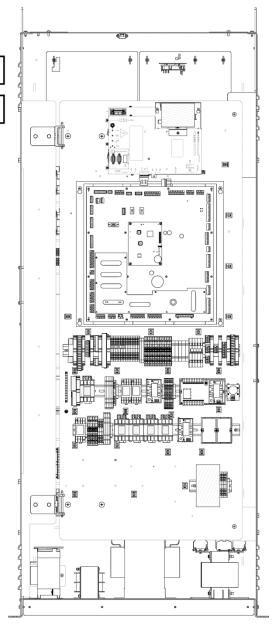
# Global Control System: for Modernization Controller Box

# Spare Parts Leaflet 10-AAA21305CA

**December 11, 2019 / Page 1 of 25** 

10 H - AAA21305CA 10 A - AAA21305CA



**OTIS** 

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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### **History**

#### **Leaflet Description**

This leaflet lists spare parts for type AAA21305CA global control system (RMH).

#### **Leaflet Revisions**

| Date Revised Subject Matter Expert |                    | Reason for Revision   |
|------------------------------------|--------------------|---|
| March 27, 2013                     | Christopher Koenig | New SPL   |
| August 22, 2018 Christopher Koenig |                    | Revised references 3 and 8 on p. 4;<br>Added p/ns GAA648AV3 and AAA303EP140 on p. 5 |
| December 11, 2019                  | Ali Bozorgzadeh    | Added ribbon cable 174HT10 on p. 4  |

#### **Related Drawings**

| Drawing No. | Title                  | Drawing No. | Title               |
|-------------|------------------------|-------------|---------------------|
| AAA21305CA  | NSAA RMH Controller    |             |                     |
| AAA27076DY  | BOM for RMH Controller | AAA21799L   | Transformer Cabinet |

#### **Related Documents**

| Document ID        | Title                        |
|--------------------|------------------------------|
| SPL 10-KDA21310AAL | Low Cost Regenerative Drives |
| SPL 10-AAA21799M   | Power Transformer Box        |

#### **Subject Matter Expert**

| Name               | Department      |  |
|--------------------|-----------------|--|
| Christopher Koenig | OSC Engineering |  |

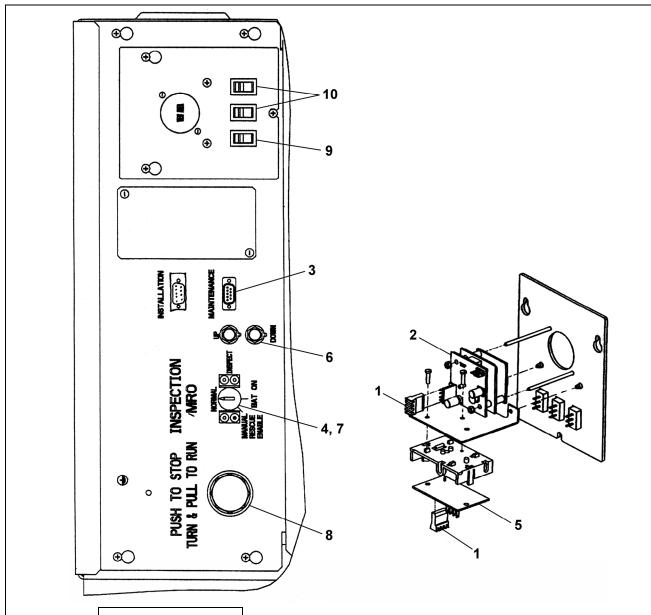
#### About Spare Parts Leaflets...

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.

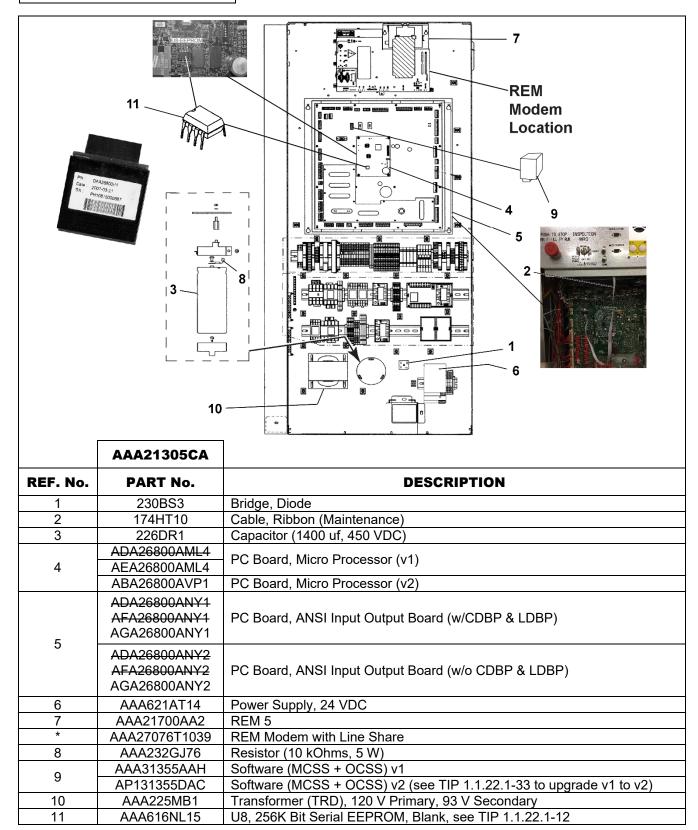
If you have any suggestions about this document, please contact the subject matter expert listed on this page.

# **Test Panel**



|          | AAA21305CA   |                       |            |
|----------|--------------|-----------------------|------------|
| REF. No. | PART No.     | DESCRIPTION           | REMARKS    |
| 1        | AAA447AC3    | Connector, 4-Pole IDC | C4RS, P1   |
| 2        | AAA25100C1   | Display               | PI         |
| 3        | 174HT7       | Harness, Main Plug    |            |
| 4        | AAA431AF6    | Lock, Key             |            |
| 5        | GFA23550D10  | Station, Remote, RS5  | C4RS       |
| 6        | AAA635L3     | Switch, Pushbutton    | CUIB, CDIB |
| 7        | ABA636A21    | Switch, Rotary        | CIS/MRO    |
| 8        | JAA635ABT101 | Switch, Stop          | CES        |
| 9        | AAA177EM4    | Switch, Toggle        | CCTL, CCBL |
| 10       | AAA177EM5    | Switch, Toggle        | DDOS, CHCS |

# **REM 5, Capacitors and Resistors**

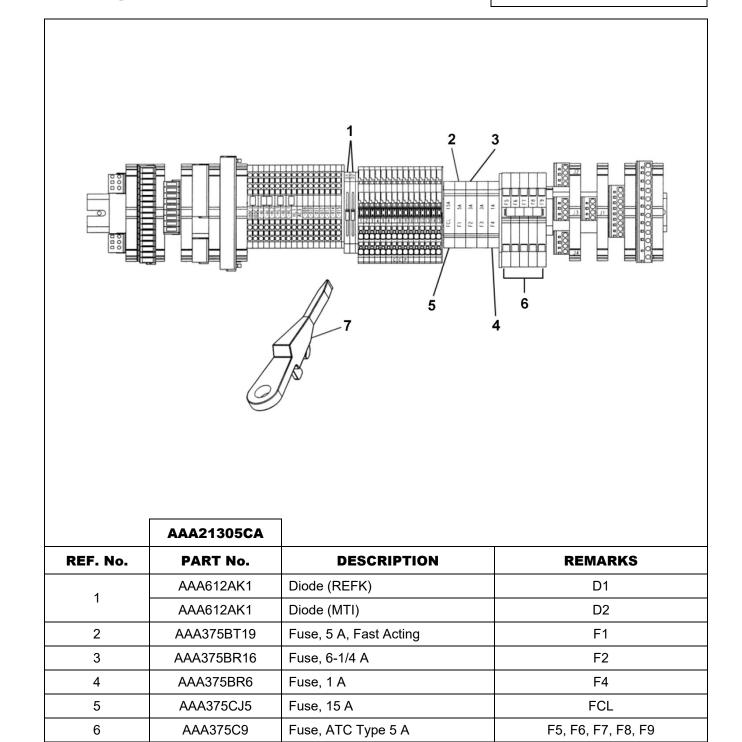


<sup>\*</sup> Part not shown.

**CAUTION:** When swapping CPU board (Ref. 3), remember to remove 8-pin socketed EEPROM (U8) from the existing PCB or your E2P will be lost.

## **Swing Panel Terminal Blocks, Fuses**

#### 10-AAA21305CA



| * | Part | t not | shown. |
|---|------|-------|--------|
|---|------|-------|--------|

7

AAA303EP140

GAA648AV3

AAA27EF11

AAA27EF16

Plate, End

Terminal

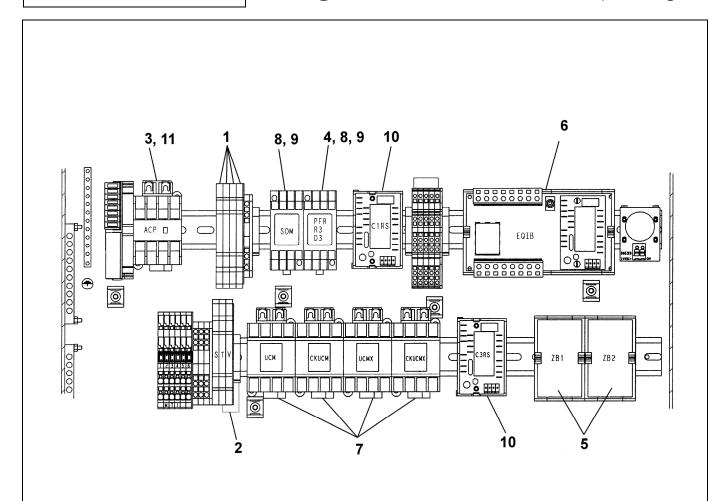
Tool, Terminal Block Operating, 5 mm

Tool, Terminal Block Operating, 2.5 and 3.5 mm

**RGD** 

**RGD** 

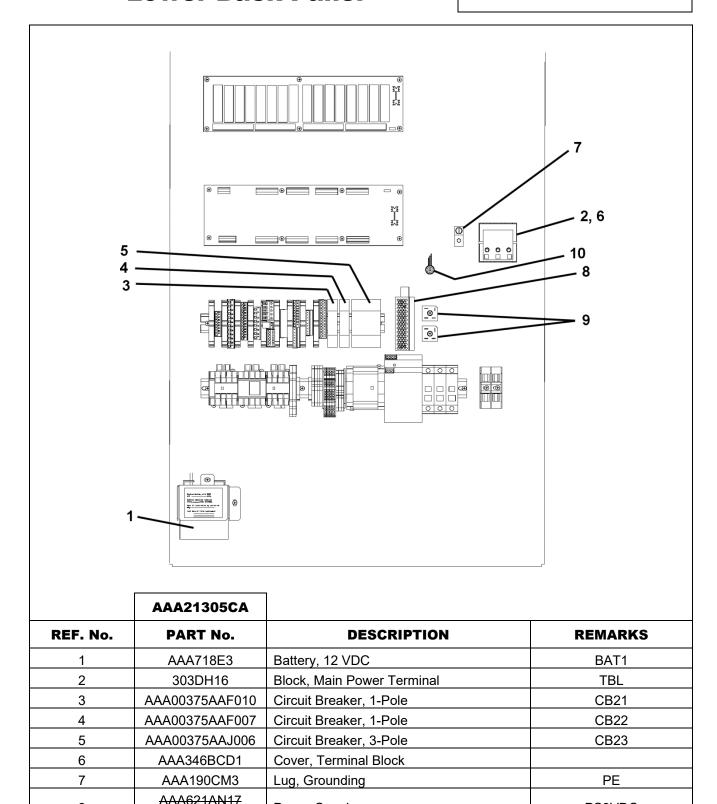
# **Swing Panel Terminal Blocks, Relays**



|          | AAA21305CA  |                                  |                         |
|----------|-------------|----------------------------------|-------------------------|
| REF. No. | PART No.    | DESCRIPTION                      | REMARKS                 |
| 1        | AAA303EP199 | Block, Terminal, with Relay      | R, U, P, Y              |
| 2        | AAA303EP199 | Block, Terminal, with Relay/ MTI | S, T, or V              |
| 3        | AAA613DL72  | Contact, Auxiliary (2NO, 2NC)    | ACP                     |
| 4        | AAA612AF3   | Diode                            | D2 or D3                |
| 5        | AAA21380D1  | Module, Filter (RSL)             | ZB1, ZB2                |
| 6        | ABB21380E3  | Module, Earthquake               | EQIB                    |
| 7        | AAA613DL31  | Relay, 120 VAC Coil (2NO, 2NC)   | UCM, CKUCM, UCMX, CKUMX |
| 8        | AAA613CZ8   | Relay, Socket Mount, 24 VDC      | PFR, or SOM             |
| 9        | 618AE2      | Socket, Relay                    | PFR, or SOM             |
| 40       | AAB26810A1  | Station, Remote                  | C1RS                    |
| 10       | AAB26810A1  | Station, Remote (MTI)            | C3RS                    |
| 11       | AAA613DL61  | Suppressor                       | ACP                     |

#### **Lower Back Panel**

#### 10-AAA21305CA



ACA26800QZ1

230BS3

232B9

**Power Supply** 

Rectifier

Resistor

8

9

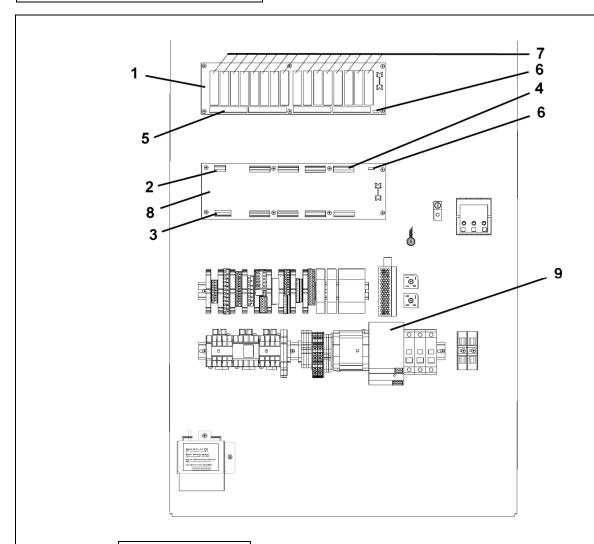
10

PS9VDC

BRD1, BRD2

**BRES** 

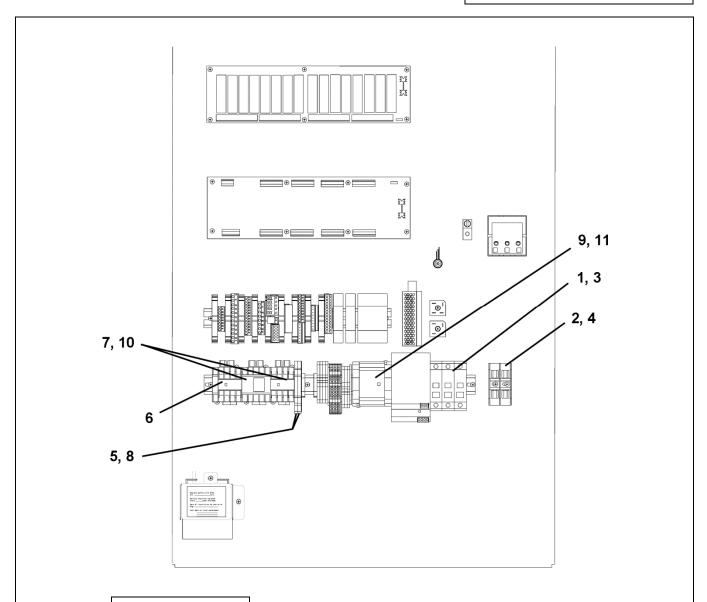
# **Lower Back Panel-IO Boards**



|          | AAA21305CA   |                             |                       |
|----------|--------------|-----------------------------|-----------------------|
| REF. No. | PART No.     | DESCRIPTION                 | REMARKS               |
| 1        | ABA26800ABV2 | Board, HLIO                 | HLIO                  |
| 2        | AAA447X3     | Connector, 4-position       | MRSEB P11             |
| 3        | AAA447X5     | Connector, 6-position       | MRSEB P10             |
| 4        | AAA447X7     | Connector, 8-position       | MRSEB P1-P8           |
| 5        | AAA447AD9    | Connector, 10-position      | 1TB-4TB               |
| 6        | AAA447AC3    | Connector, IDC              | MRSEB-P1, HLIO-P1     |
| *        | AAA27076CM7  | Kit, Standoffs and Hardware | MRSEB                 |
| 7        | ABA26890A1   | Module, IO (48V AC/DC)      | HLIO                  |
| 1        | ABA26890A2   | Module, IO (150V AC/DC)     | HLIO                  |
| 8        | AAA26800MT1  | MRSEB                       | (includes connectors) |
| 9        | AAA621AT14   | Power Supply, 24 VDC        | PSS2                  |

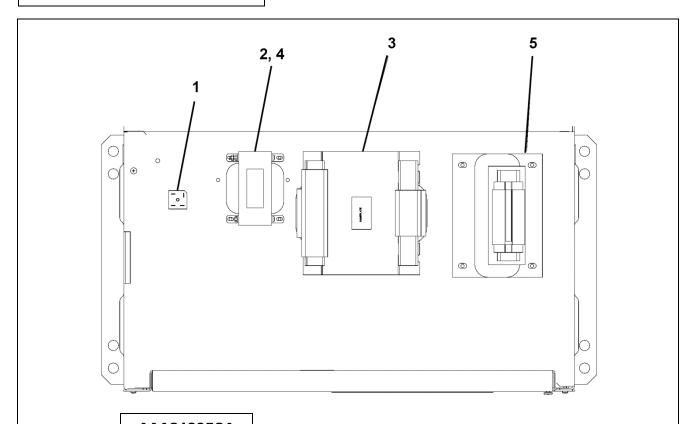
<sup>\*</sup>Part not shown.

# **Lower Back Panel-Relays, Fuses**



|          | AAA21305CA     |              |   |
|----------|----------------|--------------|---|
| REF. No. | PART No.       | DESCRIPTION  | REMARKS                                     |
| 1        | AAA375BK21     | Fuse, 2A     | F10, F11, F12 (w/ type 6970A, 6970CL doors) |
| 2        | AAA375BK39     | Fuse, 10A    | FM (346-600 V Power Supply)                 |
| 2        | AAA375BK41     | Fuse, 15A    | FM (208-240 V Power Supply)                 |
| 3        | AAA180DT1      | Holder, Fuse | F10, F11, F12 (w/ type 6970A, 6970CL doors) |
| 4        | AAA653D1       | Holder, Fuse | FM  |
| 5        | GAA613HK2      | Plate, End   | Q, Z  |
| 6        | AAA638AF15     | Relay        | UD  |
| 7        | AAA613DL31     | Relay        | BH, C                                       |
| 8        | AAA303EP199    | Relay        | Q, Z  |
| 9        | AAA638J2       | Relay        | BP  |
| 10       | AAA613DL61     | Suppressor   | BH, C                                       |
| 11       | AAA00605AAA002 | Suppressor   | BP  |

# **Transformers**



|          | AAA21305CA  |                                 |   |  |
|----------|-------------|---------------------------------|---|--|
| REF. No. | PART No.    | DESCRIPTION                     | REMARKS   |  |
| 1        | 230BS3      | Bridge, Diode                   | BR1   |  |
| 2        | AAA303EP206 | Splice, Wire                    | TRD   |  |
|          | AAA225MF2   | Transformer 208–240 VAC Pri     |   |  |
|          | AAA225MF7   | Transformer 316–440 VAC Pri     | TDM (0, 040 ) ( bushes 450 5)                                   |  |
|          | AAA225MF1   | Transformer 440–500 VAC Pri     | TRM (0–240 V brake taps)  |  |
| 2        | AAA225MF3   | Transformer 525–600 VAC Pri     |   |  |
| 3        | AAA225MF5   | Transformer 208–240 VAC Pri     |   |  |
|          | AAA225MF8   | Transformer 316–440 VAC Pri     | TRM (0–120 V brake taps)  |  |
|          | AAA225MF4   | Transformer 440–500 VAC Pri     |   |  |
|          | AAA225MF6   | Transformer 525–600 VAC Pri     |   |  |
| 4        | AAA225MB1   | Transformer 120 VAC Pri         | TRD (with QL, OVL, <i>i-motion</i> II, 6970REA,6970CLDO,Manual) |  |
|          | AAA225JR4   | Transformer 208–240 VAC Pri     |   |  |
| 5        | AAA225JR5   | Transformer 316–440 VAC Pri     | TRD-240   |  |
|          | AAA225JR6   | Transformer 460–600 VAC Pri     |   |  |
| *        | 235F1       | Transformer 208/220/240 VAC Pri |   |  |
|          | 235F2       | Transformer 380/418/460 VAC Pri | TRD-105 (with 6970REA,  |  |
|          | 235F3       | Transformer 550/575/600 VAC Pri | 6970CLDÒ)   |  |
|          | 235F6       | Transformer 440/460/480 VAC Pri |   |  |

<sup>\*</sup>Part not shown.

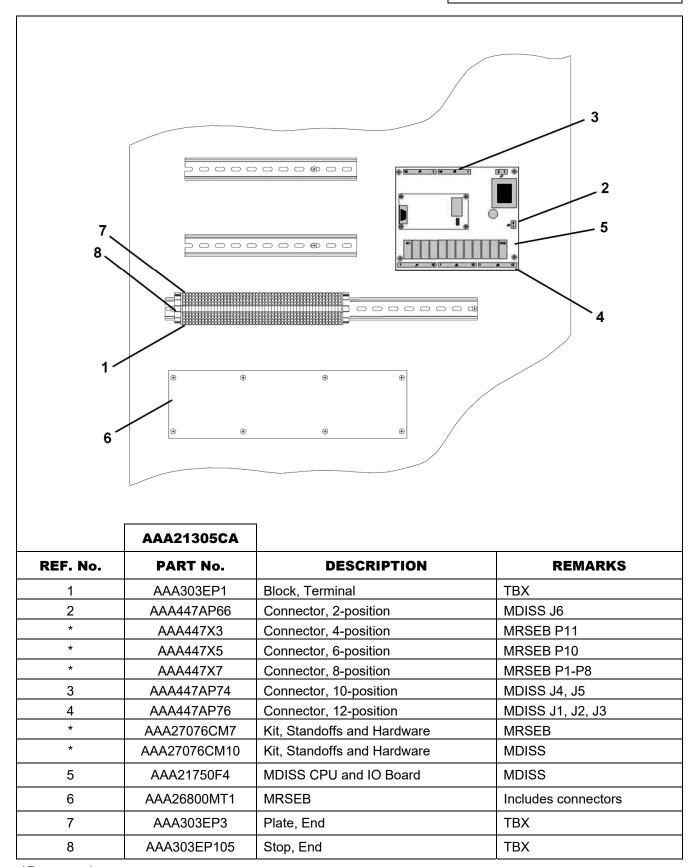
# **GCS IO Board Connectors**

| PLUG | PART No    | TYPE     | POSITION | PITCH     |
|------|------------|----------|----------|-----------|
| P1   | AAA447AE13 |          | 12       | 0.156 in. |
| P2   | AAA447AE8  |          | 7        | 0.156 in. |
| P3   | AAA447AE9  |          | 8        | 0.156 in. |
| P4   | AAA447AE11 |          | 10       | 0.156 in. |
| P5   | AAA447AE4  | AMP/IDC  | 4        | 0.156 in. |
| P6   | Not Used   |          | 9        |           |
| P7   | AAA447AE6  |          | 5        |           |
| P8   | AAA447AE14 |          | 13       | 0.156 in. |
| P9   | AAA447AE7  |          | 6        | 0.156 in. |
| P10A | AAA447BK1  |          | 4        | 5 mm      |
| P10B | AAA447BK2  | 14/4.00  | 4        | 5 mm      |
| P11  | AAA447BK3  | WAGO     | 9        | 5 mm      |
| P12  | AAA447BK4  |          | 9        | 5 mm      |
| P13  | Not Used   | Shrouded | 10       |           |
| P14  | AAA447BK5  |          | 4        | 3.5 mm    |
| P15  | AAA447BK6  |          | 5        | 5 mm      |
| P16  | AAA447BK7  |          | 3        | 3.5 mm    |
| P17  | AAA447BK72 |          | 10       | 3.5 mm    |
| P18  | AAA447BK8  |          | 5        | 3.5 mm    |
| P19  | AAA447BK9  |          | 7        | 3.5 mm    |
| P20  | AAA447BK10 |          | 8        | 3.5 mm    |
| P21  | AAA447BK11 |          | 10       | 3.5 mm    |
| P22  | AAA447BK12 |          | 10       | 5 mm      |
| P23  | AAA447BK73 | WAGO     | 2        | 5 mm      |
| P24  | AAA447BK13 |          | 6        | 5 mm      |
| P25  | AAA447BK14 |          | 6        | 5 mm      |
| P26  | AAA447BK15 |          | 5        | 5 mm      |
| P27  | AAA447BK16 |          | 5        | 5 mm      |
| P28  | AAA176HH51 |          | 4        | 5 mm      |
| P29  | AAA447BK18 |          | 2        | 7.5 mm    |
| P30  | AAA447BK19 |          | 8        | 5 mm      |
| P31  | AAA447BK20 |          | 8        | 5 mm      |
| P32  | AAA447BK21 |          | 10       | 5 mm      |

# RMH Controller DIN Rail Plug Terminals

| LOCATION    | PLUG        | HEADER            | MTG. BASE | POSITION | PITCH   |
|-------------|-------------|-------------------|-----------|----------|---------|
| Swing Panel |             |                   | •         |          |         |
| CLS         | AAA447BK76  | AAA176HH313       | 0440474   | 3        | 5.08 mm |
| RPP         | AAA447BK77  | AAA176HH313       | GAA648AT1 | 3        | 5.08 mm |
| CRD1        | AAA176HH95  | AAA176HH317       | 0440474   | 9        | 5 mm    |
| CRD2        | AAA447AP256 | AAA176HH58        | GAA648AT1 | 4        | 5 mm    |
| ВО          | AAA447BK84  | AAA176HH340       | GAA648AT1 | 20       | 5.08 mm |
| TCP1        | AAA447BK74  | AAA176HH61        | GAA648AT1 | 20       | 5 mm    |
| J1          | AAA447AP256 | AAA176HH58        | GAA648AT1 | 4        | 5 mm    |
| J2          | Χ           | AAA176HH58        |           | 4        | 5 mm    |
| J3          | Χ           | AAA176HH58        | GAA648AT1 | 4        | 5 mm    |
| J4          | Χ           | AAA176HH58        |           | 4        | 5 mm    |
| CB2         | AAA176HH303 | AAA176HH301       | GAA648AT1 | 12       | 7.5 mm  |
| CB1         | AAA176HH306 | AAA176HH98        | GAA648AT1 | 9        | 5 mm    |
| MTI         | AAA447BK83  | AAA303E           | P216      | 6        |         |
| ССР         | AAA447BK82  |                   |           | 16       |         |
| Back Panel  |             |                   |           |          |         |
| BC1         | AAA176HH306 | AAA176HH98        | 011010171 | 9        | 5 mm    |
| BC2         | AAA176HH303 | AAA176HH301       | GAA648AT1 | 12       | 7.5 mm  |
| PVTAB       | AAA447AP19  | A A A 4701 II 140 | 0440474   | 5        | 5 mm    |
| PVTC        | AAA447AP17  | AAA176HH46        | GAA648AT1 | 3        | 5 mm    |
| BD1         | AAA447AP379 | AAA176HH327       |           | 14       | 5 mm    |
| BD2         | AAA176HH302 | AAA176HH300       | GAA648AT1 | 8        | 7.5 mm  |
| BR1         | AAA447AP355 | AAA176HH318       |           | 7        | 7.5 mm  |
| BM1         | AAA176HH97  | AAA176HH55        |           | 2        | 5 mm    |
| NO1         | AAA176HH62  |                   |           | 10       | 5 mm    |
| CO1         | AAA176HH62  | AAA176HH60        |           | 10       | 5 mm    |
| CT1         | AAA447BE20  | AAA176HH33        |           | 7        | 5 mm    |
| ENC         | AAA447AP379 | AAA176HH327       |           | 14       | 5 mm    |
| BS1         | AAA447AP70  | AAA176HH319       |           | 6        | 5 mm    |

### **Back Panel Common Door Parts**



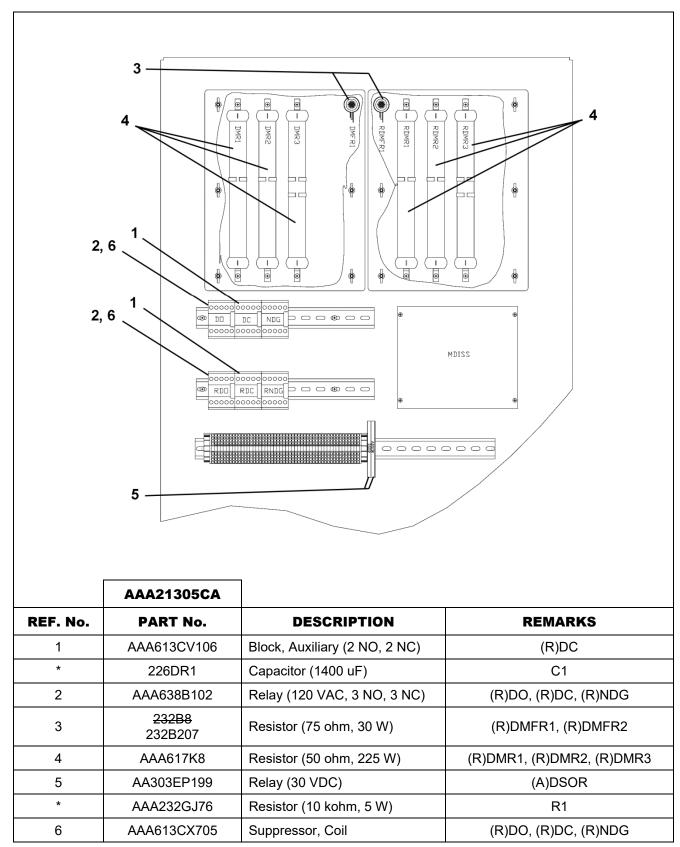
<sup>\*</sup>Part not shown.

# **Door Operator Cross Reference**

| DOOR TYPE | DOOR OPERATOR MODEL                   | ACRONYM/CODE |
|-----------|---------------------------------------|--------------|
| 1         | Otis QL                               | DOX          |
| 2         | Otis OVL discrete                     | DOY          |
| 11        | Otis 6970A with new reactor           | DOA-N        |
| 12        | Otis 6970A with closed loop control   | DOCL1        |
| 17        | Manual doors with 120VDC retiring cam | DOM1         |
| 18        | Otis Type "F" Freight                 | DOF          |
| 19        | MAC PMSSC                             | DON1         |
| 22        | GAL Type MOD                          | DOR          |
| 23        | GAL Type MOM, MOH                     | DOS          |
| 26        | ECI-1000                              | DON2         |
| 32        | Courion Freight Doors                 | DOK          |
| 33        | Manual Doors with 220VAC 3phase cam   | DOM2         |
| 36        | Otis i-motion II (serial/multi-drop)  | DOI          |
| 38        | Siemens AT-400                        | AT400        |
| 39        | GAL type MOVFR                        | DOMOVFR      |
| 40        | Otis NGPOK/Glide (with 2 motors)      | NGPOK        |
| 41        | Otis OVL with closed loop control     | DOCL5        |
| 42        | Peelle Freight Doors with PLC control | DOP3         |
| 43        | MCE Smart Traq                        | DOMST        |
| 44        | Glide A (1 small motor)               | GLIDEA       |
| 45        | Glide S (1 big motor)                 | GLIDES       |
| 46        | GAL MODG and MODCT                    | DOMODG       |
| 47        | Peelle Wireless Freight Doors         | DOPW         |
| 48        | EMS Freight Doors                     | DOEMSF       |
| 49        | Manual doors with 120VAC retiring cam | DOM3         |
| 50        | i-motion II discrete                  | DOI          |
| 99        | None                                  | XX           |

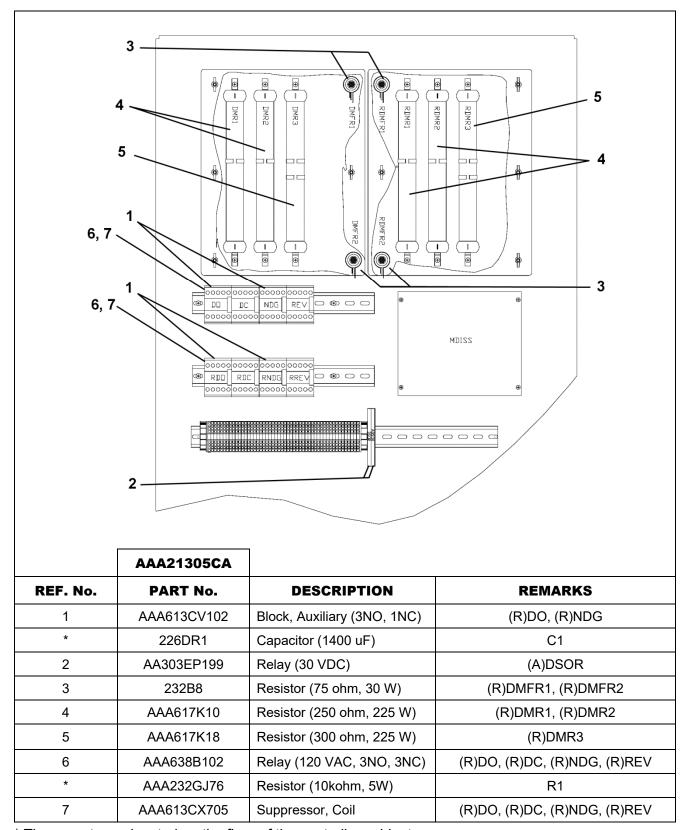
Reference only. Chart includes door operators not supported by base controller.

# **Back Panel Door Parts (QL)**



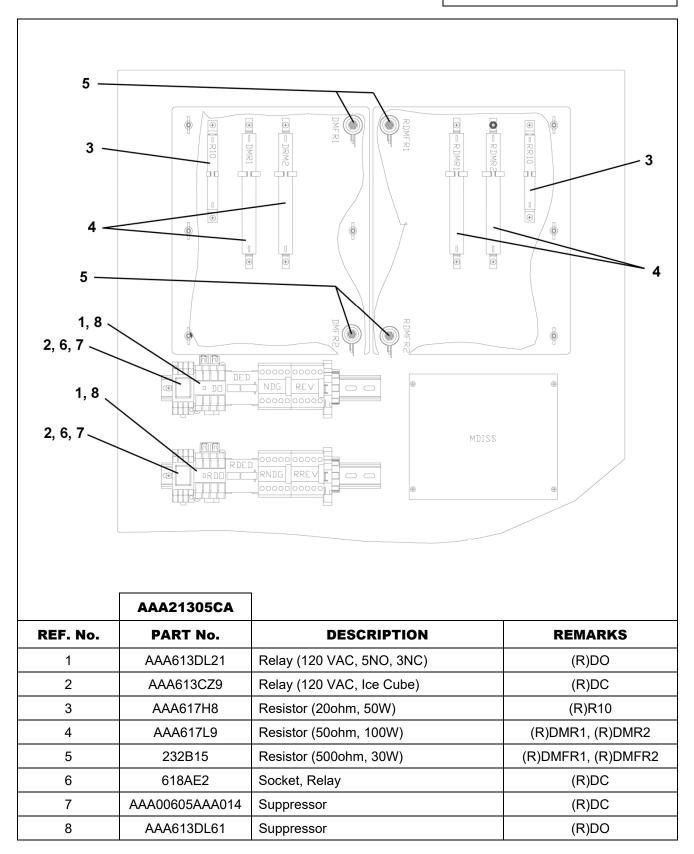
<sup>\*</sup> These parts are located on the floor of the controller cabinet.

# **Back Panel- Door Parts (OVL)**

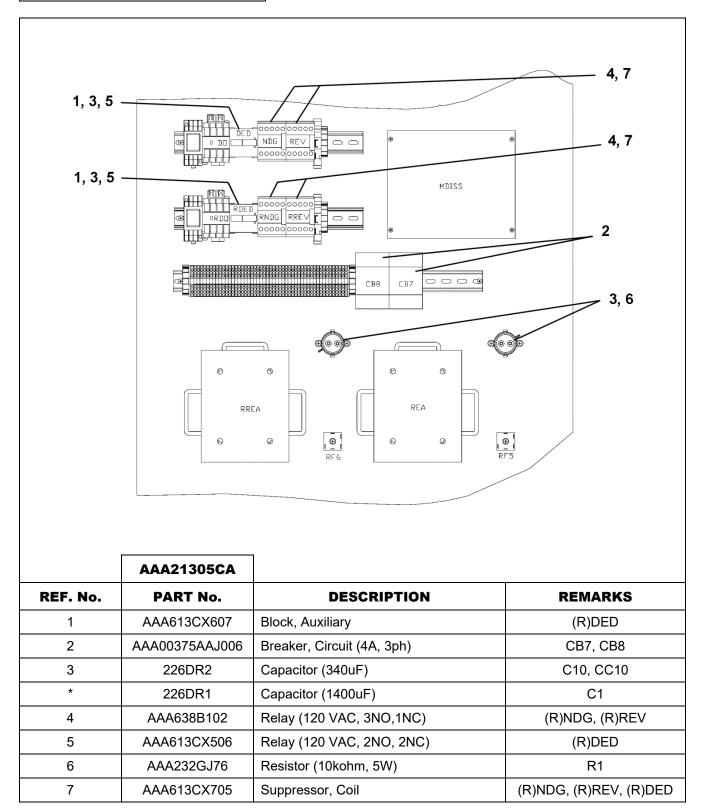


<sup>\*</sup> These parts are located on the floor of the controller cabinet.

# Back Panel-Door Parts (6970A)

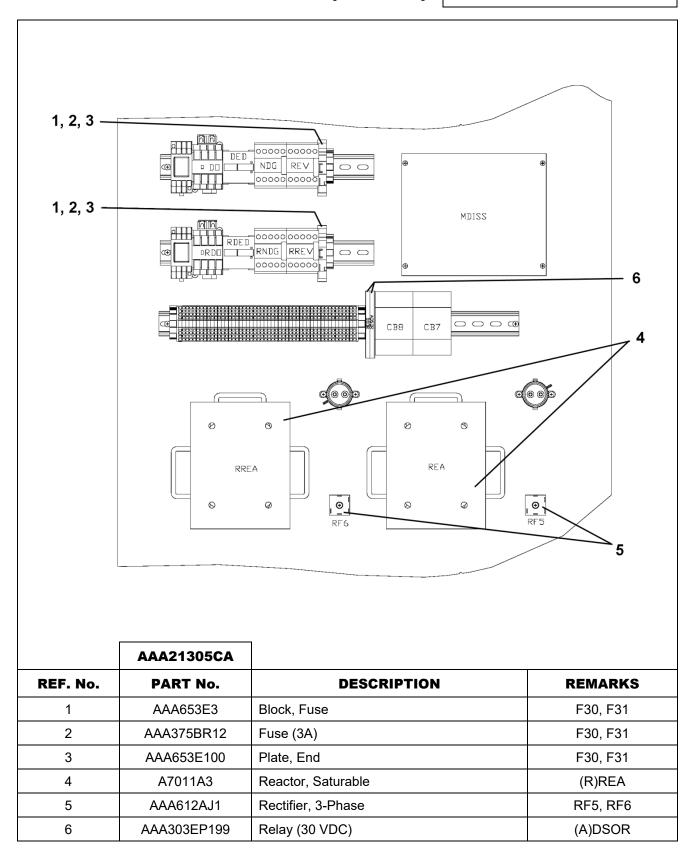


# **Back Panel-Door Parts(6970A)**

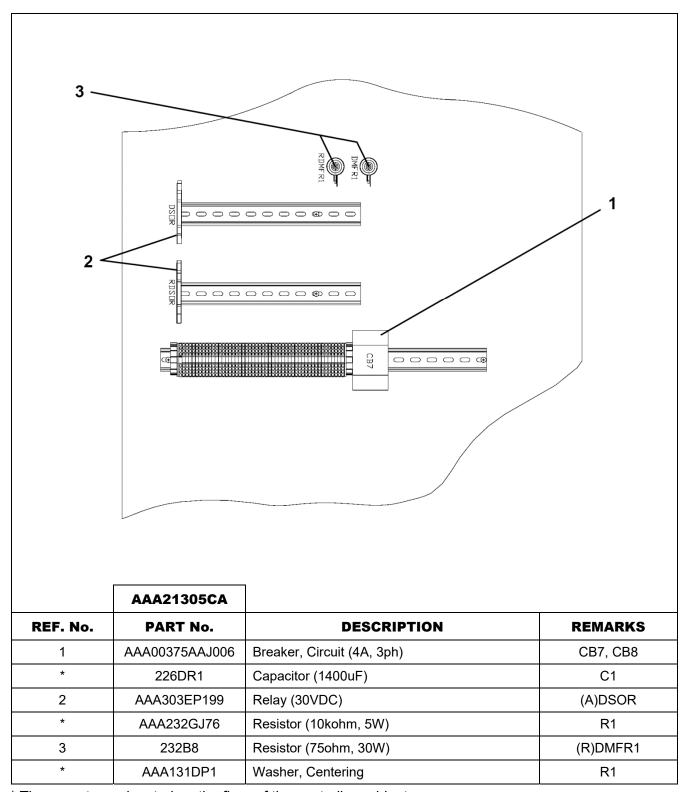


<sup>\*</sup> These parts are located on the floor of the controller cabinet.

# Back Panel-Door Parts (6970A)

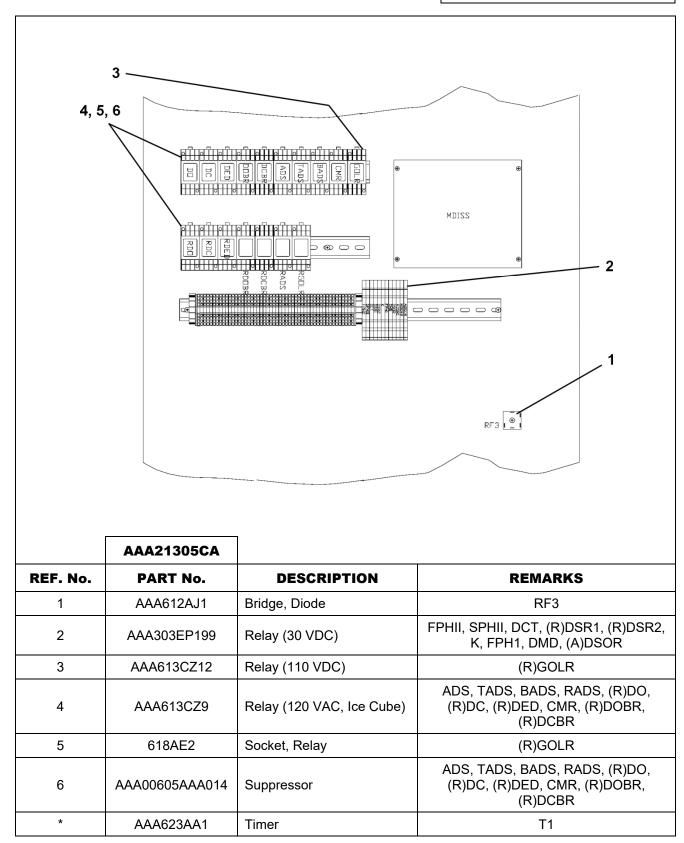


# Back Panel-Door Parts (6970CL, OVLCL)



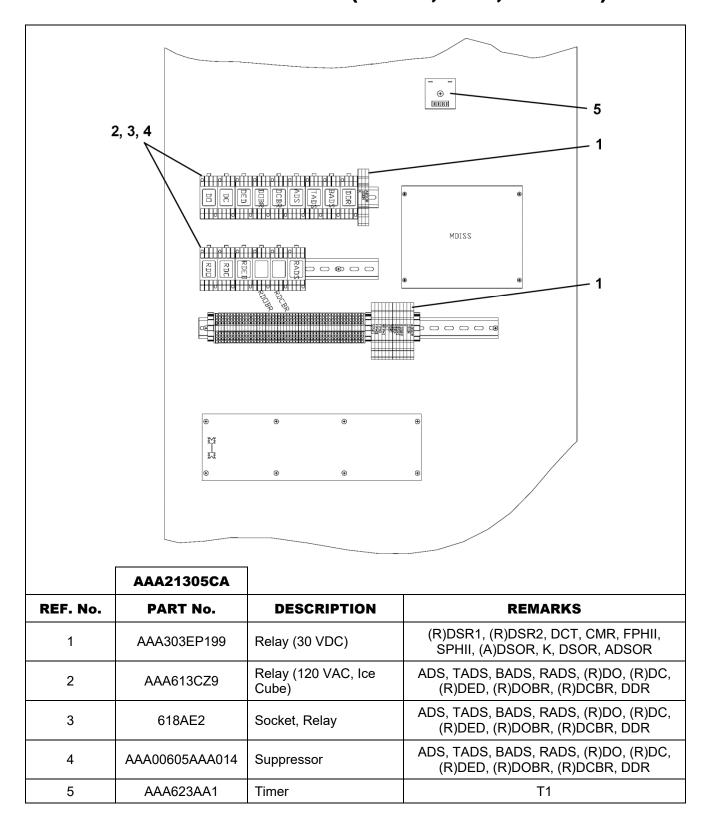
<sup>\*</sup> These parts are located on the floor of the controller cabinet.

# Back Panel-Door Parts (Type-F)

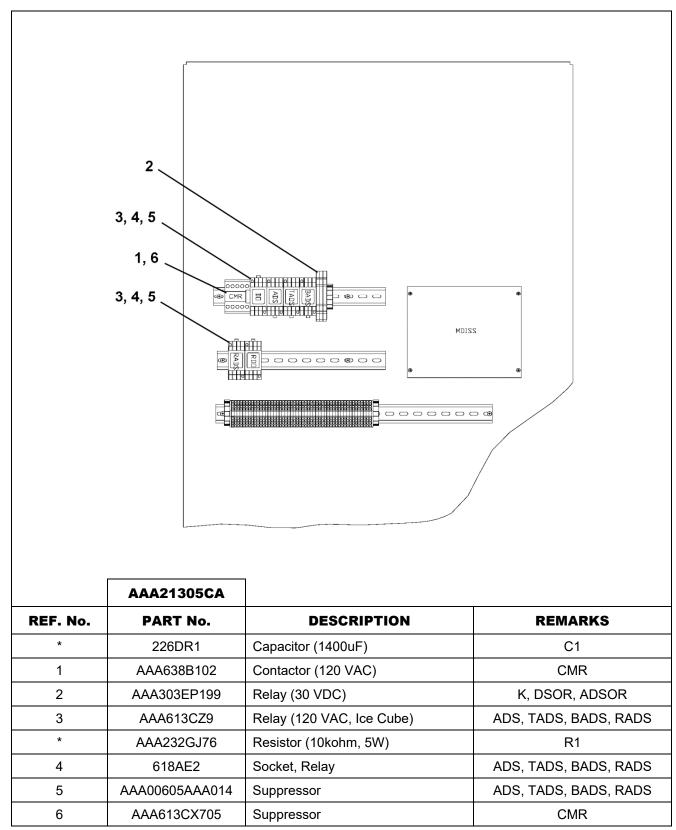


<sup>\*</sup>Part not shown.

# Back Panel-Door Parts (Peelle, EMS, Courion)

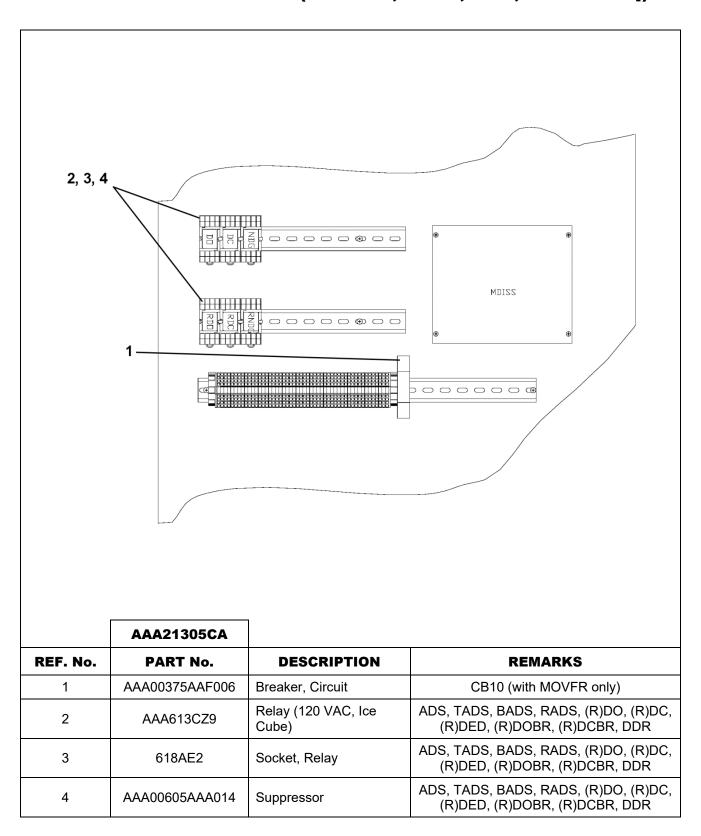


# Back Panel-Door Parts (Manual)

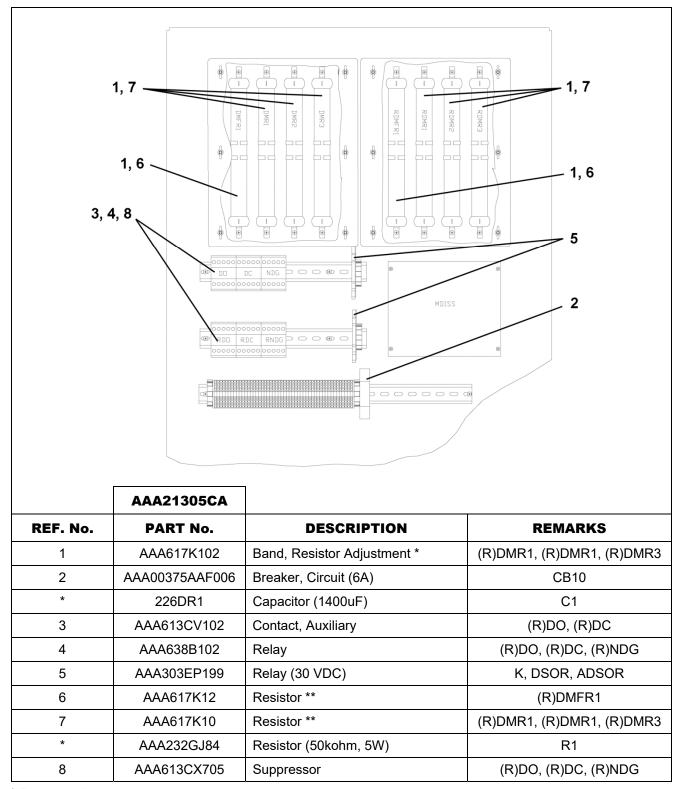


<sup>\*</sup>Part not shown.

# Back Panel-Door Parts (MOVFR, MAC, ECI, SmarTraq)



# Back Panel-Door Parts (GAL-MOM, MOD, MOH)



<sup>\*</sup> Part not shown.

<sup>\*\*</sup> Not used with GAL-MOM or MOH door operator.