

# Controller, Elevonic® 411M-MS

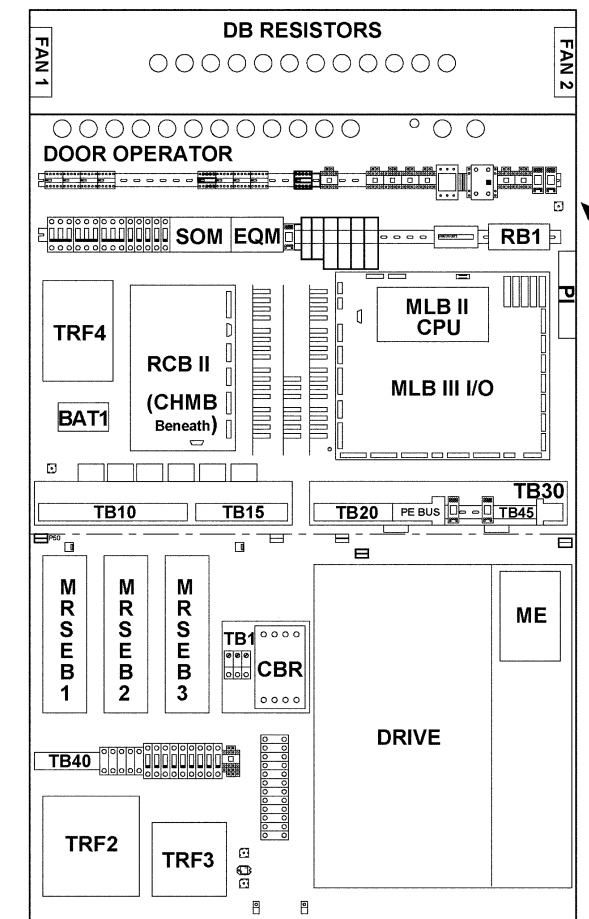
## Spare Parts Leaflet

### 10-AAA21255V

September 21, 2022 / Page 1 of 38

# 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.



#### Vintages:

AAA21255V  
ABA21255V  
ACA21255V

CONTROLLER
SERIAL No.
SERVICE ORDER No.
CONTRACT No.
MODEL No.
VOLTS AMPS
H.P. PHASES
WIRES HERTZ
COMPONENT VINTAGE NO.
<b>C-AAA21255V</b>
COMPONENT CODE 10
LETTER DESIGNATION
WIRING DIAGRAM
DATE



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

#### SERVICE ENGINEERING

Otis Elevator Company

Bloomfield, Connecticut USA

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**Leaflet Description**

This leaflet lists the lowest replaceable parts for the Elevonic® E411M-MS (Modernization Medium Speed) controller.

The leaflet layout is arranged by component name, alphabetically, except for the printed circuit boards. These appear before other components and are shown with any associated sub-level components.

The E411M-MS controller supports many different types of door operators. Note that some components of a particular door operator interface are physically located outside of the controller, usually on the operator motor.

**Leaflet Revisions**

<b>Date Revised</b>	<b>Subject Matter Expert</b>	<b>Reason for Revision</b>
May 4, 2005	John Doane	Updated all pages of SPL to the latest manufacturing configuration.
December 5, 2005	John Doane	Updated pages 1, 4, 8-9, 11, and 18-19.
January 15, 2007	Jason Philhower	Updated AAA638AE4 to AAA638AE9.
October 22, 2008	Sohaib Shaikh	Corrected part number in ref. 14 on p. 24
October 12, 2009	Asif Hassan	Added a NOTE in ref. 5 on p. 15
January 27, 2010	Asif Hassan	Added ABA parts in ref. 2 on p. 21
June 30, 2010	Ali Bozorgzadeh	Added a NOTE on p. 18
August 18, 2010	Asif Hassan	Added NOTE 2 on page 6 and NOTE 3 on page 7 to reflect the daughter board change.
April 13, 2011	Ali Bozorgzadeh	Corrected ref. 8 on p. 11
February 17, 2016	Ali Bozorgzadeh	Added p/n AA21305DJ1 and NOTE 2 on p. 8
January 16, 2019	Ali Bozorgzadeh	Corrected information on p. 11
September 21, 2022	Juan Murillo	Updated to include OBSOLESCENCE note on cover

**Related Drawings**

<b>Drawing No.</b>	<b>Title</b>	<b>Drawing No.</b>	<b>Title</b>
ACA21255V	Assembly & Arrangement, E411MMS Controller	AAA21255W	E411MMS Door Operator Interface Assembly
ACA21255X	Wiring Diagram	AAA21255T	E411MMS Harness Controller

**(Continued on next page)**

# History (continued)

**10-AAA21255V**

## Related Documents

Document ID	Title
SPL 10-AAA21255J	DC Direct Drive
SPL 10-AAA21290AK	Variable Frequency (OVF 30) Drives, 70 A–210 A
SPL 10-AAA21700Q	REM 5
SPL 10-AAA447AC	PC Board Connectors
TIP 1.1.3.1-90	Wiring Changes When Replacing a Siemens 5NO-5NC Relay
TIP 1.1.15.0-23	MLB III Motion Control Board
TIP 1.1.15.2-4	Speed Check Hardware Revision on MLB III Board

## Subject Matter Expert

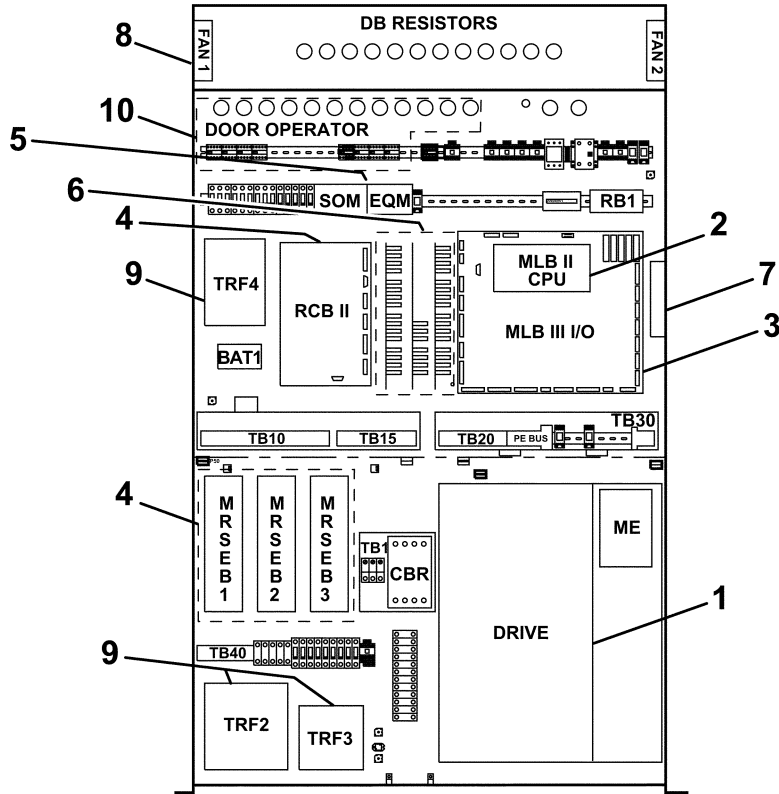
Name	Department
Ali Bozorgzadeh	OSC Service Engineering



## 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.

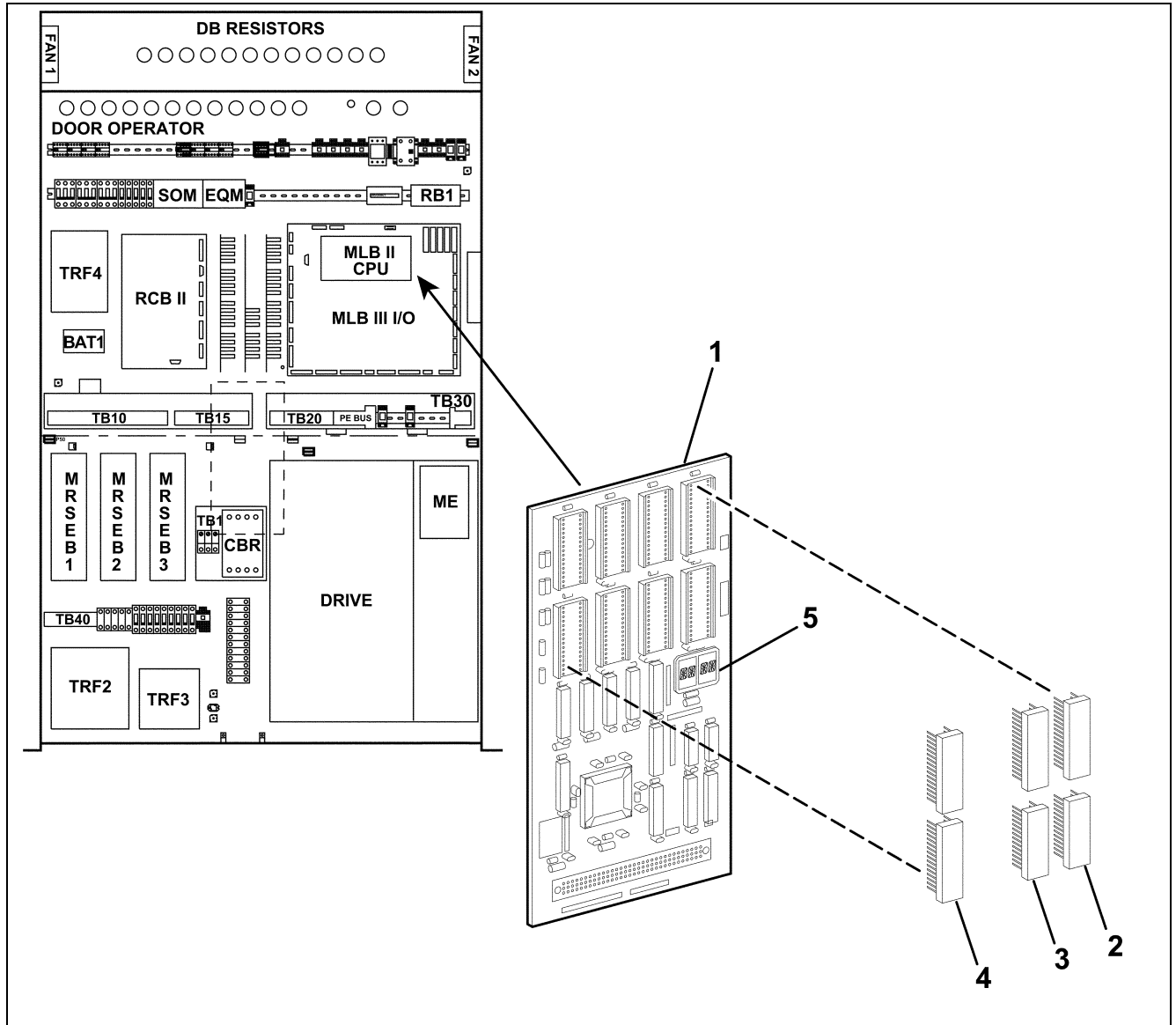
If you have any suggestions about this document, please contact the subject matter expert listed on this page.



REF. No.	PAGE No.	DESCRIPTION
1	---	Drive, ACVF,  SPL 10-AAA21290AK
	---	Drive, DC-DD,  SPL 10-AAA21255J
2	5	Motion Logic Board, MLB-CPU, Bat RAM, Software, Display
3	6, 7	Motion Logic Board III (fuses F1–F5), PAL
4	8	RCB II Software, Chime PC Board
5	9	Seismic Module, Earthquake Module, Line Terminator, Resistor Interface
6	10	32 Channel I/O, I/O Module, MESEB
7	11	Position Indicator Assembly
---	12	Battery, Capacitor, CB4, Clock, Counter, Diode, BRS
---	13	Circuit Breakers
8	14	Resistors – Dynamic Braking
---	15	Connectors
---	16	Fuses
---	17	Relays
---	18	Overload Relays
---	19	Relays-Contactor, Lug
---	20	Resistors, Suppressors
---	21	Terminal Blocks, Fuse Holders
9	22	Transformers
10	23–38	Door Control Apparatus

# MLB-CPU PC Board

**10-AAA21255V**

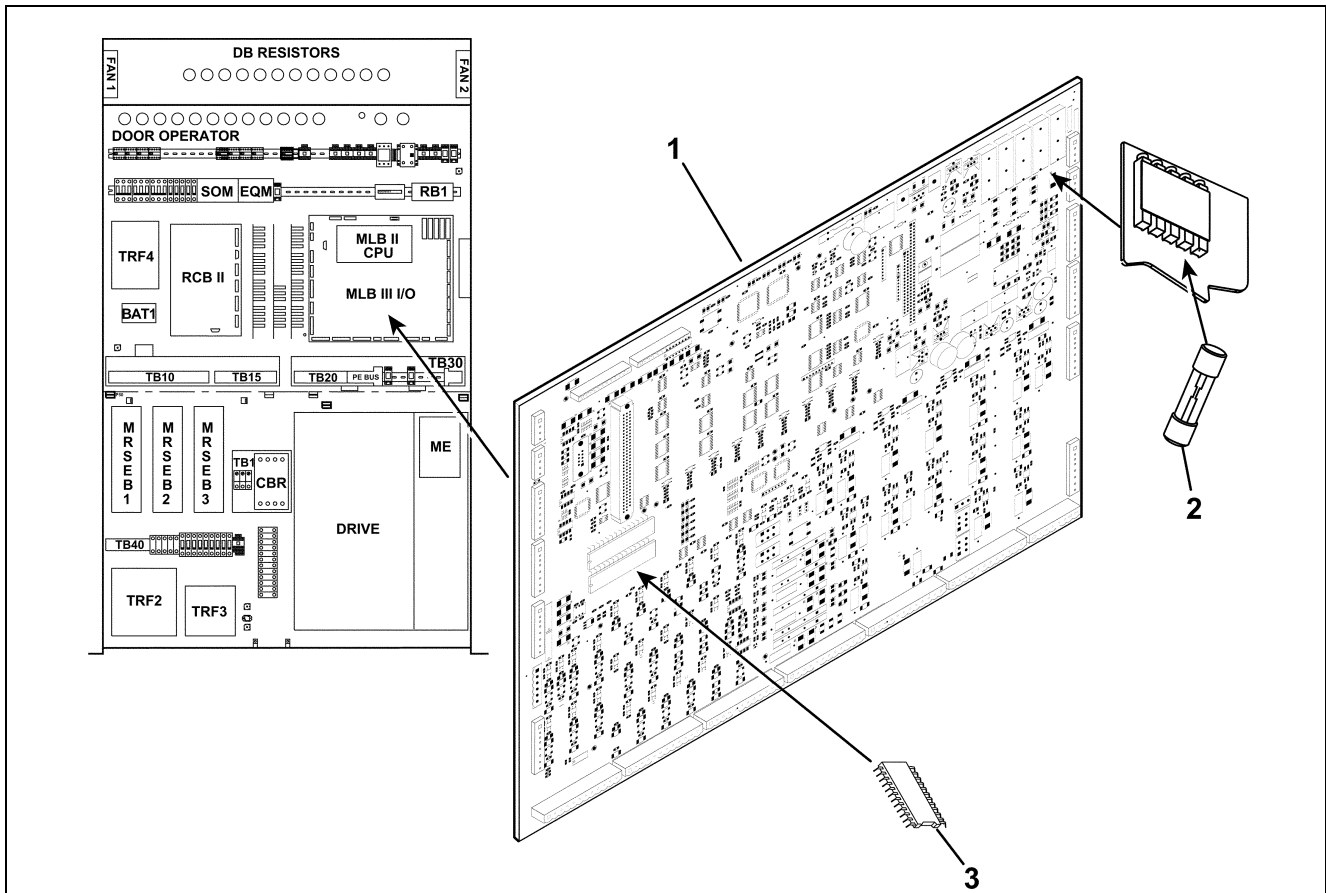


REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA26800QM1	PC Board, Central Processing Unit (CPU)	CPU
2	AAA616NG1	Bat-RAM, 32 K x 8	CPU: U22, U23
3	---	Software AAA30396 ____, Latest Release Contract Parameters, <b>NOTE</b>	U20, U21
	AAA616KM3	Software, Blank EEPROM	U20, U21
4	---	Software, AAA30396 ____, Latest Release MLB III Baseline, <b>NOTE</b>	U16, U17
5	AAA26800ZL1	PC Board, Display Rotator	MLBIII-CPU

**NOTE:** Contact your OSC customer service representative for latest revision.

# 10-AAA21255V

# Type A \_ A26800XH Motion Logic PC Board (MLB III)



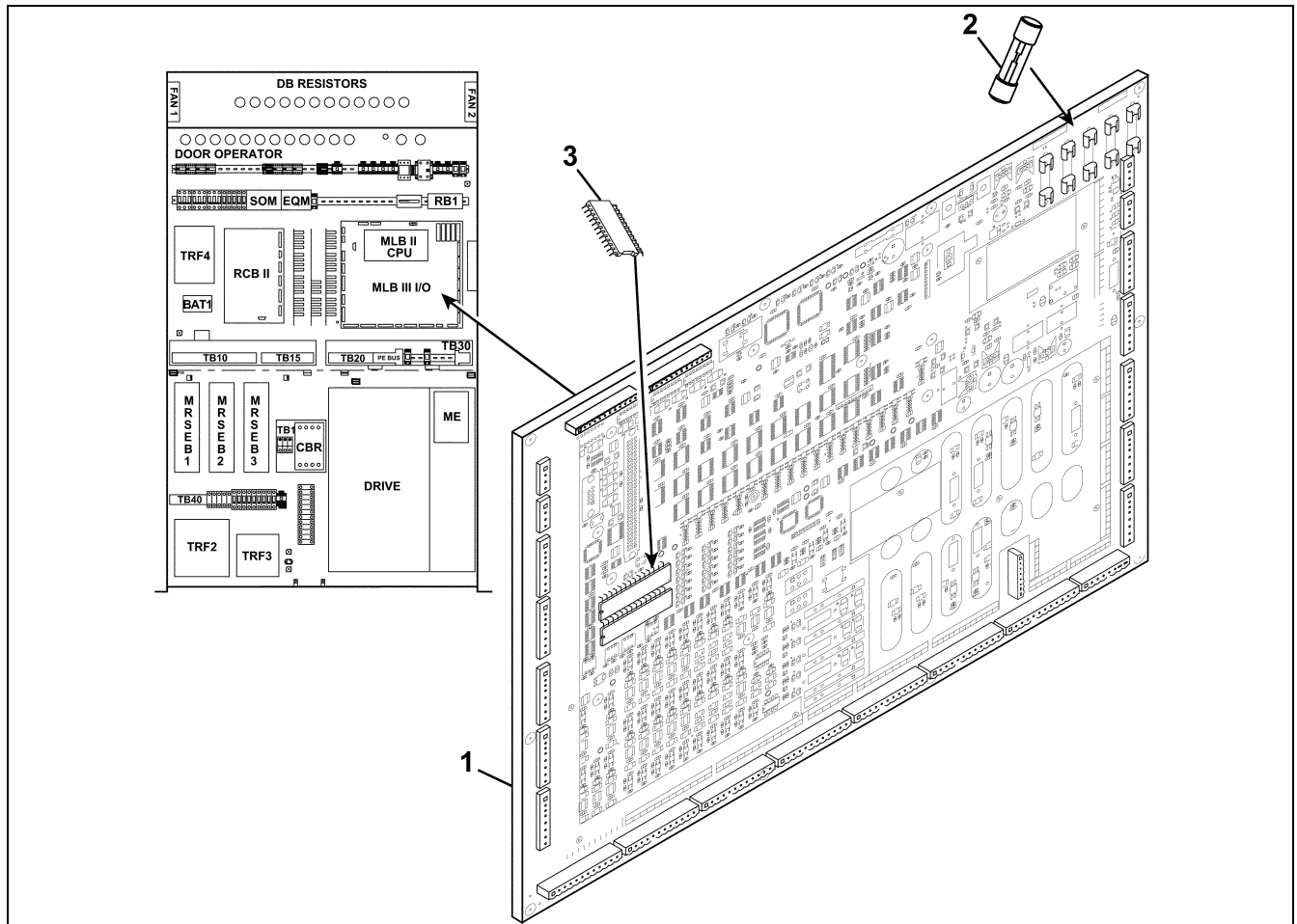
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA21255V ABA21255V		
	AAA26800XH1 ABA26800XH1 ACA26800XH1	PC Board, Motion Logic III,  NOTE 1	MLB
	AAA27076AY1	PC Board, Motion Logic III, Upgrade Kit w/DLB	
	AAA27076AY2	PC Board, Motion Logic III, Upgrade Kit w/o DLB	
---	Fuses, MLB F1–F5,  p. 16		
2	---	Fuses, MLB F1–F5,  p. 16	MLB: F1–F5
3	AAA616KV1	PAL,  TIPs 1.1.15.2-1 and 1.1.15.2-4,  NOTE 2	U110
	AAA616KV3	PAL (for low RPM motors),  TIPs 1.1.15.2-1 and 1.1.15.2-4,  NOTE 2	

**NOTE 1:** Production of p/n ACA26800XH1 is discontinued. Replacement of p/n ACA26800XH1 will be provided if one is available. If it is not available, the MLB III upgrade kit p/n AAA27076AY1 (with DLB switches) or p/n AAA27076AY2 (without DLB switches) will be furnished to upgrade to a ABA26800AJV Motion Logic PC Board.

**NOTE 2:** AAA616KV1 and AAA616KV3 are obsolete and will be supplied until the current stock of these parts at OSC is exhausted. After that period, the MLB III board will need to be returned to OSC for installing AAA26800AVH1 daughter board.

# Type AAA26800AJV Motion Logic PC Board (MLB III)

**10-AAA21255V**

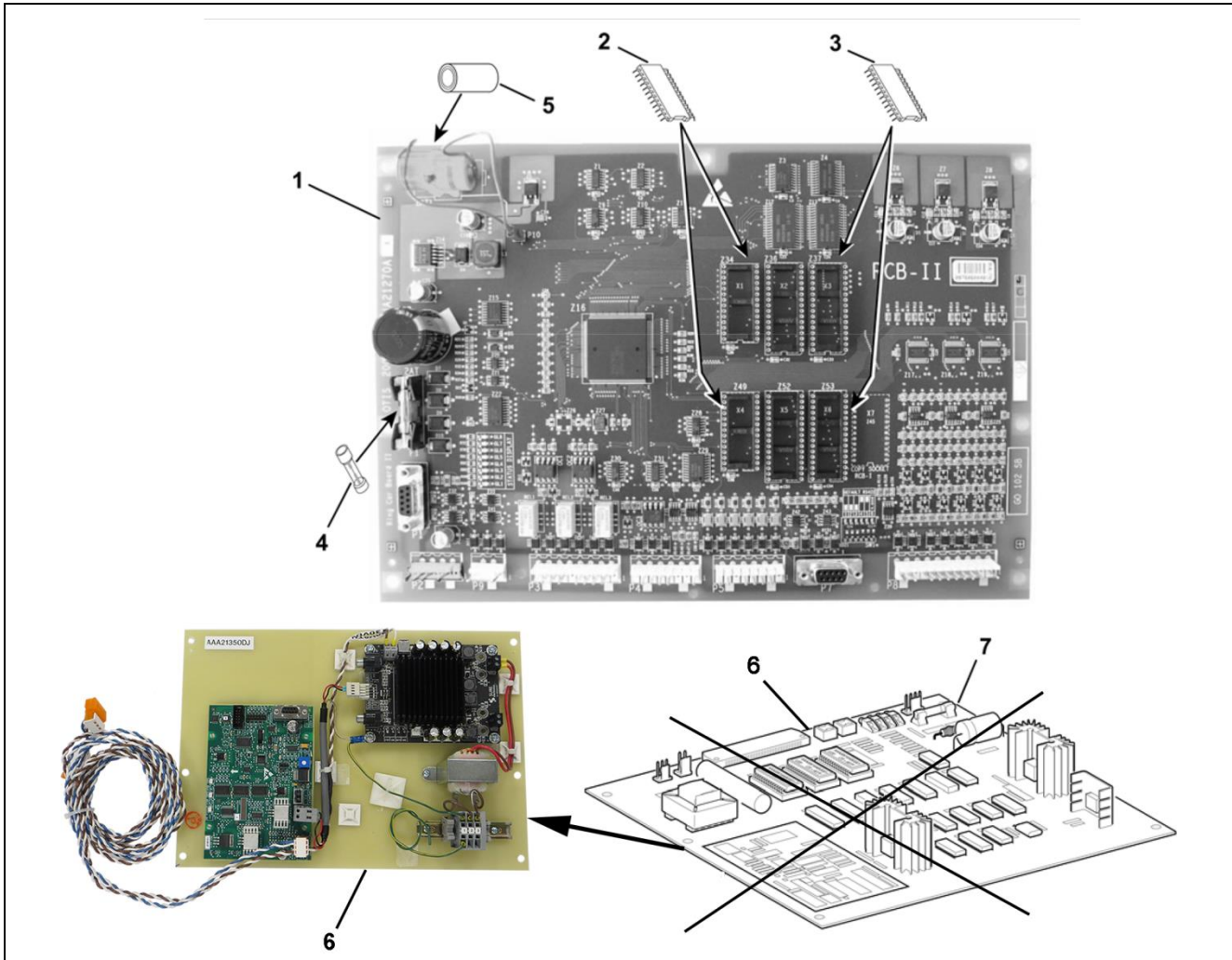


REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA26800AJV1	PC Board, Motion Logic III,  NOTE 1	MLB
	ABA26800AJV1		
	AAA26800AJV2	PC Board, Motion Logic III, Upgrade Kit w/DLB,  NOTE 2	
	ABA26800AJV2		
2	---	Fuses, MLB F1–F5,  p. 16	MLB: F1–F5
3	AAA616KV1	PAL,  TIPS 1.1.15.2-1 and 1.1.15.2-4,  NOTE 3	U110
	AAA616KV3	PAL (for low RPM motors),  TIPS 1.1.15.2-1 and 1.1.15.2-4,  NOTE 3	

**NOTE 1:** Production of p/n AAA26800AJV1 is discontinued. If p/n AAA26800AJV1 is not available, p/n ABA26800AJV1 will be provided.

**NOTE 2:** Production of p/n AAA26800AJV2 is discontinued. If p/n AAA26800AJV2 is not available, p/n ABA26800AJV2 will be provided.

**NOTE 3:** AAA616KV1 and AAA616KV3 are obsolete and will be supplied until the current stock of these parts at OSC is exhausted. After that period, the MLB III board will need to be returned to OSC for installing AAA26800AVH1 daughter board.

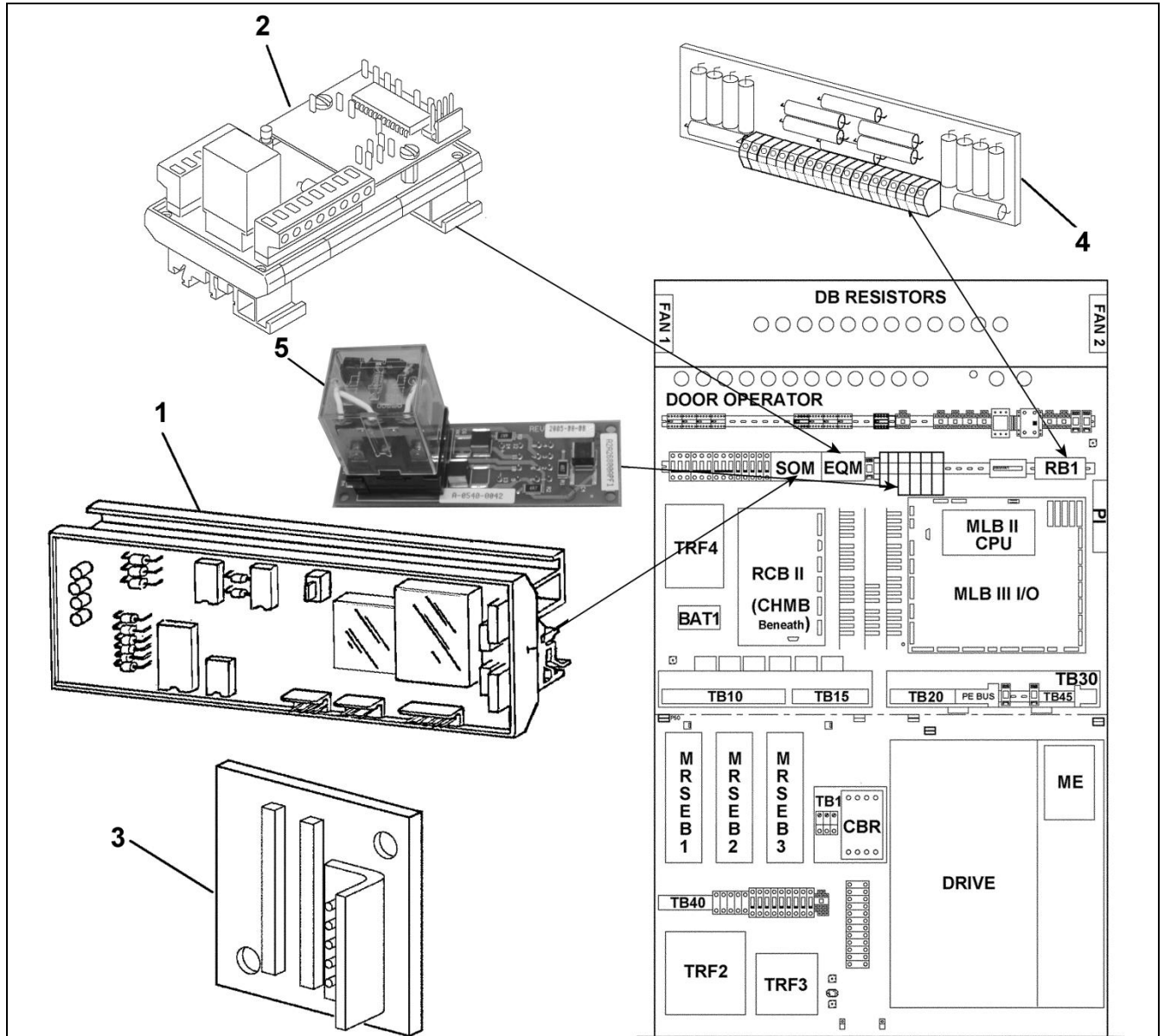


AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	GEA21270A3 GFA21270A3 GGA21270A3 GHA21270A3	PC Board, Ring Car	RCBII
2	---	Software, AAA30005 _ _ _ , Contract Parameters, 👁️ <b>NOTE 1</b>	Z34, Z49
3	---	Software, AAA30005 _ _ _ , OCSS Baseline, 👁️ <b>NOTE 1</b>	Z37, Z53
4	---	Fuse, 👁️ p. 16	RCBII: F1, F2
5	GAA718C1	Battery, 3 V, Lithium	RCBII: BAT
6	ABA26800ABL001 AAA21305DJ1	PC Board, Chime (located under RCBII) Kit, Chime Replacement 👁️ <b>NOTE 2</b>	CHMBD
7	---	Fuse, 👁️ p. 16	CHMBD: F1

**NOTE 1:** Contact your OSC Customer Service Representative for the latest release.

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

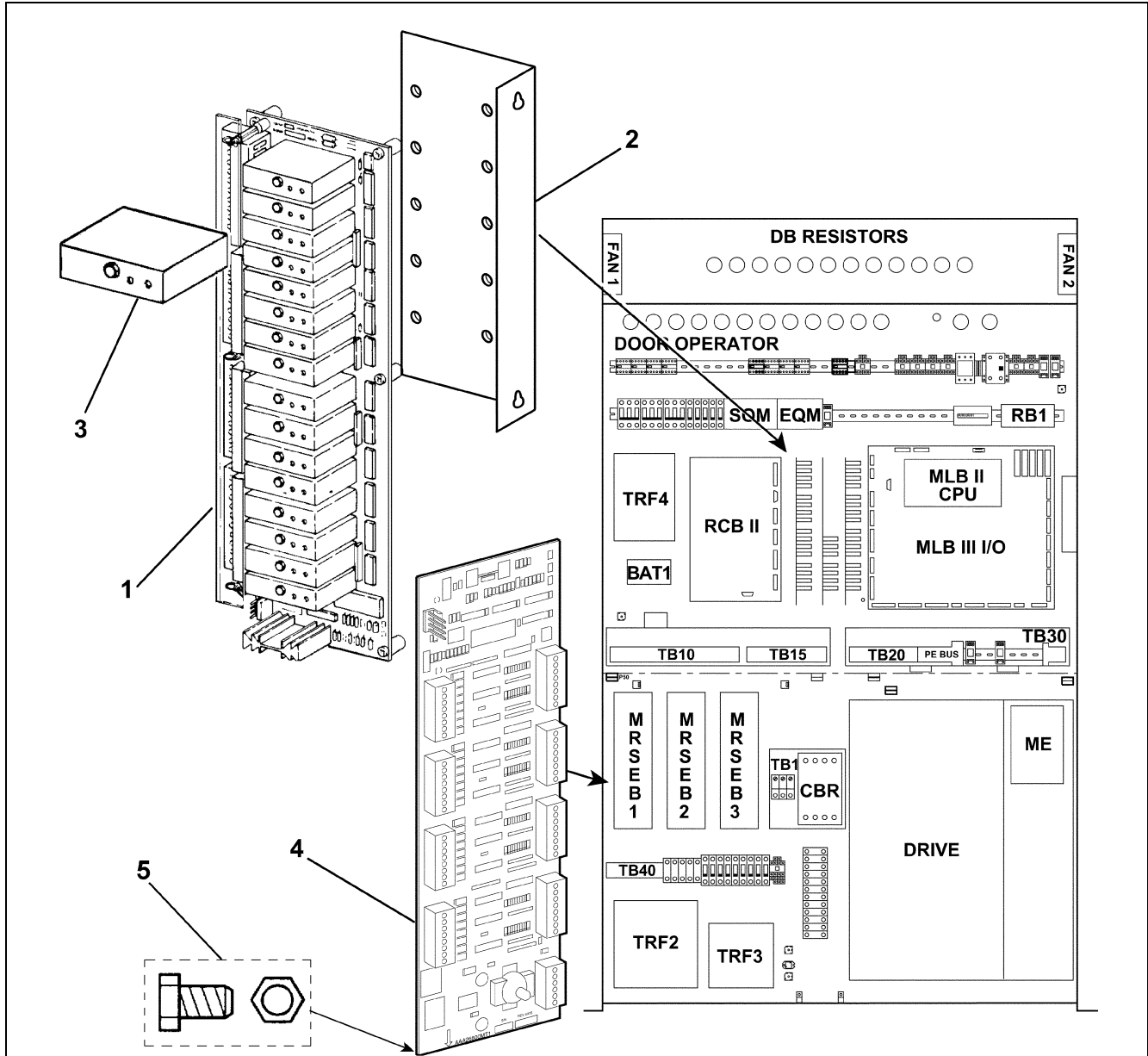




AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	GAA26800AL1 GBA26800AL1 GCA26800AL1	PC Board, Switchover Module	SOM
2	AAA21380E1 AAB21380E1 ABA21380E1 ABB21380E1	PC Board, Seismic Module (AAA26800KT)	EQM
3	9693J2	PC Board, Line Terminator	LT(C), LT(G)
4	HT206260-2	PC Board, Resistor Interface	RB1
5	AAA26800APF1	PC Board, Relay Converter	(R)EDRL, (R)EDRU

# 10-AAA21255V

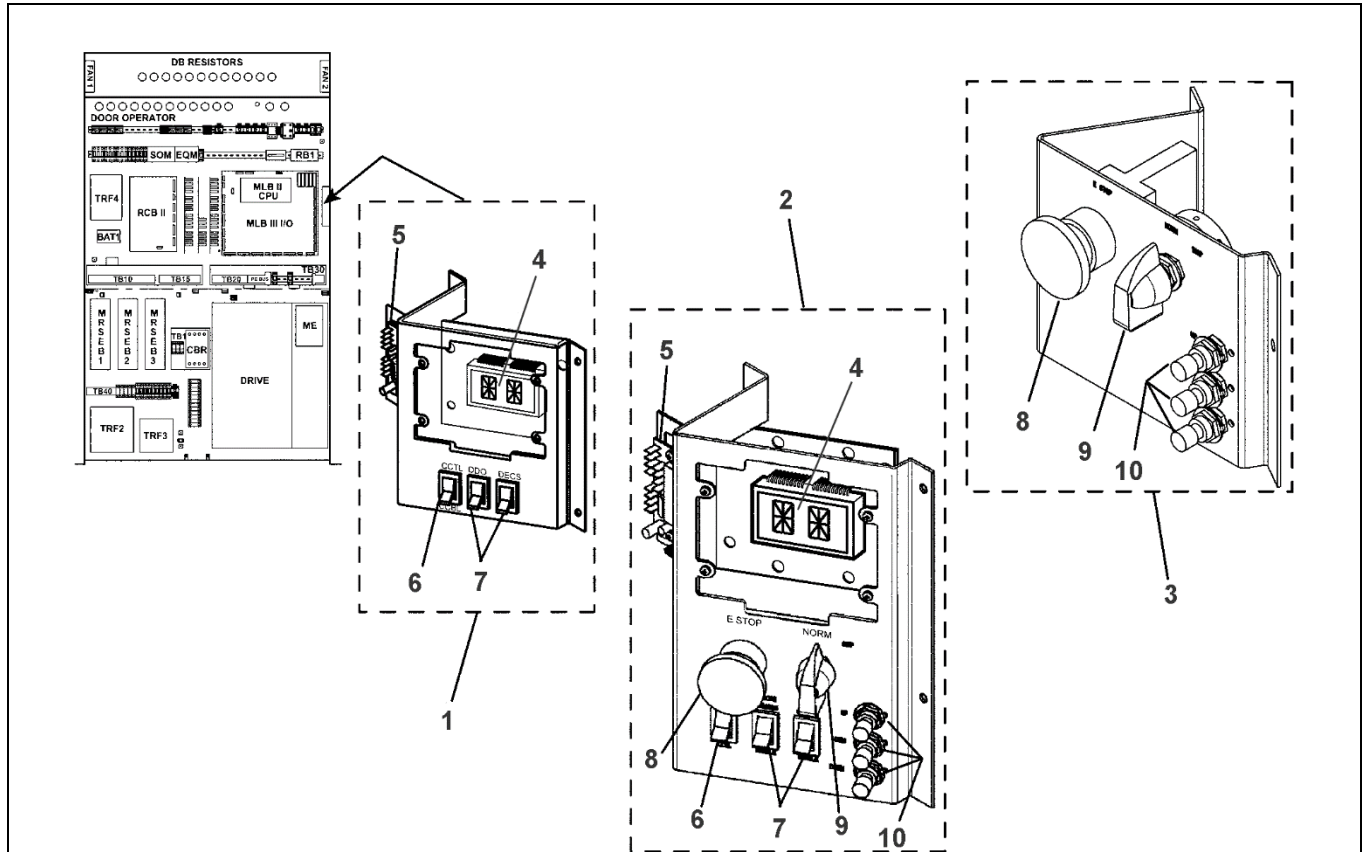
# I/O Interface & Modules



REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA21255V ABA26800ABV2	PC Board, I/O Interface, 32 Channel	FIB
2	ABA316GH3	Bracket, Mounting (for I/O Module PCB)	Hall Lantern: I/O 1, 2
3	ABA26890A2	I/O Module, 150 V	FIBM1, FIBM2, FIBM3-14
	ABA26890A13	I/O Module, 150 V (1 for each 2 of 110 VDC Discrete Hall Lantern)	HLIO
	ABA26890A9	I/O Module, 48 V	CUDL, CDDL, CDL
4	AAA26800MT1	PC Board, Remote Station Extender	MRSEB1-MRSEB4
5	AAA27076CM7	Kit, Mounting Hardware	

# Position Indicator

**10-AAA21255V**

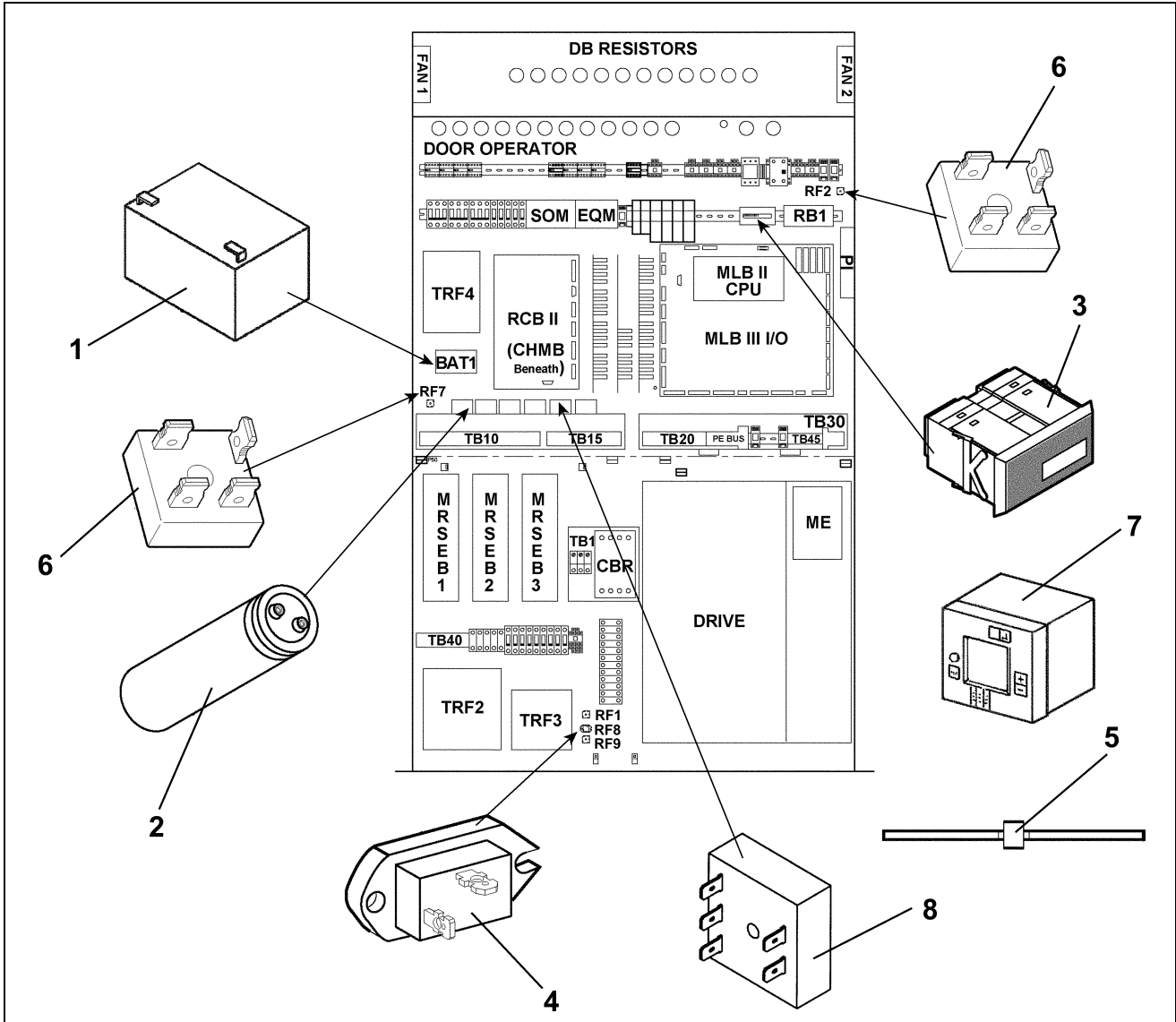


	AAA21255V ABA21255V		ACA21255V		
REF. No.	PART No.			DESCRIPTION	SYMBOL
1	AAA21255U1			Assembly, Position Indicator,  AAA26800XH MLBII PCB	
2		AAA21255U2	---	Assembly, Position Indicator,  AAA26800AJV MLBIII PCB	
3		---	AAA21255U3	Assembly, Position Indicator,  Kit AAA27076AY1 & 2 (see p. 6)	
4		ACA26800HJ1	---	Display, Position Indicator	---
5		GCA23550D10	---	PC Board, Remote-Station 5	RS5
6		AAA177EM4	---	Switch, Toggle, Momentary	CCTL/ CCBL
7		AAA177EM5	---	Switch, Toggle (SPST)	See <b>NOTE</b>
8	---		AAA635B2	Switch, Stop	E STOP
9	---		AAA636E3	Switch, Rotary	NORM/INSP
10	---		AAA635L3	Switch, Pushbutton	UP, COM, DN

**NOTE:** Doors Disable/Enable (was DDO), Hall Calls Disable/Enable (was CHCS)

# 10-AAA21255V

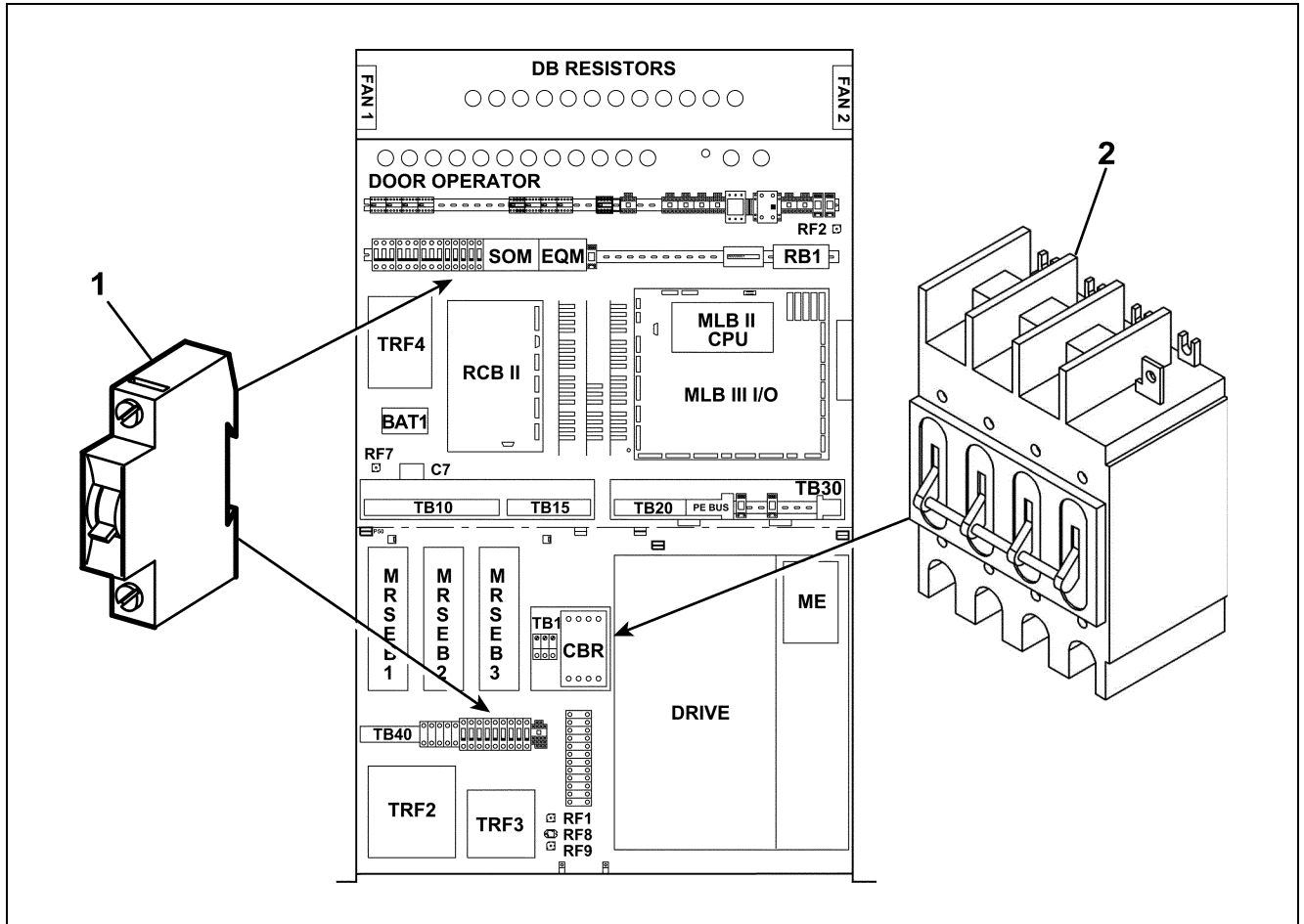
# Battery, Capacitor, Rectifier



AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA718E3	Battery, 12 V, 4 Amp-Hour	BAT1
2	226EJ2	Capacitor	C7
3	CAA623C2	Counter	---
4	AAA612AN1	Diode	RF8
5	AAA612T7	Diode	(R)EDR, OD1-OD5
6	230BS3	Rectifier, Bridge, 600 V, 10 A	RF2, RF7, RF12
	AAA612AJ1	Rectifier, Bridge, 1000 V, 35 A	RF1, RF9
7	623T1	Timer (up/down peak clock)	CLK
8	AAA623AA8	Timer, EDR	T1, T2, T3, T4

# Circuit Breakers

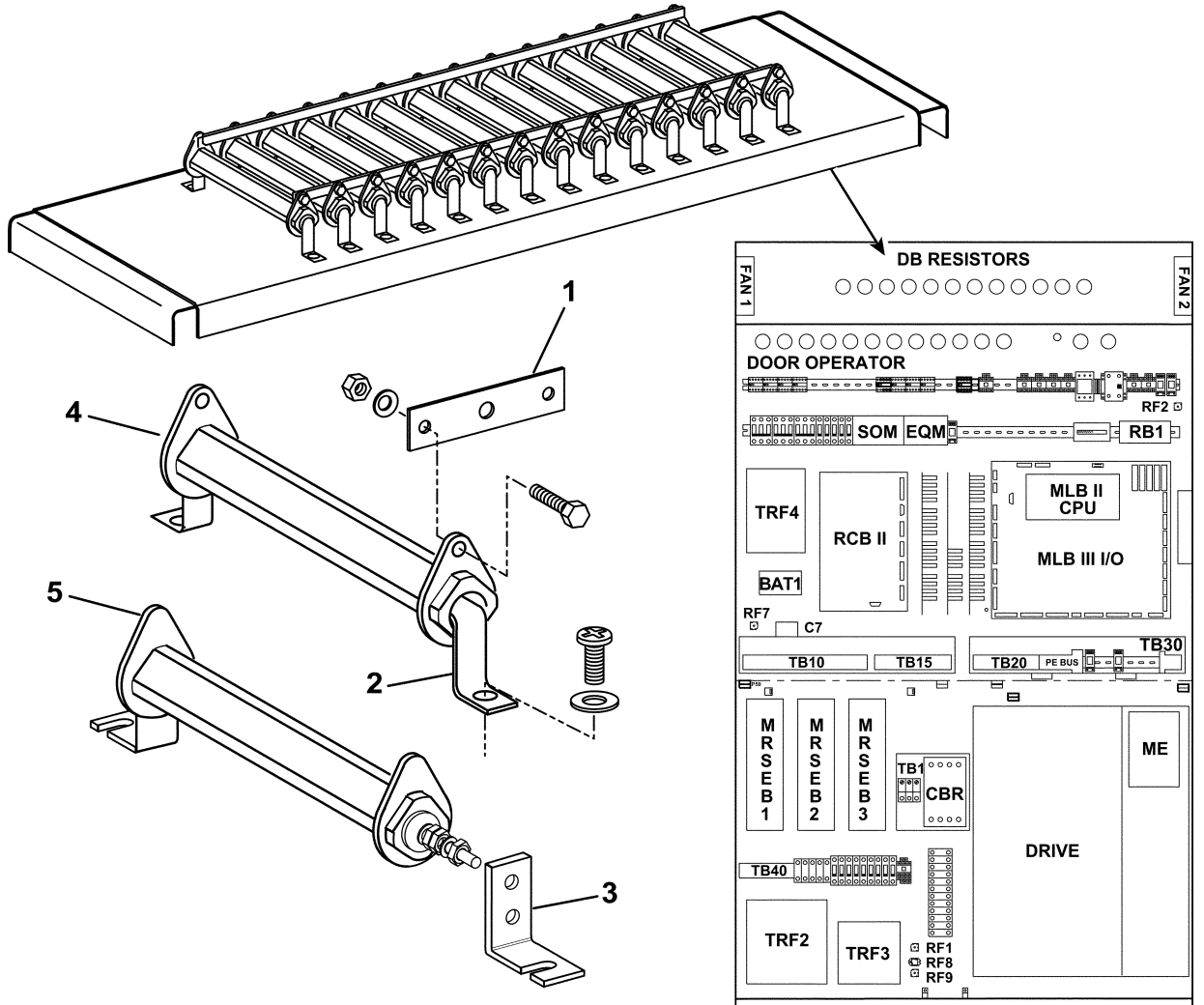
**10-AAA21255V**



<b>AAA21255V</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	AAA00375AAF002	Circuit Breaker, 1 A	CB14
	AAA00375AAF004	Circuit Breaker, 1-Phase, 2 A	CB5, CB10, B11, CB15, CB16, CB9
	AAA00375AAF006	Circuit Breaker, 1-Phase, 4 A	CB4, CB6
	AAA00375AAF009	Circuit Breaker, 10 A, <b>W</b> → 120 V DC Brake	CB6
	AAA00375AAF007	Circuit Breaker, 1-Phase, 6 A	CB1, CB2, CB3, CB13, CB17
2	AAA637G3	Circuit Breaker, 30 A (70 A drive)	CBR
	AA637G7	Circuit Breaker, 40 A (90 A drive)	
	AAA637G4	Circuit Breaker, 50 A (120 A drive)	
	AAA637G6	Circuit Breaker, 77 A (210 A drive)	

# 10-AAA21255V

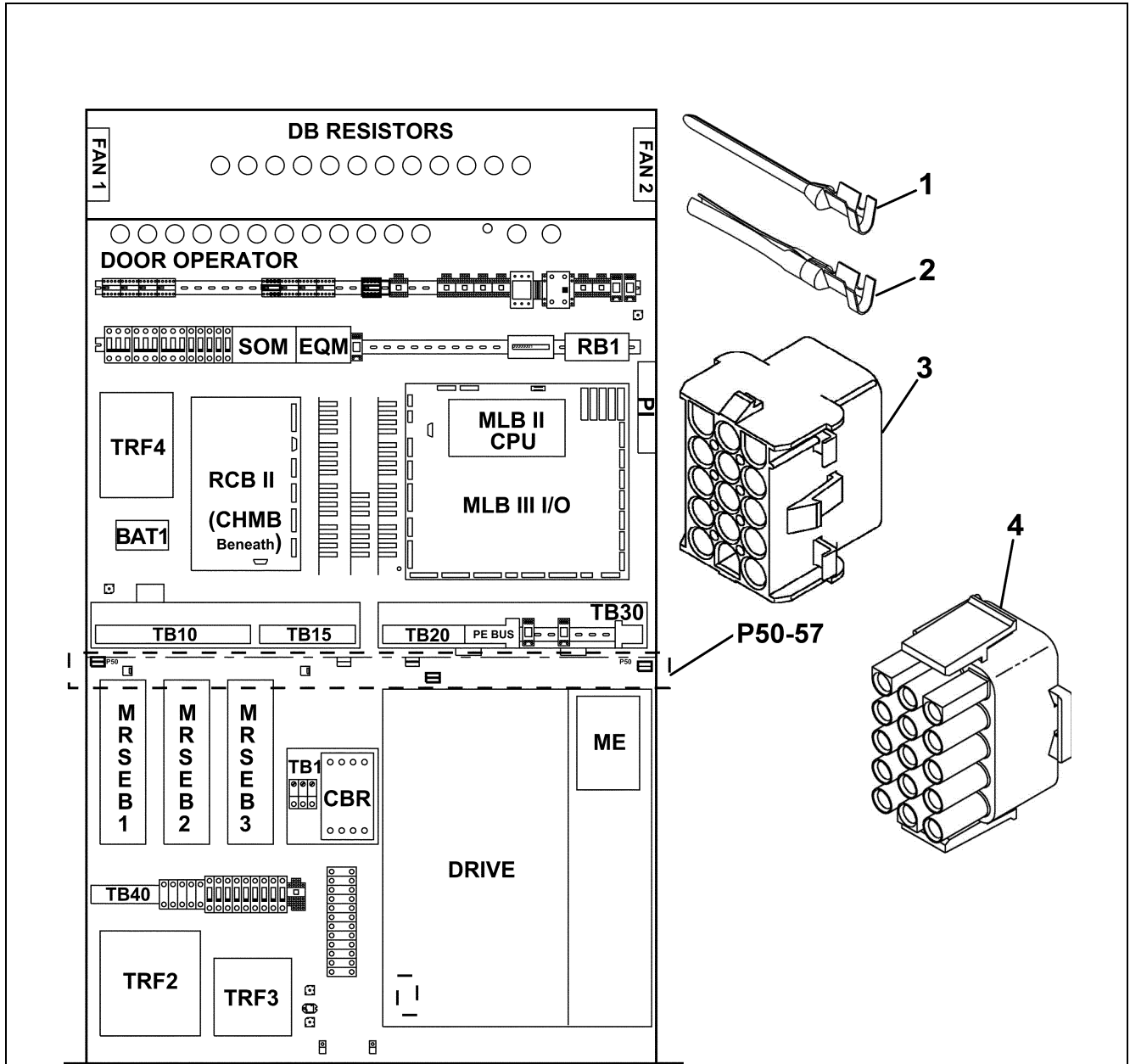
# Resistors – Dynamic Braking



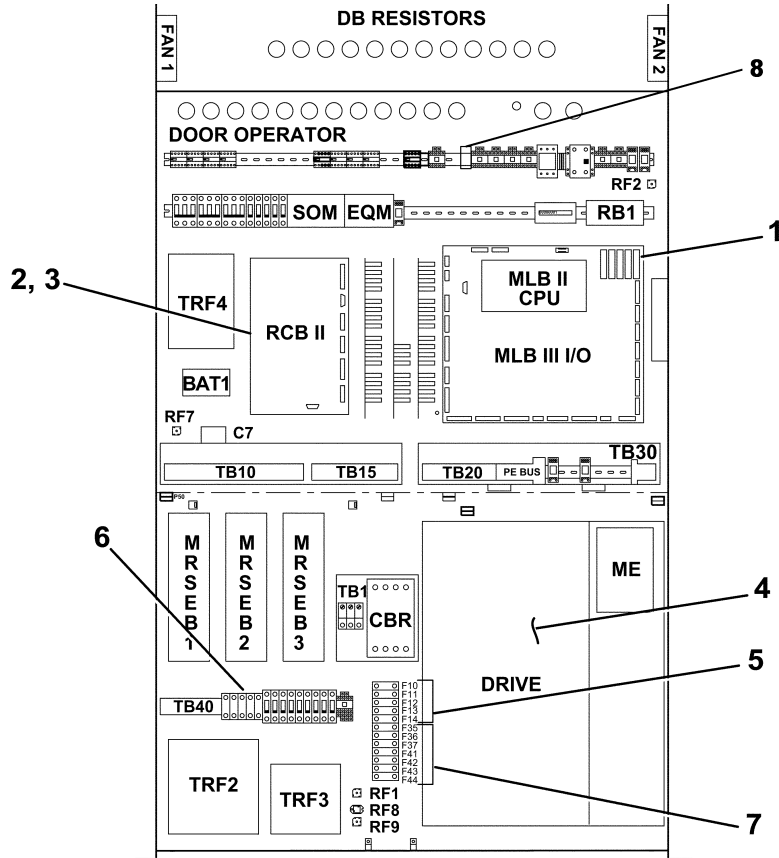
AAA21255V		AAA21255V		DESCRIPTION	SYMBOL
REF. No.	PART No.	REF. No.	PART No.		
MANF. ~7/10/00-7/30/02		MANF. ~7/31/02-PRESENT			
1	252B1	1	252B1	Bar, Bus	---
2	180AD1	3	180AD2	Holder, Resistor	---
4	232AA3	5	AAA232HK13	Resistor, 2.08 Ohm	DBR
	232AA5		AAA232HK14	Resistor, 3.82 Ohm	
	232AA1		AAA232HK12	Resistor, 1.32 Ohm	

# Connectors

**10-AAA21255V**



AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	176FJ9	Contact, Pin, 20–14 AWG	P50–P57
2	176FJ10	Contact, Socket, 20–14 AWG	
3	176FF5	Plug, 15 Circuits	
4	176FF10	Socket, 15 Circuits	



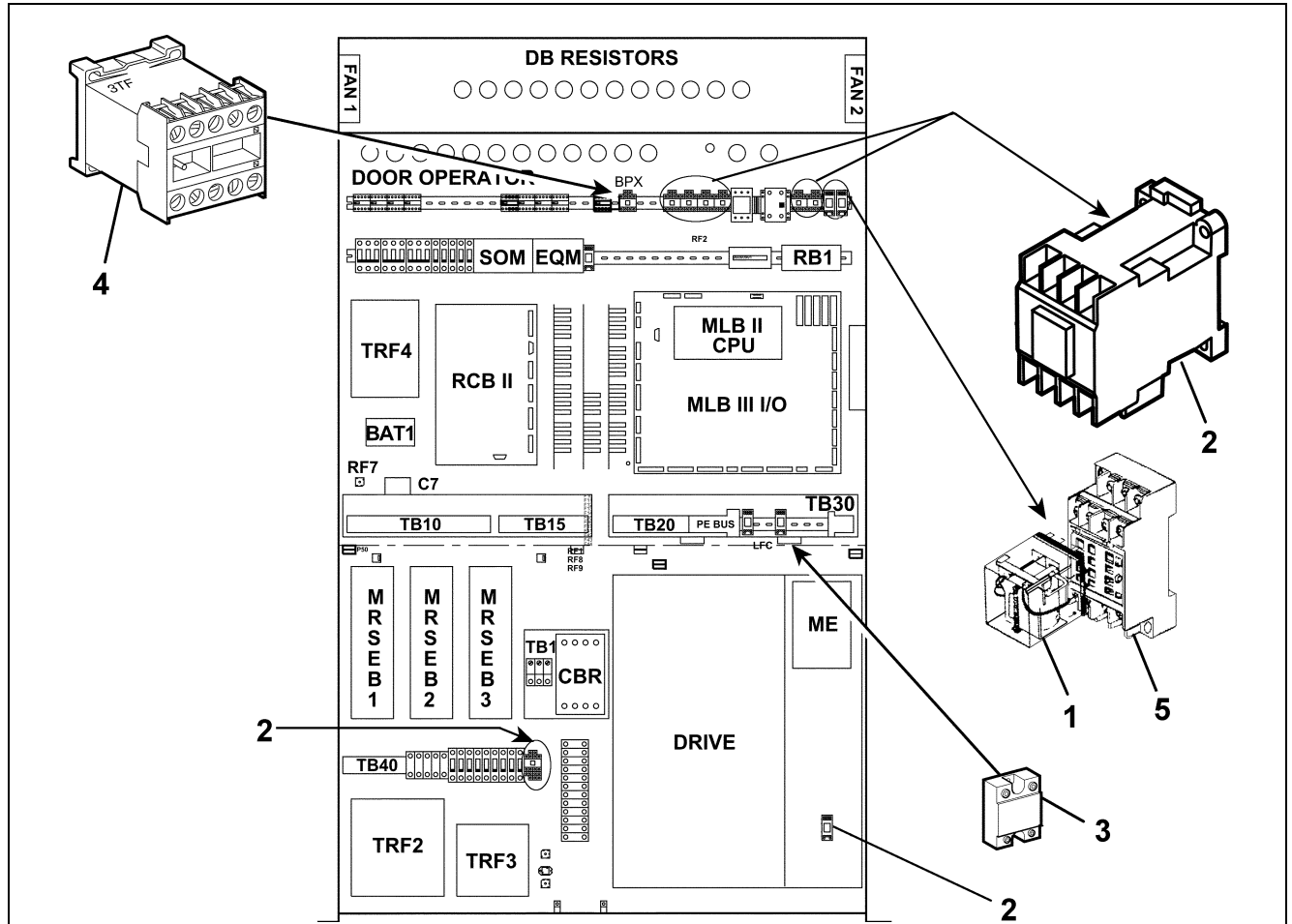
<b>AAA21255V</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	AAA375BR6	Fuse, Slow-Blow, 1 A	MLB III F3, F5
	AAA375BR12	Fuse, Slow-Blow, 3 A	MLB III: F2, F4
	AAA375BR14	Fuse, Slow-Blow, 4 A	MLB III: F1
2	AAA375BY17	Fuse, Fast Acting, 1 A	CHMBD: F1
3	AAA375BY8	Fuse, Slow-Blow, 2 A	RCB II: F1, F2
4	AAA375BY16	Fuse, Slow-Blow, 1 A	DSD: F1
5	AAA375BK29	Fuse, Slow-Blow, 4 A	F10, F11, F12
	AA375BK37	Fuse, Slow-Blow, 8 A, <b>NOTE</b>	F13, F14
6	AAA375BR17	Fuse, Slow-Blow, 7 A	F19
	AAA375BR9	Fuse, Slow-Blow, 2 A	F20
	AAA375BR12	Fuse, Slow-Blow, 3 A	F21, F22, F23
7	AAA375BK33	Fuse, Slow-Blow, 6 A	F35, F36, F37
	AAA375BK21	Fuse, Slow-Blow, 2 A	F41, F42, F43, F44
8	AAA375BR16	Fuse, Slow-Blow, 6.25 A	F50
	AAA375BR6	Fuse, Slow-Blow, 1 A	F51


**NOTE:** This value applies to MVF controller only. SPL 10-AAA21799B for DC-MMS controller.



# Relays

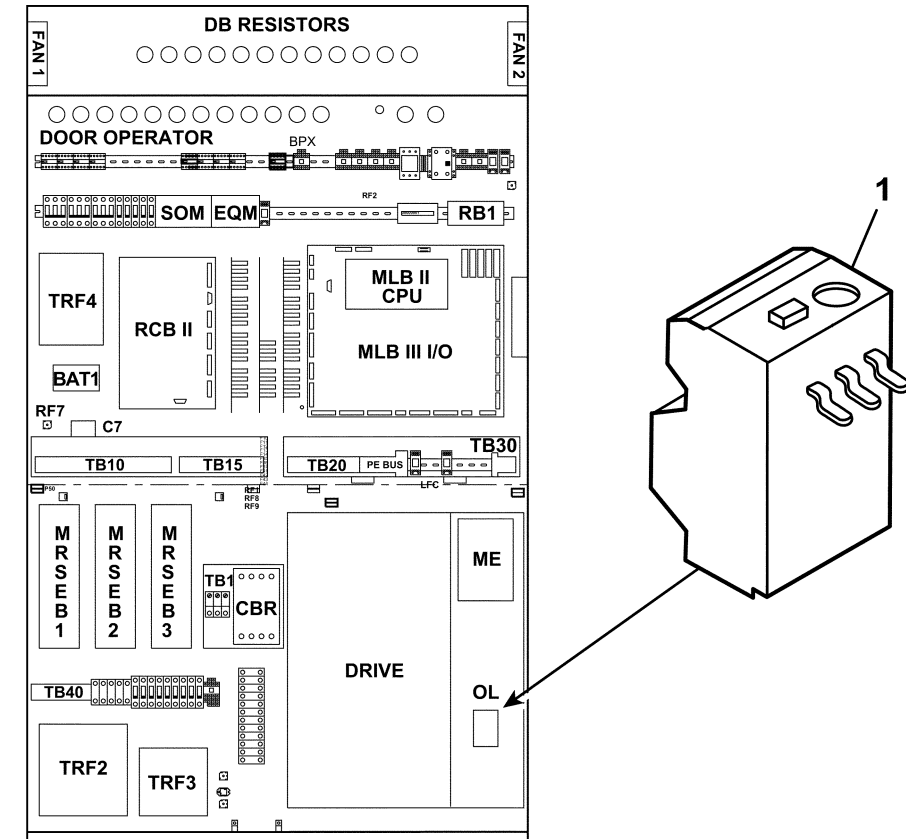
**10-AAA21255V**



AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA613CZ8	Relay, 24 V DC	HPR, BFC
	AAA613CZ9	Relay, 4 Pole, 115 V AC	ESVR, BSR1, BSR2, GT
2	AAA613DL16	Relay, AC Coil, 110-120 V @60 Hz, 3 NO, 1 NC Contacts	C, W
	AAA613DL29	Relay, AC Coil, 110-120 V @60 Hz, 4 NO Contacts	6M,  Page 18 for Overload
	AAA613DL30	Relay, AC Coil, 120-130 V, @60 Hz, 3 NO, 1 NC Contacts	LCR
	AAA613DL91	Relay, DC Coil, 24 V, 3 NO, 1 NC Contacts	BH, UCM, CKUCM, UCMX, CKUCMX
3	AAA645D4	Relay, SCR (for fan/light protection)	LFC
4	AAA638B105	Relay, 24 VDC, 3 NO, 1 NC Contacts	DC-DD: BPX
	AAA638B102	Relay, 115 VAC, 3 NO, 1 NC Contacts	ACVF: BPX
5	618AE2	Socket, Relay	ESVR, BSR1, BSR2, HPR, BFC, GT

# 10-AAA21255V

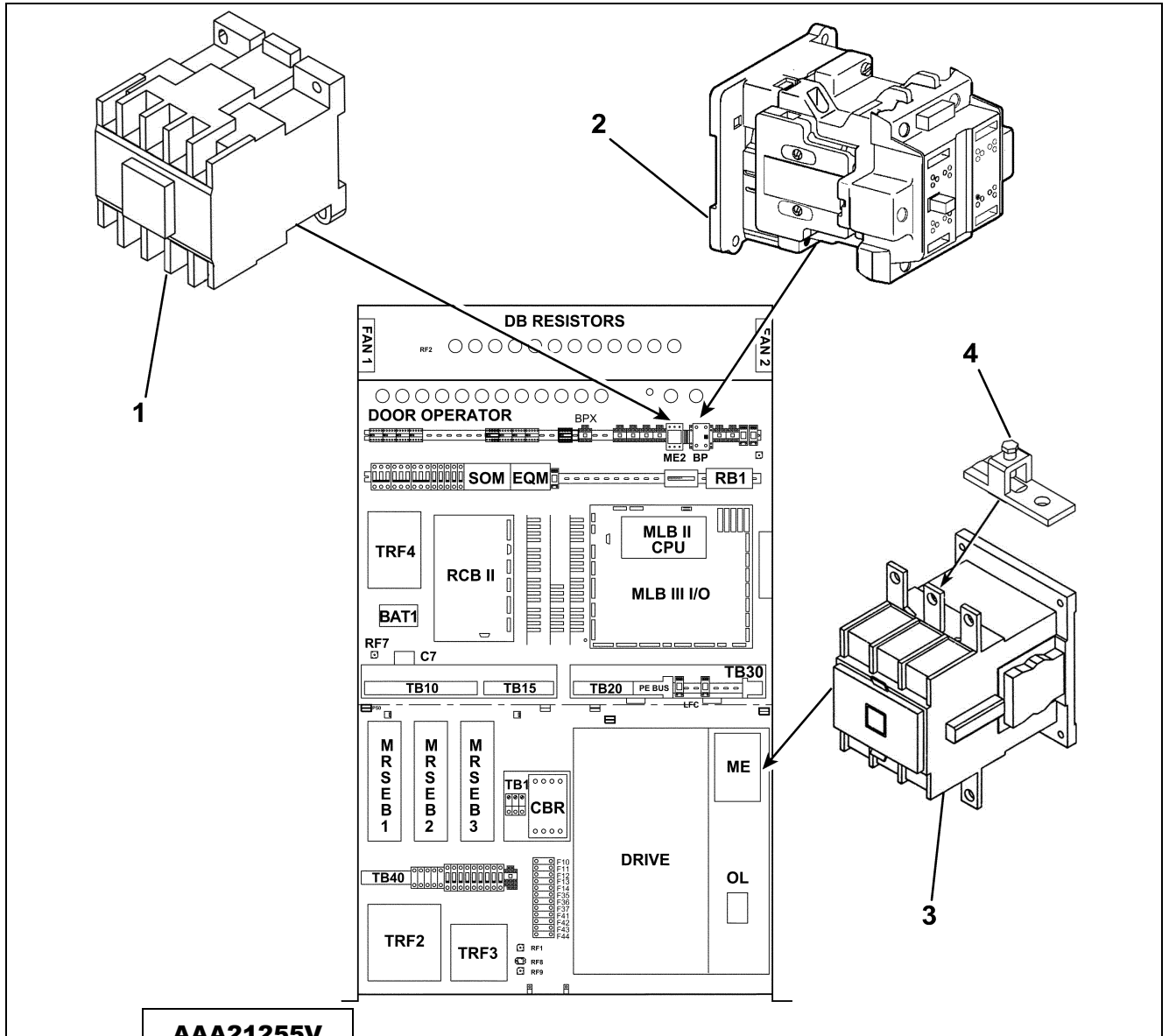
# Overload Relays



				AAA21255V
REF. No.	MACHINE TYPE	BLOWER VOLTAGE	RATED CURRENT (Amps)	PART No.
1	139HT	120 VAC, 1 Phase	4.4	AAA660F8
	139HT	120 VAC, 1 Phase	5.6	AAA660F8
	155HT	120 VAC, 1 Phase	1.2	AAA660F3
	269HT	120 VAC, 1 Phase	1.6	AAA660F4
	72	208 VAC, 3 Phase	2.4	AAA660F5
	---	220 VAC, 3 Phase	2.2	AAA660F5
	---	440 VAC, 3 Phase	1.2	AAA660F3
	---	460 VAC, 3 Phase	1.1	AAA660F3
	---	575 VAC, 3 Phase	0.9	AAA660F3

# Relays

**10-AAA21255V**



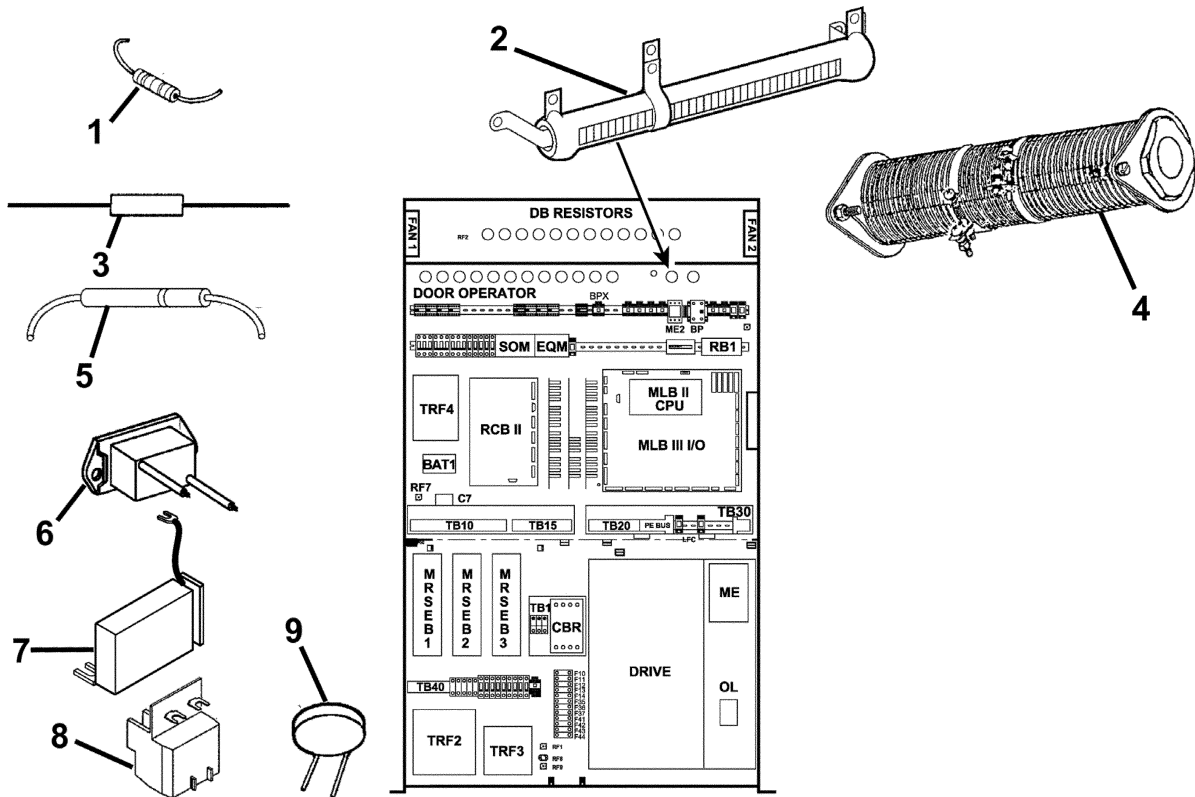
AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA638AF12	Contactors 3-Pole,  Gearless Systems	ME2
2	AAA638J6	Contactors, 4-Pole, 2 Open, 2 Closed,  DD Drive	BP
	AAA638J2	Contactors, 4-Pole, 2 Open, 2 Closed,  ACVF Drive, <b>NOTE</b>	
3	AAA638AE4 AAA638AE9	Contactors,  100 A or 190 A Drive	ME
	AAA638AE5	Contactors,  300 A Drive	ME
4	AAA190CF9 AAA190CF10	Lug, Terminal	ME

**NOTE:** Reliability issues have been reported with this part. Consider ordering p/n AAA27076EJ1.

TIP 1.1.15.2-2, BP Relay for E411M-VF.

# 10-AAA21255V

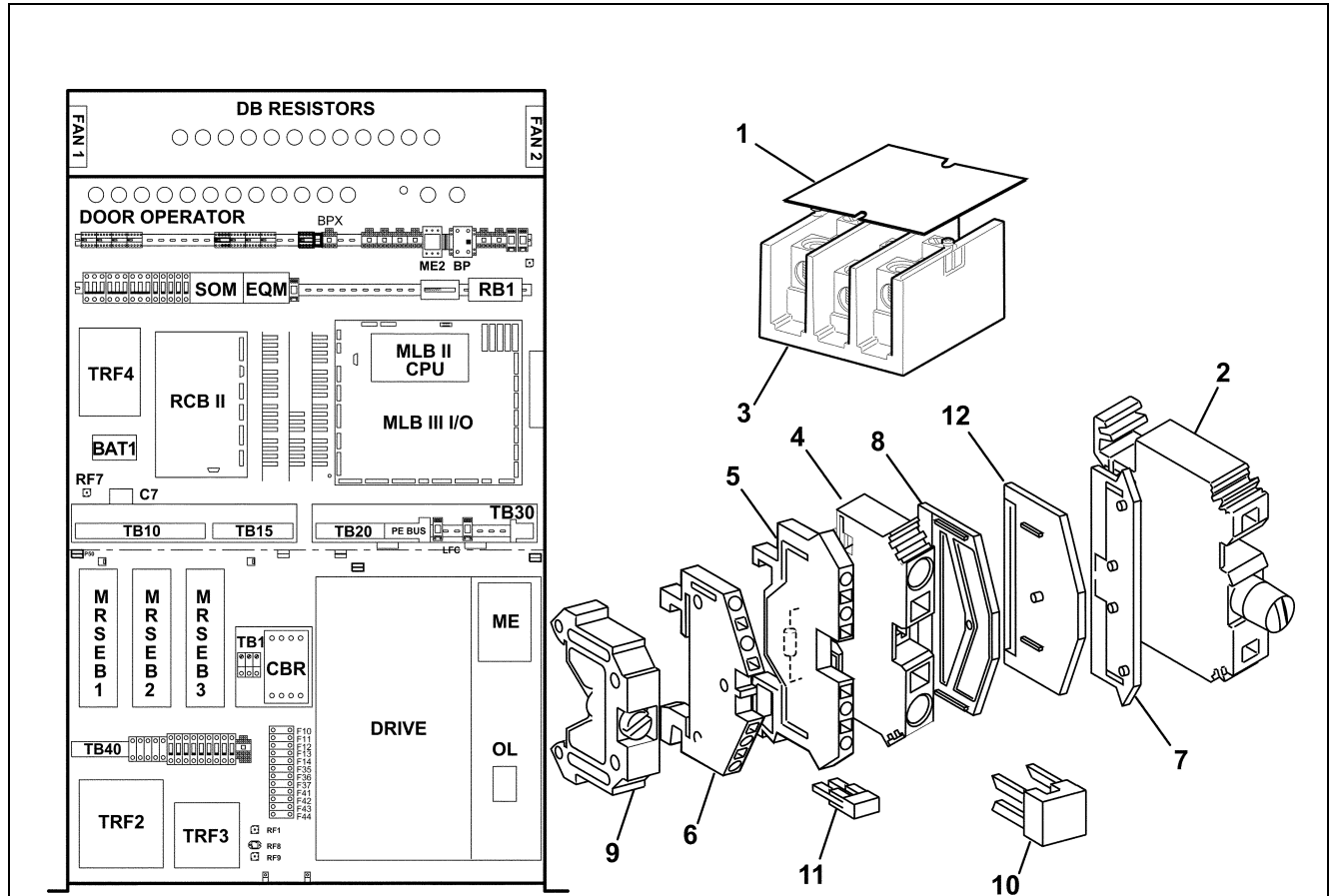
# Resistors, Suppressors



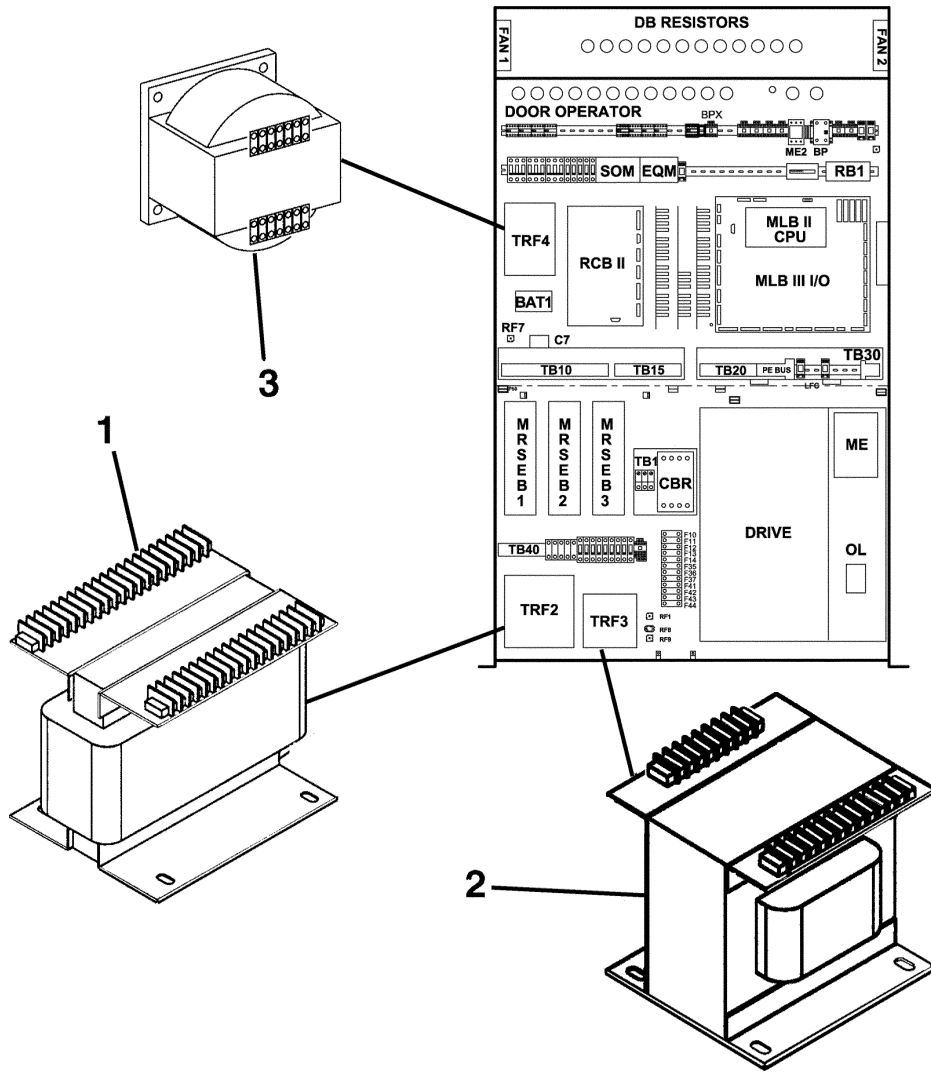
AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	232T46 AAA232HR65	Resistor, 47 K $\Omega$ , 2 W	R7
2	AAA617K8	Resistor, 225 W, 50 $\Omega$ (gearless)	BR1
	AAA617K9	Resistor, 225 W, 100 $\Omega$ (geared)	BR1
		Resistor, 225 W, 100 $\Omega$ (gearless)	BR2
	AAA617K10	Resistor, 225 W, 250 $\Omega$ (geared)	BR2
	AAA617H11	Resistor, 50 W, 100 $\Omega$	BR3
3	AAA232GJ45	Resistor, 5 W, 500 $\Omega$	R101
4	AAA617R1	Resistor, Dynamic Brake, <b>W</b> → Geared Systems	DC-DD: DBR1
6	AAA00605AAA002	Suppressor (RC)	BP (ACVF)
7	AAA00605AAA014	Suppressor (RC)	ESVR, BSR1, BSR2, GT
8	AAA613DL61	Suppressor (RC)	6M, C, LCR, ME2, W
9	AAA605AA43	Varistor (MOV), 14 mm $\varnothing$ , 275 V, <b>W</b> → 240V DC Brake	BV
	AAA605AA30	Suppressor (varistor), <b>W</b> → 110V DC Brake	BV

# Terminal Blocks

**10-AAA21255V**



AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	303DH4	Cover, Terminal Block	TB1
2	AAA653E1	Fuse Holder	---
3	303DH17	Terminal Block	TB1
4	AAA303EP51	Terminal Block, 2 Entries, 24-8 AWG, 600 V, 35 A	TB3
5	AAA303EP36	Terminal Block, 4 Entries, 26-14 AWG, w/Diode	---
6	AAA303EP1	Terminal Block, 4 Entries, 26-14 AWG, 600 V, 35 A	TB10, TB15, TB20, TB30
7	AAA303EP37	Terminal Block, End Plate	---
8	AAA303EP3	Terminal Block, End Plate, 0.09 in. Thick	---
9	AAA303EP105	Terminal Block, End Stop	---
10	AAA303EP53	Terminal Block, Jumper	---
11	AAA303EP48	Terminal Block, Jumper, 2 Pole	---
12	AAA303EP4	Terminal Block, Separator	---

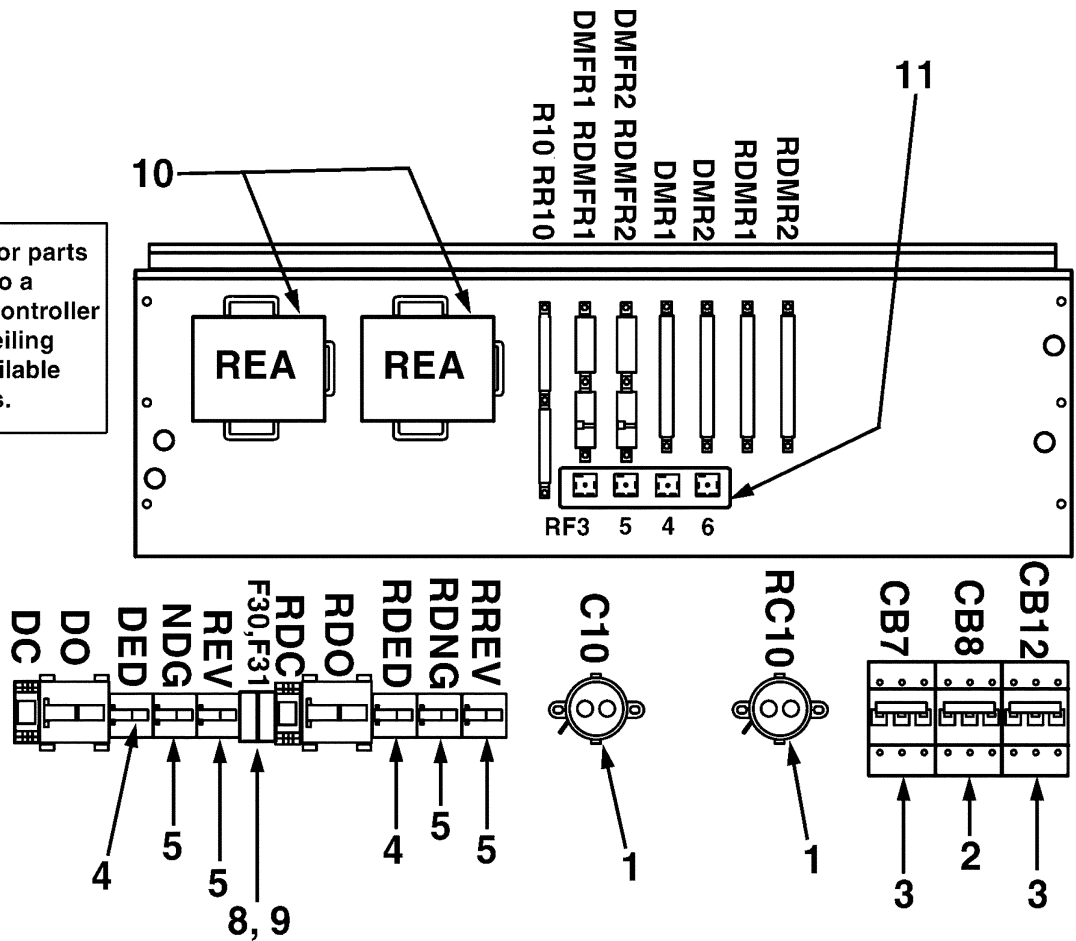


<b>AAA21255V</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	AAA225HT1	Transformer, 3-Phase, 208–240 V	TRF2
	AAA225HT2	Transformer, 3-Phase, 346–416 V	
	AAA225HT3	Transformer, 3-Phase, 440–600 V	
2	AAA225JP1 ABA225JP1	Transformer, 1-Phase, 208–240 V	TRF3
	AAA225JP2 ABA225JP2	Transformer, 1-Phase, 346–416 V	
	AAA225JP3 ABA225JP3	Transformer, 1-Phase, 440–600V	
3	AAA225JQ1	Transformer, 3-Phase, 48 V AC Primary	TRF4

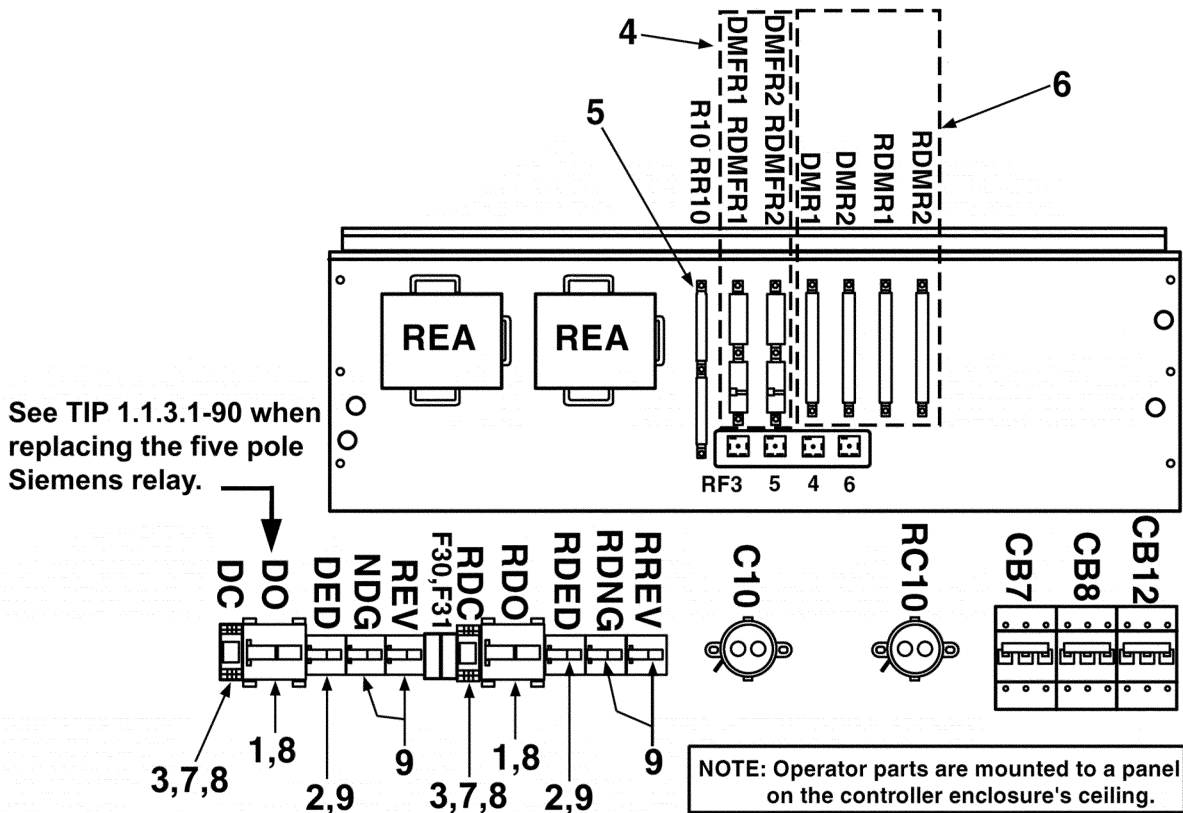
# 6970 Door Operator Interface

**10-AAA21255V**

**NOTE:** Operator parts are mounted to a panel on the controller enclosure's ceiling and along available mounting rails.



REF. No.	AAA21255V PART No.	DESCRIPTION	SYMBOL
1	226H2	Capacitor, 250 $\mu$ f	C10, RC10
2	AAA00375AAJ004	Circuit Breaker, 3 Pole, 2 A	CB8
3	AAA00375AAJ006	Circuit Breaker, 3 Pole, 4 A	CB7, CB12
4	AAA613CX607	Contact, Auxiliary	DED, RDED
5	AAA638B105	Contactor, 24 V DC, 3 NO & 1NC Contacts	NDG, REV, RNDG, RREV
6	230BD6	Diode (not shown, shipped loose to field)	DF, RDF
7	AAA653E100	End Plate, Terminal Connector (not shown)	F30
8	AAA653E3	Fuse Block	F30, F31
9	AAA375BR12	Fuse, Slow-Blow, 3 A	F30, F31
10	A7011A3	Reactor, Saturable	REA, RREA
11	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3, RF4, RF5, RF6



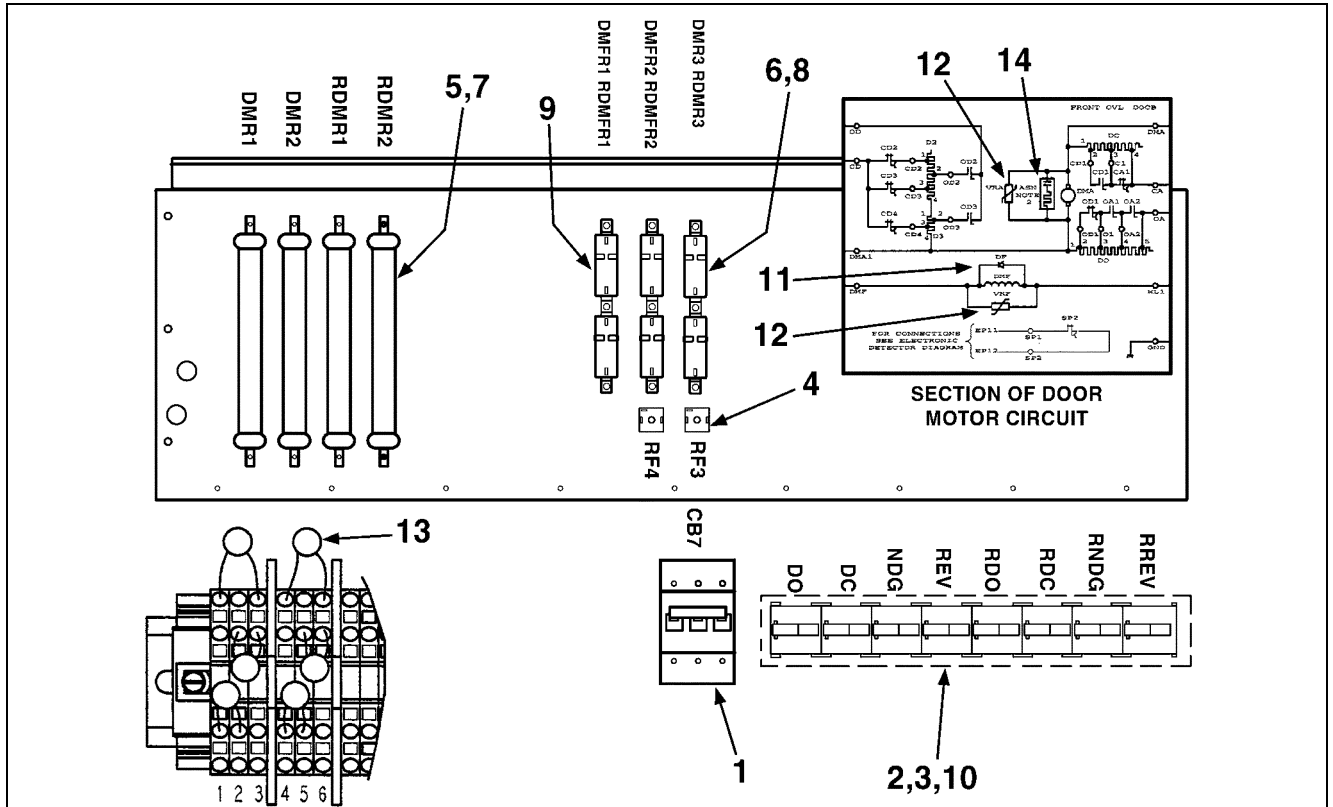
REF. No.	AAA21255V PART No.	DESCRIPTION	SYMBOL
1	AAA613DL96	Relay, 24 V DC Coil, 5 NO, 3 NC Contacts	DO, RDO
2	AAA613CX515	Relay, 120 V AC, 3 NO, 1 NC Contacts	DED, RDED
3	AAA613CZ8	Relay, 24 V DC	DC, RDC
4	232B15	Resistor, 30 W, 500 Ω	DMFR1, DMFR2 RDMFR1, RDMFR2
5	AAA617H8	Resistor, 50 W, 25 Ω	R10, RR10
6	AAA617L9	Resistor, 100 W, 50 Ω	DMR1, DMR2, RDMR1, RDMR2
7	618AE2	Socket, Relay	DC, RDC
8	AAA612T7	Suppressor (diode), 700 V RMS, 1000 V	DC, RDC, DO, RDO
9	AAA613CX704	Suppressor (diode), 12–250 V DC	NDG, REV, DED, RNDG, RREV, RDED
*	AAA605AA36	Varistor (MOV), Disc 20 mm ⌀, 150 V	VRA, VRF, RVRA, RVRF
*	AAA00605AAA006 AAA00605AAA032	Suppressor (RC), 48–127 V AC	ASN, RASN
*	AAA605AA43	Varistor (MOV), Disc, 14 mm ⌀, 275 V	VR1–VR6

\* Parts not shown. Field installed during construction.



# OVL/MRDS Door Operator Interface

## 10-AAA21255V

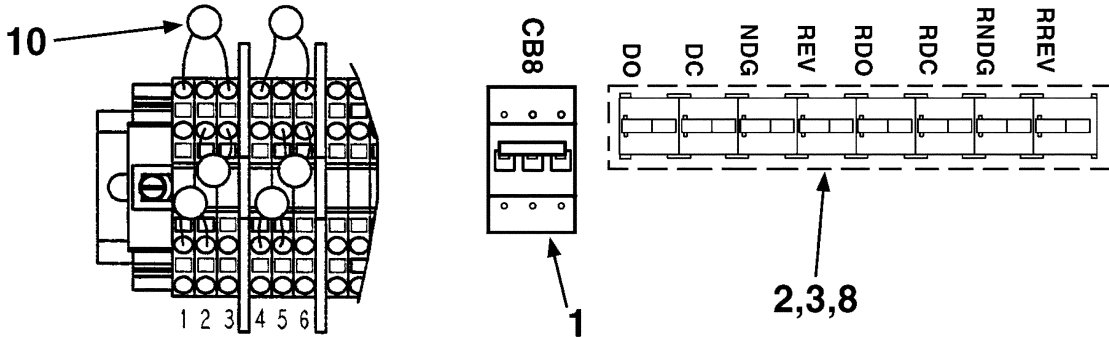
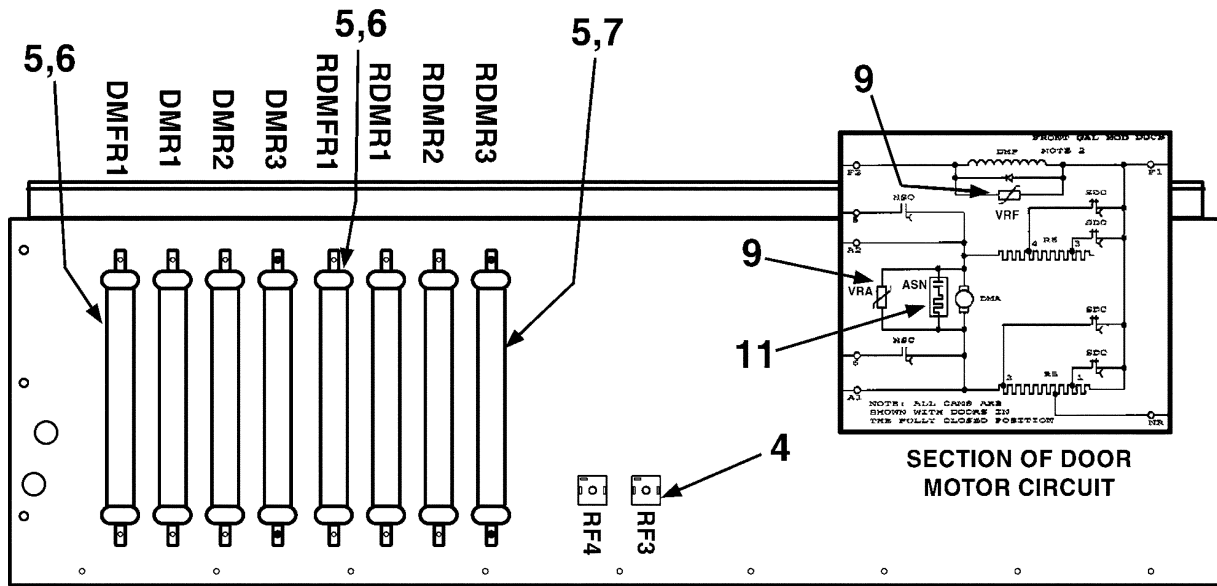


REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA00375AAJ006	Circuit Breaker, 3 Phase, 4 A	CB7
2	AAA613CV102	Contact, Auxiliary	DO, RDO, NDG, RNDG
3	AAA638B105	Contact, 3 NO, 1 NC Contacts, 24 V DC	(R)DO, DC, NDG, REV
4	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3, RF4
5	AAA617K102	Resistor Lug, Adjustable	—
6	AAA617H102	Resistor Lug, Adjustable	(R)DMR3
7	AAA617K10	Resistor, 225 W, 250 Ω	(R)DMR1, DRM2
8	232B43 AAA617K18	Resistor, 30 W, 300 Ω	(R)DMR3
9	232B8	Resistor, 30 W, 75 Ω	(R)DMRF1, DMFR2
10	AAA613CX704	Suppressor (diode)	(R)DO, DC, NDG, REV
11	AAA612AF2	Suppressor (diode), 400 V	(R)DF
12	AAA605AA36	Varistor (MOV), Disc 20 mm $\varnothing$ , 150 V	(R)VRA, VRF
13	AAA605AA43	Varistor (MOV), Disc, 14 mm $\varnothing$ , 275 V	VR4, VR5, VR6
14	AAA00605AAA006 AAA00605AAA032	Suppressor (RC), 48–127 V AC	(R)ASN

**NOTE:** (R) applies to rear door operator.

# 10-AAA21255V

# GAL-MOD Door Operator Interface



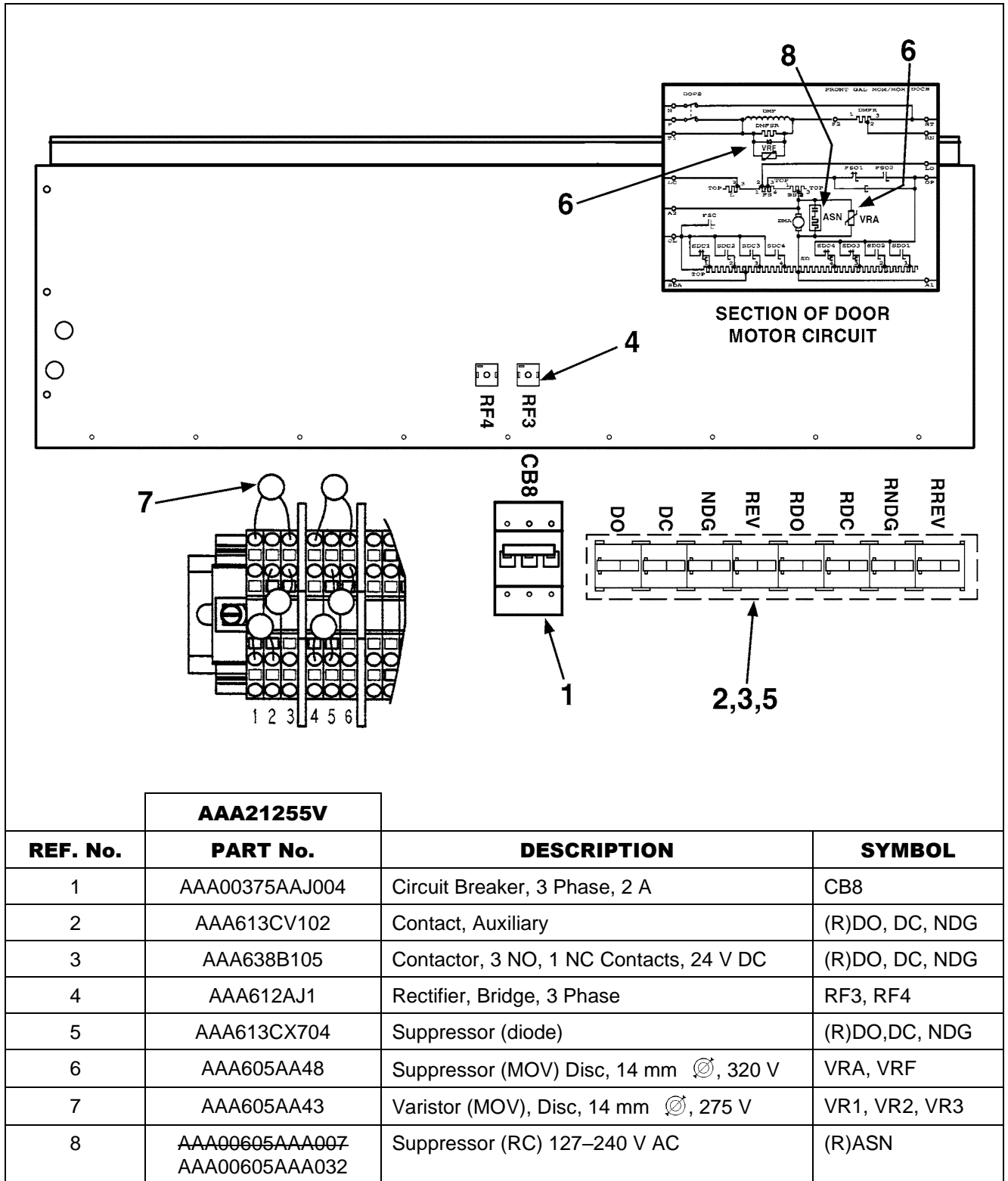
## AAA21255V

REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA00375AAJ004	Circuit Breaker, 3 Phase, 2 A	CB8
2	AAA613CV102	Contact, Auxiliary	(R)DO, DC, NDG
3	AAA638B105	Contact, 3 NO, 1 NC Contacts, 24 V DC	(R)DO, DC, NDG
4	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3, RF4
5	AAA617K102	Resistor Lug, Adjustable	—
6	AAA617K12	Resistor, 225 W, 1000 Ω	(R)DMFR1
7	AAA617K10	Resistor, 225 W, 250 Ω	(R)DMR1, 2, 3
8	AAA613CX704	Suppressor (diode)	(R)DO, DC, NDG
9	AAA605AA48	Suppressor (MOV), Disc, 14 mm ⌀, 320 V	(R)VRA, VRF
10	AAA605AA43	Varistor (MOV), Disc, 14 mm ⌀, 275 V	VR1, VR2, VR3
11	AAA00605AAA007 AAA00605AAA032	Suppressor (RC), 127–240 V AC	(R)ASN

NOTE: (R) applies to rear door operator.

# GAL MOM/MOH Door Operator Interface

**10-AAA21255V**

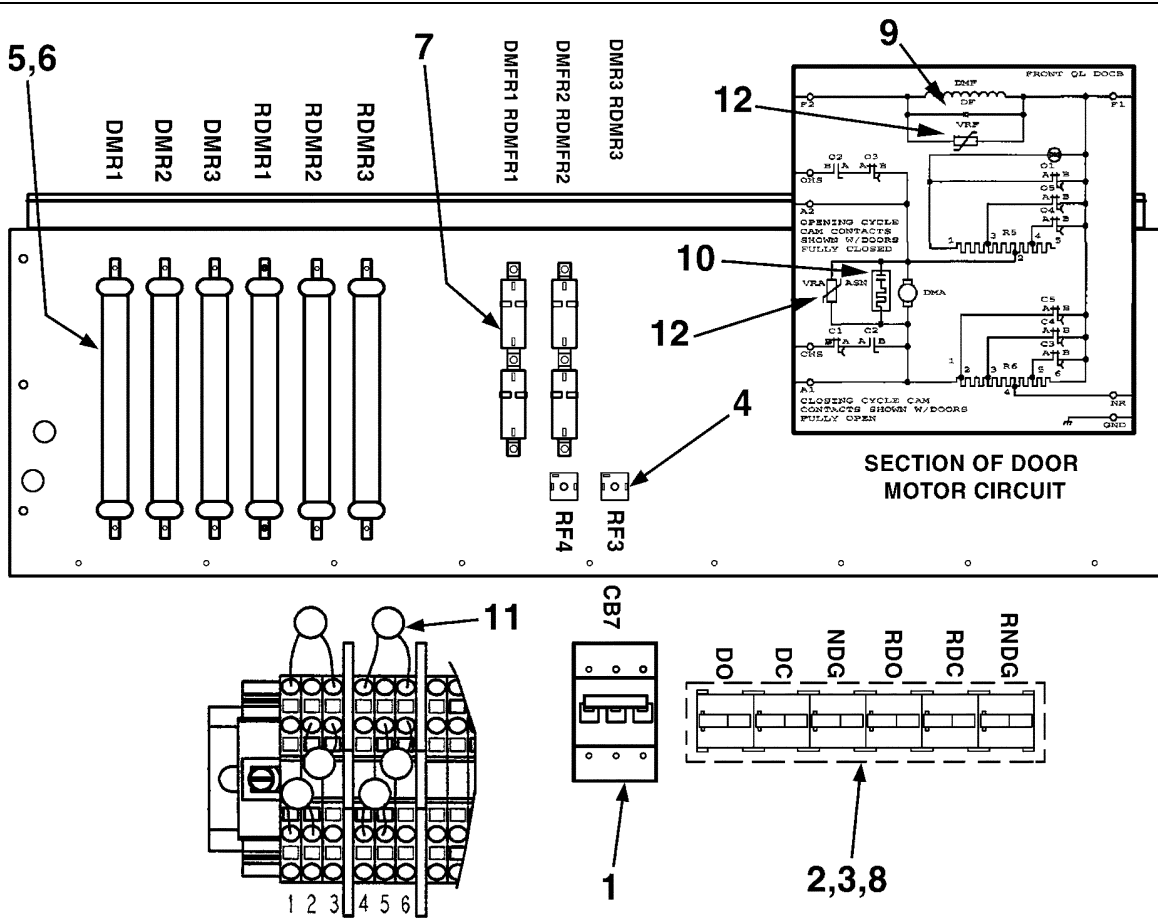


REF. No.	AAA21255V PART No.	DESCRIPTION	SYMBOL
1	AAA00375AAJ004	Circuit Breaker, 3 Phase, 2 A	CB8
2	AAA613CV102	Contact, Auxiliary	(R)DO, DC, NDG
3	AAA638B105	Contact, 3 NO, 1 NC Contacts, 24 V DC	(R)DO, DC, NDG
4	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3, RF4
5	AAA613CX704	Suppressor (diode)	(R)DO,DC, NDG
6	AAA605AA48	Suppressor (MOV) Disc, 14 mm $\varnothing$ , 320 V	VRA, VRF
7	AAA605AA43	Varistor (MOV), Disc, 14 mm $\varnothing$ , 275 V	VR1, VR2, VR3
8	AAA00605AAA007 AAA00605AAA032	Suppressor (RC) 127–240 V AC	(R)ASN

**NOTE:** (R) applies to rear door operator.

# 10-AAA21255V

# QL Door Operator Interface

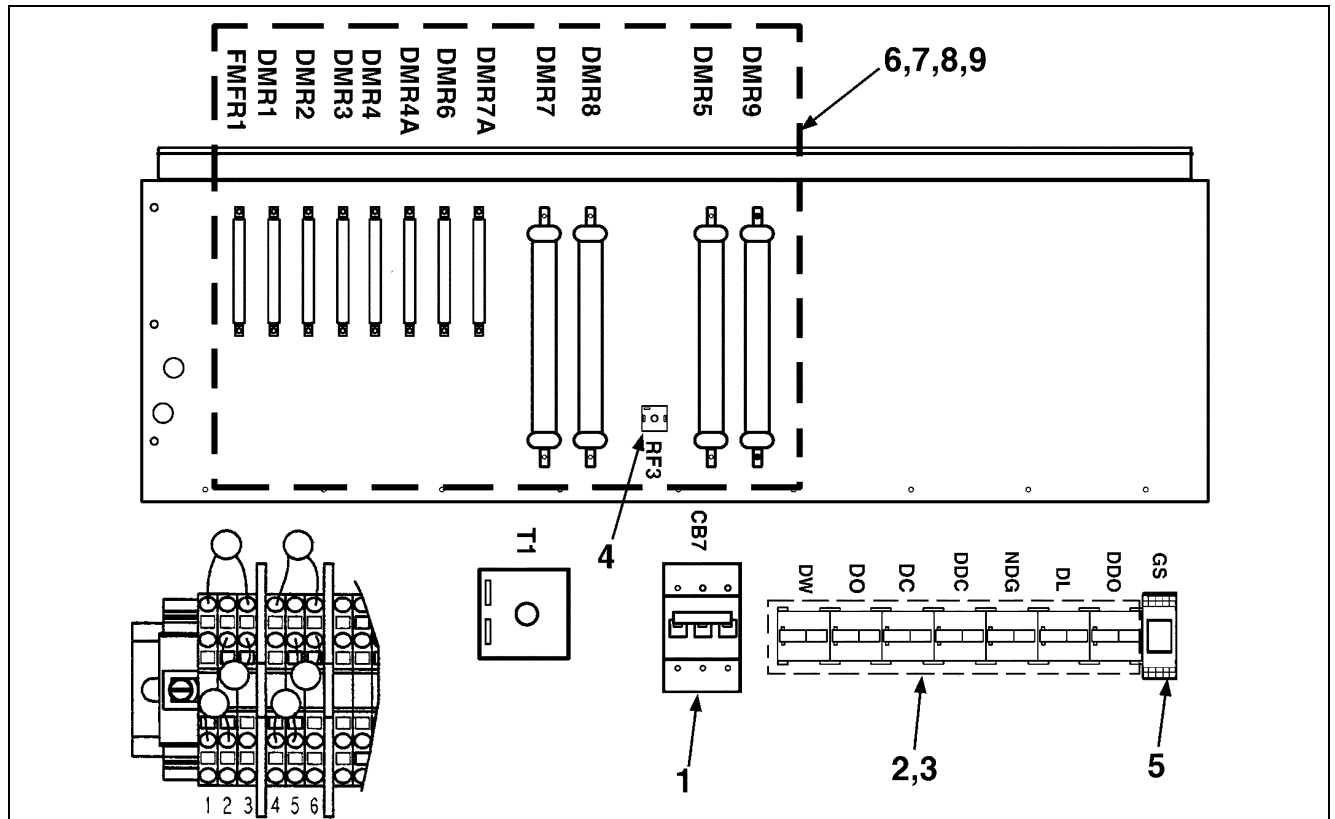


REF. No.	PART No.	DESCRIPTION	SYMBOL
	<b>AAA21255V</b>		
1	AAA00375AAJ006	Circuit Breaker, 3 Phase, 4 A	CB7
2	AAA613CV102	Contact, Auxiliary	(R)DO, DC
3	AAA638B105	Contact, 3 NO, 1 NC Contacts, 24 V DC	(R)DO, DC, NDG
4	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3, RF4
5	AAA617K102	Resistor Lug, Adjustable	(R)DMR1, 2, 3
6	AAA617K8	Resistor, 225 W, 50 Ω	(R)DMR1, 2, 3
7	232B8	Resistor, 30 W, 75 Ω	(R)DMRF1, 2
8	AAA613CX704	Suppressor (diode)	(R)DO, DC, NDG
9	AAA612AF2	Suppressor (diode), 400 V	(R)DF
10	AAA00605AAA006 AAA00605AAA032	Suppressor (RC), 48–127 V AC	(R)ASN
11	AAA605AA43	Varistor (MOV), Disc, 14 mm $\varnothing$ , 275 V	VR4, VR5, VR6
12	AAA605AA36	Varistor (MOV), Disc 20 mm $\varnothing$ , 150 V	(R)VRA, VRF

**NOTE:** (R) applies to rear door operator.

# 6970 Timed Resistance Door Operator Interface

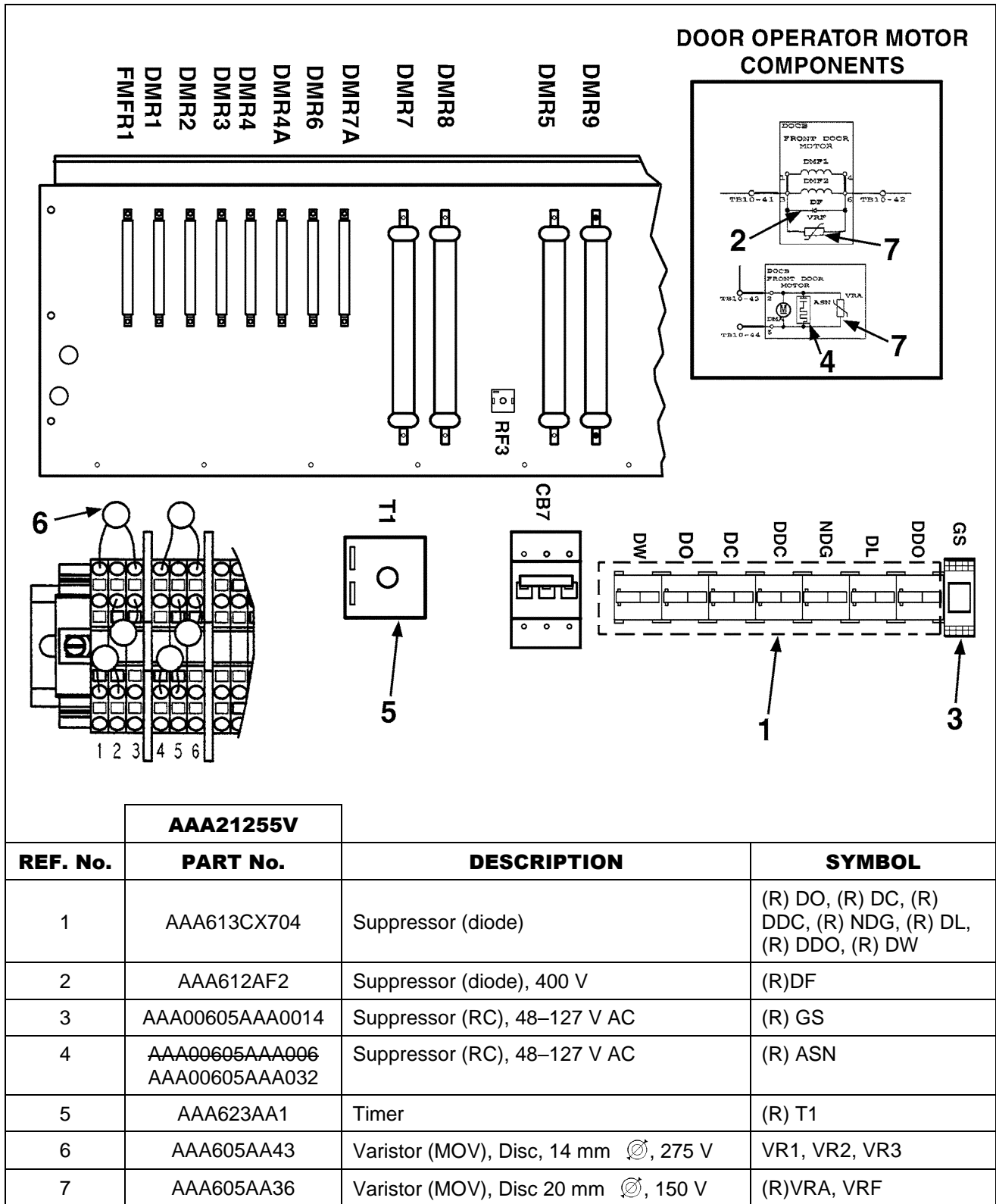
**10-AAA21255V**



AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA00375AAJ006	Circuit Breaker, 3 Phase, 4 A	CB7
	AAA00375AAJ004	Circuit Breaker, 3 Phase, 2 A	CB8
2	AAA613CV102	Contact, Auxiliary	(R) DO, (R) DC, (R) DW
3	AAA638B105	Contactor, 3 NO, 1 NC Contacts, 24 V DC	(R) DO, (R) DC, (R) DDC, (R) NDG, (R) DL, (R) DDO, (R) DW
4	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3, RF4
5	AAA613CZ9	Relay, 4 Pole, 115 V AC	GS, GS3
6	AAA617L101	Resistor Lug	(R) DMR1, 2, 3, 4, 4A, 6, 7A
7	AAA617K102	Resistor Lug, Adjustable	(R) DMR5, 7, 8, 9
8	AAA617L18	Resistor, 100 W, 1000 Ω	(R) DMFR1
	AAA617L12	Resistor, 100 W, 200 Ω	(R) DMR2, 7A
	AAA617L9	Resistor, 100 W, 50 Ω	(R) DMR1, 3, 4, 4A, 6
9	AAA617K8	Resistor, 225 W, 50 Ω	(R) DMR5, 7, 8, 9

**NOTE:** (R) applies to rear door operator.

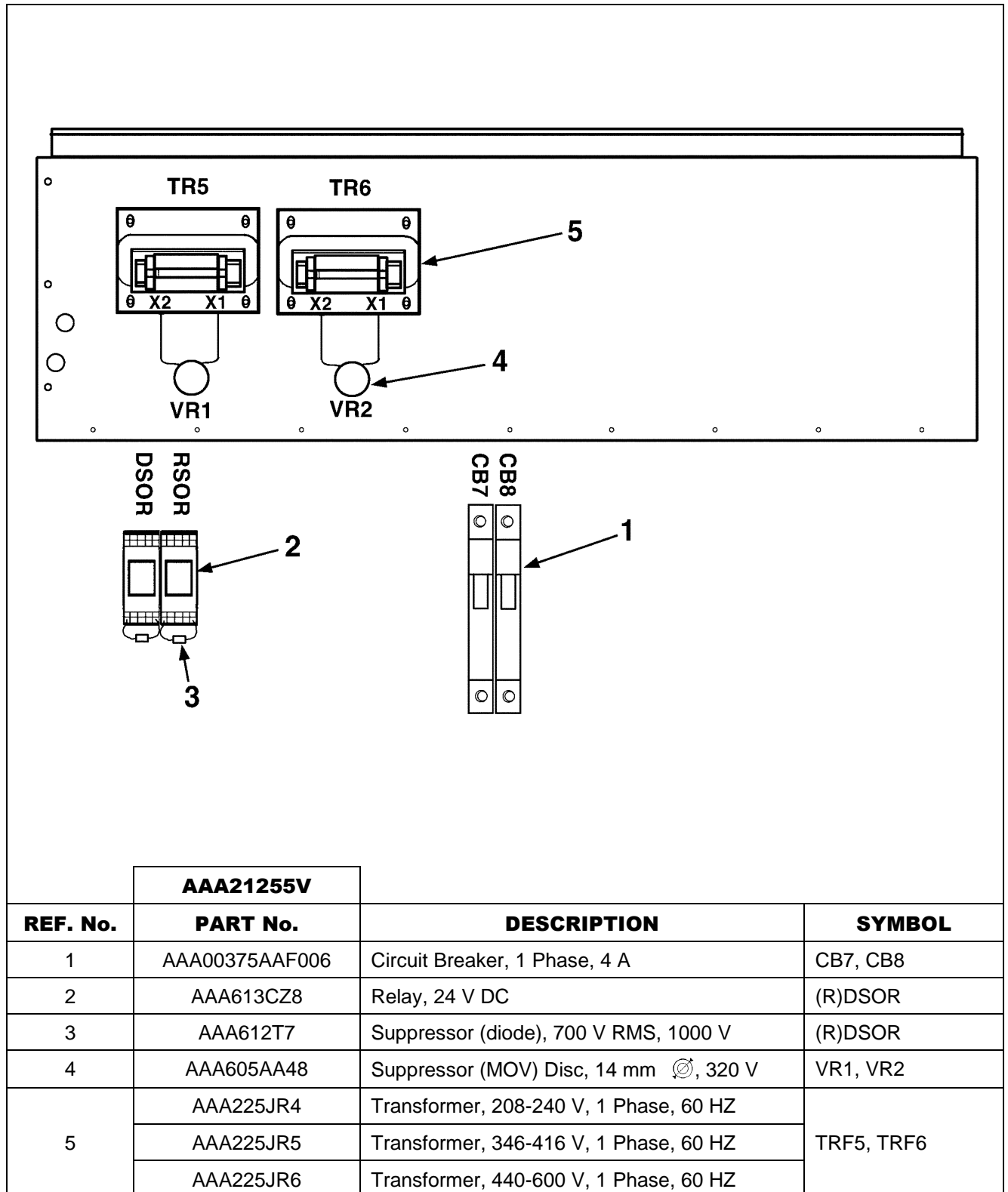
**6970 Timed Resistance  
Door Operator Interface**



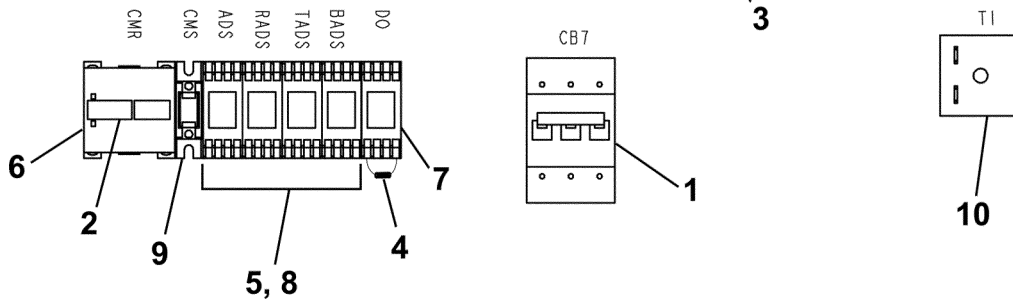
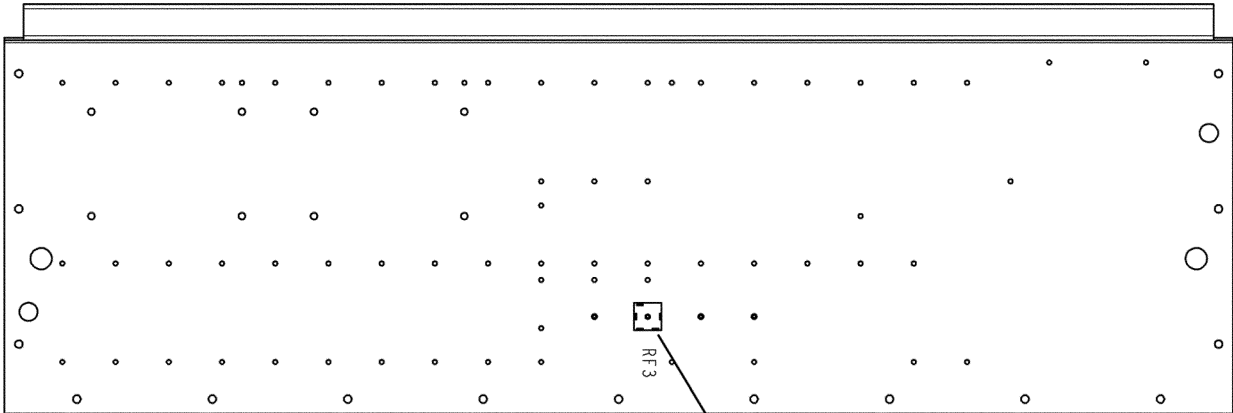
**NOTE:** (R) applies to rear door operator.

# MAC SSCPM / ECI 1000 Door Operator Interface

**10-AAA21255V**



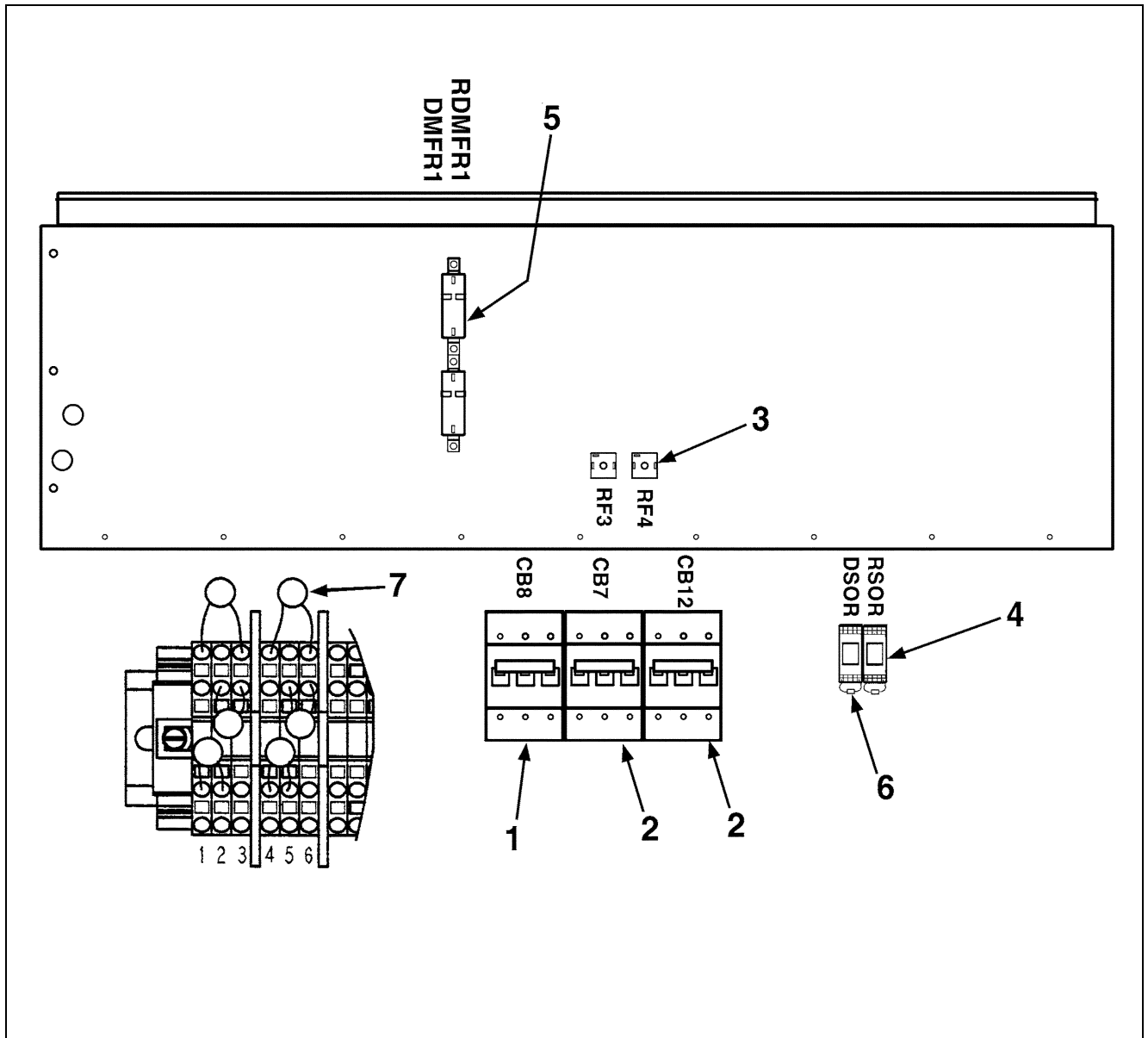
**NOTE:** (R) applies to rear door operator.



<b>AAA21255V</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	AAA00375AAJ006	Circuit Breaker, 3 Phase, 4 A	CB7
2	AAA638B105	Contactora, 3 NO, 1 NC Contacts, 24 V DC	CMR
3	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3
4	AAA613CZ8	Relay, 24 VDC	DO
5	AAA613CZ9	Relay, 4 Pole, 115 V AC	TADS, BADS, ADS, RADS
6	AAA613CX304	Suppressor (diode)	CMR
7	AAA612T2	Suppressor (diode)	DO
8	AAA00605AAA014	Suppressor (RC), 125 V AC	TADS, BADS, ADS, RADS
9	CAA604B2	Suppressor (varistor)	CMS
10	AAA623AA1	Timer	T1
---	AAA605AA43	Varistor (MOV), Disc, 14 mm $\varnothing$ , 275 V	VR4, VR5, VR6

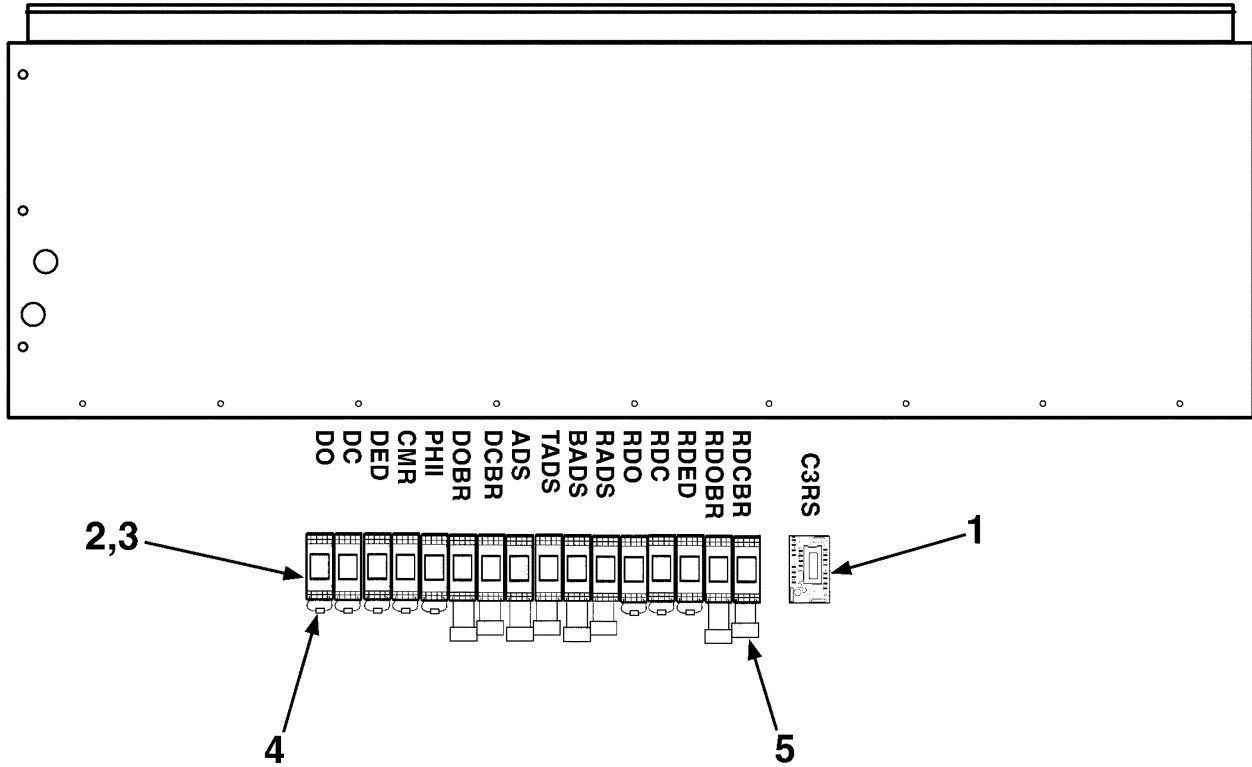


Door Operator Interface



AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA00375AAJ004	Circuit Breaker, 3 Phase, 2 A	CB8
2	AAA00375AAJ006	Circuit Breaker, 3 Phase, 4 A	CB7, CB12
3	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3, RF4
4	AAA613CZ8	Relay, 24 V DC	DSOR, RSOR
5	238B8	Resistor, 30 W, 75 Ω	DMFR1, 2
6	AAA612T7	Suppressor (diode), 700 V RMS, 1000 V	DSOR, RSOR
7	AAA605AA43	Varistor (MOV), Disc, 14 mm ∅, 275 V	VR1 – VR6

**Peele Bi-Parting Freight Doors:  
Door Operator Interface**

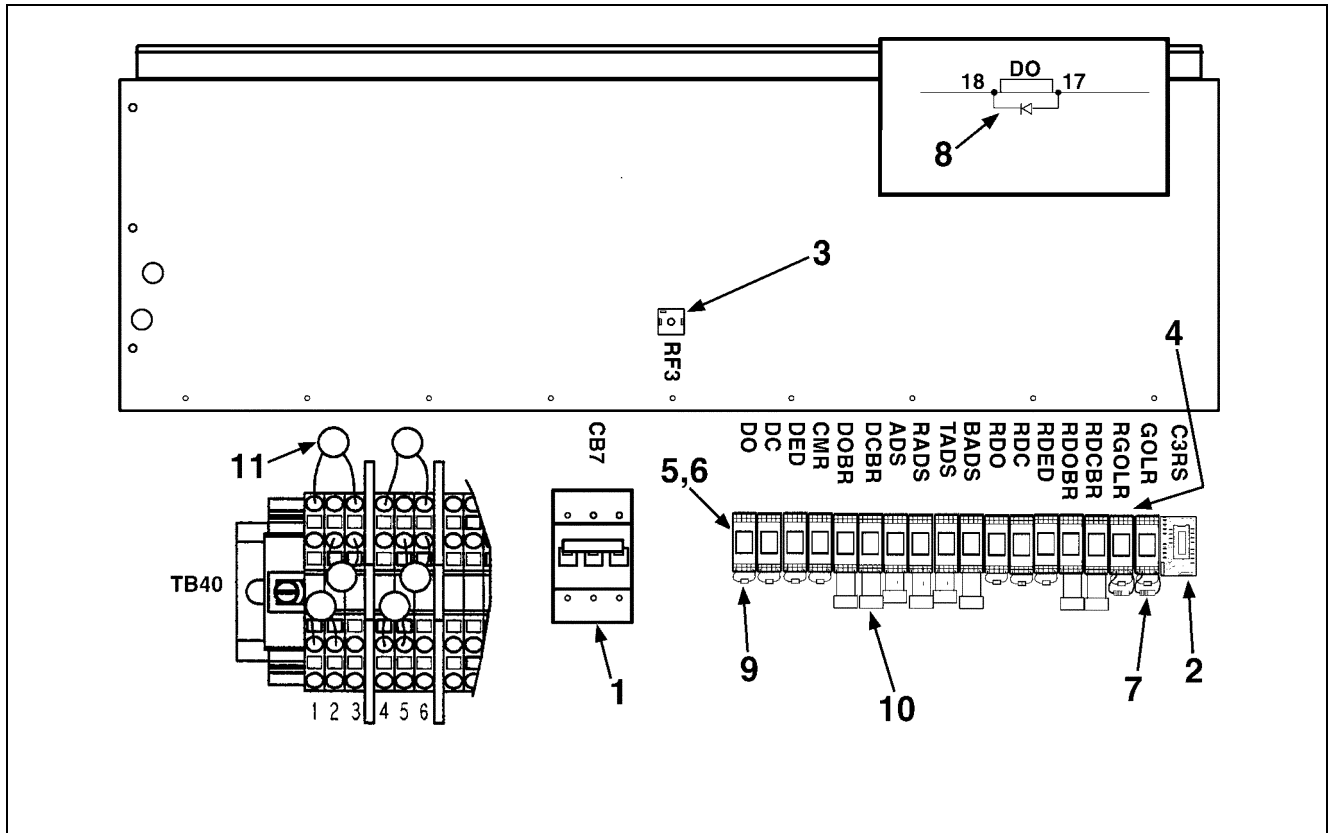


<b>AAA21255V</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	GCA23550D1	PC Board, Remote-Station 5	C3RS
2	AAA613CZ8	Relay, 24 V DC	(R)DO, DC, DED, CMR, PHII
3	AAA613CZ9	Relay, 4 Pole, 115 V AC	(R)DOBR, DCBR, ADS, TADS
4	AAA612T7	Suppressor (diode), 700 V RMS, 1000 V	(R)DO, DC, DED, CMR, PHII
5	AAA00605AAA014	Suppressor (RC), 125 V AC	(R)DOBR, DCBR, ADS, TADS, BADS

**NOTE:** (R) applies to rear door operator.

# Type "F" Bi-Parting Freight Doors: Door Operator Interface

**10-AAA21255V**

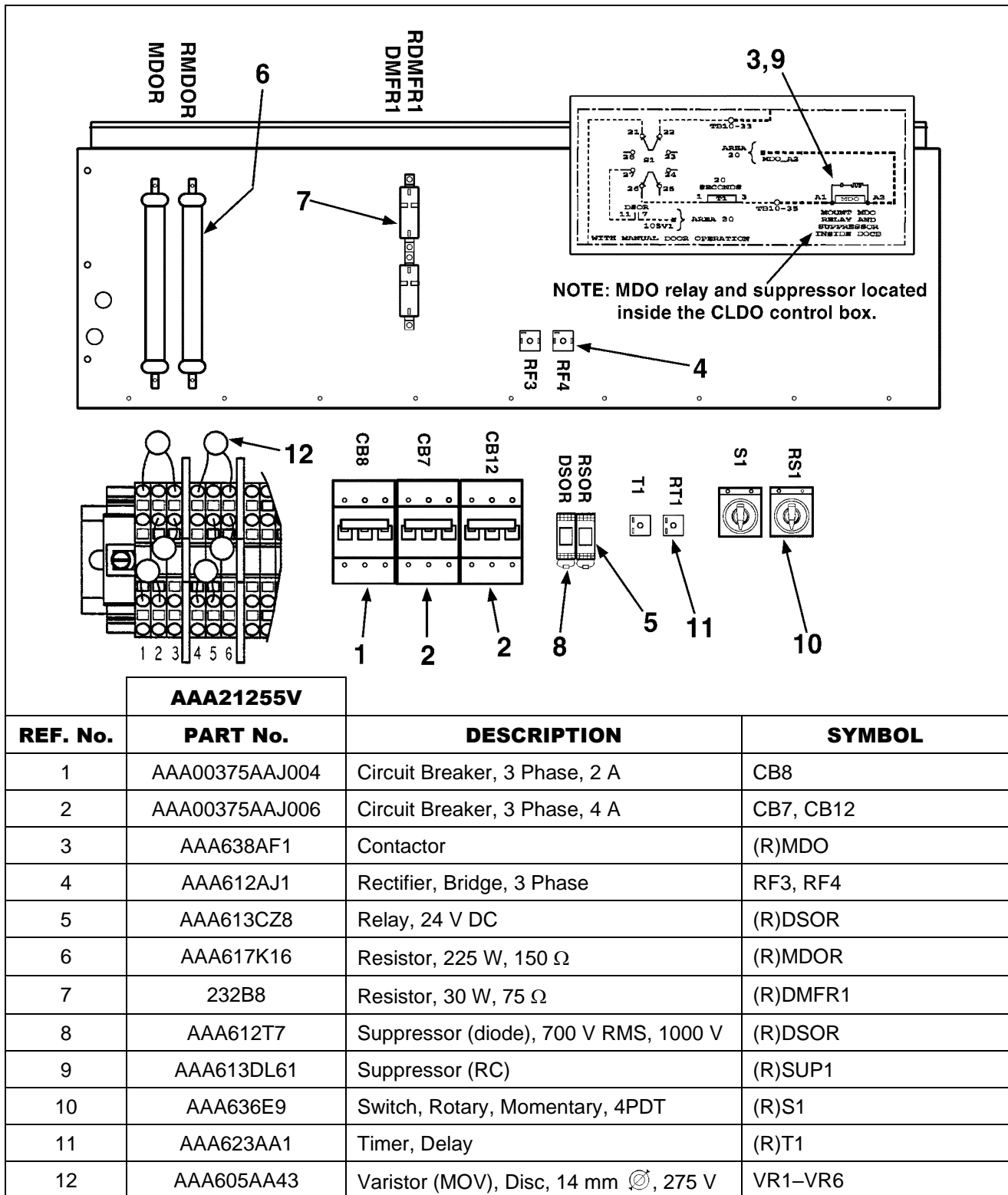


AAA21255V			
REF. No.	PART No.	DESCRIPTION	SYMBOL
1	AAA00375AAJ006	Circuit Breaker, 3 Phase, 4 A	CB7
2	GCA23550D1	P C Board, Remote-Station 5	C3RS
3	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3
4	AAA613CZ12	Relay, 110 V DC	(R)GOLR
5	AAA613CZ8	Relay, 24 V DC	(R)DO, DC, DED, CMR
6	AAA613CZ9	Relay, 115 V AC, 4 Pole	(R)DOBR, DCBR, ADS, BADS, RADS, TADS
7	AAA232FT104	Resistor, 0.5 W, 2000 Ω	R1, R2
8	230BD6	Suppressor (diode), 1000 V Peak Reverse, 1 A DC Output (Electrical representation from wire diagram is shown.)	(R)1DR, DO, GO
9	AAA612T7	Suppressor (diode), 700 V RMS, 1000 V	(R)DO, DC, DED, CMR, GOLR
10	AAA00605AAA014	Suppressor (RC), 125 V AC	(R)DOBR, DCBR, ADS, TADS, BADS
11	AAA605AA43	Varistor (MOV), Disc, 14 mm ∅, 275 V	---

**NOTE:** (R) applies to rear door operator.

# 10-AAA21255V

## 6970 or BB2 CLDO w/Manual Door Operation: Door Operator Interface

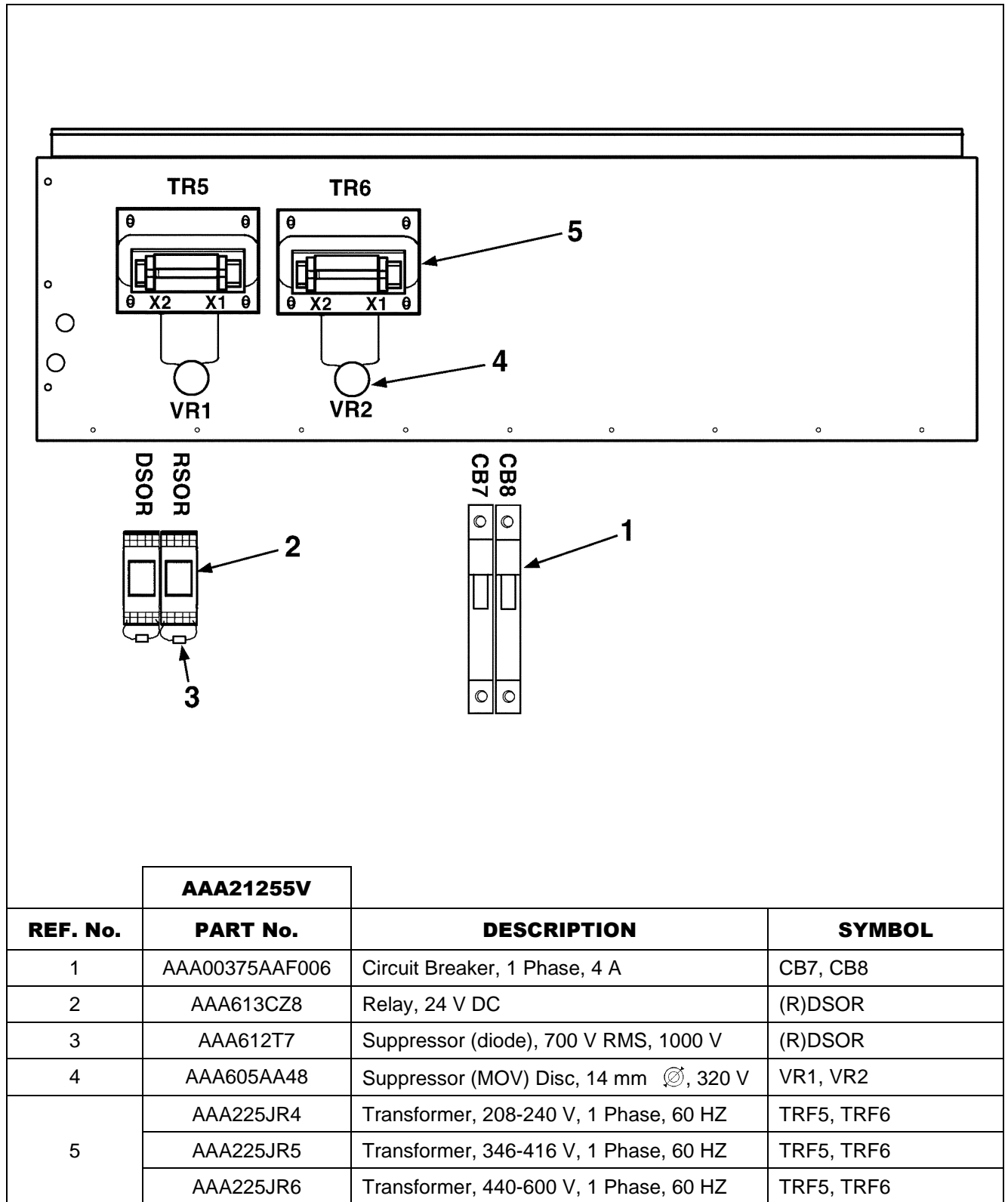


**NOTE:** (R) applies to rear door operator.

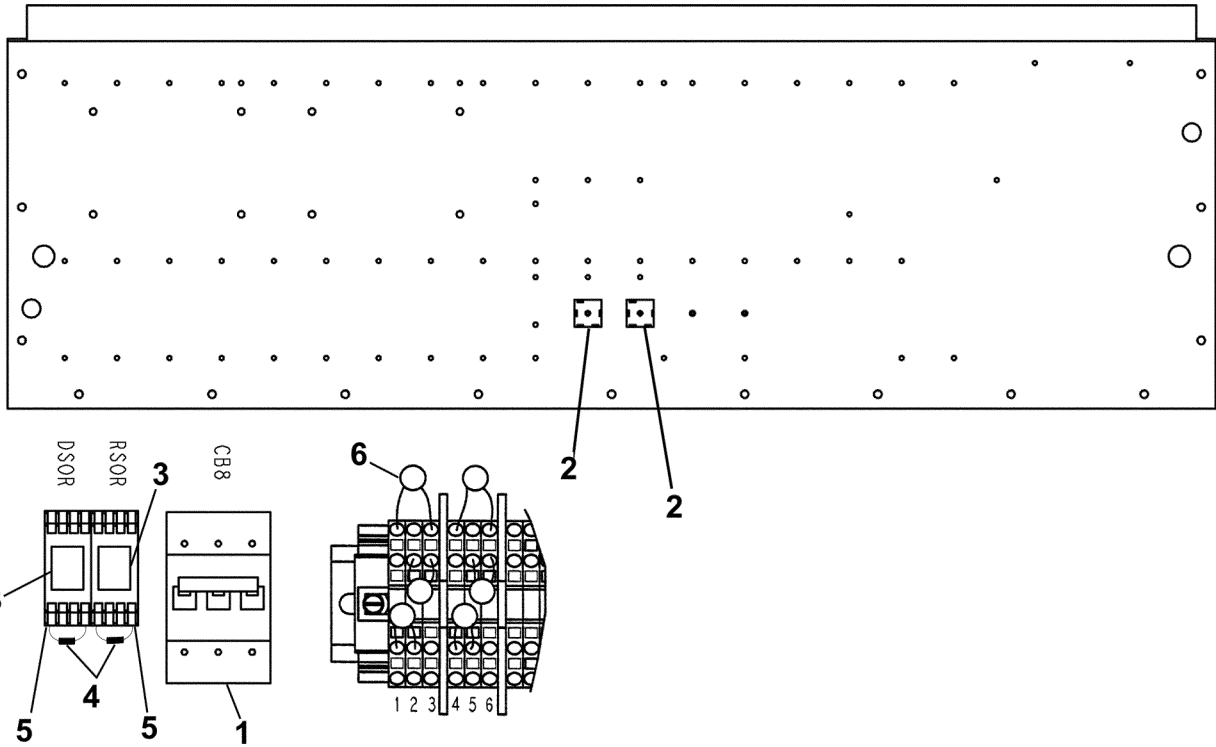
# DO200/HPDS/HSDS/DCDS

## Door Operator Interface

10-AAA21255V



**NOTE:** (R) applies to rear door operator.



<b>AAA21255V</b>			
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>	<b>SYMBOL</b>
1	AAA00375AAJ006	Circuit Breaker, 3 Phase, 4 A	CB7
2	AAA612AJ1	Rectifier, Bridge, 3 Phase	RF3, RF4
3	AAA613CZ8	Relay, 24 V DC	DSOR, RSOR
4	AAA612T7	Suppressor (diode), 700 V RMS, 1000 V	DSOR, RSOR
5	618AE2	Socket, Relay	DSOR, RSOR
6	AAA605AA43	Varistor (MOV), Disc, 14 mm $\varnothing$ , 275 V	VR1, VR2, VR3

**NOTE:** (R) applies to rear door operator.