

Hazardous Location Limit Switches

Switches Designed Specifically for Use in Hazardous Locations

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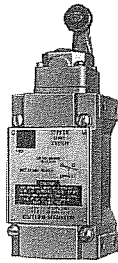
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Cutler-Hammer's Type LX, CX and CBX Limit Switches are designed for extreme environmental service in NEMA 7 – 9 locations where there exists a danger of an internal or external explosion of flammable gases, vapors, metal alloy or grain dust. Type CB provides excellent corrosion resistant properties in NEMA 4X applications. Markets served include mining, grain storage, forest products, petrochemical, pharmaceutical and waste and sewage management.

Approvals

- UL Listed

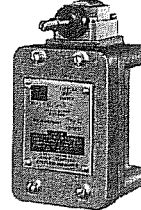
For the most current information on this product, visit our web site at: www.sensingsolutions.com



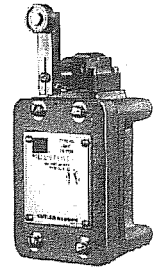
Type LX



Type CX



Type CBX



Type CB
(Not rated for explosive locations)

Product Features

- Sealed and unsealed versions available
- One-way gasket on sealed version keeps liquids out, yet allows a harmless release of gases in the event of an internal explosion
- Silicon bronze housing provides excellent corrosion resistant properties in extreme NEMA 4X applications
- Temperature buildup on limit switch surface is dissipated by housing design and materials used
- Utilizes the operating heads and internal switch mechanisms of the 10316 L Non Plug-In line

NEMA Rating Comparison

	Switch Type			
	LX	CX	CBX	CB
NEMA 1, 4, 13		X	X	X
NEMA 4X			X	X
NEMA 7 Division I, Class I, BCD	X	X	X	
NEMA 9 Division I, Class II, EFG	X	X	X	

LIMIT SWITCHES

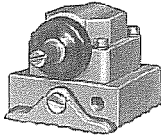
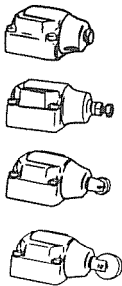
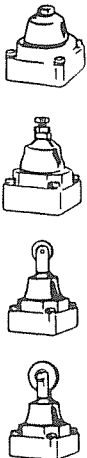
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For Customer Service in the U.S. call 1-800-356-1243,
 in Canada call 1-800-268-3578.
 For Application Assistance in the U.S. and Canada
 call 1-800-426-9184.

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LIMIT SWITCHES

Model Selection — Complete Assembled Switches with Spring Return Heads


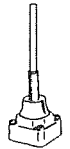

Head Type		Operating Data — Nominal					Body Type	Contacts	Catalog Number		
		Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts	Minimum Return Force					
 <p>Side Rotary Operated</p> <p>Standard, 10° Pretravel ①</p> <p>Narrow Differential 5° Pretravel ①</p> <p>Neutral Position, 18° Pretravel ②</p> <p>For operating levers, see Page 3-42. Only levers with Nylatron rods or rollers should be used with explosion-proof limit switches.</p>		10°	4°	50°	3.0 in-lb	4.5 in-oz	Type LX	1N.O.-1N.C.③	10316H1002		
									2N.O.	10316H1039	
									1N.O. and 1N.C.③	10316H1049	
									2N.C.	10316H1059	
								Type CX	1N.O.-1N.C.③	10316H2200	
									1N.O. and 1N.C.③	10316H2176	
									2N.C.	10316H2178	
								Type CB	1N.O.-1N.C.③	10316H2149	
									2N.C.	10316H2140	
								Type CBX	1N.O.-1N.C.③	10316H2168	
									2N.O.	10316H2158	
									1N.O. and 1N.C.③	10316H2157	
								2N.C.	10316H2159		
 <p>Side Push Operated</p> <p>Pushbutton</p> <p>Adjustable Pushbutton</p> <p>Vertical Roller, 0.44 inch (11.2 mm) Diameter</p> <p>Vertical Roller, 0.75 inch (19.1 mm) Diameter</p>		0.07 inch (1.8 mm)	0.03 inch (0.76 mm)	0.29 inch (7.4 mm)	4 lbs	8 oz	Type LX	1N.O. and 1N.C.③	10316H1213		
									1N.O.-1N.C.③	10316H1192	
									1N.O.-1N.C.③	10316H1007	
									1N.O.-1N.C.③	10316H1194	
									1N.O. and 1N.C.③	10316H1218	
	 <p>Top Push Operated</p> <p>Pushbutton</p> <p>Adjustable Pushbutton</p> <p>Roller, 0.44 inch (11.2 mm) Diameter</p> <p>Roller, 0.75 inch (19.1 mm) Diameter</p>		0.04 inch (1 mm)	0.02 inch (0.5 mm)	0.28 inch (7.1 mm)	4 lbs	8 oz	Type LX	1N.O.-1N.C.③	10316H1004	
									Type CX	1N.O. and 1N.C.③	10316H2188
										2N.C.	10316H2189
								Type LX	1N.O.-1N.C.③	10316H1191	
									1N.O. and 1N.C.③	10316H1212	
								Type LX	1N.O.-1N.C.③	10316H1006	
							Type CX	1N.O.-1N.C.③	10316H2208		
								1N.O. and 1N.C.③	10316H2190		
							Type CBX	1N.O.-1N.C.③	10316H2170		
							Type LX	1N.O.-1N.C.③	10316H1193		

① Field convertible to clockwise only or counterclockwise only operation.

② 1N.O.-1N.C. contacts must be same polarity when both circuits are used — 1N.O. and 1N.C. contacts have isolated poles and may be used on opposite polarity.

③ Neutral position switches operate one circuit in each direction.

Model Selection — Complete Assembled Switches with Spring Return Heads (Continued)

Head Type	Operating Data — Nominal					Body Type	Contacts	Catalog Number	
	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts	Minimum Return Force				
  	Spring	10° ④	6°	15°	1 in-lb	2.4 in-oz	Type LX	1N.O.-1N.C.②	10316H1237
	Nylon Rod	10° ④	6°	15°	2 in-lb	5.6 in-oz	Type LX	1N.O.-1N.C.②	10316H1009
								1N.O. and 1N.C.②	10316H1222
	Steel Wire	10° ④	6°	15°	2 in-lb	5.6 in-oz	Type LX	1N.O.-1N.C.②	10316H1010
								1N.O. and 1N.C.②	10316H1223

② 1N.O.-1N.C. contacts must be same polarity when both circuits are used — 1N.O. and 1N.C. contacts have isolated poles and may be used on opposite polarity.

④ Travel with force applied at one-inch (25.4 mm) radius. Applied at end of operator, travel is approximately 14.

Specifications

Enclosure Construction LX, CX CB, CBX	Cast aluminum die cast Silicon bronze
Conduit Entrance LX CB, CBX, CX	1/2" Pipe tap 3/4" Pipe tap
Mounting	Surface mount
Enclosure Rating LX, CX, CBX CB, CBX CX	NEMA 7 Div. 1, Class I BCD; NEMA 9 Div. 1, Class II, EFG NEMA 1, 4, 4X, 13 NEMA 1, 4, 13
Operating Temperature	-20° to 200°F (-29° to 93°C) ⑤
Approximate Shipping Weight LX CX CB, CBX	2 lb 2.5 lb 6 lb

Electrical Data — Maximum Contact Ratings, per Pole

AC Volts	Current, Amperes			Volt Amperes		DC Volts	DC Current, Ampere
	Make	Break	Cont.⑥	Make	Break		

1N.O.-1N.C. Switches

NEMA A600, R300 Rating						125	0.2
120	60	6	10	7200	720		
240	30	3				250	0.1
480	15	1.5					
600	12	1.2					

All Other Switches, B600

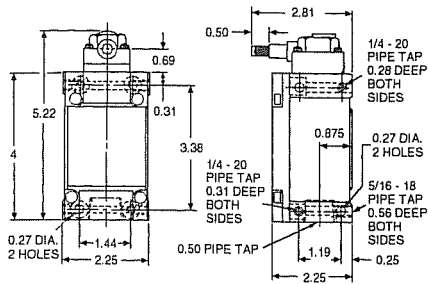
120	30	3	5	3600	360	120	0.1
240	15	1.5				240	0.05
480	7.5	0.75					
600	6	0.60					

⑤ Ranges below +32°F (0°C) are based on absence of freezing moisture or water.

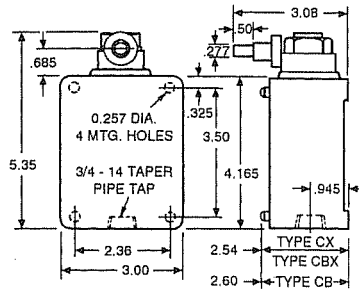
⑥ 1N.O.-1N.C. contacts must be same polarity when both circuits are used — 1N.O. and 1N.C. contacts have isolated poles and may be used on opposite polarities.

Approximate Dimensions in Inches (mm)

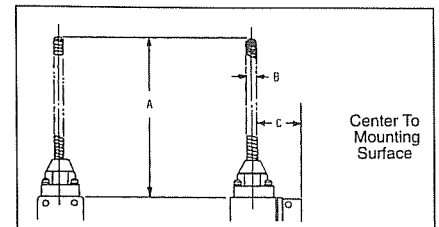
Type LX Switch with Side Rotary Head



Type CX, CB and CBX Switches with Side Rotary Head

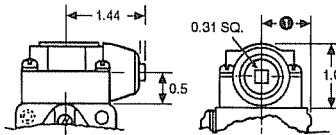


Wobble Operators

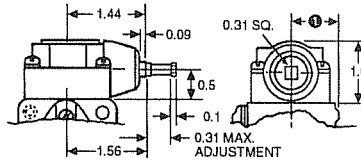


Type	A	B	C
Wobble Spring	5.44 (138.2)	0.31 (7.9)	0.94 (23.9)
Nylon Rod	4.5 (114.3)	0.25 (6.4)	0.94 (23.9)
Steel Wire	12.5 (317.5)	0.08 (2.0)	0.94 (23.9)

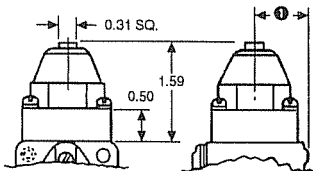
Side Pushbutton Head



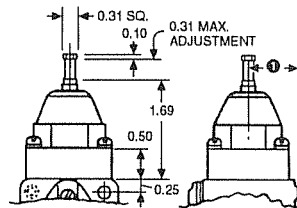
Adjustable Side Pushbutton Head



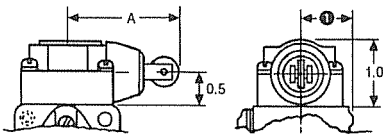
Top Pushbutton Head



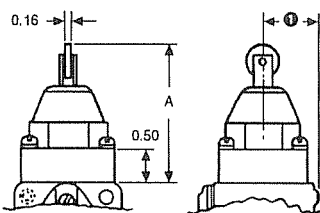
Adjustable Top Pushbutton Head



Side Push, Vertical Roller Head



Top Push Roller Head



Dimension "A"

With 0.44 (11.2) Diameter Roller	1.78 (45.2)
With 0.75 (19.1) Diameter Roller	2.09 (53.1)

Dimension "A"

With 0.44 (11.2) Diameter Roller	2.03 (51.6)
With 0.75 (19.1) Diameter Roller	2.34 (59.4)

Ⓢ Dimension from centerline of head to mounting surface: Type LX: 0.94 inches (23.9 mm); Type CX, CB, CBX: 1.04 inches (26.4 mm).

LIMIT SWITCHES