

### Swing Door Interlock Applications

#### BACKGROUND

A North American manufacturer of residential vertical lifts and elevators was seeking a reliable cost-effective door interlock. The door interlock holds the door in place and prevents it from being opened when not desired (e.g., the elevator/lift car is not present at the door). A door interlock is required by code at each door entry. The OEM was experiencing quality and reliability issues with their current supplier. The switch lacked robustness, was prone to adjustment issues which resulted in nuisance shut downs, and experienced solenoid hang-up issues. The supplier's plastic key would warp and bend over time, causing alignment issues.

#### SOLUTION

Honeywell Sensing and Control's Relialign™ Series of residential door interlocks was just what the manufacturer was looking for. Relialign™ interlocks feature Honeywell internal switches that provide separate mechanical actions for door-locked and door-closed signals. The internal solenoid control extends the life of the solenoid as well as reduces power consumption. In addition, Honeywell's custom solenoid reduces hang-up issues that can be common in other switches. Honeywell's unique cam design provides positive snap-action resulting in less adjustment issues and nuisance shut downs. Honeywell's metal key design provides a secure lock with little play and does not warp or break.

#### RELIALIGN™ SERIES RESIDENTIAL DOOR INTERLOCKS

Honeywell Relialign™ RDI Series Residential Door Interlock switches are electromechanical devices designed for use in residential swing door applications, specifically dumbwaiters, lifts for the mobility impaired and swing-door elevators in the USA. In Canada, the RDI is designed for use in residential swing door applications, specifically elevators and dumbwaiters but is not designed for use in lifts for the mobility impaired. The interlock holds the door in place and prevents it from being opened in potentially unsafe conditions (e.g. the elevator/lift car is not present at the door). (See Table 1.)

Figure 1. Residential Swing Door

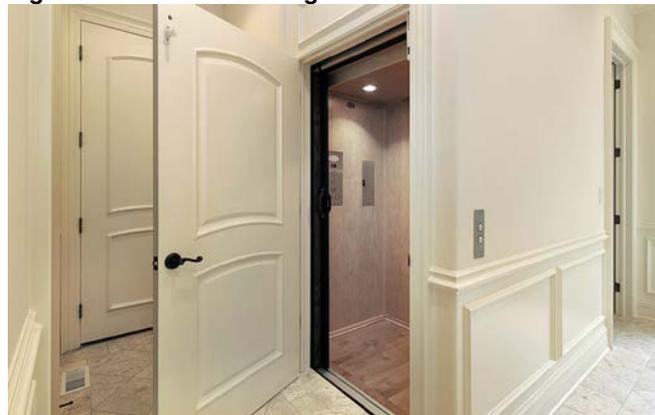


Figure 2. Relialign™ Door Interlock Application

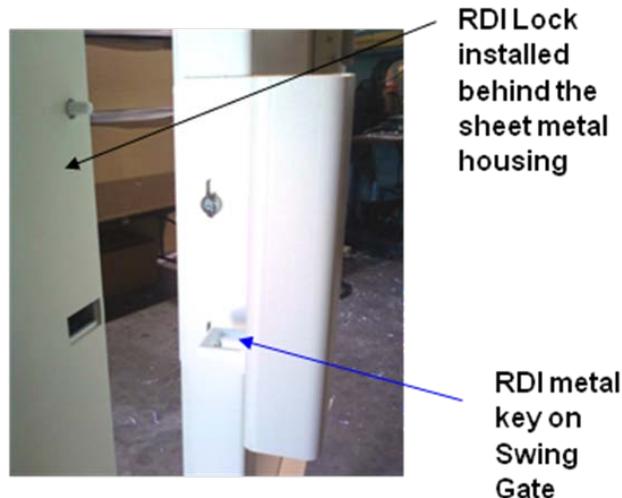


Table 1. Relialign™ Series Residential Door Interlock Switch

Relialign™ Series	Features
	<ul style="list-style-type: none"> <li>• Compliance with ASME A17.1, cULus, and CAN/CSA B44</li> <li>• Reliable performance and multiple design features minimize nuisance stoppage</li> <li>• Manual override for easy actuation without user hazard reduces the potential for call-backs</li> <li>• Door closure retention cam holds door with minimal key-to-interlock play; a new design material provides more pull force than competitive offerings</li> <li>• Series or parallel wiring option for door closed and door locked switches</li> <li>• MICRO SWITCH™ SX or ZX Series switch used to indicate door closure, providing an extra level of security</li> <li>• 6-pin terminal block or one-piece Cat 5 connection for quick and easy connection</li> <li>• Universal voltage for ac and dc applications</li> <li>• Enhanced safety, and low power consumption</li> </ul>

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## **WARNING**

### **PERSONAL INJURY**

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### **WARRANTY/REMEDY**

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

## **WARNING**

### **MISUSE OF DOCUMENTATION**

- The information presented in this application note is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

### **SALES AND SERVICE**

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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