



# MICRO SWITCH™ Hazardous Location Switches Line Guide



## A safe and sound investment.

Best used for presence or absence detection where physical contact is permissible, Honeywell S&C hazardous location switches can be found in the most ingenious solutions and the most rugged machinery — in the most volatile environments. Designed for reliability, O-ring seals make the switch weatherproof, watertight and dust-tight, but are located outside flame paths so explosion-proof requirements are preserved.

Our corporate tradition of delivering quality and innovation is infused throughout Honeywell S&C products, ensuring you'll find our hazardous location switches loaded with the benefits your business demands:

- Exclusively manufactured for harsh environments
- Designed to be reliable, dependable, accurate
- Superior sealing and design integrity
- Comprehensive product line
- LSX/BX series are interchangeable with HDLS heavy-duty limit switches
- UL, CSA, ATEX, and IEC Ex certifications

## Hazardous Location Switches

### EX Series

<b>Housing type</b>	EX
<b>EX approvals</b>	UL, CSA, ATEX, IEC Ex
<b>Sealing</b>	NEMA 1
<b>Designations</b>	Div. 1, Class I, Groups B, C, & D • Div 1, Class II, Groups E, F, & G • II 2 G; EEx d IIB + H2 T6
<b>Housing material</b>	aluminum
<b>Actuators/levers</b>	side rotary, top plunger, top roller plunger, manual, wobble
<b>Termination</b>	0.5 in - 14NPT conduit, leadwires
<b>Circuitry</b>	1NC 1NO SPDT snap action, 1NC 1NO SPDT maintained, 2NC 2NO DPDT snap action
<b>Operating temperature</b>	-40 °C to 71 °C [-40 °F to 160 °F]
<b>Amp rating</b>	1 A, 10 A, 15 A, 20 A



## Hazardous Location Switches

### BX Series

### CLSX Series

	BX Series	CLSX Series
<b>Housing type</b>	non plug-in	—
<b>EX approvals</b>	UL, CSA, ATEX, IEC Ex	UL, CSA
<b>Sealing</b>	IP67; NEMA 1, 3, 4, 6, 13	IP67; NEMA 1, 3, 4, 6, 13
<b>Designations</b>	Div. 1, Class I, Groups B, C, & D • Div 1, Class II, Groups E, F, & G • II 2 G; Ex d IIC T6 • II 2 D; Ex d tD A21 T85°C	Div. 1, Class I, Groups B, C, & D Div 1, Class II, Groups E, F, & G
<b>Housing material</b>	zinc die-cast	zinc die-cast
<b>Actuators/levers</b>	side rotary, side plunger, side roller, top rotary, top plunger, top roller plunger, wobble	—
<b>Termination</b>	0.5 in - 14NPT conduit; 0.75 in - 14NPT conduit; 20 mm conduit	0.5 in NTP conduit; 0.75 in NTP conduit
<b>Circuitry</b>	1 NC 1NO SPDT DB snap action, 2NC 2NO DPDT DB snap action	1NC direct acting; 1NO 1NO direct acting
<b>Operating temperature</b>	-40 °C to 70 °C [-40 °F to 158 °F]	-25 °C to 40 °C [-13 °F to 104 °F]
<b>Amp rating</b>	0.05 A, 10 A (thermal)	10 A (thermal)

\*\* EX approvals pending as of July 2008.



## Hazardous Location Switches

**GXE Series**

**14CE100 Series**

<b>Housing type</b>	—	—
<b>EX approvals</b>	ATEX (CE)	ATEX (CE)
<b>Sealing</b>	IP66/67	IP66/67
<b>Designations</b>	II 2 G; EEx d IIC T6	II 2 G; Ex d IIC T6 II 2 D; Ex tD A21 T85°C
<b>Housing material</b>	zinc die-cast	zinc die-cast
<b>Actuators/levers</b>	side rotary, top plunger, top roller	top plunger, roller plunger, cross-roller
<b>Termination</b>	5 m cable	cable (various lengths)
<b>Circuitry</b>	1NC 1NO SPDT snap action	1NC 1NO SPDT snap action
<b>Operating temperature</b>	-25 °C to 75 °C [-13 °F to 167 °F]	0 °C to 70 °C [32 °F to 158 °F]
<b>Amp rating</b>	5 A (thermal)	1 A (thermal); 5 A (thermal)



## Hazardous Location Switches

**CX Series**

**GSX Series**

**LSX Series**

<b>Housing type</b>	short: 104 mm [4.09 in]; standard 145 mm [5.71 in]	non plug-in	non plug-in
<b>Approvals</b>	UL, CSA, ATEX, IEC Ex	cULus, ATEX, IEC Ex	UL, CSA
<b>Sealing</b>	IP66; NEMA 1, 3, 4, 4X, 6, 6P, 13	IP67; NEMA 1, 4, 6, 12, 13	IP67; NEMA 1, 3, 4, 6, 13
<b>Designations</b>	*Div. 1, Class I, Groups B, C, & D • *Div 1, Class II, Groups E, F, & G • II 2 G; Ex d IIC T6 • II 2 D; Ex d tD A21 T85°C	*Div. 1, Class I, Groups B, C, & D • *Div 1, Class II, Groups E, F, & G • II 2 G; Ex d IIC T6 • II 2 D; Ex d tD A21 T85°C	Div. 1, Class I, Groups B, C, & D Div 1, Class II, Groups E, F, & G
<b>Housing material</b>	NEMA 1, 3, 4, 4X, 6, 6P, 7, 9, 13	zinc die-cast	zinc die-cast
<b>Actuators/levers</b>	aluminum, bronze	side rotary, pin plunger, top roller plunger, top roller lever	side rotary, side plunger, side roller, top rotary, top plunger, top roller plunger, wobble
<b>Termination</b>	side rotary, plunger	0.5 in - 14NPT conduit	0.5 in - 14NPT conduit; 0.75 in - 14NPT conduit; 20 mm conduit
<b>Circuitry</b>	1NC 1NO SPDT, 2NC 2NO DPDT, 4 mA to 20 mA	SPDT, SPDT BBM, SPDT MBB, SPDT slow acting, DPDT, DPDT BBM, DPDT MBB, DPDT slow acting	1 NC 1NO SPDT DB snap action, 2NC 2NO DPDT DB snap action
<b>Operating temperature</b>	-25 °C to 85 °C [-13 °F to 185 °F]	-25 °C to 80 °C [-13 °F to 185 °F]	-12 °C to 121 °C [10 °F to 250 °F]
<b>Amp rating</b>	1 A, 10 A, 15 A, 20 A	10 A (thermal)	0.05 A, 10 A (thermal)

\* most CX listings carry these designations. However, some have special ratings.

**Benefits:** Designed to provide emergency stop protection for conveyor lines in hazardous environments. Designed to withstand the pressure of an internal explosion and cools the exploding gases below the kindling temperature of the explosive atmosphere. Flame paths are provided by the cover housing threads and an extended plunger between the switch cavity and head. Potential applications include conveyor lines in hazardous atmospheres.

### **GXE Series.**

**Features:** II 2 G EExd IIC T6 • CE marked • EN50047 mounting compatible • Rugged zinc die-cast housing • Pre-wired - 5 m of cable • Bottom exit cable • Double insulated switch element • Snap action basic switch

**Benefits:** Fully potted and sealing protection of IP66/67 as per IEC 60529. Complies with the ATEX Directive. Potential applications include hazardous areas Category 2 (Zone 1) or Category 3 (Zone 2), petrochemical plants, material handling, and valves.

### **14CE100 Series.**

**Features:** Compact construction • Pre-wired or connector versions • Die-cast zinc housing • Wide selection of actuators • Gang mounting capability • Cable length variations • Side and bottom exit cable/connector • Simple two-screw mounting • Low temperature variants • Fluorocarbon sealing (standard)

**Benefits:** Pre-wired construction allows for ease of installation where space is at premium and external operating conditions can be difficult. Approved to meet the requirements of the Low Voltage Directive, ATEX Directive, and is CE marked. Potential applications include control valves and actuators, petrochemical plants, hazardous waste handling, material handling, power generating, and grain handling.

### **CX Series.**

**Features:** NEMA 1, 3, 4, 4X, 6, 6P, 13 • Watertight and dust-tight for outdoor use • Gold contacts, low-temp seals, and bronze housing options available • 4 mA to 20 mA analog output available • Rugged, cast aluminum housing • Pretravel, overtravel, and actuating sequence can be field adjusted without tools (all basics individually) • Rotary types convert in seconds to clockwise, counter-clockwise, or both-way operation

**Benefits:** Built especially for outdoor use in hazardous atmospheres. These enclosures are constructed to withstand the pressure of an internal explosion. Flame paths cool the exploded gases to a point less than the lowest safe operating temperature of the surrounding gas. Potential applications include control valves and actuators, petrochemical plants, grain handling, waste treatment, power generating, and paint facilities.

### **GSX Series.**

**Features:** Snap action contacts with positive break in an explosion-proof housing • Positive action push plunger breaks current upon opening of door or aperture • Explosion-proof housing for hazardous locations • Sealed for protection against corrosion, water, dust, and oil as defined in NEMA 1, 3, 4, 12, and 13 and IP67 • Complies with ATEX, IECEx, and UL/CSA regulations • Simple installation • Extensive switch options and actuator styles

**Benefits:** To comply with explosion-proof requirements, the GSX has flame paths within the housing, which cool exploding gases below the ignition temperature before they reach explosive gases surrounding the housing. Flame paths are (1) an extended plunger between the switch cavity and head and (2) the cover-housing threads on the front of the switch. Potential applications include gates, doors, access panels, and/or cages on machinery in hydrocarbon refining, chemical processing, agricultural equipment, food processing, and grain elevators.

### **LSX Series.**

**Features:** UL, CSA approvals • Sealing - NEMA 1, 3, 4, 6, 13 • Diverse conduit selection for wide range of potential applications • Tracking interchangeability with MICRO SWITCH™ HDLS • Variety of heads and non-sparking actuators • 10 A continuous carry electrical rating • Choice of silver or gold contacts • Internal grounding screw

**Benefits:** LSX is sealed to NEMA 1, 3, 4, 6, 13 and carries UL/CSA approvals. The LSX meets North American Hazardous Location Designations: Class I, Groups B, C, and D; Class II, Groups E, F, and G.

For outdoor use or in adverse environments where a combination of explosion proof plus sealing requirements are needed. To comply with explosion proof requirements, the LSX has flame paths within the housing, which cool exploding gases below the ignition temperature before they reach explosive gases surrounding the housing. Flame paths are (1) an extended plunger between the switch cavity and head and (2) the cover-housing threads on the front of the switch. Potential applications include control valves and actuators, petrochemical plants, waste treatment, hazardous waste handling, paint booths, mining equipment, pulp and paper coating, grain elevators, and more.

**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.**

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.

For more information about Sensing and Control products, visit [www.honeywell.com/sensing](http://www.honeywell.com/sensing) or call +1-815-235-6847. Email inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

 **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.**

Sensing and Control  
Automation and Control Solutions  
Honeywell  
1985 Douglas Drive North  
Golden Valley, MN 55422 USA  
+1-815-235-6847  
[www.honeywell.com/sensing](http://www.honeywell.com/sensing)

002315-3-EN IL50 GLO  
April 2009  
Copyright © 2009 Honeywell International Inc. All rights reserved.

**Honeywell**

# Notes