

# MICRO SWITCH™

## Limit Switches Line Guide



**Limitless leadership.** Available with a variety of actuators, electrical specifications, terminations, circuitries and sealing ratings, Honeywell's MICRO SWITCH™ limit switches offer superior flexibility and performance. These precision snap-action switches — sealed in rugged housings — are used to detect presence or absence in areas where physical contact is allowed.

And Honeywell delivers all the benefits your applications demand:

- Reliability, repeatability, accuracy
- Impressive breadth of product offerings
- Tested-tough, for industrial machinery
- Supreme performance, through superior application understanding
- Withstanding shock, vibration, washdowns and outdoor environments

## FEATURES

### GLOBAL LIMIT SWITCHES

#### GLA Series.

**Features:** Metal housings for rugged applications • Galvanically isolated contacts for controlling separate circuits • Wide variety of actuators and circuitry options for increased flexibility • International conduit sizes available for global applications • Direct-acting NC contacts designed to ensure opening when actuated • 2NO version available

- Gold contacts optional for low-energy switching
- EN50041 mounting pattern

**Benefits:** Specifically designed for world-wide applications and are supported by Honeywell global resources for sale and after sale service. Applications include machine tools, material handling equipment, packaging machinery, textile machinery, construction machinery and equipment, vehicles and lift trucks.

#### GLS Miniature (GLD, GLC, GLE) Series.

**Features:** GLC metal housings or GLD plastic housings for design versatility (metal = better sealing, unaffected by UV light) • Galvanically isolated contacts for controlling two separate circuits • Direct-acting NC contacts designed to

ensure opening when actuated • Gold contacts optional for low-energy switching

- 2NO version available
- Wide variety of actuators and circuitry options for increased flexibility
- International conduit sizes available for global applications
- EN50047 mounting pattern

**Benefits:** Specifically designed for world-wide applications and are supported by Honeywell global resources for sale and after sale service. Applications include machine tools, material handling equipment, packaging machinery, textile machinery, construction machinery and equipment, vehicles and lift trucks.

#### 91MCE Series.

**Features:** Direct-acting contacts are designed to open NC contacts when actuated • Slow-action and snap-action circuitry offers design flexibility • Nine actuator styles offer design flexibility • Pre-leaded cable and M12 connector options

- Side exit (standard) and bottom exit connection options

**Benefits:** Miniature package size fits in applications where space is limited. Can be gang mounted for applications requiring more than two switch circuits.

The 20 mm mounting pattern meets most globally accepted mounting standards. Applications include machine equipment, material handling, aerial lifts, forklifts, and off-road and outdoor equipment.

#### NGC Series.

**Features:** SPDT or DPDT configurable circuitry • Snap-action, positive-break contacts • Metal or plastic housing • Pre-leaded cable and M12 connector options

- Side exit (standard) and bottom exit connection options
- Variety of heads and actuator levers

**Benefits:** Can be configured more than 380,000 ways, carries global approvals, and sealed to IP67 for potential use in indoor and outdoor applications. Applications include boom position detection, elevators and escalators, machine tools, mobile light towers, packaging equipment, rail doors, and scissor lifts

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## MICRO SWITCH™ Limit Switches.

Application-proven limit switches for any need:

**Global switches** meet IEC standards for worldwide acceptance — for injection molding, PLC interface, machine tooling, elevators and escalators, gaming, packaging and textile, food and beverage, industrial doors, scissor and platform lifts and electronic assembly.

**Heavy-duty switches** offer a rugged, die-cast body — epoxy-coated — with multiple mounting and actuator options. Low- and high-temp construction and factory-sealed, pre-wired versions are also available. Applications include food and beverage machinery, shipboard and dockside, caustic waste handling, power generating plants, pulp and paper, welding, automotive machine tools and conveyors.

**Medium-duty switches** feature a small metal or plastic package size. Applications include material handling, printing machinery, machine tools, agricultural equipment, overhead cranes and hoists, packaging and earthmoving, stamping, conveyors, surface transportation and textile, and printing machinery.



### Global Limit Switches

	GLA Series	GLS Miniature Series (GLD, GLC, GLE)
<b>Housing type</b>	EN 50041	EN50041/47
<b>Sealing</b>	IP67; NEMA 1, 3, 4, 12, 13	IP66/IP67; metal: NEMA 1, 4, 12, 13 plastic: NEMA 1, 4X, 12, 13 (Indoor use only)
<b>Housing material</b>	zinc die-cast	plastic, zinc die-cast
<b>Actuators/levers</b>	side rotary, top plunger, top roller, wobble	side rotary, top plunger, top roller, wobble
<b>Termination</b>	0.5 in 14NPT conduit, 20 mm, PG13.5	0.5 in - 14NPT conduit, 20 mm, PG13.5
<b>Approvals</b>	UL, CSA, CE, CCC	UL, CSA, CE, CCC
<b>Circuitry</b>	SPDT snap action DB, SPDT slow action BBM/MBB, DPDT snap action DB, 2NO and 2NC	GLC/GLD: SPDT snap action DB; SPDT slow action BBM/MBB; 2NO; 2NO GLE: SPDT snap action DB, SPDT slow action BBM/MBB, DPDT snap action DB, 2NO/2NC
<b>Contacts</b>	silver, gold	silver, gold
<b>Amp rating</b>	10 A (thermal)	10 A (thermal)



### Global Limit Switches

	91MCE Series	NGC Series	SZL-VL Series
<b>Housing type</b>	—	—	—
<b>Sealing</b>	IP67, NEMA 1, 4, 12, 13	NEMA 1, 4, 12, 13; IP67 per IEC 60529; suitable for outdoor applications	IP64
<b>Housing material</b>	zinc die-cast	metal, plastic	zinc die-cast/plastic
<b>Actuators/levers</b>	side rotary, top/roller plunger, panel mount actuators	side rotary, top/roller plunger, panel mount actuators, sealed actuators	side rotary, top plunger, wobble, wobble cat whisker
<b>Termination</b>	4-pin M12 connector, side exit cable, bottom exit cable	cable, PUR cable, special application cable, 4-pin & 5-pin M12 connector	cable gland
<b>Approvals</b>	cULus, CE, CCC	UL, cUL, CE, CCC	UL, cUL, CE
<b>Circuitry</b>	1NO 1NC DO snap action, 1NC 1NO slow action: BBM	SPDT, DPDT; snap action (1NC/1NO, 2NC/2NO)	1NC 1NO SPDT; double break
<b>Contacts</b>	silver	silver alloy, gold	gold-plated silver
<b>Amp rating</b>	10 A (thermal)	10 A, 5 A	5.0 A



## Heavy-Duty Limit Switches

**HDLS Standard Series**

**HDLS Stainless Steel Series**

**HDLS Fully Potted Series**

<b>Housing type</b>	HDLS plug-in	stainless steel non plug-in	HDLS non plug-in
<b>Sealing</b>	NEMA 1, 3, 4, 4X, 6, 6P, 12, 13	NEMA 1, 3, 3R, 4, 4X, 6, 6P, 12, 13	NEMA 1, 3, 4, 6, 6P, 12, 13
<b>Housing material</b>	zinc die-cast	stainless steel	zinc die-cast
<b>Actuators/levers</b>	top plunger, top roller, top rotary, side rotary, side plunger, side rotary, wobble	top plunger, top roller, top rotary, side rotary, side plunger, side rotary, wobble	top plunger, top roller, top rotary, side rotary, side plunger, side rotary, wobble
<b>Termination</b>	0.5 in/0.75 in - 14NPT conduit; 20 mm conduit; PG13,5; 12 ft cable; 4, 5, and 9-pin mini-connector	0.5 in/0.75 in - 14NPT conduit; 20 mm conduit; PG13,5; 12 ft cable; 4, 5, and 9-pin mini-connector	cable (various lengths); 4-pin, 5-pin, 9-pin, 20-pin mini-connector
<b>Approvals</b>	UL, CSA, CE, CCC	UL, CSA, CE, CCC	UL, CSA, CE, CCC
<b>Circuitry</b>	1NC 1NO SPDT, 1NC direct acting, 2NC 2NO DPDT, 2NC 2NO DPDT sequen.	1NC 1NO SPDT, 1NC direct acting, 2NC 2NO DPDT	1NC 1NO SPDT, 2NC 2NO DPDT
<b>Contacts</b>	silver, gold	silver, gold	silver, gold
<b>Amp rating</b>	10 A (thermal)	10 A (thermal)	10 A (thermal)



## Medium-Duty Limit Switches

**14CE/914CE Series**

**LS Series**

**BZE6/V6 Series**

**SL1 Series**

<b>Housing type</b>	–	compact/non-plug in; plug in	split housing, side mount split housing, flange mount	–
<b>Sealing</b>	IP65, IP66, IP67, IP68; NEMA 1, 3, 4, 6, 6P, 12, 13	NEMA 1, 3, 4, 6, 13	NEMA 1, 3, 4, 12	IP67; NEMA 3, 4, 13
<b>Housing material</b>	zinc die-cast	zinc die-cast	zinc die-cast	zinc die-cast
<b>Actuators/levers</b>	side rotary, top plunger, roller, pushbutton, wobble	side rotary, roller arm	top plunger, maint. with reset plunger, lever actuated, wobble	top plunger, roller arm
<b>Termination</b>	cable, micro-connector	0.5 in - 14NPT conduit; mini-connector	0.5 in - 14NPT (or NPSM) conduit; mini-connector, cable	cable gland
<b>Approvals</b>	14CE: ENEC; 914CE: UL, CSA	UL, CSA	UL, CSA, CE	UL, CSA
<b>Circuitry</b>	SPDT, SPSTNC, SPDTMBB, SPDTBBM	SPDT double break, DPDT double break	SPDT, DPDT	SPDT
<b>Contacts</b>	silver, gold	silver, gold	silver	silver, gold
<b>Amp rating</b>	5 A (thermal)	10 A	10 A or 15 A	5 A

# MICRO SWITCH™ Limit Switches Line Guide



## MICRO SWITCH™ Specialty Limit Switches.

Application-proven specialty limit switches for swing-door applications:

### Relialign™ Series Residential Door Interlocks

are 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). A number of design features contribute to increase safety, reduce nuisance stoppages and call-backs, and contribute to simplified wiring and installation. Featuring a custom internal solenoid control, the RDI may reduce complexity of the host controller, reduce power consumption for a “greener” product, extend solenoid life and reduce solenoid “time outs,” reducing customer aggravation.

## Relialign™ Specialty Limit Switches

### Relialign™ RDI Series Residential Door Interlock

<b>Description</b>	door interlock for swing-style doors, elevators, and vertical lifts. available with metal (bronze or white color) or plastic (white only) housing
<b>Housing</b>	metal
<b>Approvals</b>	compliant to ASME A17.1 and UL 104
<b>Voltage</b>	24 Vdc; 24 Vac
<b>Connection</b>	terminal strip or cat 5 available
<b>Measurements (H x W x D)</b>	247,65 mm x 51,44 mm x 49,23 mm [9.75 in x 2.025 in x 1.938 in]

## **SZL-VL Series.**

**Features:** Gold plated silver contacts standard • Integral cord grip saves time and cost • Rugged metal base with durable plastic cover • Two circuit break (1NO/1NC) • Sealed to IP64

**Benefits:** Designed for applications of small mounting space. A special pre-molded flexible cable gland allows for fast and simple wiring termination. Applications include machine tools, material handling, food processing machinery, conveyors, and packaging machinery.

## **HEAVY-DUTY LIMIT SWITCHES HDLS Series (Standard, Stainless Steel, and Fully Potted).**

**Features:** Rugged housing with electrostatic epoxy finish • Sealed to NEMA 1, 3, 4, 4X, 6, 6P, 12, 13; IP65/66/67 • Fully potted versions exceed NEMA 6P washdown • Side rotary styles may be field modified for CW and/or CCW operation • Operating heads can be rotating 90° • Factory sealed pre-wired or factory-installed connectors available • Corrosion resistant stainless steel housing available • Low temperature sealing available • High temperature, chemical resistant fluorocarbon seals available

**Benefits:** Includes boss-and-socket head design for secure head-to-body retention, unique all-metal drive train for consistent operating characteristics even at high temperature, and self-lifting pressure plate terminals save wiring time. Type 316 case stainless steel body is designed to minimize crevices where food particles could become trapped. Fully potted version provides an extra degree of protection in harsh environments by sealing the cavity with epoxy. Applications include machine tools, material handling, packaging, presses, shipboards/dockside, power generating plants, food and beverage machinery, conveying equipment, and more.

## **MEDIUM-DUTY LIMIT SWITCHES 14CE/914CE Series.**

**Features:** Rugged housing for harsh environments • Miniature size for smaller applications • Available with direct-acting contacts • Pre-leaded or various quick-

connect terminations for design flexibility

- Wide variety of actuator styles including seal-booted versions

**Benefits:** 14CE and 914CE Series switches incorporate fluorocarbon diaphragm sealing to provide reliable protection. Versions with boot seal also meet NEMA 12 requirements. For low temperature applications (down to -40 °C, [-40 °F]), CE switches can be supplied with low temperature seals and lubricant. 14 CE versions are designed for European applications and meet the requirements of the low voltage directive. 914CE products meet UL and CSA standards, as well as European CE requirements. Applications include processing equipment, textile machinery, machine tools, robotics, and more.

## **LS Series.**

**Features:** Mode of operation is field adjustable • NEMA 1, 3, 4, 6, and 13

- Wide choice of heads and actuators
- Variety of operating characteristics
- Captive screws
- UL and CSA approved parts available

**Benefits:** LS fits in many places too small for any other fully adjustable limit switch. 200LS switches are the original plug-in concept for reducing downtime by making changeover simple and fast. Applications include machine tools, conveyors, material handling, and lift trucks.

## **BZE6/V6 Series.**

**Features:** Rugged electrostatic epoxy-coated metal housing • Precise mechanism offers increased repeatability

- Booted versions sealed to NEMA 1, 3, 4 and IP66
- Unsealed actuators sealed to NEMA 1 and IP40
- Side or flange mount
- Low temperature options available
- Gold contacts available
- Removable terminal enclosure for easy of wiring

**Benefits:** Offered with or without actuator seal boots. Both have a combination insulator/seal cemented inside the bottom enclosure. Lead washers are used to seal the mounting holes on side mount switches. All side mount switches are installed with #6 screws, except the BZE6-2RN7 (#8 screws). Removal of the bottom enclosure exposes the terminals for easy wiring. Applications include packaging

equipment, textile machinery, construction equipment, printing machinery, and more.

## **SL1 Series.**

**Features:** Ideal source of replacement parts for imported machine tools • NEMA 3, 4, 13 and IEC IP67 sealing • Smaller size saves space • Rugged zinc die-cast housing • Snap-in terminal enclosures makes mounting and wiring easy • Temperature ranges: standard and low

**Benefits:** Sealed, sensitive, and have a long life. Compact size makes them suitable for the total miniaturization of machinery or equipment. Applications include robotics, auto factory floor, and electronic assembly equipment.

## **SPECIALTY LIMIT SWITCHES Relialign™ Series (RDI Residential Door Interlocks).**

**Features:** Compliant to ASME A17.1, UL standard 104, and CSA-B44.1 • Manual override for easy actuation without user hazard • Two separate mechanical actions to indicate door closure • Rugged metal housing available in white and bronze color • Metal key • Internal solenoid control • No open or exposed contacts

- Key engagement minimizes nuisance stoppage
- Door closure retention cam to hold door with minimal key-to-interlock play
- Series or parallel wiring option for the door closed and door locked switches
- 6-pin terminal strip or Cat 5 connection options
- Configurable product platform
- Universal voltage for ac and dc applications

**Benefits:** Meets required safety codes. Reduced potential for call-backs with reliable performance and multiple design features to minimize nuisance stoppage of applications. Simplified wiring and installation. Reduced OEM design and manufacturing costs. Applications include residential elevators, residential dumbwaiters, and platform/vertical lifts

**Warranty.** 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 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.**

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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.**

 **WARNING**  
**MISUSE OF DOCUMENTATION**

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- 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.**