, 2022/ Page 1 of 39

OBSOLESCENCE NOTICE

The product covered in this SPL has been designated as obsolete and is no longer supported. See TIP 32.2-1, *Obsolete Components*, for potential upgrade. Replacement lower-level parts listed within and unique to this design will be reviewed for obsolescence.

CONTROLLER	
SERIAL NO.	
SALES NO.	
MODEL NO.	
VOLTS	
AMPS	
PHASES	
HERTZ	
H.P.	
WIPES	
COMP. VINTAGE NO.	10-A_ _21290R
COMPONENT CODE TO	
WIRING DIAGRAM	
DATE	

NOTE: Ratings Nameplate tag w/component vintage number is located on the outside of the enclosure front door or the right-side panel.



Controller Types AAA21290R through AEA21290R and AFA21290R through AHB21290R with LMCSS Motion Control Subsystem (J_A26801AAF motion control PC board)



Controller Types AFA21290R through AHB21290R with MCSS Motion Control Subsystem (A_A26800ABA motion micro-processor and A_A26800ABB I/O PC boards)

OTIS

SERVICE ENGINEERING
Otis Elevator Company
Bloomfield, Connecticut USA

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10-AAA21290R

History

Leaflet Description

This leaflet provides replacement part information for the MVS, HVS, E311VF, GEM, and GMP (Mod.) controller.

NOTE: The LMCSS PC board changed from using AMP male headers to WAGO connectors around 2/19/01 (refer to page 7).

Leaflet Revisions

Date Revised	Subject Matter Expert	Reason for Revision
February 1993	Jeff Costley (Technical Writer)	New Leaflet (under SPL No. 10-AAA21290C)
November 1995	Ali Bozorgzadeh	Update parts
March 1, 2000	Ali Bozorgzadeh	Update part and artwork
May 20, 2003	John Dwyer	Major update to recognize part changes.
September 5, 2003	John Dwyer	Add LRUs for modernization product vintage AGA21290R
May 4, 2006	John Doane	Add vintage information and change p/n of LMCSS PC board (see NOTE under leaflet Description)
November 1, 2006	John Dwyer	Reflect parts changes from new vintages.
January 16, 2007	John Dwyer	Correct p. 24, Ref. No. 2 from 400 to 1400
December 10, 2007	Ali Bozorgzadeh	Corrected resistance value for ABA21305F1 on page 28; updated cross-references throughout the document.
April 27, 2009	Asif Hassan	Update ANSI Speed Check PCB p/n on pp. 7 and 18. Split page 18 to pages 18 and 19. Updated TOC pp. 4 and 5.
September 4, 2013	Ali Bozorgzadeh	Add drawing where one may find the appropriate PVT-Controller cable (ABA174RH2).
November 6, 2013	Ali Bozorgzadeh	Add relay to PC board drawing on page 22.
October 7, 2015	Ali Bozorgzadeh	Corrected page references on pp. 30–32
February 17, 2016	Ali Bozorgzadeh	Added p/n AAA21305DJ1 and NOTE 2 on p. 7 and p. 17
September 21, 2022	Juan Murillo	Updated to include OBSOLESCENCE note on cover

Related Drawings

Drawing No.	Title	Drawing No.	Title
AAA21290R	Assembly & Arrangement: GEM/MVS/HVS Controller	AAA21290BY, AAA21305AM	Assembly & Arrangement: Drive Panel
AAA21290E	Assembly & Arrangement: Operational Control Panel (OCP)	AAA21290S, AAA21305AK	Assembly & Arrangement: Motion Control Panel (MCP)
AAA21290K	Assembly & Arrangement: DBR	AAA21290F	Assembly & Arrangement: Power Supply
AAA21290J	Assembly & Arrangement: Drive Panel	AAA21290AN	Assembly & Arrangement: DBR (HVS)
AAA174RH	PVT/Encoder Cable		

(Continued on next page)

History (Continued)

10-AAA21290R

Related Documents

Document ID	Title	Document ID	Title
SPL 10-AAA21290AK	Variable Frequency (OVF30) 70-210A Drives	SPL 09-JAA25402AAH	OVF416 (DBSS)
SWP N-1.1.12.0-2	Drive Replacement on Existing Site	SPL 09-JAA25402AAK	OVF428 (CSA Version)
SPL 09-JAA25402AAM	OVF428x (DBSS)	SPL 10-AAA21799H	Transformer (Enclosed for Non-Regenerative Drives)
SPL 10-AAA21799G	Transformer (Enclosed)	TIP 1.1.7.1-11	MCSS 5 VDC Voltage Regulator Upgrade

Subject Matter Expert

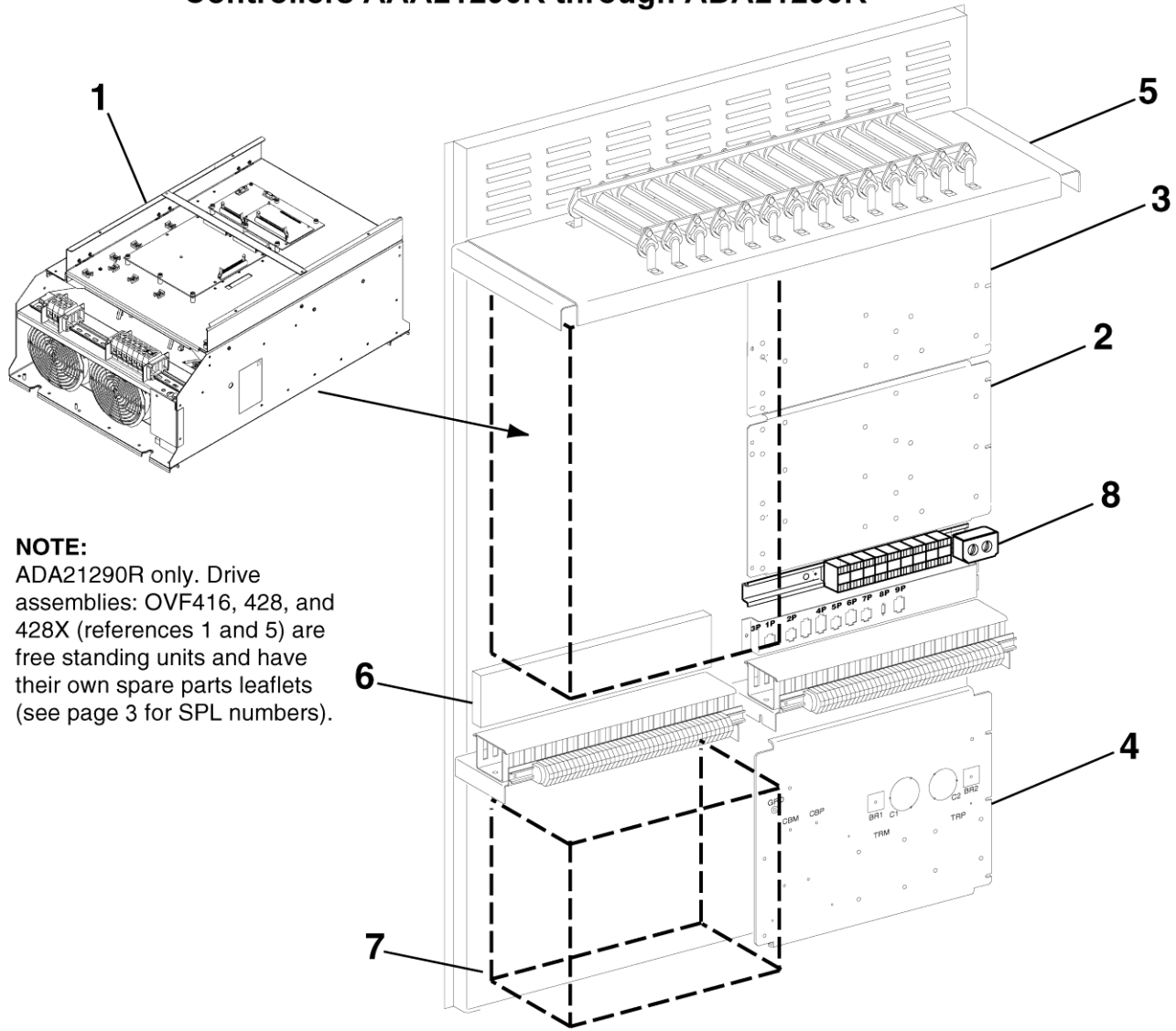
Name	Department
Ali Bozorgzadeh	OSC Service Engineering

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.

Controllers AAA21290R through ADA21290R



NOTE:
 ADA21290R only. Drive assemblies: OVF416, 428, and 428X (references 1 and 5) are free standing units and have their own spare parts leaflets (see page 3 for SPL numbers).

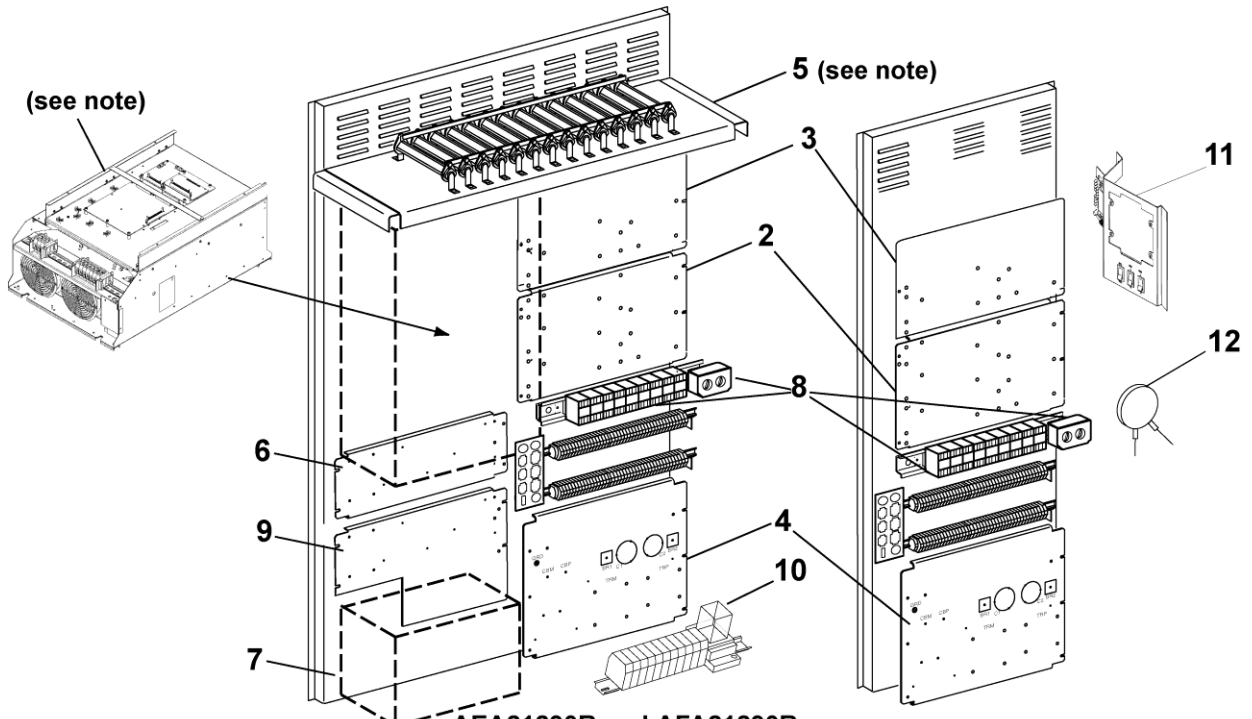
REF. No.	 PAGE No.	DESCRIPTION
1	6	Drive Assembly, Integral (see note above)
2	7-16	Motion Panel
3	17-23	Operation Control Panel
4	24-27	Power Supply Panel
5	28-29	Dynamic Braking Resistor Panel, Integral (see note above)
6	30-32	Drive Panel
7	33-36	Transformers
8	37	Door Lock Bypass Relays and Switches

(Continued on next page)

Table of Contents (cont.)

10-AAA21290R

Controllers AEA21290R through AHB21290R



NOTE:
 Drive assemblies: OVF416, 428, and 428X (references 1 and 5) are free standing units and have their own spare parts leaflets (see page 3 for SPL numbers).

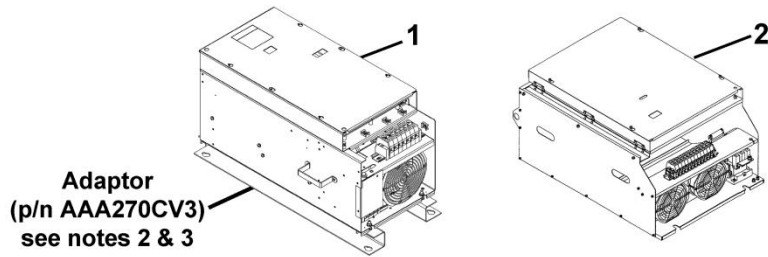
AEA21290R and AFA21290R through AHB21290R Controllers with LMCSS Motion Control

AFA21290R through AHB21290R Controller with MCSS Motion Control

REF. No.	PAGE No.	DESCRIPTION
1	6	Drive Assembly, Integral (see note above)
2	7–16	Motion Panel
3	17–23	Operation Control Panel
4	24–27	Power Supply Panel
5	28–29	Dynamic Braking Resistor Panel, Integral (see NOTE above)
6	30–32	Drive Panel
7	33–36	Transformers and Current Harmonic Filter Choke
8	37–38	Door Lock Bypass Relays and Switches
9	39	Electro Magnetic Filter Assembly
10		Voltage Transfer Relay and Socket
11		Position Indicator and Test Selector Switch Panel
12		Suppressor, Brake Coil (GMP only)

10-AAA21290R

Drive Assemblies



	AAA-ACA 21290R	ADA-AHB 21290R			
REF. NO.	PART No.		DESCRIPTION		
1 (see NOTE 1)	---	AAA21290AK1 ABA21290AK1 ACA21290AK1 ADA21290AK1	70 Amp	10 KHz	
		AAA21290AK2 ABA21290AK2 ACA21290AK2 ADA21290AK2		5 KHz	
	AAA21290Y1 ABA21290Y1 ACA21290Y1 AAA21290BJ1		90 Amp	10 KHz	
	AAA21290BJ2 ABA21290BJ2 ACA21290BJ2 + ABA270CV3 (See Note 2)			5 KHz	
	AAA21290M1 ABA21290M1 ACA21290M1 AAA21290BA1		120 Amp	10 KHz	
	AAA21290BA2 ABA21290BA2 ACA21290BA2 + ABA270CV3 (See Note 3)			5 KHz	
2 (see NOTE 1)	---	AAA21290BM2 ABA21290BM2 ACA21290BM2	210 Amp	10 KHz	
		AAA21290BM1 ABA21290BM1 ACA21290BM1		5 KHz	

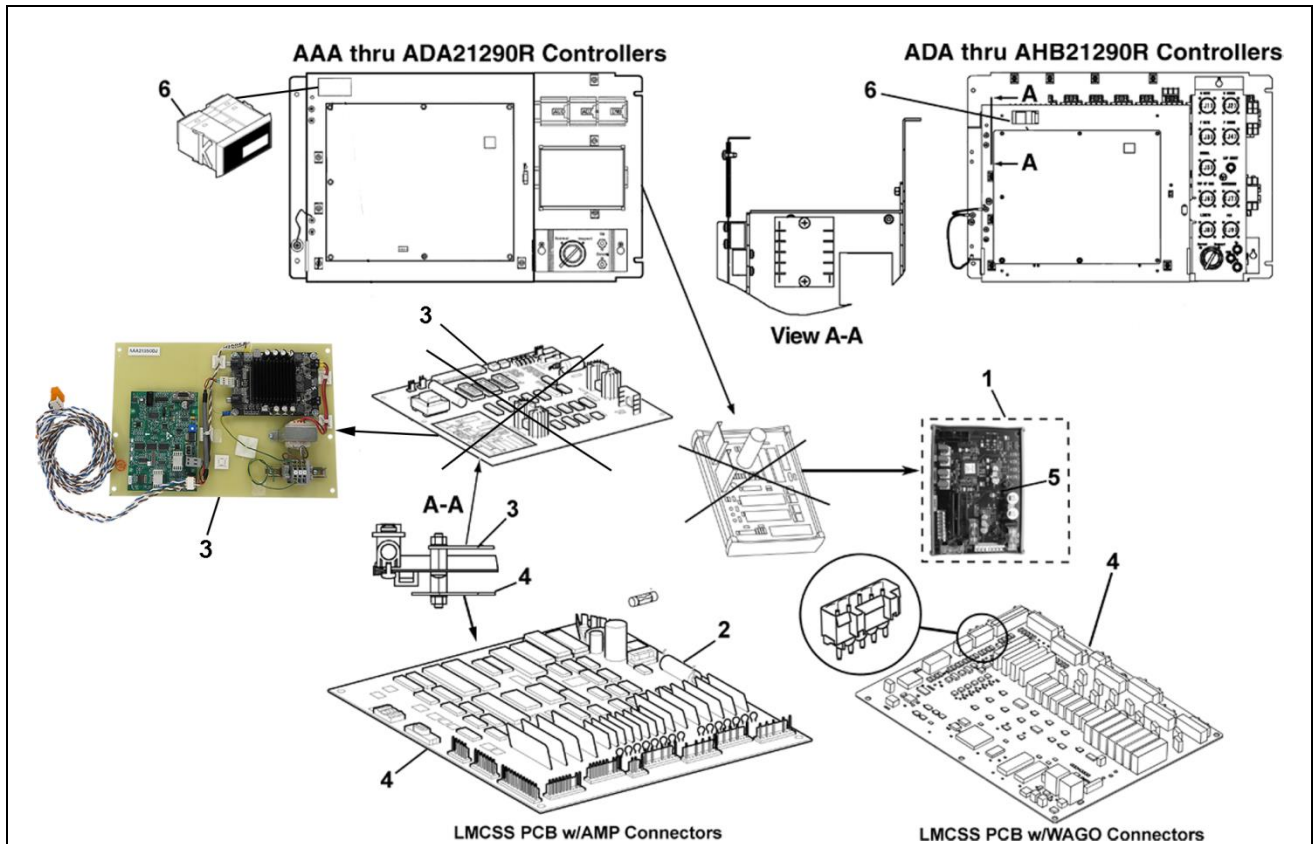
NOTE 1: Also see SPL 10-AAA21290AK, Variable Frequency (VF) Drive and SWP N-1.1.12.0-2, drive replacement on existing site.

NOTE 2: ABA270CV3 mounting adaptor is required only when replacing drive types A_A21290Y1 with ACA21290BJ2.

NOTE 3: ABA270CV3 mounting adaptor is required only when replacing drive types A_A21290M1 with ACA21290BA2.

Motion Panel, LMCSS

10-AAA21290R



ALL VINTAGES			
REF. No.	PART No.	DESCRIPTION	
1	AAA21380M1 AAA21380M3	Assembly, Module, ANSI Speed Check	ASCB
2	JAA00718AAA001	Battery	BAT1 (on Ref. 3)
3	ABA26800ABL001	PC Board, Chime (w/luxury hall lanterns and rear doors only)	---
	AAA21305DJ1	Chime Replacement Kit (w/luxury hall lanterns and rear doors only) NOTE 2	
4	JBA26801AAF002	PC Board, Motion Control (see NOTE 1)	Connectors
	JDA26801AAF002		AMP
	JEA26801AAF002		LMCSS
	JFA26801AAF002		
	JGA26801AAF002		
JGA26801AAF105	WAGO		
5	AAA26800GG1 AAA26800ARG1	PC Board, ANSI Speed Check	ASCB
6	CAA623C2	Counter	---

NOTE 1: AFA21290R and later controllers will be equipped with a motion control PC board with either AMP or WAGO connectors, depending on production date. Replace with same type as existing.

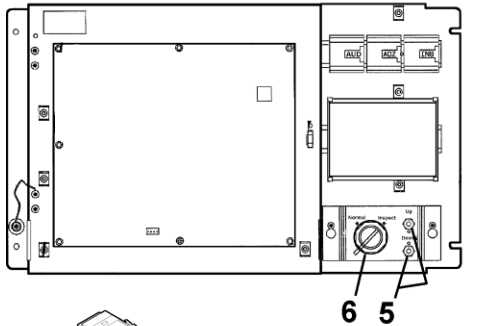
NOTE 2: TIP 4.5-8 to replace the obsolete ABA26800ABL chime board with the AAA21305DJ chime replacement kit.

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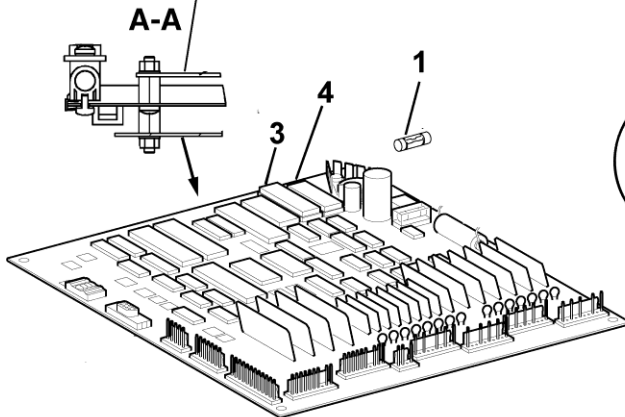
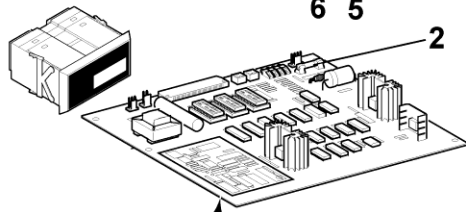
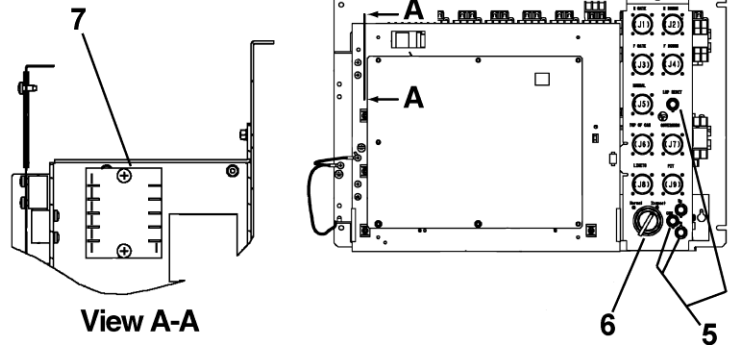
10-AAA21290R

Motion Panel, LMCSS

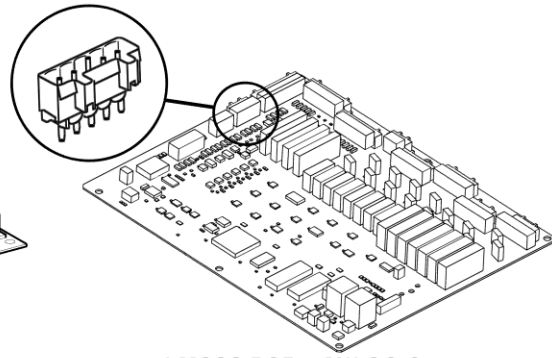
AAA thru ADA21290R Controllers



ADA thru AHB21290R Controllers



LMCSS PCB w/AMP Connectors



LMCSS PCB w/WAGO Connectors

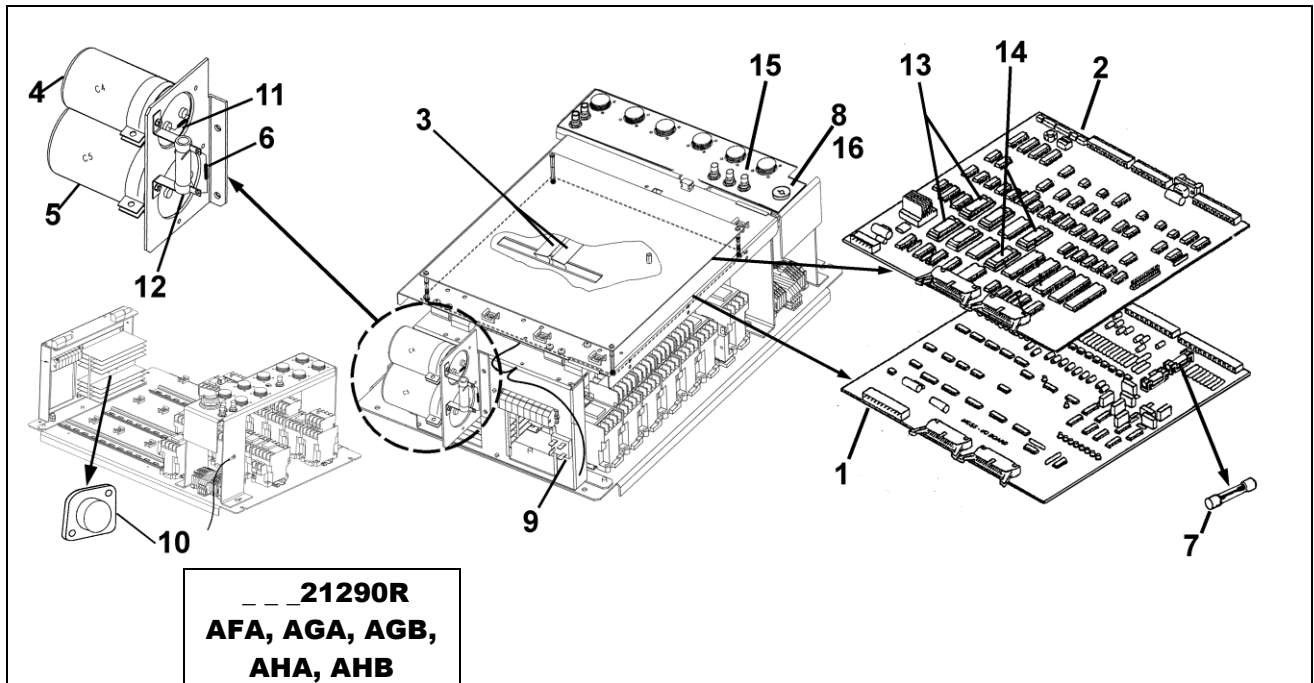
ALL VINTAGES

REF. No.	PART No.	DESCRIPTION	
1	AAA375CF7	Fuse, 2 A, 250 V, Fast Acting	F1 (on Ref. 4)
2	AAA375BT17	Fuse, 1 A, 250 V, Fast Acting	F1 (on Ref. 3)
3	---	Software, Baseline LMCSS (p/n AAA30085AAA1), see NOTE	U37 on Ref. No. 4
4	---	Software, Default Contract Parameters (p/n AAA30085AAA2), see NOTE	U44 on Ref. No. 4
5	AAA635L3	Switch, Pushbutton	CUIB, CDIB, CCIB, LSP Reset
6	AAA636E6	Switch, Selector	CIS
7	AAA623AF3	Timer, 3 to 30 Seconds	DBT

NOTE: Contact your OSC Customer Service Representative for latest revision.

Motion Panel, MCSS

10-AAA21290R



**--- 21290R
AFA, AGA, AGB,
AHA, AHB**

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	ACA26800ABB002	Board, MCSS I/O	---
2	ABA26800ABA001 ABA26800ABA002	Board, MCSS Processor	---
3	AAA174KV2	Cable, Ribbon	---
4	226DR11	Capacitor, 22000 μ F, 60 V	C4
5	226DR12	Capacitor, 120000 μ F, 25V	C5
6	AAA612AE1	Diode, 3 A, 20 V, (1N5820)	D1
7	AAA375BT18	Fuse, 3 A, 250 V Fast Acting	F1, F2 on Ref. No.1
8	AA431AF18	Lock, Key	CIS
9	230BS1	Rectifier, Bridge, 25 A	BR6
10	AAA00616AAG001 AAA27076BS1	Regulator, 5 V (see TIP 1.1.7.1-11)	---
11	AAA232GJ56	Resistor, 1.5 K Ω , 5 W	R20
12	AAA232FR2	Resistor, 25 Ω , 25 W	R21
13	---	Software, Baseline MCSS (p/n AAA30045AAA1), see NOTE	U45 and U56 on Ref. No. 2
14	---	Software, Default Contract Parameters (p/n AAA30045AAA2), see NOTE	U48 and U59 on Ref. No. 2
15	AAA635L3	Switch, Pushbutton	CUIB, CDIB, CCIB, LSP RESET
16	ABA636A5	Switch, Rotary (general location, not shown)	CIS
	477DE3 AAA636E6	Switch, Selector (general location, not shown)	CIS

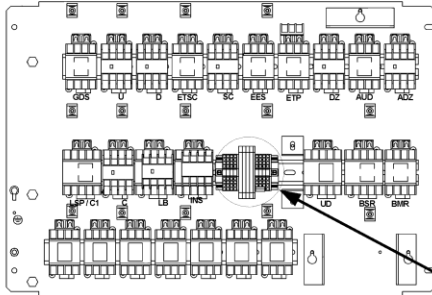
NOTE: Contact your OSC Customer Service Representative for latest revision.

10-AAA21290R

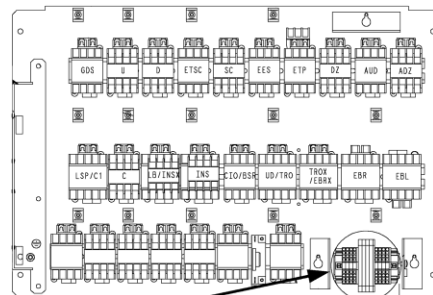
Motion Panel Components

Relays and Associated Equipment on Motion Panel Base Plate

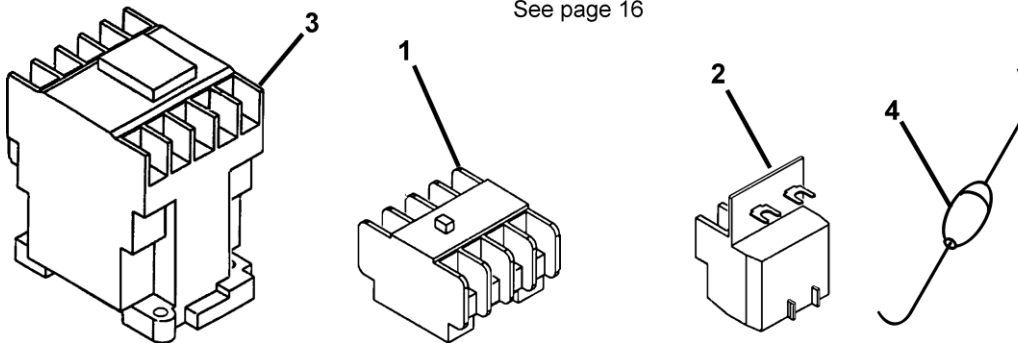
AAA thru AEA21290R Controllers



AFA through AHB21290R Controllers



See page 16



REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA613CX201	Auxiliary Contact, 2 NO	See p. 12 and p. 13 (NAO) p. 14 (CEN) p. 15 (AUS)
	AAA613CX203	Auxiliary Contact, 2 NC	
	AAA613CX205	Auxiliary Contact, 3 NO, 1 NC	
	AAA613CX207	Auxiliary Contact, 1 NO, 3 NC	
	AAA613DL71	Auxiliary Contact, 3 NO, 1 NC	
	AAA613DL72	Auxiliary Contact,, 2 NO, 2 NC	
	AAA613DL73	Auxiliary Contact,, 2 NO	
	AAA613DL74	Auxiliary Contact, 1 NO, 1 NC	
	AAA613DL75	Auxiliary Contact, 2 NC	
2	AAA613DL80	Coil Driver, 24 VDC, 5A Contact	See p. 13 (NAO) p.14 (CEN)
	AAA613DL81	Coil Driver, 24 VDC, Solid State	
3	AAA638AF13	Contactora, 120 VAC, 3 NO Main, 1 NO Auxiliary	See pp. 12 & 13
	AAA638AF15	Contactora, 120 VAC, 3 NO Main, 1 NO, 1 NC Aux.	
4	AAA612AF3	Diode, Suppressor for LVC (CEN). Used with AAA613DL91 relay, ODZ (CEN) and OOS (AUS)	---

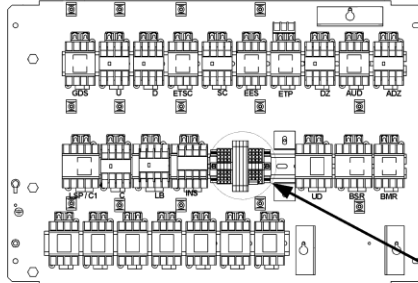
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Motion Panel Components

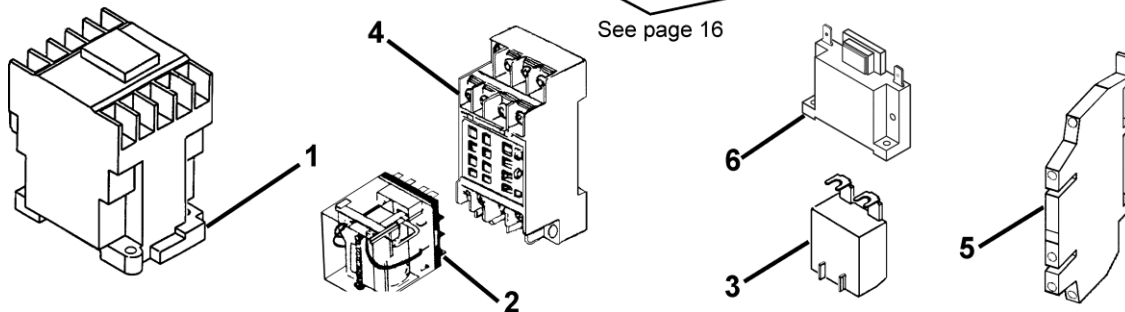
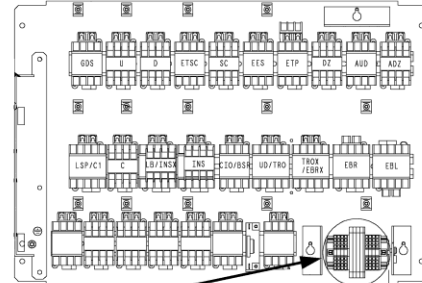
10-AAA21290R

Relays and Associated Equipment on Motion Panel Base Plate

AAA thru AEA21290R Controllers



AFA through AHB21290R Controllers



REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA613CX104	Relay, 120 VAC, 4NO	See p. 12 & p. 13 (NAO) p. 14 (CEN) p. 15 (AUS)
	AAA613CX105	Relay, 120 VAC, 3NO, 1NC	
	AAA613CX106	Relay, 120 VAC, 2NO, 2NC	
	AAA613CX114	Relay, 24 VDC, 3NO, 1NC	
	AAA613DL29	Relay, 120 VAC, 4NO	
	AAA613DL30	Relay, 120 VAC, 3NO, 1NC	
	AAA613DL31	Relay, 120 VAC, 2NO, 2NC	
	AAA613DL40	Relay, 120 VAC, 2NO, 3NC	
	AAA613DL42	Relay, 120 VAC, 5NC	
	AAA613DL91	Relay, 24 VDC, 3NO, 1NC	
AAA613DL105	Relay, 110 VDC, 3NO, 1NC		
2	AAA613CZ8	Relay, 24 VDC, 4 Form C	
	AAA613CZ10	Relay, 12 VDC, 4 Form C	
3	AAA613CX302	Suppressor (varistor), for LVC1 (CEN), w/AAA613CX114 Relay	---
	AAA613CX304	Suppressor (diode). Used on all 24 VDC AAA613CX type relays except LVC1.	
	AAA613CX305	Suppressor (RC with varistor), Used on all 120 VAC AAA613CX type relays.	
	AAA613DL61	Suppressor (RC). Used on all 120 VAC AAA613DL type relays that do not use coil driver.	
4	618AE2	Socket, Relay	ODZ (CEN), OOS (AUS)
5	AAA303EP199	Terminal Block w/Relay, 24 VDC, 1 Form C	P, R, S, T, V, X
6	AAA623AA7	Timer (optional on AFA through AHB21290R controllers only)	---

10-AAA21290R

Motion Panel Relays NAO, CEN, & AUS

Relays contactors and auxiliary contacts common to NAO, CEN, and AUS controllers including B44 and DLB features. See pages 9 and 10 for descriptions.

RELAYS:

SYMBOL	21290R CONTROLLER						
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB
	RELAY PART NUMBER: AAA613						
ADZ	CX105		DL30				
AUD	CX105		DL30				
C	CX105		DL30				
CIO	---		---				DL40
D	CX105		DL30				
DBR	CX114		DL105			---	
DFLR	---		DL31				
DOLR	---		DL31				
DSR1	---		DL31				
DSR2	---		DL31				
DZ	CX105		DL30				
EBLX	---		---				DL30
EBRX	---		---				DL31
EES	CX104		DL29				
ETP2	---		---				DL31
ETSC	CX104		DL29				
GDS	CX105		DL30				
GSR1	---		DL31				
GSR2	---		DL31				
LB	CX105		DL30	SEE CONTACTORS BELOW			
LSP	CX104		SEE CONTACTORS BELOW				
OSC	---		---				DL30
RDOLR	---		CX106		DL31		
RGR	---		DL31			---	
SC	CX104		DL29				
U	CX105		DL30				

CONTACTORS:

SYMBOL	21290R CONTROLLER						
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB
	CONTACTOR PART NUMBER: AAA638						
BMR	---		AF13			---	
BSR	---		AF15				
LB	See Relays Above				AF15		
LSP	See Relays Above				AF15		

AUXILIARY CONTACTS:

SYMBOL	21290R CONTROLLER						
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB
	AUXILIARY CONTACT PART NUMBER: AAA613						
AUD	---		DL72				
DSR1	---		DL72				
DSR2	---		DL72				
EES	---		CX205		DL71		
GDS	---		DL71				
GSR1	---		DL72				
GSR2	---		DL72				

Motion Panel Relays (NAO only)

10-AAA21290R

Relays, contactors, auxiliary contacts, and coil drivers for NAO controllers only, including B44 and DLB features. See pages 10 and 11 for descriptions.							
RELAYS:							
SYMBOL	--- 21290R CONTROLLER						
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB
	RELAY PART NUMBER: AAA613_---						
ETP	CX114		DL30		DL31		
INS	CX105	CX106	DL31				
CONTACTORS:							
SYMBOL	--- 21290R CONTROLLER						
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB
	CONTACTOR PART NUMBER: AAA638_---						
EBL	---				AF15		
EBR	---				AF15		
UD	---			AF15			
AUXILIARY CONTACTS:							
SYMBOL	--- 21290R CONTROLLER						
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB
	AUXILIARY CONTACT PART NUMBER: AAA613_---						
ADZ	CX207	CX205	DL71		DL72		
D	---				DL73		---
DZ	CX207	CX205	DL71		DL72		
INS	---					DL72	
LB	---		DL73			DL72	
LSP	---	CX207	DL72				
SC	CX207	CX205	DL71				
U	---			DL73			DL72
COIL DRIVER:							
SYMBOL	--- 21290R CONTROLLER						
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB
	COIL DRIVER PART NUMBER: AAA613_---						
ETP	---		DL80 DL81			DL81	
ETP2	---		---			DL81	
DOLR	---		---	DL80 DL81		DL81	
RDOLR	---		---	DL80 DL81		DL81	

10-AAA21290R

Motion Panel Relays (CEN only)

Relays, auxiliary contacts and coil drivers for CEN controllers only. See pages 10 and 11 for descriptions.

RELAYS:

SYMBOL	___ 21290R CONTROLLER							
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB	
	RELAY PART NUMBER: AAA613 _ _ _ _							
A	---	CX106	DL31	DL30 or DL31	DL30		DL31	
C1				---			DL30	
ETP		CX105	DL30			DL31		
INS		CX106				DL42		
INSX					---			DL30
LBP		CX105	DL30			---		
LV1		CX114					DL30	
LV2								
LVC					DL91			DL31
LVC1								---
ODZ		CZ10					---	
TRO								DL31
TROX					---			DL31

AUXILIARY CONTACTS:

SYMBOL	_ _ _ _ 21290R CONTROLLER							
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB	
	AUXILIARY CONTACT PART NUMBER: AAA613 _ _ _ _							
ADZ	---	CX205				DL71		
D		CX203			DL75		DL72	
DZ		CX205				DL71		
INS		CX207	---		DL74		DL71	
INSX					---		DL72	
LV1		CX201					DL73	---
LV2								
LVC					---			DL71
SC						---		
U		CX203			DL75		DL72	

COIL DRIVER:

SYMBOL	_ _ _ _ 21290R CONTROLLER						
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB
	COIL DRIVER PART NUMBER: AAA613 _ _ _ _						
LV1	---					DL80 DL81	
LV2							DL81
LVC					---		DL80 DL81

Motion Panel Relays (AUS only)

10-AAA21290R

Relays and auxiliary contacts for AUS controllers only. See pages 10 and 11 for descriptions.

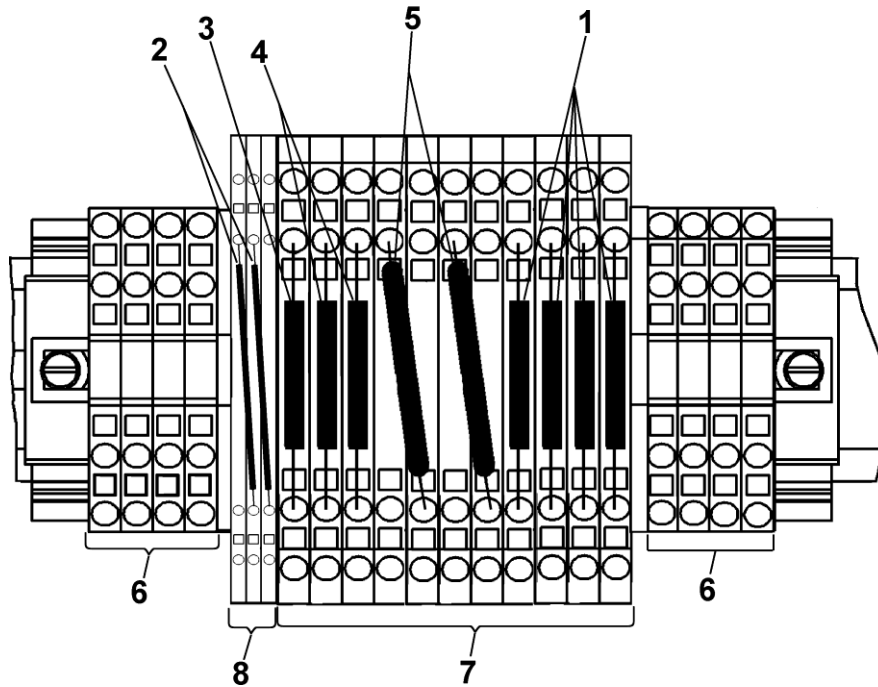
RELAYS:

SYMBOL	21290R CONTROLLER							
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB	
	RELAY PART NUMBER: AAA613 _ _ _ _							
DLR	---	CX105	DL30					
ECR			DL30					DL31
ETP			DL30					DL31
INA			DL30					
INB			DL30					
NTB			DL30					
NTT			DL30					
ODZ			CZ8	---				
OOS	---			CZ8				

AUXILIARY CONTACTS:

SYMBOL	21290R CONTROLLER							
	AAA	ABA	ACA	ADA	AEA	AFA	AGA-AHB	
	AUXILIARY CONTACT PART NUMBER: AAA613 _ _ _ _							
ADZ	---	CX205	DL71					
C		CX201	DL73				---	
D		CX203	DL75					
DZ		CX205	DL71					
INA		CX203	DL75				DL72	
SC		---						DL71
U		CX203	DL75				---	

Terminal Blocks on Motion Panel Base Plate (see page 11)

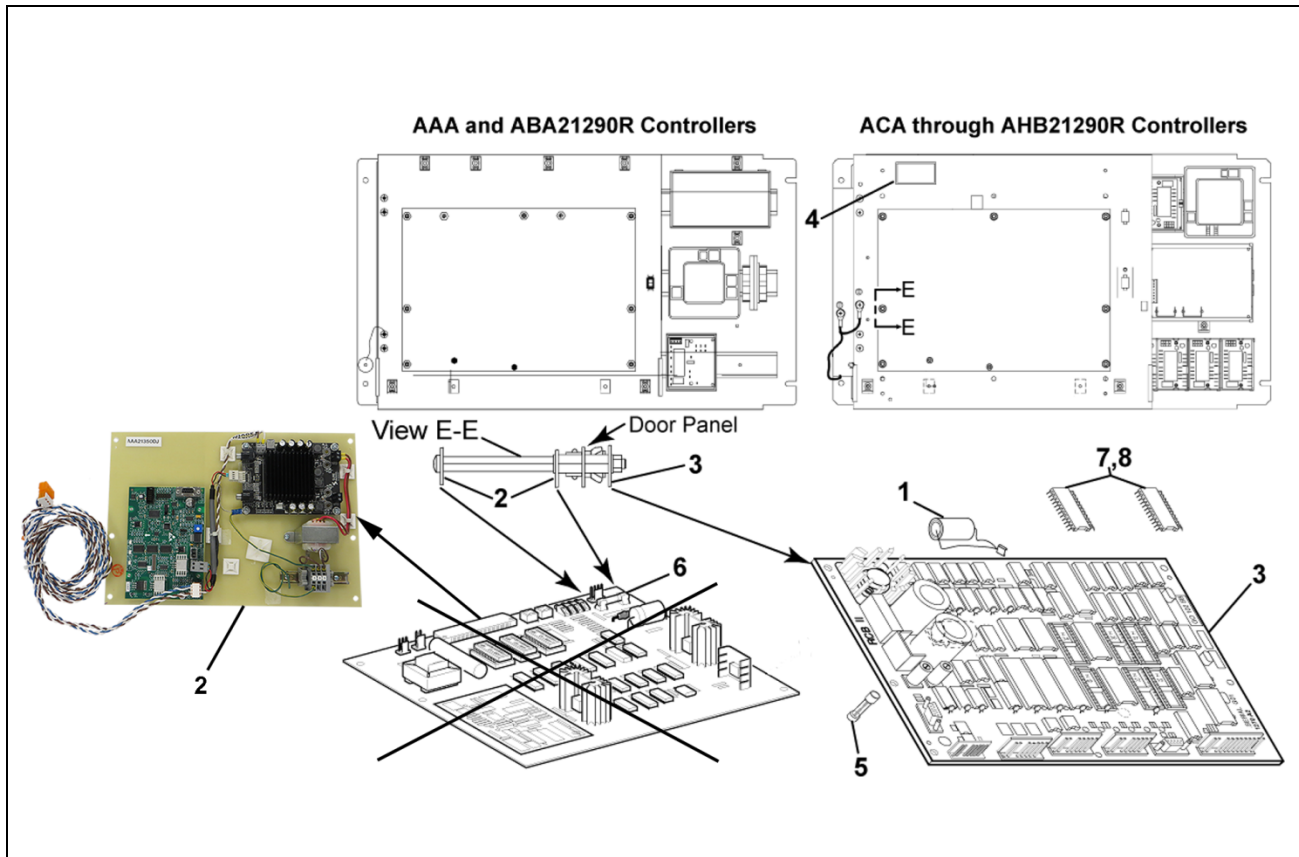


AAA21290R	AFA21290R
ABA21290R	AGA21290R
ACA21290R	AGB21290R
ADA21290R	AHA21290R
AEA21290R	AHB21290R

REF. No.	PART No.		DESCRIPTION	SYMBOL
1	AAA612T7	---	Diode, 1 A, 1000 V, 1N4007 (ABA21290R CEN controllers only)	D2 – D5
2	AAA232HR43		Resistor, 2200 Ω , 2 W	R3, R4
3	AAA232FT55		Resistor, 180 Ω , 1/2 W (AUS controllers only)	R5
4	AAA232FV73		Resistor, 1000 Ω , 1/4 W (ACA21290R CEN controllers only)	R6, R7
5	AAA232FC24		Resistor, 30 Ω , 3 W (ACA21290R CEN controllers only)	R8, R9
6	AAA303EP1		Terminal	---
7	AAA303EP42		Terminal	---
8	AAA303EP99	AAA303EP98	Terminal	---

Operational Control Panel

10-AAA21290R



REF. No.	PART No.	DESCRIPTION	SYMBOL
1	GAA718C1	Battery, 3 V, Lithium	BAT1 on Ref. No. 3
2	ABA26800ABL001	Board, Chime (with Luxury hall lanterns only; one board with front doors on all controllers, two boards with front and rear doors)	---
	AAA21305DJ1	Kit, Chime Replacement (w/ Luxury hall lanterns only; one kit w/ front doors on all controllers, two kits w/ front and rear doors) NOTE 2	
3	GCA21270A3 GDA21270A3 GEA21270A3 GFA21270A3 GHA21270A3	Board, Ring Car II	RCB II
4	CAA623C2	Counter	---
5	GO375AF22 AAA375BY8	Fuse, 2 A, 250 V, Time Delay	F1, F2 on Ref. No. 3
6	375P4 AAA375BT17	Fuse, 1 A, 250 V, Fast Acting	F1 on Ref. No. 2
7	---	Software, Baseline OCSS (p/n AAA30005AAA1), see NOTE	U37, U53 on Ref. No. 3
8	---	Software, Default Contract Parameters (p/n AAA30005AAA2), see NOTE 1	U34, U49 on Ref. No. 3

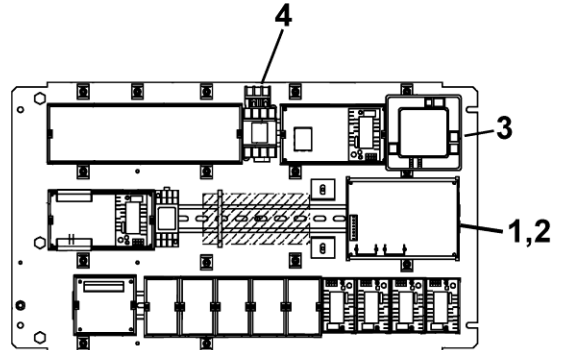
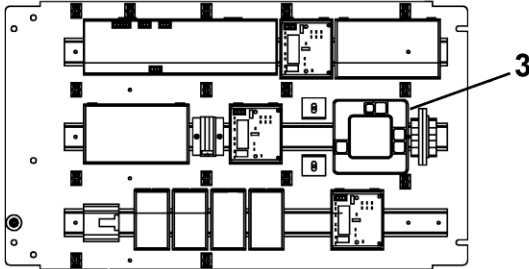
NOTE 1: Contact your OSC Customer Service Representative for latest revision.

NOTE 2: TIP 4.5-8 to replace the obsolete ABA26800ABL chime board with the AAA21305DJ1 chime replacement kit.

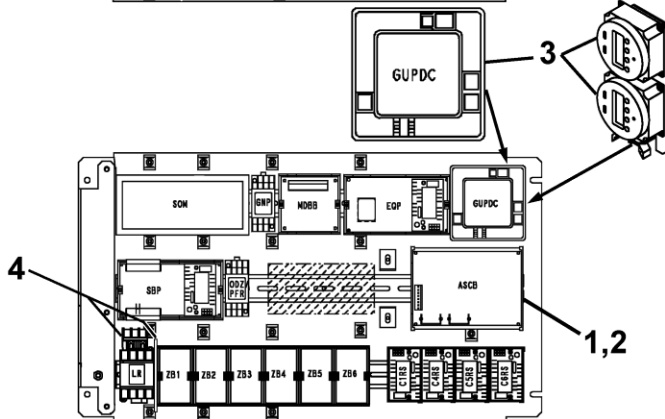
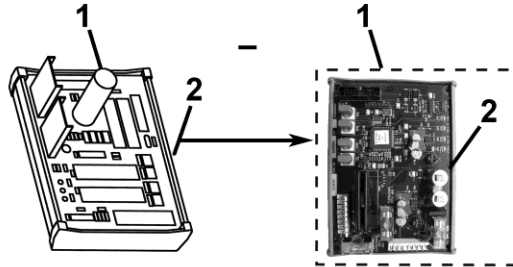
10-AAA21290R

Operational Control Panel

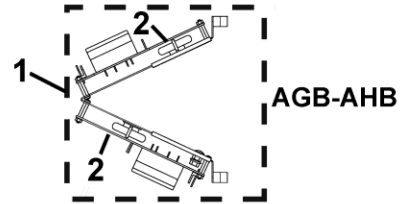
AAA and ABA21290R Controllers



ACA -- AEA21290R Controllers



AFA through AHB21290R Controllers

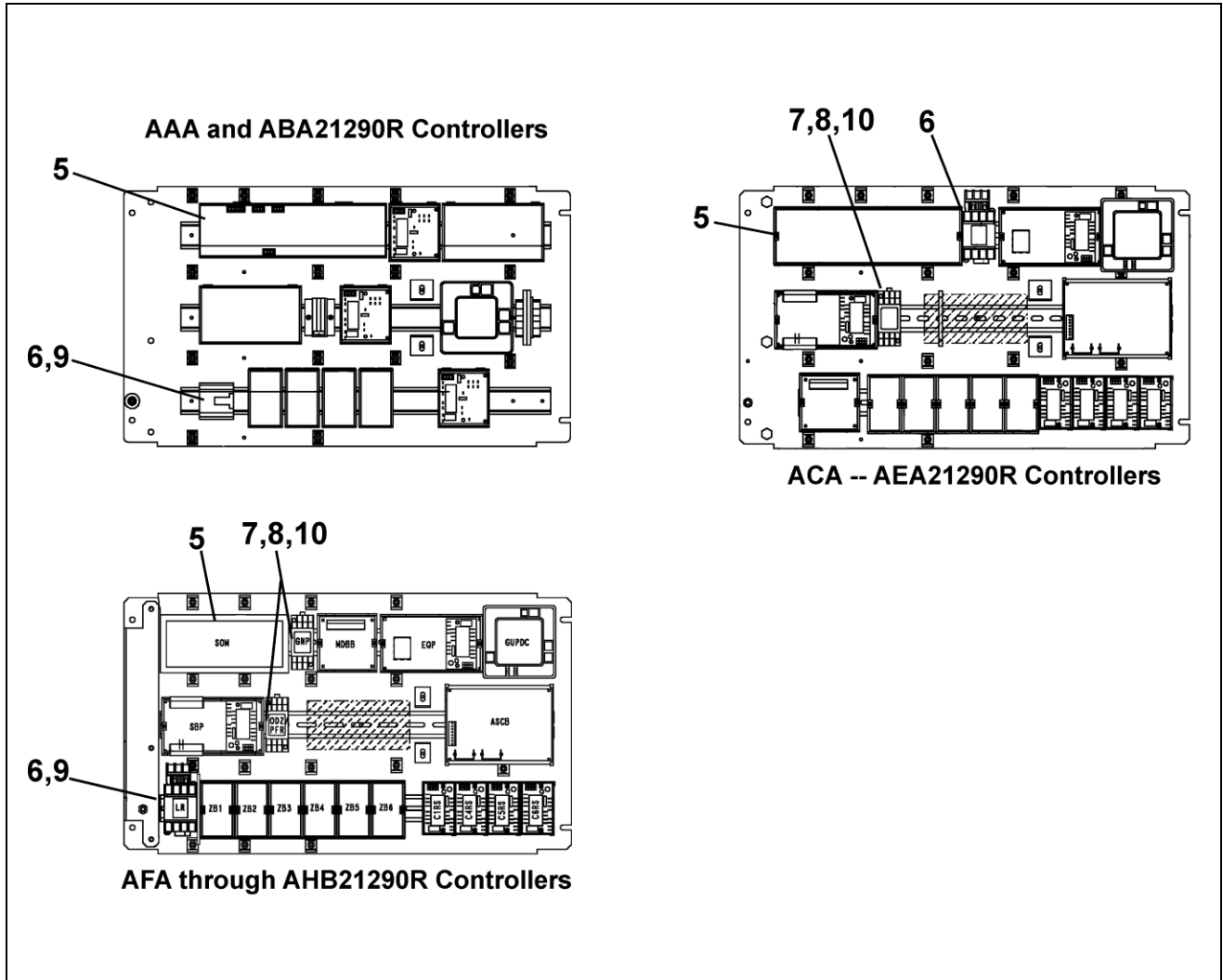


		--- 21290R					
		AAA, ABA	ACA-AGA	AGB-AHB			
REF. NO.	PART No.			DESCRIPTION		SYMBOL	
1	---	AAA21380M1 AAA21380M3	AAA21380AN1	Assm. ANSI Speed Check	New Equip. Systems (set J5 to GG1)	ASCB	
	---	AAA21380M2 AAA21380M3	AAA21380AN3		GMP w/rpm <721 only (set J5 to GG2)		
2	---	AAA26800GG4 AAA26800ARG1		PC Board, ANSI Speed Check	New Equip. Systems (set J5 to GG1)		
	---	AAA26800GG2 AAA26800ARG1			GMP w/rpm <721 only (set J5 to GG2)		
3	623T1		AAA623AG1	Clock, Weekly Timer		GUPC, GDPC	
4	---	AAA613DL80 AAA613DL81	---	Coil, Driver		LR	
	---	---	AAA303EP199	Terminal Block w/Relay, 24 VDC		L	

Continued on Next Page

Operational Control Panel

10-AAA21290R

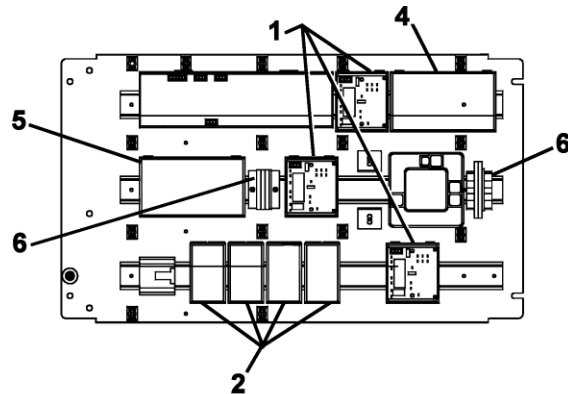


REF. NO.	--- 21290R		DESCRIPTION	SYMBOL	
	AAA, ABA	ACA-AGA			AGB-AHB
5	9693F2 GBA26800AL1 GCA26800AL1	GDA26800AL1 GEA26800AL1	Module, Switchover	SOM	
6	AAA613CX115	---	Relay, 24 VDC, 2 NO, 2 NC	LR	
	---	AAA613DL31	Relay, 120 VAC, 2 NO, 2 NC		
7	---	AAA613CZ8	Relay, 24 VDC, 4 Form C	GNP, ODZ(AUS), PFR	
		AAA613CZ10	Relay, 12 VDC, 4 Form C	ODZ(CEN)	
8	---	618AE2	Socket, Relay	GNP, ODZ, PFR	
9	AAA613CX304	---	AAA613DL61	Suppressor, Diode	LR
10	---	AAA612AF3	Suppressor, Diode	GNP, ODZ, PFR	

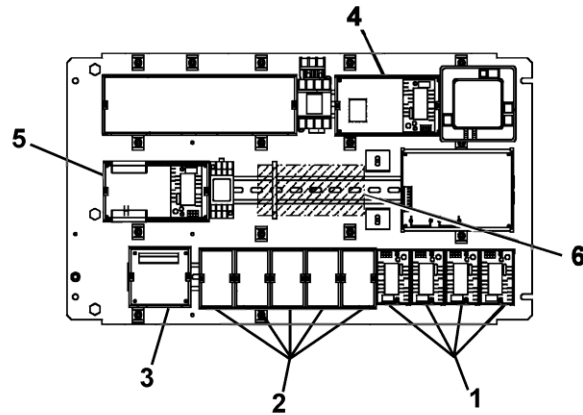
10-AAA21290R

Operational Control Panel

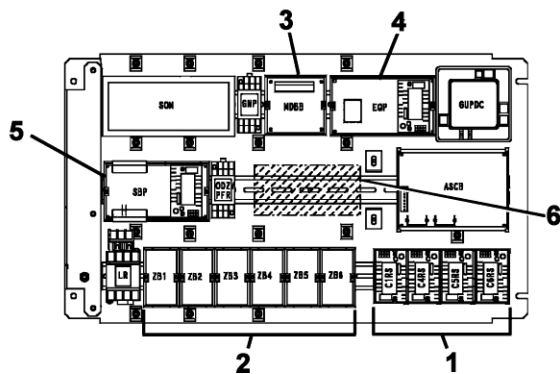
for Vintage
AAA and ABA21290R Controllers




for Vintage
ACA through AEA21290R Controllers



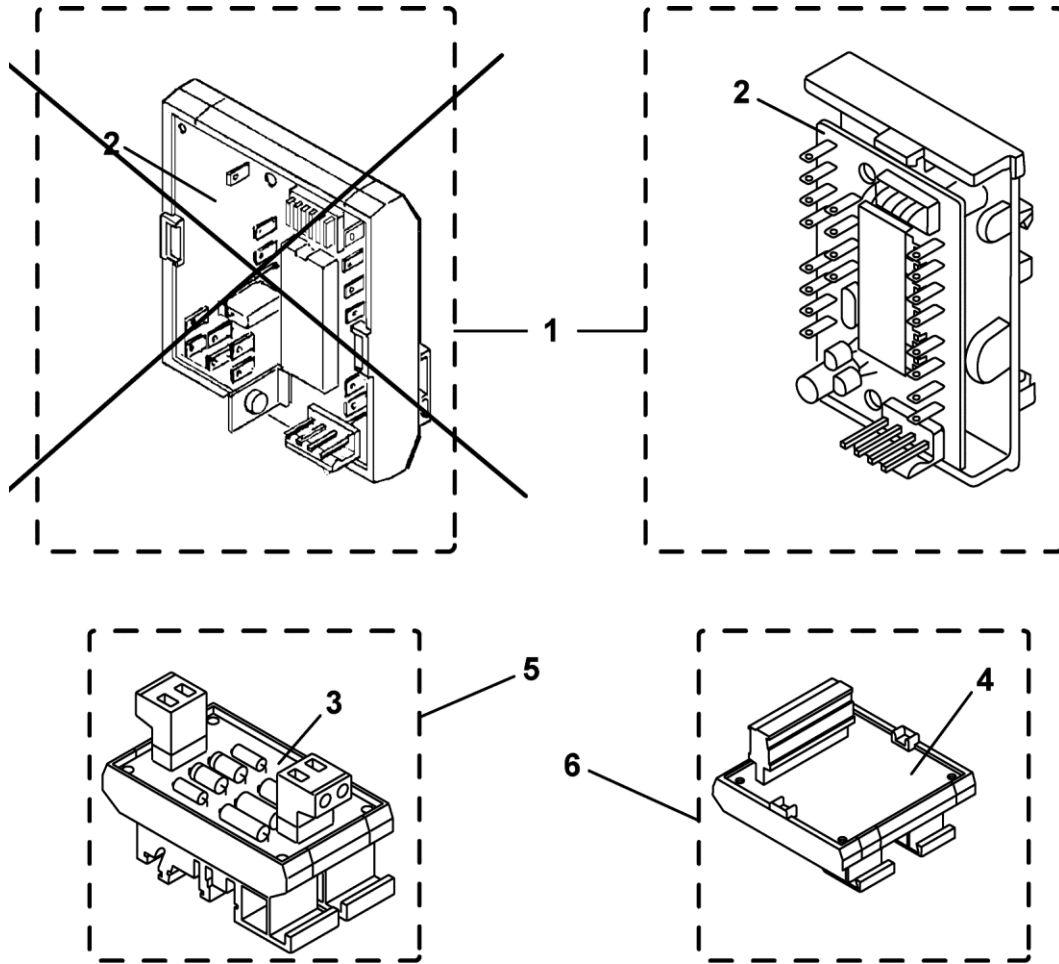
for Vintage
AFA through AHB21290R Controllers



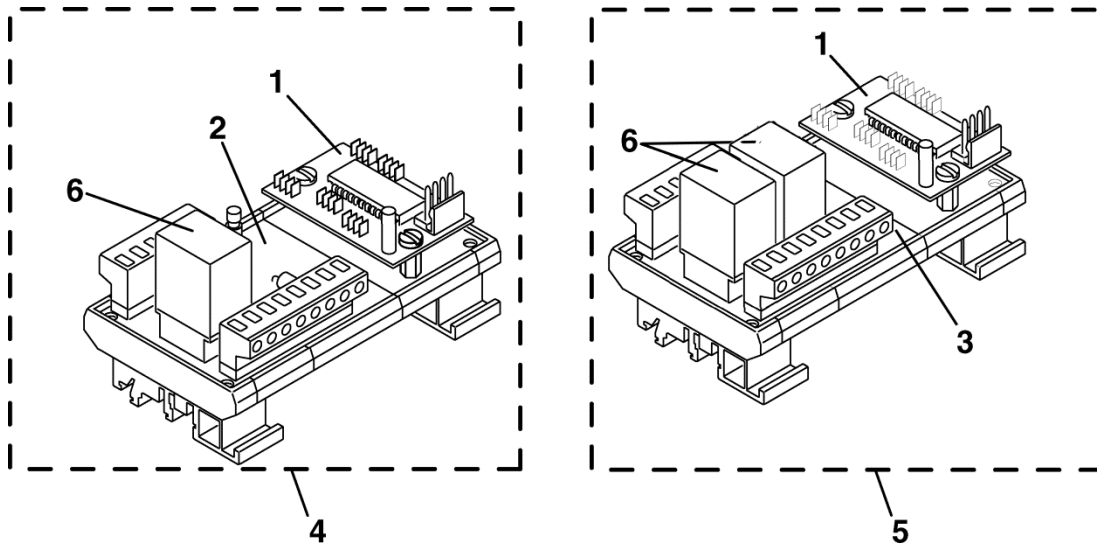
REF. NO.	 PAGE	DESCRIPTION
1	21 & 22	Assembly, Remote Station, RS4, RS5
2		Module, Filter
3		Module, Multi Drop Buffer
4		Module, Seismic Operation
5		Module, Standby Power Operation
6	23	Terminal Blocks and Terminal Block Mounted Components

Operational Control Panel

10-AAA21290R



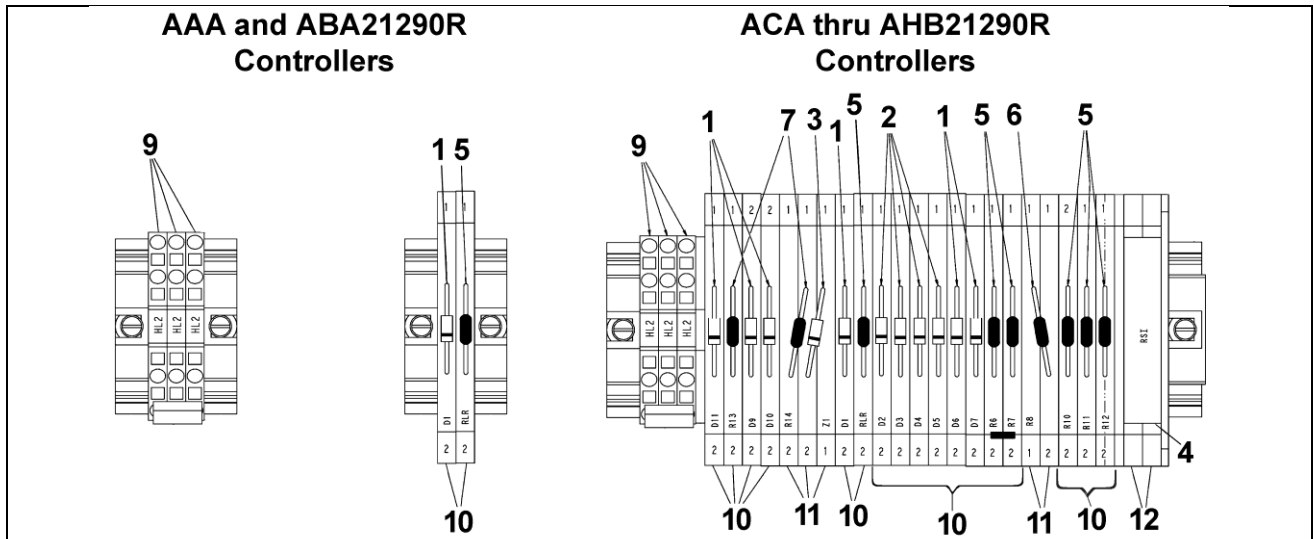
REF. No.	AAA21290R ABA21290R		ACA thru AHB 21290R		DESCRIPTION	SYMBOL
	PART No.					
1	7145AY1		---		Assembly, Remote Station, RS4	C1RS, C4RS – C6RS
	AAA26810A1 AAB26810A1				Assembly, Remote Station, RS5	
2	A9693C4		---		Board, Remote Station, RS4	C1RS – C6RS
	GBA23550D1 GCA23550D1 GDA23550D1 GEA23550D10 GFA23550D10				Board, Remote Station, RS5	
3	AAA26800KP1				Board, Filter	ZB1 – ZB6
4	---		AAA26800MJ1		Board, Multi Drop Buffer	MDBB
5	AAA21380D1				Module, Filter	ZB1 – ZB6
6	---		AAA21380AE1		Module, Multi Drop Buffer	MDBB



	AAA21290R ABA21290R	ACA thru AHB 21290R		
REF. No.	PART No.		DESCRIPTION	SYMBOL
1	A9693G4	---	Board, Remote Station, RS4	C1RS-C6RS
	GBA23550D4 GCA23550D4 GDA23550D4 GEA23550D10 GFA23550D10		Board, Remote Station, RS5	
2	AAA26800KT4 ABA26800KT1		Board, Seismic Operation	EQIB
3	AAA26800KS4 ABA26800KS1		Board, Standby Power	SPIB
4	AAA21380E1 AAB21380E1 ABB21380E1		Module, Seismic Operation	EQIB
5	AAA21380F1 AAB21380F1 ABB21380F1		Module, Standby Power	SPIB
6	AAA613CZ2		Relay, 24 VDC, 4 Form C	EQIB

Operational Control Panel

10-AAA21290R



AAA21290R ABA21290R	ACA21290R ADA21290R AEA21290R	AFA21290R AGA21290R AGB21290R AHA21290R AHB21290R
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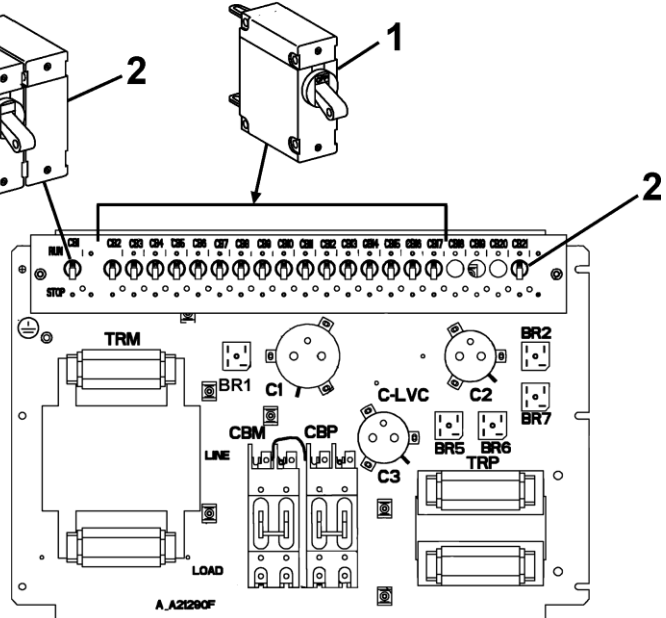
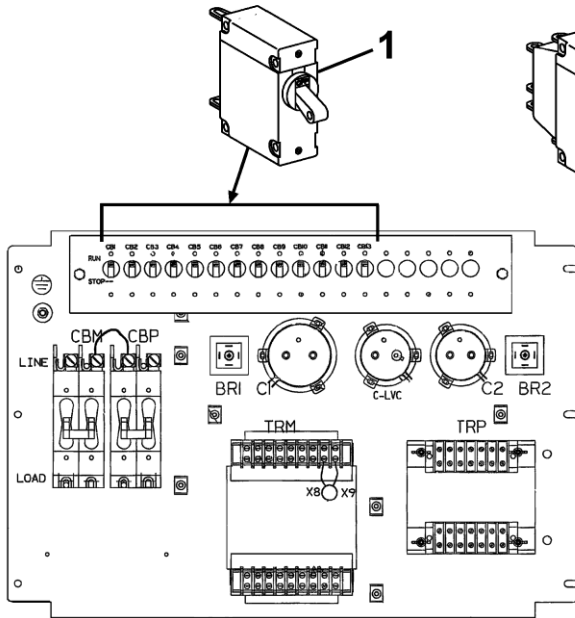
REF. No.	PART No.		DESCRIPTION	SYMBOL	
1	AAA612AK1		Diode, 3 A, 600 V, (1N5406)	D1	
	---	AAA612AK1		D6 & 7(CEN), D9	
	---	AAA612AK1		D10, D11	
2	---	AAA612T7	Diode, 1 A, 1000 V (1N4007)	D2 – D5(CEN)	
3	---	AAA612AX6	Diode, Zener, 12 V, 5 W	Z1	
4	---	AAA26810D1	Module, Rope Stretch Indicator	RSI	
5	AAA232FN51	---	Resistor, 120 Ω, 1 W	RLR	
	---	AAA232FV73	Resistor, 1 K Ω, 1/4 W	RLR, R6 & R7(CEN), R10(AUS), R11, R12	
6	---	AAA232FC24	Resistor, 30 Ω, 3 W	R8(CEN)	
7	---	AAA232GJ33	Resistor, 180 Ω, 5 W	R14	
	---	AAA232GJ33		R13	
9	AAA303EP1		Terminal	---	
10	AAA303EP42		Terminal	---	
11	---	AAA303EP99	AAA303EP98	Terminal	---
12	---	AAA303EP126		Terminal	---

10-AAA21290R

Power Supply Panel

ADA through AHB21290R Controllers

ADA through AHB21290R Controllers

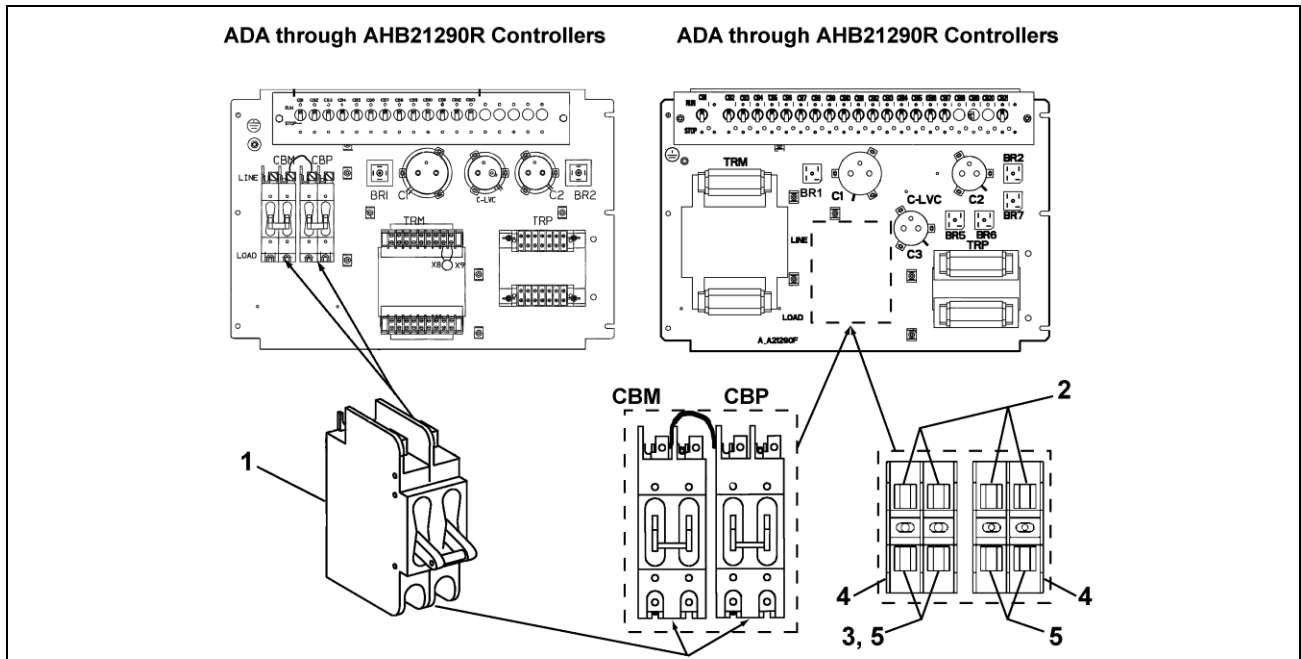


REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA637C2	Breaker, Circuit, 2.5 A, 1-Pole, Short Delay	CB4, CB12 (AUS, CEN), CB13, CB16
	AAA637C8	Breaker, Circuit, 5.0 A, 1-Pole, Long Delay	CB3 (see NOTE), CB5 - CB7, CB12 (B44), CB14, CB17
	AAA637C10	Breaker, Circuit, 10.0 A, 1-Pole, Long Delay	CB8, CB15
	AAA637C15	Breaker, Circuit, 7.5 A, 1-Pole, Long Delay, (high pulse) Plus Inertial Delay	CB3 (see NOTE)
	AAA637C16	Circuit Breaker 2.5 A, 1-Pole, Long Delay	CB2, CB13 (AUS), CB18 (AUS)
	AAA637C17	Breaker, Circuit, 5.0 A, 1-Pole Long Delay (high pulse) plus Inertia Delay, Red Handle	CB1
	AAA637C18	Breaker, Circuit, 0.5 A, 1-Pole, Instantaneous DC	CB9 - CB11
2	AAA637C19	Breaker, Circuit, 5.0 A, 2-Pole, Long Delay, Auxiliary Switch, w/Red Handle	CB1
	AAA637C23	Breaker, Circuit, 2-Pole, (Pole 1 = 2 A, Pole 2 = 5 A, Long Delay)	CB21

NOTE: CB3 part number depends upon controller production date. Replace with same type as existing.

Power Supply Panel

10-AAA21290R

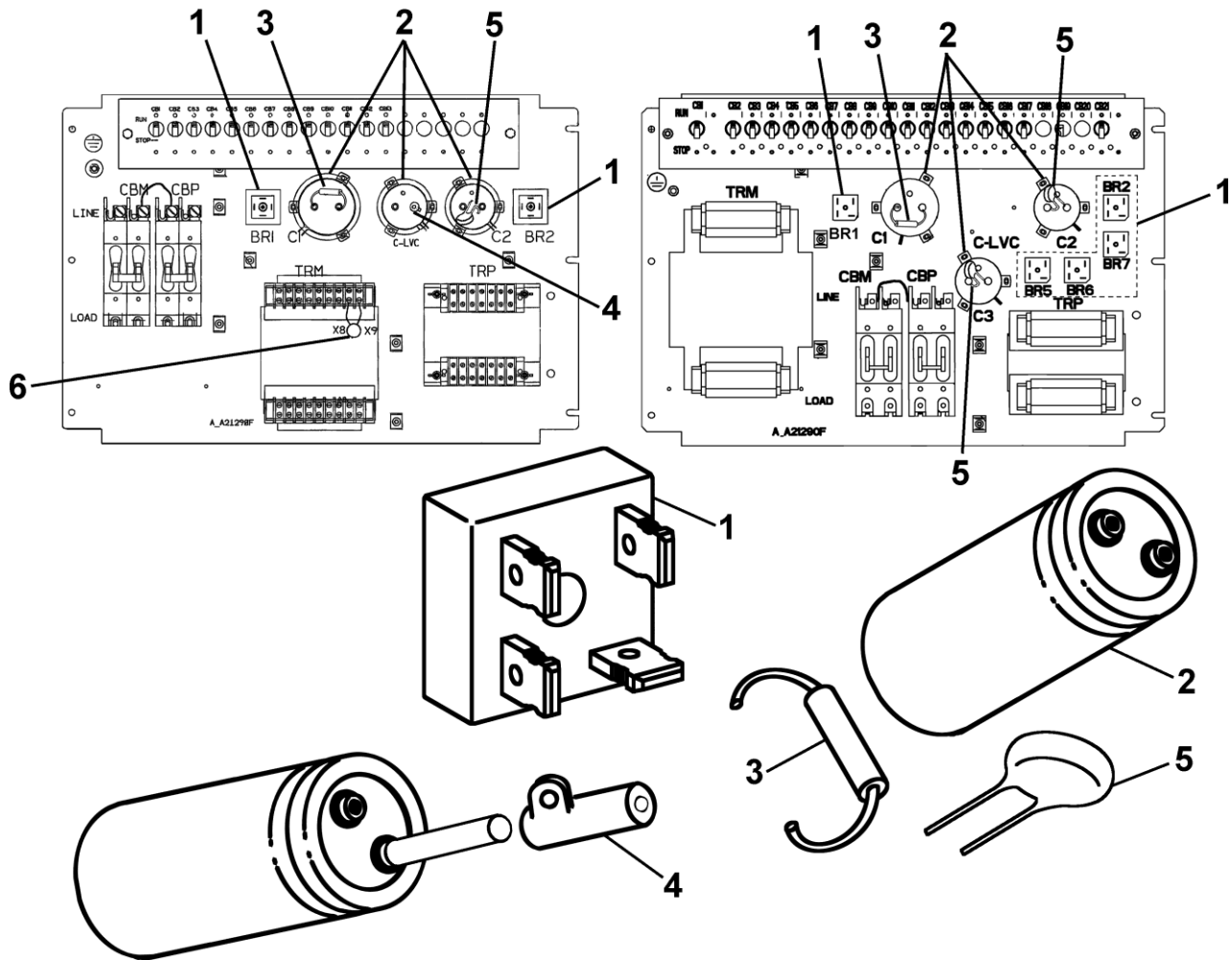


	AAA21290R- AHA21290R	AHB21290R			
REF. No.	PART No.		DESCRIPTION	SYSTEM VOLTAGE	SYMBOL
1	AAA637F9	---	Breaker, Circuit, 2.0 A, 2-Pole	≥ 380 V	CBP
	AAA637F11		Breaker, Circuit, 3.0 A, 2-Pole	≥ 380 V	CBM
	AAA637F12		Breaker, Circuit, 5.0 A, 2-Pole	200-240 V	CBM, CBP
2	---	AAA375BK29	Fuse, 4 A, Time Delay	≥ 440 V	FM (New Equipment)
		AAA375BK39	Fuse, 10 A, Time Delay	< 440 V	
		AAA375BK35	Fuse, 7 A, Time Delay	≥ 440 V	FM (GMP)
		AAA375BK44- AAA375BW37	Fuse, 15 A, Time Delay, (see NOTE)	< 440 V	
		AAA375BK21	Fuse, 2 A, Time Delay	≥ 440 V	FP
		AAA375BK29	Fuse, 4 A, Time Delay	< 440 V	
3	---	AAA346AYQ9	Fuse Cover (see NOTE)	< 440 V	FM (GMP)
4	---	AAA653D1	Fuse Holder, 2-Pole	---	FM (New Equipment)
		AAA653D4- AAA653H2	Fuse Holder, 2-Pole, (see NOTE)	< 440 V	FM (GMP)
		AAA653D1	Fuse Holder, 2-Pole	---	FP
5	---	AAA180FK2	Fuse Puller	---	FM (New Equipment)
				≥ 440 V	FM (GMP)
				---	FP

NOTE: Order Kit AAA27076CY1 for fuses, holder, cover, label and hardware needed to update FM fuses in GEM Modernization Product controllers with system voltage < 440 V, see TIP 1.1.11.0-1.

AAA thru ACA21290R Controllers

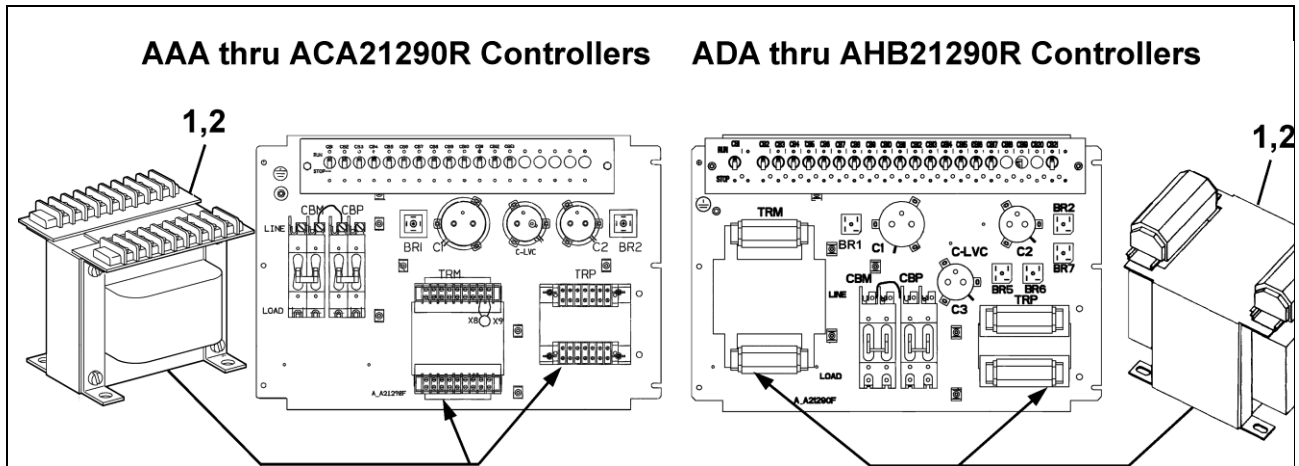
ADA thru AHB21290R Controllers



REF. No.	PART No.	DESCRIPTION	SYMBOL
1	230BS3	Bridge, Diode, 600 V, 25 A	BR1, BR2, BR5-BR7
2	226EJ1	Capacitor, 19 K μ F, 60 VDC	C2, C3
	226DR1	Capacitor, 1400 μ F, 450 V	C1
	AAA226FN5	Capacitor, 2 K μ F, 200 W VDC	C-LVC (CEN)
3	AAA232FJ2	Resistor, 4 K Ω , 10 W \pm 1% (for capacitor C1)	R1
4	232AE1	Resistor, 250 Ω , 5 W, Capacitor Mtg.	R-LVC (CEN)
5	AAA605AA13	Suppressor, Transient 30 V RMS	SA2, SA3
	AAA605AA39	Suppressor, Transient 175 V RMS	SA1

Power Supply Transformers

10-AAA21290R



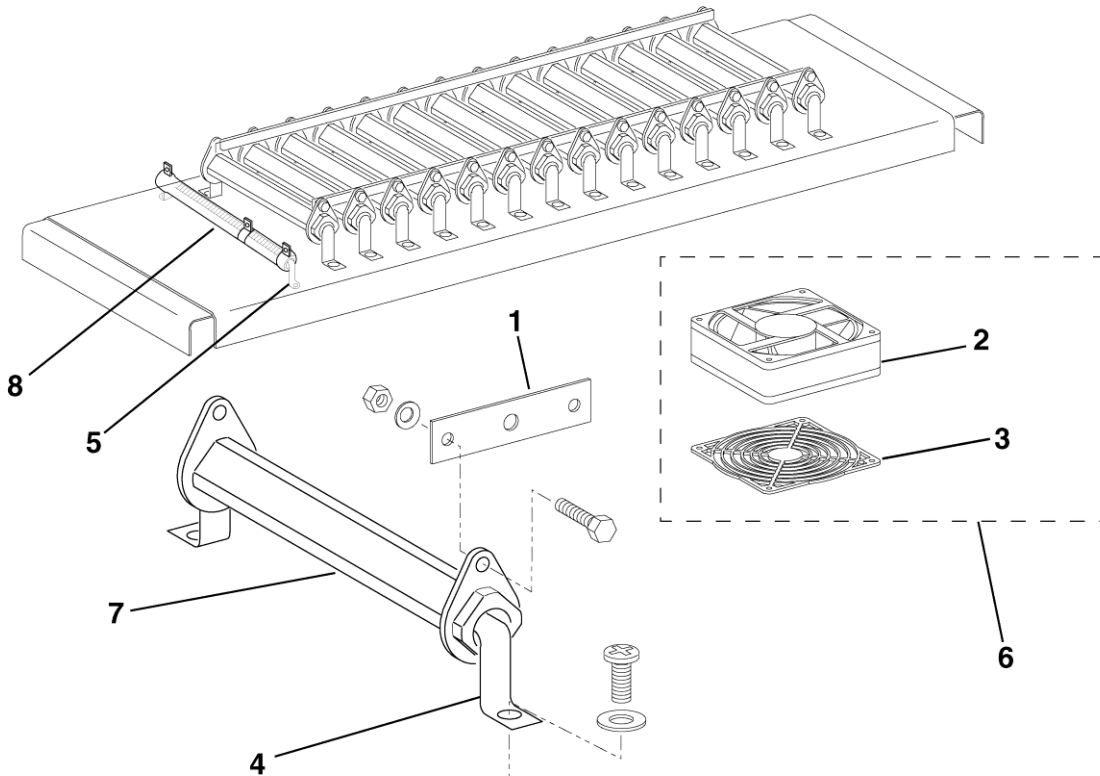
REF. NO.	--- 21290R				SYSTEM VOLTS**	SYMBOL	
	AAA	ABA, ACA	ADA, AEA*	AEA*-AHB			
	PART No.						
1		AAA225GG6	AAA225JC3	AAA225JC8	200 to 240 V	TRM (new equipment systems)	
		AAA225GG4	AAA225JC1	AAA225JC6	380 to 420 V		
		AAA225GG5	AAA225JC2	AAA225JC7	440 to 500 V		
		AAA225GG7	AAA225JC4	AAA225JC9	550 to 625 V		
		---	AAA225GG8	AAA225JC5	AAA225JC10		395 to 435 V (AUS)
		---	AAA225HK1	AAA225HZ1	---		200 to 240 V (B44)
		---	---	AAA225HZ2	---		440 to 500 V (B44)
		---	---	AAA225HZ3	---	550 to 625 V (B44)	
				AAA225LC4 ABA225LC1	440- 550 V	110 V Brake	TRM (GMP)
				AAA225LD4 ABA225LD1		230 V Brake	
				AAA225LC2 ABA225LC2	550- 600 V	110 V Brake	
				AAA225LD2 ABA225LD2		230 V Brake	
				AAA225LC3 ABA225LC3	200- 240 V	110 V Brake	
				AAA225LD3 ABA225LD3	(see NOTE)	230 V Brake	

2		AAA225GF6	ABA225GF6		200 to 240 V	TRP	
		AAA225GF4	ABA225GF4		380 to 420 V		
		AAA225GF5	ABA225GF5		440 to 500 V		
		AAA225GF7	ABA225GF7		550 to 625 V		
		---	AAA225HE1	ABA225HE1			395 to 435 V (AUS)
		---	AAA225HE2	ABA225HE2			440 to 500 V (AUS)

* Transformer used is dependent upon AEA21290R controller production date. Replace with same type as existing.
 ** In controllers with Electromagnetic Filter (see p. 35) or TRL transformer (see p. 32). The TRM and TRP transformers are the type specified for 440 to 500 V system voltage for the applicable A_A prefix controller.
NOTE: When TRM transformer AAA225LC3 or LD3 is replaced with ABA version, also update FM fuses with kit AAA27076CY1 (see p. 24).

Dynamic Braking Resistor Panel Components

W → 70, 90, & 120 Amp Drives Only



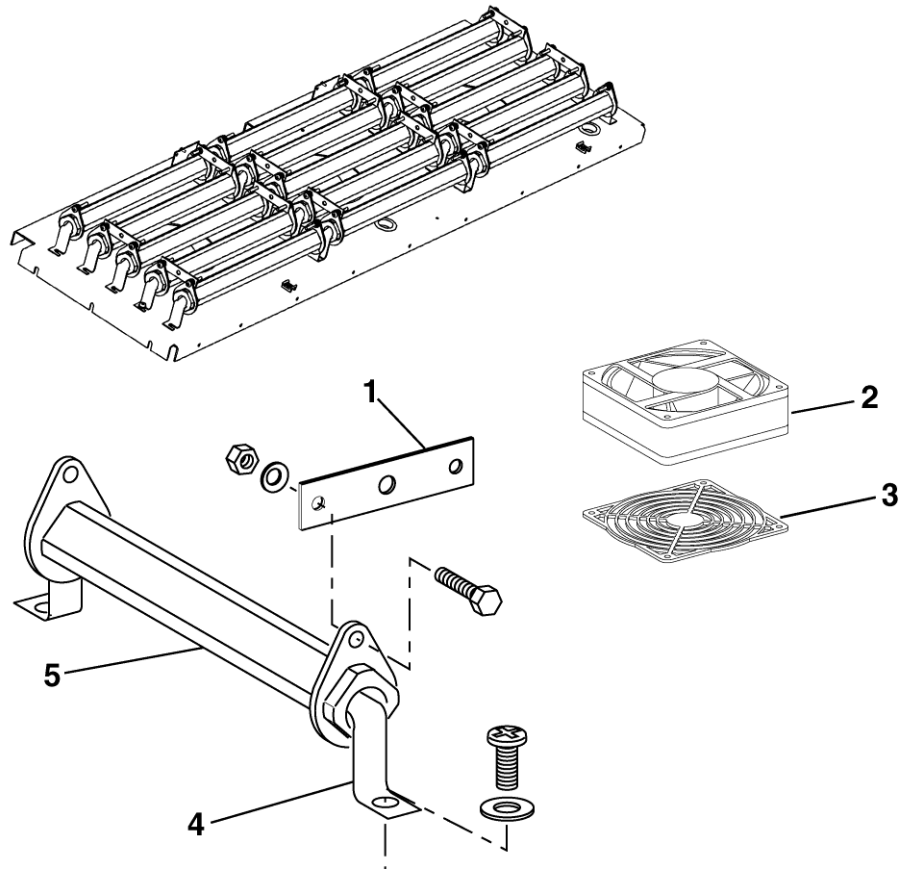
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	252B1	Bar, Bus	---
2	P727A1 AAA6091AQ1	Fan, 115 VAC, 50/60 Hz	---
3	P727A2 AAA6091AQ2	Guard, Fan	---
4	180AD1	Holder, Resistor	---
5	AAA617K101	Holder, Resistor (ABA & ACA21290R controllers only)	R2
6	2700CAA4	Kit, Fan with Guard and Hardware	---
7	232AA1	Resistor, Power, 1.32 Ω, 700 W, 10 in. L	NOTE: Select replacement based on p/n or resistance value stamped on the end of existing resistor.
	232AA2	Resistor, Power, 1.65 Ω, 700 W, 10 in. L	
	232AA3	Resistor, Power, 2.08 Ω, 700 W, 10 in. L	
	232AA4	Resistor, Power 2.61 Ω, 700 W, 10 in. L	
	232AA5	Resistor, Power, 3.82 Ω, 700 W, 10 in. L	
8	AAA617K6	Resistor, Variable, 10 Ω, 225 W, 10.5 in. L (ABA & ACA21290R controllers only)	R2

Dynamic Braking

10-AAA21290R

Resistor Panel Components

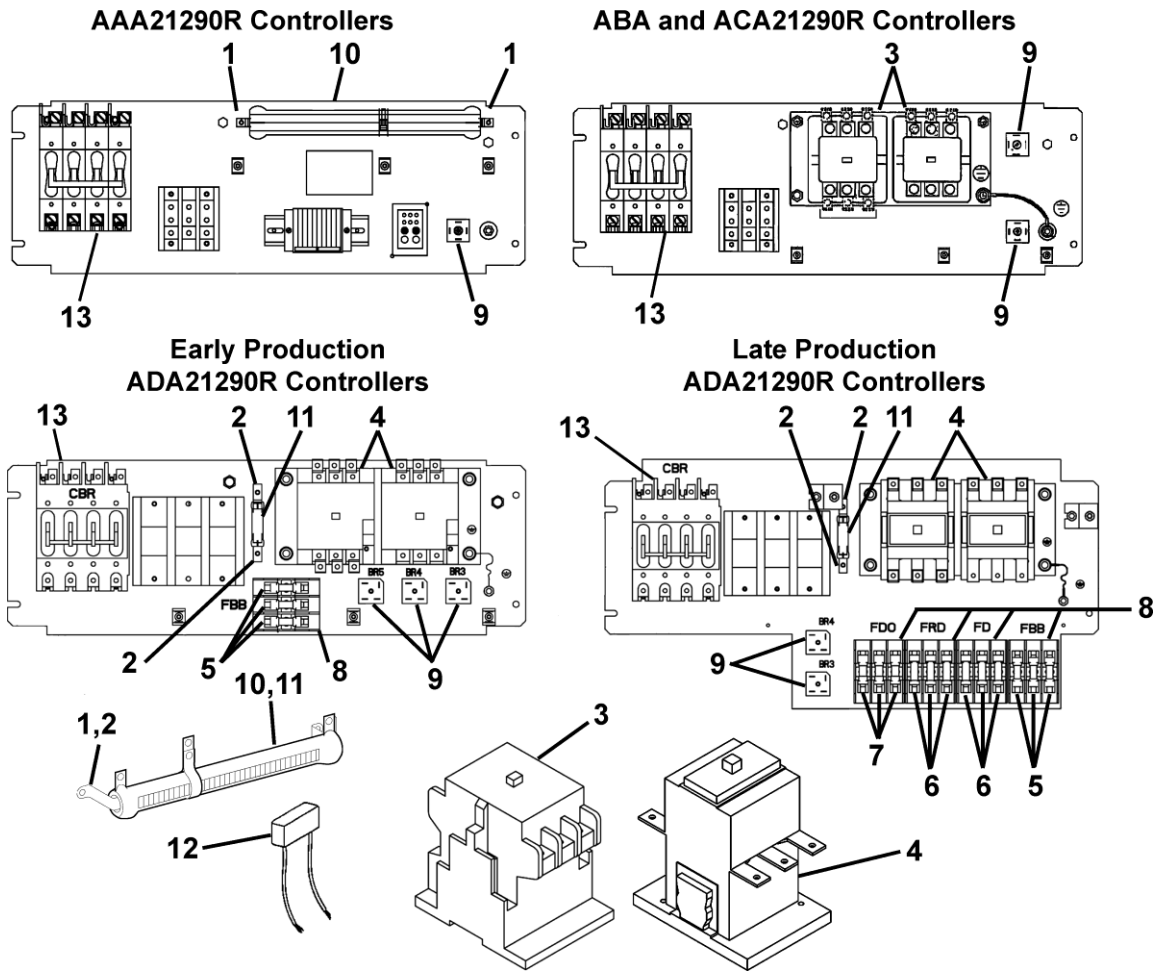
W → 210 Amp Drive Only



___21290R ADA-AHB			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	252B1	Bar, Bus	---
2	AAA6091AJ1	Fan	---
3	AAA384YE1	Guard, Fan	---
4	180AD1	Holder, Resistor	---
5	ABA21305F1	Resistor, Power, 23.1 Ω , 980 W, 14 in. L	NOTE: Select replacement based on p/n or resistance value stamped on the end of existing resistor.
	ABA21305F2	Resistor, Power, 2.85 Ω , 1300 W, 14 in. L	
	ABA21305F3	Resistor, Power, 2.26 Ω , 1300 W, 14 in. L	
			DBR

10-AAA21290R

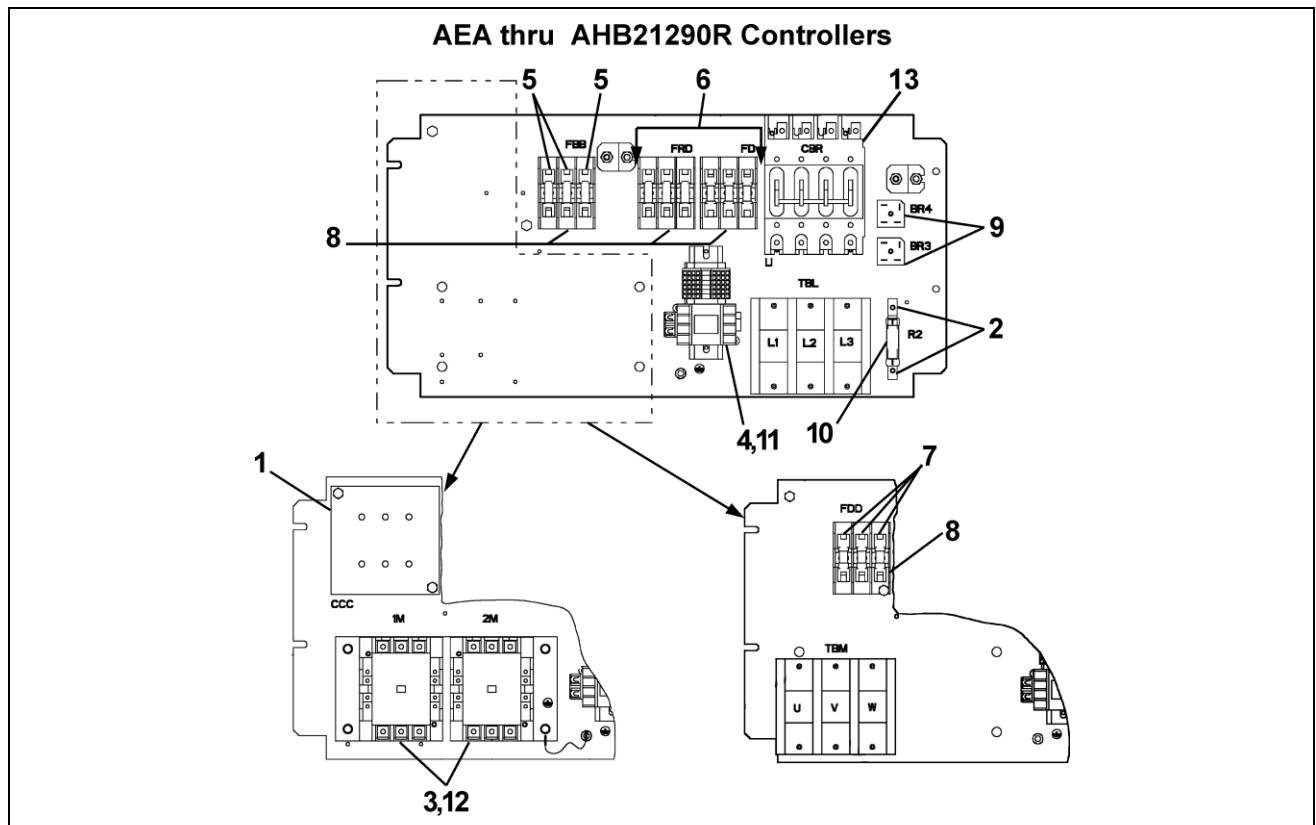
Drive Panel Components



REF. No.	PART No.	DESCRIPTION		SYMBOL
1	AAA617K101	Clip, Resistor Mounting		R2
2	AAA617H101			
3	AAA638AA12	Contactor, 3 Pole, 120 VAC Coil, 2 NO, 2 NC Aux. Contacts	70 A	M(AUS), 1M & 2M(CEN)
4	AAA638AA29		90 A	
5	AAA375CE5	Fuse, 1.25 A, 600 V		FBB
6	AAA375BN24	Fuse, 15 A, 600 V		FD1-FD3, FRD1-FRD3
7	AAA375BK39	Fuse, 10 A, 600 V, Time Delay		FDO
8	AAA653D2	Holder, Fuse, 3 Pole		---
9	230BS3	Rectifier, Bridge		BR3, BR4, BR5
10	AAA617K6	Resistor, 10 Ω, 225 W		R2
11	AAA232FR3	Resistor, 50 Ω, 25 W		
12	AAA00605AAA014	Suppressor		M(AUS), 1M & 2M(CEN)
13	---	Circuit Breaker (see p. 32)		CBR

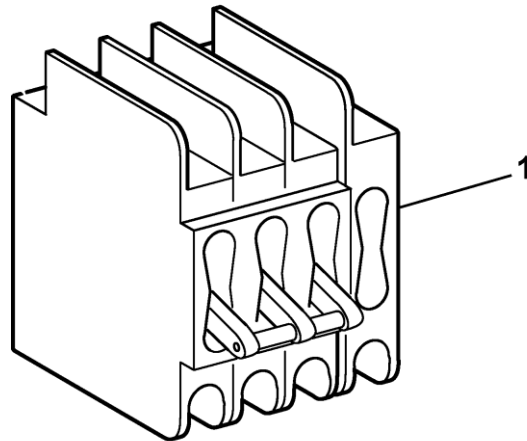
Drive Panel Components

10-AAA21290R



REF. No.	PART No.	DESCRIPTION	SYMBOL
1	GAA243AJ1	Choke, Current Compensating	with 90 Amp Drive
	GAA243AJ2		with 120 Amp Drive
	GAA243AJ3		with 210 Amp Drive
2	AAA617H101	Clip, Resistor Mounting	R2
3	AAA638AA29	Contactor, 3 Pole, 120 VAC Coil, 2 NO, 2 NC Aux. Contacts	M (AUS), 1M & 2M (CEN)
	AAA638AA31		
4	AAA638AF13	Contactor, 3 Pole, 120 VAC Coil, 1 NO Aux Contacts	BMR
5	AAA375CE5	Fuse, 1.25 A, 600 V	FBB
6	AAA375BN24	Fuse, 15 A, 600 V, w/HPLIM Door Operator	FD1-FD3, FRD1-FRD3
	AAA375BK28	Fuse, 3.5 A, 600 V, Time Delay, w/DO2000 Door Operator	
7	AAA375BK39	Fuse, 10 A, 600 V, Time Delay	FDO
8	AAA653D2	Holder, Fuse, 3 Pole	---
9	230BS3	Rectifier, Bridge	BR3, BR4
10	AAA232FR3	Resistor, 50 Ω, 25 W	R2
11	AAA613DL61	Suppressor	BMR
12	AAA00605AAA014		M (AUS), 1M & 2M (CEN)
13	---	Circuit Breaker (see p. 32)	CBR

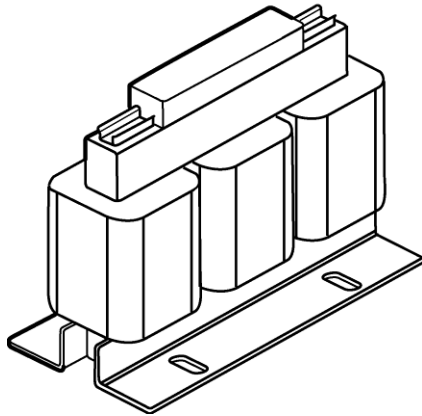
Drive Panel Components



REF. No.	PART No.	DESCRIPTION	DUTY	SYMBOL
1 (see ref. 13 on pp. 30 and 31)	AAA637G3	Breaker, Circuit, 30 Amp	GEM: All Duties MVS: 2035, 2535, 2040,2540, 3035, 3040, 3535 GMP: 70 A Drive	CBR
	AAA637G4	Breaker, Circuit, 50 Amp	MVS: 3550, 5035 HVS: 4050 GMP: 120 A Drive	
	AAA637G5	Breaker, Circuit, 60 Amp	HVS: 4550, 5050, 2570, 2080 29CT: 8020	
	AAA637G6	Breaker, Circuit, 77 Amp	HVS: 3070, 3570, 4070, 2580, 3080, 3580 29CT:10020, 12020, 6035, 7035, 8035 GMP: 210 A Drive	
	AAA637G7	Breaker, Circuit, 40 Amp	MVS: 2545, 2550, 3045, 3050, 3540, 3545, 4035, 4535 HVS: 2050, 2070, 2550, 3050, 3550 GMP: 90 A Drive	

Controller-Mounted Drive Transformer

10-AAA21290R



DRIVE TRANSFORMER (TRL)

Transformer is either mounted in controller or separate enclosure. See transformer location on TOC pages .

TRL transformer is not furnished with power supply of 440 to 480 V.

				_ _ _ 21290R		
				AAA, ABA, ACA, ADA	ADA-AHB	
SYSTEM	DUTY	POWER SUPPLY		PART No. (NOTE 2)		TRANSFORMER TYPE / KVA
		VOLTS (NOTE 1)	HZ			
GEM	2035 2040 2535 2540 3035	204-240	60	AAA225GW1	---	Isolation, 20 KVA
			50	AAA225GW3	---	
			50/60	---	AAA225JK5	Auto, 25.7 KVA
				ABA225JK5		
		360-420	60	AAA225GV3	---	Auto, 20 KVA
			50	AAA225GV5	---	Auto, 25.7 KVA
	50/60		AAA225JK2			
			ABA225JK2			
	3040 3535 3540 4035 4535	204-240	60	AAA225GW1	---	Isolation, 20 KVA
			50	AAA225GW3	---	
			50/60	---	AAA225JK6	Auto, 39 KVA
				ABA225JK6		
		360-420	60	AAA225GV3	---	Auto, 20 KVA
			50	AAA225GV5	---	Auto, 39 KVA
	50/60		AAA225JK3			
			ABA225JK3			
	ALL	545-605	60	AAA225GV4	---	Auto, 20 KVA
				---	AAA225JK4	Auto, 66.5 KVA
ABA225JK1						

NOTE 1: TRL transformer is not furnished with power supply of 440–480 V.

NOTE 2: See SPL 10-AAA21799H when transformer is mounted in separate enclosure.

(Continued on next page)

10-AAA21290R

Controller Mounted Drive Transformer

				_ _ _ 21290R				
				AAA, ABA, ACA, ADA	ADA-AHB			
SYSTEM	DUTY	POWER SUPPLY		PART No. (Note 2)		TRANSFORMER TYPE / KVA		
		VOLTS (Note 1)	HZ					
MVS / E311MV	2035 2040 2045 2050 2535 3035 3535	204-240	60	AAA225GW1	---	Isolation, 20 KVA		
			50	AAA225GW3	---			
			50/60	---	AAA225JK6		Auto, 39 KVA	
		360-420	60	AAA225GV3	---	Auto, 20 KVA		
				50	AAA225GV5	---	Auto, 39 KVA	
				50/60	---	AAA225JK3		
			545-605	60	AAA225GV1	---		Auto, 20 KVA
					---	AAA225JK1	Auto, 66.5 KVA	
					ABA225JK1			
		2550 3045 3050 3540 3545 3550 4035 4535 5035	204-240	60	AAA225GW2	---	Isolation, 27 KVA	
				50	AAA225GW4	---		
				50/60	---	AAA225JK7		Auto, 66.5 KVA
	360-420		60	AAA225GV4	---	Auto, 27 KVA		
				50	AAA225GV6	---	Auto, 66.5 KVA	
				50/60	---	AAA225JK4		
			545-605	60	AAA225GV2	---		Auto, 27 KVA
					---	AAA225JK1	Auto, 66.5 KVA	
					ABA225JK1			
	HVS		ALL	204-240	60	AAA225GW2	---	Isolation, 27 KVA
					50	AAA225GW4	---	
					50/60	---	AAA225JK7	
		360-420		60	AAA225GV4	---	Auto, 27 KVA	
					50	AAA225GV6	---	Auto, 66.5 KVA
					50/60	---	AAA225JK4	
545-605				60	AAA225GV2	---	Auto, 27 KVA	
					---	AAA225JK1	Auto, 66.5 KVA	
					ABA225JK1			

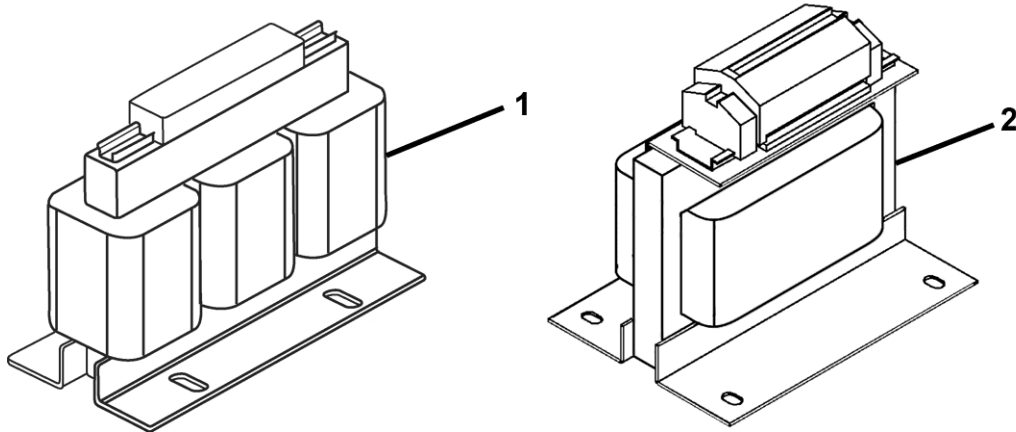
NOTE 1: TRL transformer is not furnished with power supply of 440 to 480 V.

NOTE 2: See SPL 10-AAA21799H when transformer is mounted in separate enclosure.

Door Operator Transformers

10-AAA21290R

See p. 4 or 5 for location when transformer is mounted in controller and SPL 10-AAA21799G when mounted in separate enclosure.

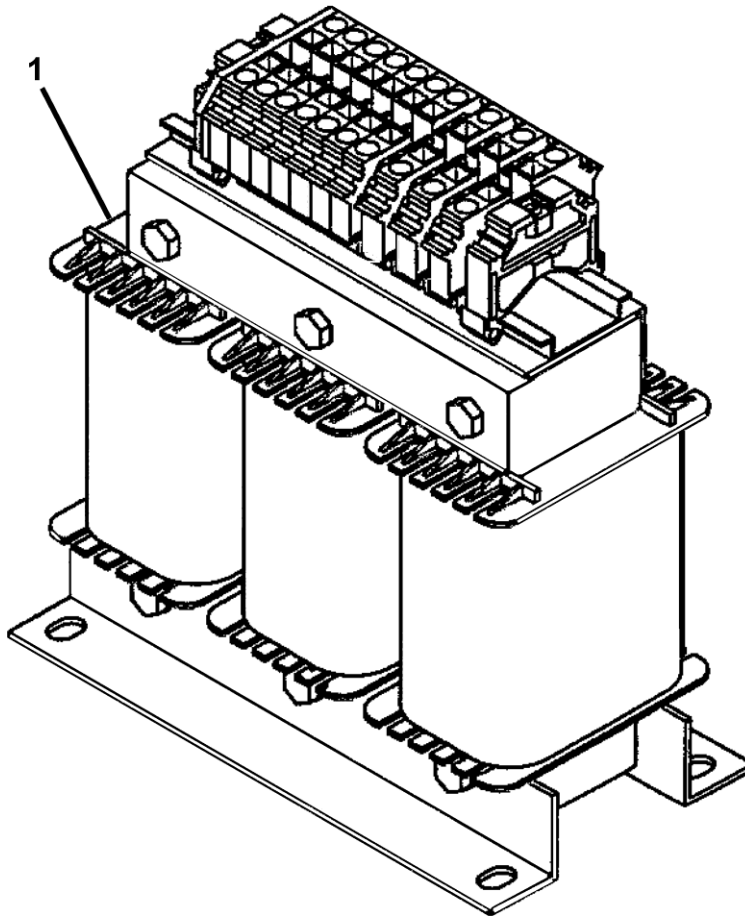


REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA225JN1	Transformer, 3 Phase Autotransformer, with HPLIM Door Operator and 440-480 V Power Supply	TFD, TRD
	AAA225JN2	Transformer, 3 Phase Autotransformer, with HPLIM Door Operator and 200-240 V Power Supply	
	AAA225JN3	Transformer, 3 Phase Autotransformer, with HPLIM Door Operator and 380-440 V Power Supply	
	AAA225JN4	Transformer, 3 Phase Autotransformer, with HPLIM Door Operator and 545-605 V Power Supply	
2	AAA225JR4	Transformer, 1 Phase Isolation, with DO2000 Door Operator and 200-240 V Power Supply	
	AAA225JR5	Transformer, 1 Phase Isolation, with DO2000 Door Operator and 360-435 V Power Supply	
	AAA225JR6	Transformer, 1 Phase Isolation, with DO2000 Door Operator and 440-600 V Power Supply	

10-AAA21290R

Current Harmonic Filter Choke

See page 5 for mounting location in controller.

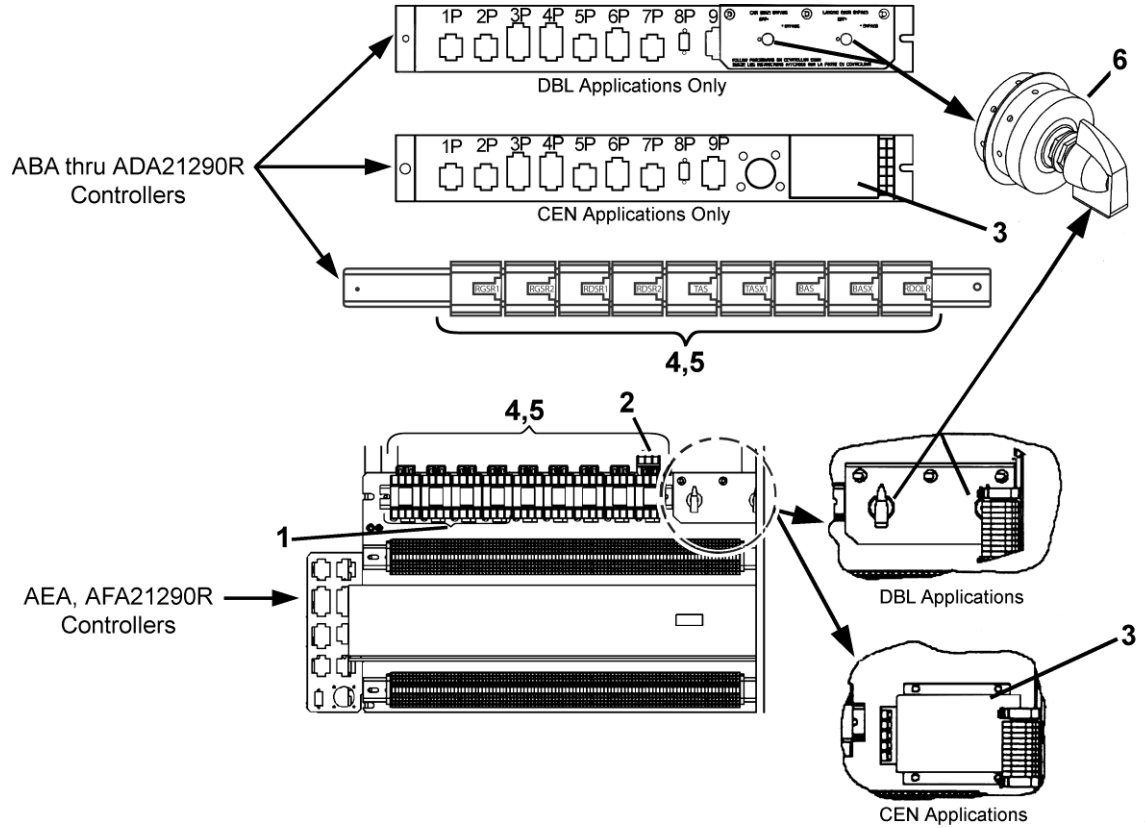


AEA21290R
AFA21290R
AGA21290R

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	GAA234AF1	Choke, Current Harmonic Filter	CHF
	GAA234AG1		
	GAA234AH1		

Door Lock Bypass Relays & Switches

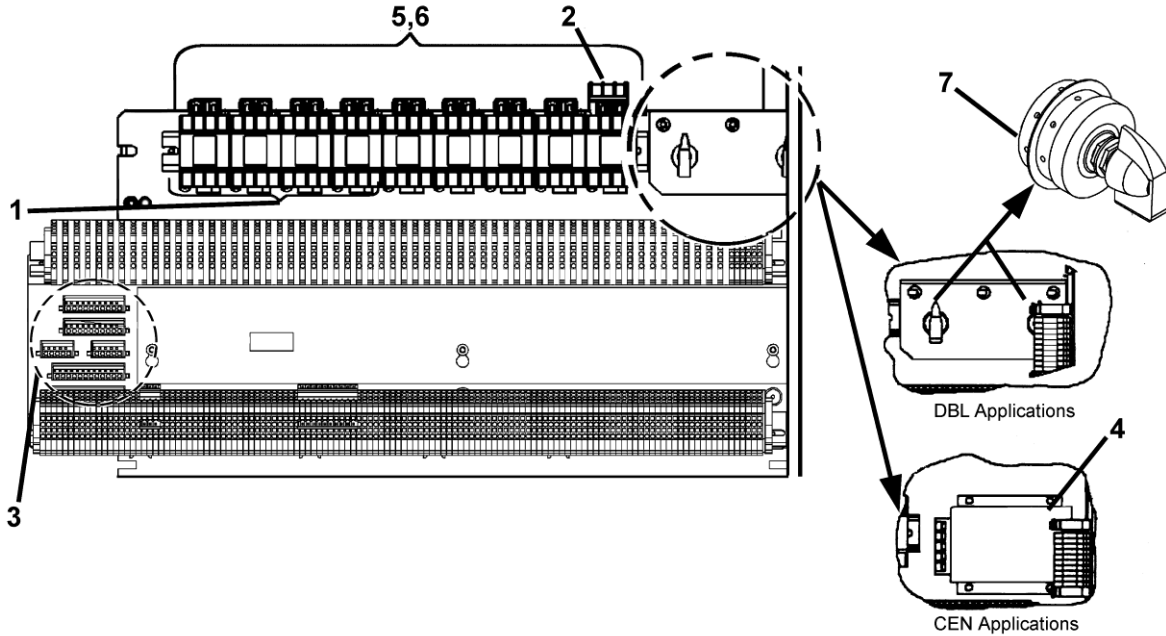
10-AAA21290R



	ABA21290R	ACA21290R ADA21290R	AEA21290R AFA21290R		
REF. NO.	PART No.			DESCRIPTION	SYMBOL
1	---			AAA613DL72	Auxiliary contact, 2 NO, 2 NC RDSR1, RDSR2, RGSR1, RGSR2
2	---			AAA613DL81	Coil Driver, 24 VDC, Solid State RDOLR
3	P621D4 621AE4		621AE6		Power Supply, 12 VDC (CEN) ---
4	AAA613CX106	AAA613DL31		Relay, 120 VAC, 2 NO, 2 NC	BAS, BASX, RDSR1, RDSR2, RGSR1, RGSR2, TAS, TASX, RDOLR
5	AAA613CX305	AAA613DL61			
6	AAA636E1			Selector Switch	CDBP, LDBP

10-AAA21290R

Door Lock Bypass Relays & Switches

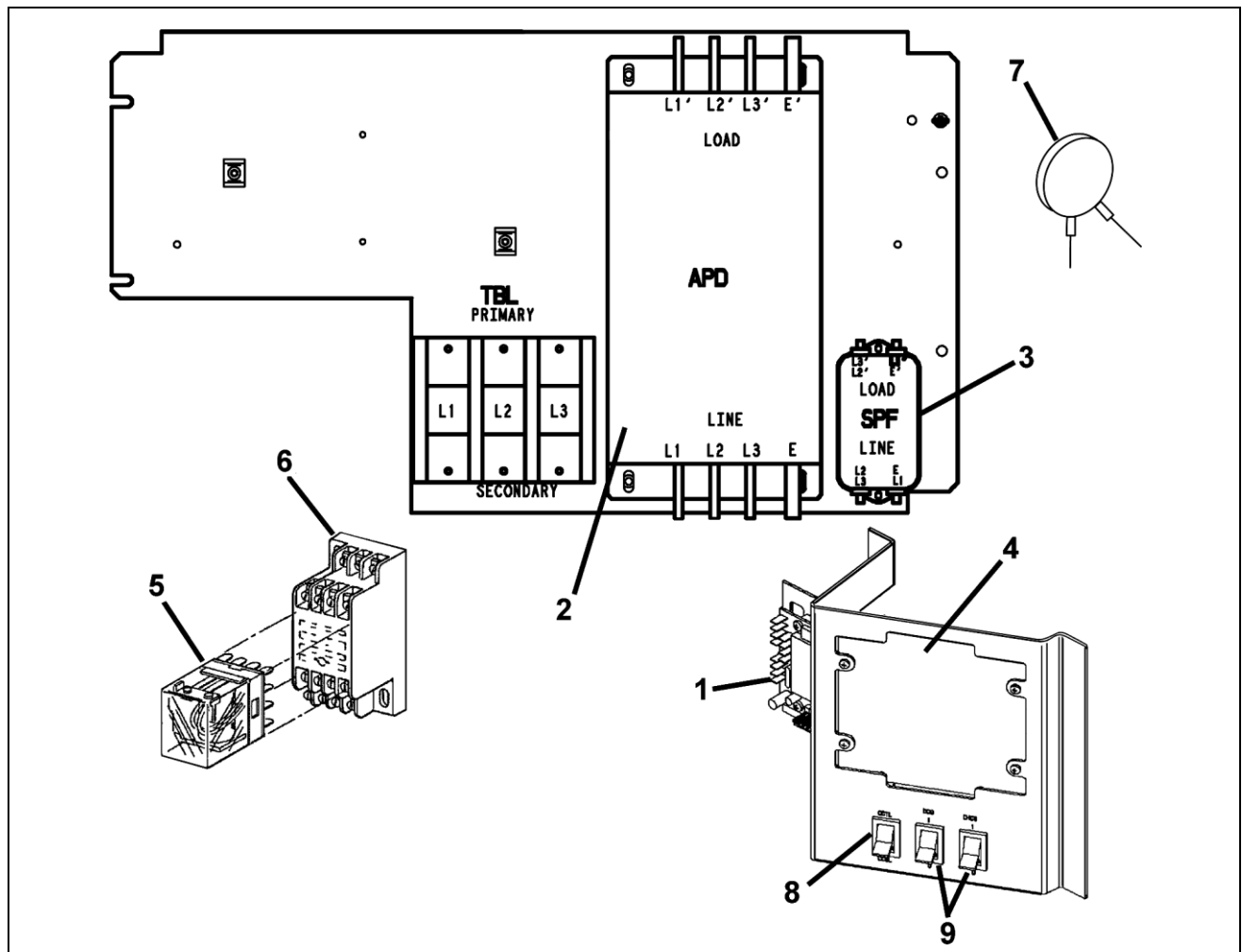


AGA21290R

REF. NO.	PART No.	DESCRIPTION	SYMBOL	
1	AAA613DL72	Auxiliary Contact, 2 NO, 2 NC	RDSR1, RDSR2, RGSR1, RGSR2	
2	AAA613DL81	Coil Driver, 24 VDC, Solid State	RDOLR	
3	AAA447AP325	Connector, Cage Clamp, Receptacle, Panel Mount	5 Positions	5P, 7P
	AAA447AP330		10 Positions	1P, 2P
	AAA447AP346		12 Positions	6P, ERO
	AAA447AP257	Connector, Cage Clamp, Plug	5 Positions	5P, 7P
	AAA176HH62		10 Positions	1P, 2P
	AAA447AP261		12 Positions	6P, ERO
4	621AE6	Power Supply, 12 VDC (CEN)	---	
5	AAA613DL31	Relay, 120 VAC, 2 NO, 2 NC	BAS, BASX, RDSR1, RDSR2, TAS,	
6	AAA613DL61	Suppressor	RGSR1, RGSR2, TASX, RDOLR	
7	AAA636E1	Selector Switch	CDBP, LDBP	

Electro Magnetic Filter Assembly

10-AAA21290R



---_21290R		AEA-AHB	
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	GEA23550D10	Board, Remote Station, RS5	C7RS
2	GAA605J4	Device, Anti-Pollution	Used with 70 or 90 A IGBT Drive
	GAA605J5		Used with 120 A IGBT Drive
	GAA605J6		Used with 210 A IGBT Drive
3	GAA657A4	Filter, Single Phase	SPF
4	ACA26800HJ1	Position Indicator	CNPI
5	AAA613CZ9	Relay, 120 V AC, 4 Form C	VTR
6	618AE2	Socket	VTR
7	AAA605AA30	Suppressor, MOV (mounted on brake coil), Used 110 V Brake	---
	AAA605AA43	Suppressor, MOV (mounted on brake coil), Used 230 V Brake	---
8	AAA177EM4	Switch, Toggle, Momentary	CCTL
9	AAA177EM5	Switch, Toggle	DDO, CHCS