



# RA Series Transfer Switches



The RA automatic transfer switch is integrated with the RS series generator set. These products are listed to UL 1008, the Standard for Transfer Switch Safety. The switch and generator set combination is specifically designed for a simplified, quicker installation.

These UL 1008 switches are suitable for Standby power systems in residential and light commercial applications. These RA products adhere to National Electrical Code (NEC) and National Fire Protection Association (NFPA) requirements.

The RA transfer switch monitors utility power 24 hours a day and 7 days a week. When utility power becomes unsatisfactory or fails; the generator set is signalled to start, then automatically transfers the load. When stable utility voltage returns, the transfer switch will automatically switch the electrical load from the generator to the utility. The homeowner requires no action.

The RA switch is also available in service entrance models. A service entrance version is also UL 1008 listed and makes use of a UL 489 listed circuit breaker. 100A and 200A Non-service entrance switch is certified under CSA C22.2.

## Features

### Mechanically interlocked contactor

- Long-life, high pressure, silver alloy contact resists burning and pitting
- A powerful and economical solenoid drives the mechanism

### UL 489 Listed circuit breaker

#### Solid bus bar connection

- Between circuit breaker and transfer switch

#### Neutral and ground bar

- Fully rated
- Bonding jumper on neutral and ground
- Silver plated copper ground and neutral bus

#### Ease of connection

- Solderless screw type terminals for external power connections

#### Aluminium Enclosure

- NEMA Type 3R rated

## Transfer Switch Mechanism



- A powerful and economical solenoid powers RA Transfer Switches.
- Independent break-before-make action is common for 2-pole.
- Mechanical interlock prevents simultaneous closing of normal and emergency contacts.
- Electrical interlocks prevent simultaneous closing signals to normal and emergency contacts and interconnection of normal and emergency sources through the control wiring.
- Long-life, high pressure, silver alloy contacts resist burning and pitting. Contacts are mechanically held in both normal and emergency positions for reliable, quiet operation.

## Specifications

|   |   |
|---|---|
| <b>Voltage rating</b>                         | Transfer switches up to 240 VAC, 50 Hz or 60 Hz.  |
| <b>Amperage rating</b>                        | Transfer switches rated for 100, 200 and 400 A Continuous amperes.  |
| <b>Arc interruption</b>                       | Multiple leaf arc chutes cool and quench the arcs. Barriers prevent interphase flashover.   |
| <b>Neutral bar</b>                            | A full current-rated neutral bar is standard on enclosed 2-pole transfer switches.  |
| <b>Auxiliary contacts</b>                     | Two contacts rated at 5 A Continuous at 100 VAC or 2.5 A Continuous at 200 VAC (one for each source) are provided for customer use. Wired to terminal block for easy access.        |
| <b>Storage temperature</b>                    | -25 °C (-13 °F) to 55 °C (131 °F)   |
| <b>Humidity</b>                               | Up to 90% @ 20 °C   |
| <b>Altitude</b>                               | Up to 2,000 m (6,561 ft) without derating.  |
| <b>Total transfer time (source-to-source)</b> | Will not exceed 100 m/secs with normal voltage applied to the actuator.   |
| <b>Manual operation handles</b>               | Transfer switches are equipped with a removable operating handle which allows operation during servicing in order to facilitate troubleshooting with sources of power disconnected. |

## UL 1008 Withstand and Closing Ratings

| Transfer switch ampere | Coordinated molded case breakers |
|------------------------|----------------------------------|
| 100 A                  | 22,000                           |
| 200 A                  | 22,000                           |
| 100 A SE               | 10,000                           |
| 200 A SE               | 10,000                           |
| 400 A                  | 35,000                           |
| 400 A SE               | 35,000                           |

## Enclosures

Wire bend space complies with 2020 NEC.

### Dimensions - Transfer Switch in UL type 3R Enclosure

| Model and Amp rating | Height |      | Width |     | Depth |     | Weight |      | Outline drawing |
|----------------------|--------|------|-------|-----|-------|-----|--------|------|-----------------|
|                      | in.    | mm   | in.   | mm  | in.   | mm  | lb     | kg   |                 |
| RA112N3 (AL)         | 24.2   | 613  | 17.2  | 437 | 6.2   | 159 | 31     | 14   | A064E337        |
| RA212N3 (AL)         | 26.9   | 683  | 18.4  | 467 | 6.2   | 159 | 35     | 16   | A064E337        |
| RA112S3 (AL)         | 22.7   | 577  | 20    | 507 | 7     | 179 | 46     | 21   | A064E337        |
| RA212S3 (AL)         | 22.7   | 577  | 20    | 507 | 7     | 179 | 46     | 21   | A064E337        |
| RA412N3 (AL)         | 36.9   | 937  | 24.9  | 633 | 11.1  | 282 | 64.5   | 29.3 | A049Z141        |
| RA412S3 (AL)         | 47.9   | 1217 | 23.4  | 594 | 11.3  | 287 | 95.6   | 43.4 | A049Z141        |
| RA112N3 (STL)        | 24.0   | 619  | 17.0  | 433 | 7.4   | 187 | 33     | 15   | A044R213        |
| RA212N3 (STL)        | 27.1   | 688  | 18.2  | 463 | 7.4   | 187 | 46     | 21   | A044R213        |
| RA112S3 (STL)        | 23.3   | 591  | 19.8  | 503 | 7.2   | 182 | 58     | 26   | A044R213        |
| RA212S3 (STL)        | 23.3   | 591  | 19.8  | 503 | 7.2   | 182 | 58     | 26   | A044R213        |

## Transfer Switch Lug Capacities

| Model and Amp rating | Size                             |
|----------------------|----------------------------------|
| 100 A                | #14 AWG to 2/0 CU/AL             |
| 200 A                | #6 AWG to 300 MCM CU/AL          |
| 400 A                | 3/0 to 600 MCM and #4 to 250 MCM |





## Service Entrance Transfer Switch Lug Capacities

| Model and Amp rating | Size                    |  |                     |
|----------------------|-------------------------|--|---------------------|
|                      | Utility                 | Load, neutral and generator  | Ground              |
| 100 A SE             | #4 AWG to 300 MCM CU/AL | #14 AWG - 2/0 CU/AL  | #14 AWG - 1/0 CU/AL |
| 200 A SE             | #4 AWG to 300 MCM CU/AL | #6 AWG - 300 MCM CU/AL (transfer switch and neutral only)<br>#14 AWG - 2/0 CU/AL (generator) | #14 AWG - 1/0 CU/AL |
| 400 A SE             | #2 to 250 MCM           | 3/0 to 600 MCM   | #6 to 3/0           |

## Submittal Details

| Description | Part #   | Rating   | Voltage           | Enclosure     |
|-------------|----------|----------|-------------------|---------------|
| RA112N3     | A064G345 | 100 A    | 120/240 V 1 phase | 3R (Aluminum) |
| RA212N3     | A064G376 | 200 A    | 120/240 V 1 phase | 3R (Aluminum) |
| RA112S3     | A064G545 | 100 A SE | 120/240 V 1 phase | 3R (Aluminum) |
| RA212S3     | A064G549 | 200 A SE | 120/240 V 1 phase | 3R (Aluminum) |
| RA412N3     | A050W633 | 400 A    | 120/240 V 1 phase | 3R (Aluminum) |
| RA412S3     | A050W853 | 400 A SE | 120/240 V 1 phase | 3R (Aluminum) |
| RA112N3     | A045P692 | 100 A    | 120/240 V 1 phase | 3R (Steel)    |
| RA212N3     | A045P694 | 200 A    | 120/240 V 1 phase | 3R (Steel)    |
| RA112S3     | A045P696 | 100 A SE | 120/240 V 1 phase | 3R (Steel)    |
| RA212S3     | A045P697 | 200 A SE | 120/240 V 1 phase | 3R (Steel)    |

## Certifications

|   |  |
|---|--|
|  | All switches are UL 1008 Listed with UL Type Rated cabinets and UL Listed CU-AL terminals. |
|  | All switches comply with NEMA ICS 10.  |
|  | All switches comply with NFPA 70.  |
|  | All Non-Service switches are CSA C22.2 certified.  |

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