

802X

Watertight or Hazardous Location Switches



Description

Bulletin 802X NEMA Type 7 and 9 limit switches are designed for use in atmospheres and locations defined as Class I, Groups B, C or D, Division 1, Class II, Groups E, F or G, or Class III in the National Electrical Code. Typical applications for this switch include refineries, distilleries, grain elevators and flour mills. For Class I, Division 2 locations, a Bulletin 802R limit switch may also be used (see page 5-34).

Bulletin 802X NEMA Type 4 watertight limit switches are designed for use indoors in locations where their internal parts require protection against seepage of water and splashing, falling or hose-directed water within the limits of the NEMA specified tests for Type 4 watertight enclosures. They are not sleet- (ice-) proof. Typical applications are dairies and food processing plants.

Specifications

Enclosure Rating	NEMA 7 and 9/Class I, Groups B, C and D or Class II, Groups E, F and G or Class III; NEMA 4/nonhazardous locations
Certifications	UL Listed and CSA Certified
Ambient Temperature [C (F)] ^❶	Push type with spring return and all lever types except neutral position: -46...+121° (-50...+250°) Wobble stick and cat whisker devices: -29...+54° (-20...+130°) Side push maintained: -46...+121° (-50...+250°) Neutral position: -18...+121° (0...+250°).

AC Contact Rating (Maximum per Pole, 50 or 60Hz, same polarity)

NEMA Rating Designation	Max Voltage	A		Continuous Carrying Current	VA	
		Make	Break		Make	Break
A600	120	60	6.00	10	7200	720
	240	30	3.00	10	7200	720
	480	15	1.50	10	7200	720
	600	12	1.20	10	7200	720

DC Contact Rating (Maximum per Pole)

NEMA Rating Designation	Max Voltage	A		Continuous Carrying Current	VA	
		Make	Break		Make	Break
P150	125	1.1		5	138	

❶ Temperature ranges below 0°C (+32°F) are based on the absence of freezing moisture or water.

A wide variety of operating heads and operating levers are available. Operating heads can be mounted in four positions, 90° apart. The enclosure base has two through holes for front mounting, two tapped holes for rear mounting and two tapped holes for side mounting.

Features

- Multiple operator styles: side rotary, wobble stick, cat whisker, adjustable top push and top or side push with or without rollers

Watertight or Hazardous Location

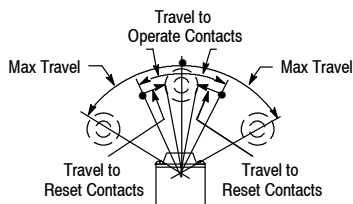
- Lever Type • Spring Return page 5-75
Standard and Neutral Position Models
- Lever Type • page 5-76
Maintained Contact
- Push Type • Spring Return . page 5-77
- Push Type • page 5-79
Maintained Contact
- Wobble Stick and page 5-80
- Cat Whisker • Spring Return

Limit Switches

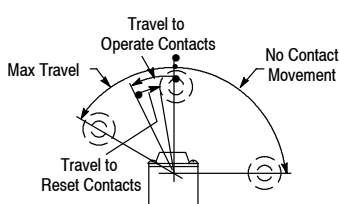
802X Lever Type • Spring Return

Watertight or Hazardous Location Switches

Range of Operation



Lever Operation When Levers Except 802T-W7 and W8 Are Used

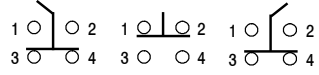
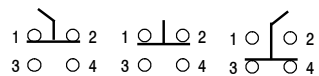
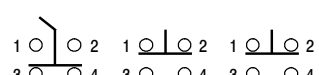
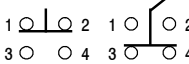
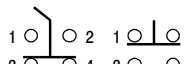
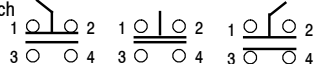


Lever Operation When 802T-W7 and W8 "One-Way" Levers Are Used

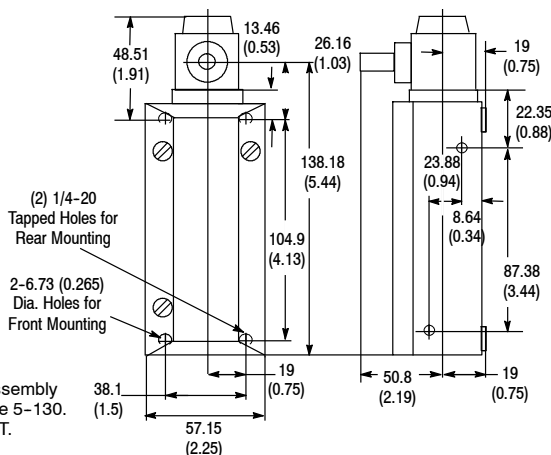


Switch Without Lever

Product Selection—Standard and Neutral Position Models

Lever Movement vs. Contact Operation	Torque to Operate (Max)	Travel to Operate Contacts (Max)	Max Travel	Travel to Reset Contacts (Max)	Cat. No.	
					NEMA 4	NEMA 7 and 9
Clockwise or Counterclockwise 	0.34 N•m (3 lb•in)	16.5°	43°	8°	802X-A4	802X-A7
	0.51 N•m (4.5 lb•in)	6°	50°	3°	—	802X-H7
Clockwise 	0.34 N•m (3.5 lb•in)	16.5°	43°	8°	802X-A14	802X-A17
	0.51 N•m (4.5 lb•in)	6°	50°	3°	—	802X-H17
Counterclockwise 	0.34 N•m (3.5 lb•in)	16.5°	43°	8°	802X-A24	802X-A27
	0.51 N•m (4.5 lb•in)	6°	50°	3°	—	802X-H27
Clockwise 	0.45 N•m (4 lb•in)	20°	91°	11°	802X-L14	802X-L17
					Counterclockwise 	802X-L24
Neutral Position Switch with Normally Open Contacts 	0.25 N•m (2.25 lb•in)	12°	53°	6°	—	802X-NP7

Approximate Dimensions [mm (in.)]



Note: For operating head and lever assembly dimensions not shown, see page 5-130. Conduit pipe opening 1/2 in. NPT.

Approximate Shipping Wt.
0.9 kg (2 lbs)

Mounting Hole Dimensions
 2—0.265 Dia. through hole with 0.500 Dia. x 0.25 in. deep C Bore for front mounting.
 2—1/4-20 x 0.56 in. deep Tapped holes for rear mounting.
 2—1/4-20 x 0.5 in. deep Tapped holes for side mounting.

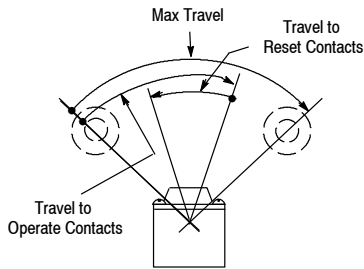
Levers—See page 5-130 for a complete listing of operating levers.

Limit Switches

802X Lever Type • Maintained Contact

Watertight or Hazardous Location Switches

Range of Operation



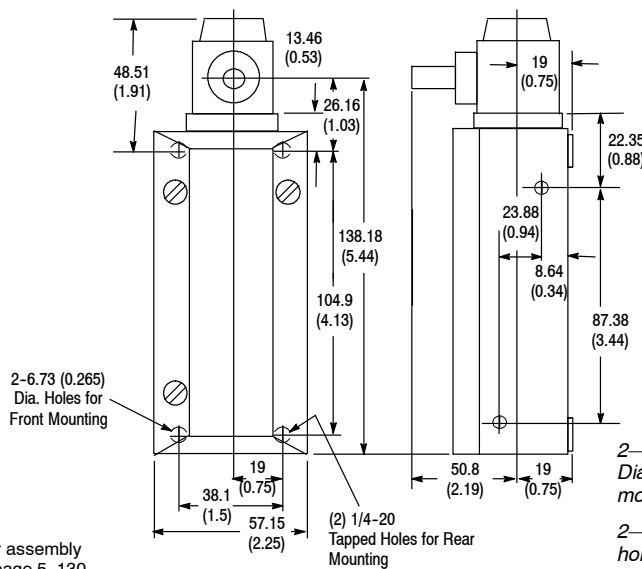
Switch Without Lever

Product Selection

Lever Movement vs. Contact Operation	Torque to Operate (Max)	Travel to Operate Contacts (Max)	Max Travel	Travel to Reset Contacts (Max)	Cat. No.	
					NEMA 4	NEMA 7 & 9
Clockwise or Counterclockwise 	0.25 N•m (2.25 lb•in)	70°	84°	35°	802X-AM4	802X-AM7

From one maintained position to the other.

Approximate Dimensions [mm (in.)]



Approximate Shipping Wt.
0.9 kg (2 lbs)

Mounting Hole Dimensions

2—0.265 Dia. through hole with 0.500 Dia. x 0.25 in. deep C-Bore for front mounting.

2—1/4-20 x 0.56 in. deep Tapped holes for rear mounting.

2—1/4-20 x 0.5 in. deep Tapped holes for side mounting.

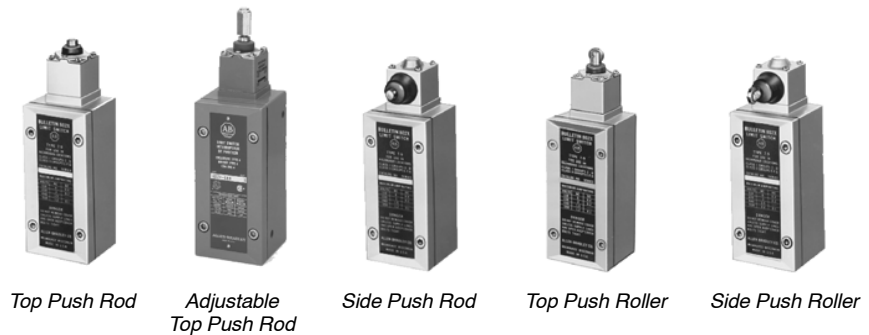
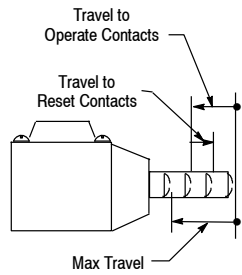
Note: For operating head and lever assembly dimensions not shown, see page 5-130. Conduit pipe opening 1/2 in. NPT.

Levers—See page 5-130 for a complete listing of operating levers.

802X Push Type • Spring Return

Watertight or Hazardous Location Switches

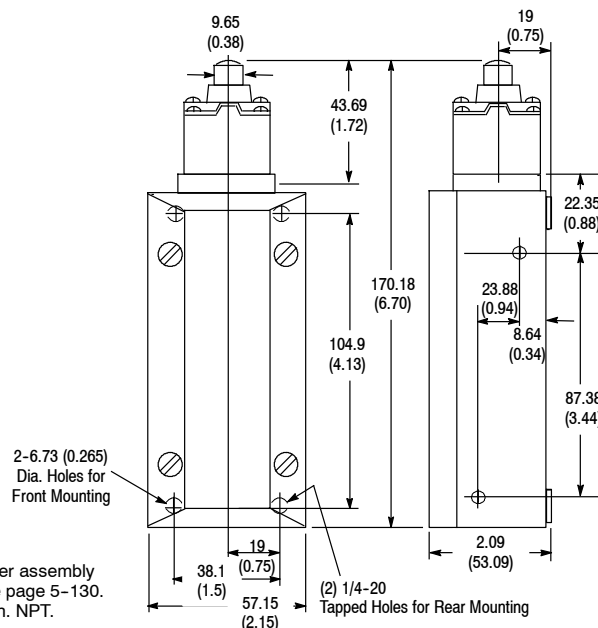
Range of Operation



Product Selection

Operator Type	Contact Operation		Force to Operate (Max)	Travel to Operate Contacts (Max)	Max Travel	Travel to Reset Contacts (Max)	Cat. No.	
	Normal	Operated					NEMA 4	NEMA 7 and 9
Top Push Rod			15.6 N (3.5 lbs)	1.9 mm (0.075 in.)	5.1 mm (0.202 in.)	0.8 mm (0.030 in.)	802X-B4	802X-B7
Adjustable Top Push Rod							802X-BA4	802X-BA7
Side Push Rod			20.0 N (4.5 lbs)	3.2 mm (0.125 in.)	5.5 mm (0.218 in.)	1.5 mm (0.057 in.)	802X-C4	802X-C7
Top Push Roller			15.6 N (3.5 lbs)	1.9 mm (0.075 in.)	5.1 mm (0.202 in.)	0.8 mm (0.030 in.)	802X-D4	802X-D7
Side Push Vertical Roller			20.0 N (4.5 lbs)	3.2 mm (0.125 in.)	5.5 mm (0.218 in.)	1.5 mm (0.057 in.)	802X-K4	802X-K7
Side Push Horizontal Roller							802X-K14	802X-K17

Approximate Dimensions [mm (in.)]



Note: For operating head and lever assembly dimensions not shown, see page 5-130. Conduit pipe opening 1/2 in. NPT.

Approximate Shipping Wt.
0.9 kg (2 lbs)

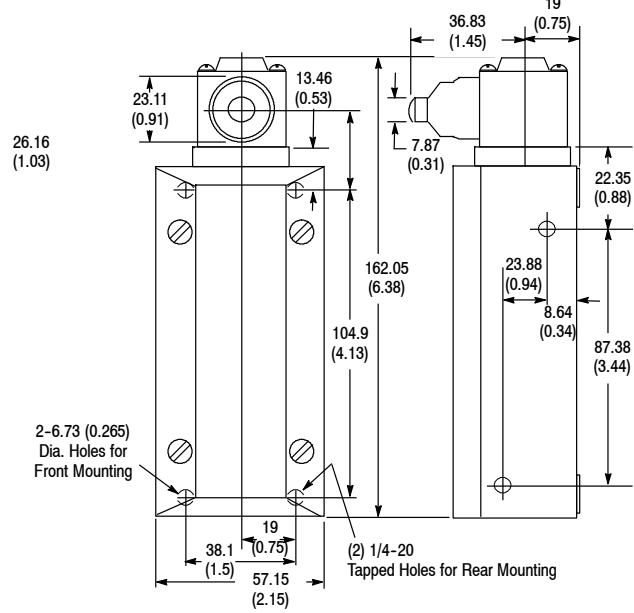
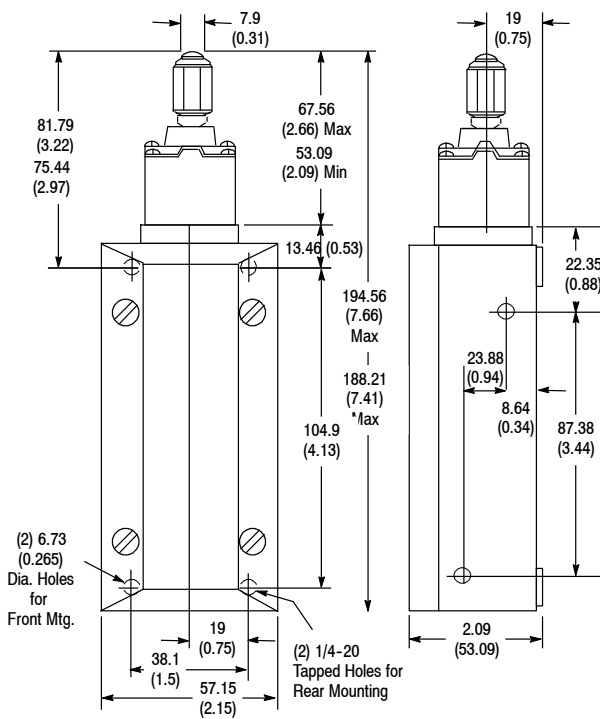
Mounting Hole Dimensions
 2—0.265 Dia. through hole with 0.500 Dia. x 0.25in deep C'Bore for front mounting.
 2—1/4-20 x 0.56in deep Tapped holes for rear mounting.
 2—1/4-20 x 0.5in deep Tapped holes for side mounting.

Limit Switches

802X Push Type • Spring Return

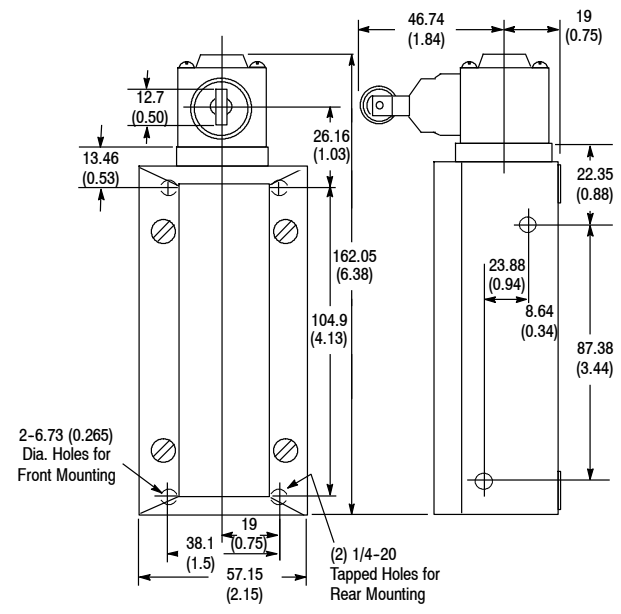
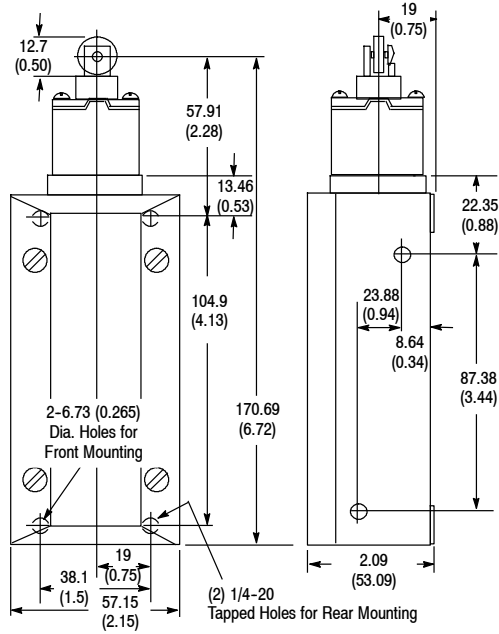
Watertight or Hazardous Location Switches

Approximate Dimensions [mm (in.)]



Bulletin 802X Side Push Rod Type

Bulletin 802X Adjustable Top Push Rod Type



Bulletin 802X Side Push Roller Type

Bulletin 802X Top Push Roller Type

Mounting Hole Dimensions

Approximate Shipping Wt. 0.9 kg (2 lbs)

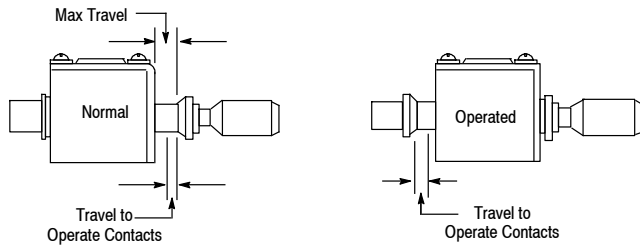
Note: For operating head and lever assembly dimensions not shown, see page 5-130. Conduit pipe opening 1/2 in. NPT.

- 2—0.265 Dia. through hole with 0.500 Dia. x 0.25 in. deep C-Bore for front mounting.
- 2—1/4-20 x 0.56 in. deep Tapped holes for rear mounting.
- 2—1/4-20 x 0.5 in. deep Tapped holes for side mounting.

802X Push Type • Maintained Contact

Watertight or Hazardous Location Switches

Range of Operation

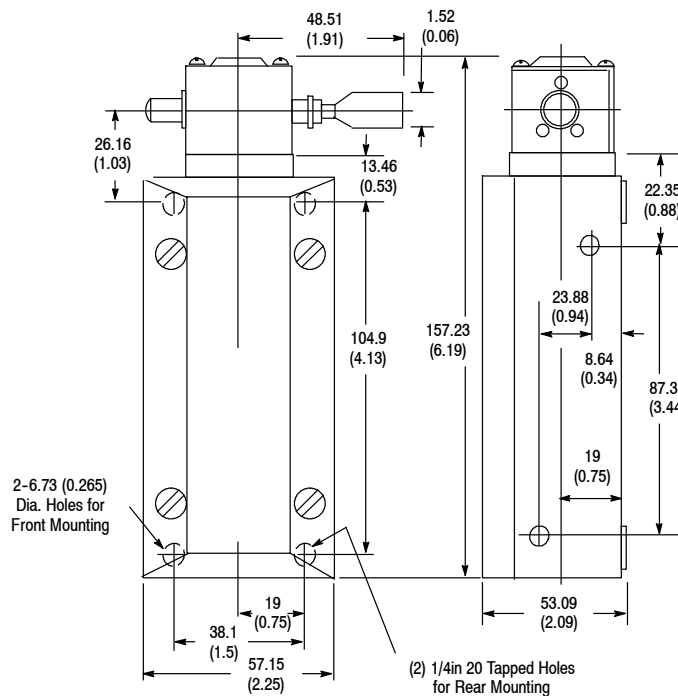


Side Push Rod

Product Selection

Operator Type	Contact Operation		Force to Operate (Max)	Travel to Operate Contacts	Max Travel	Travel to Reset Contacts (Max)	Cat. No.	
	Normal	Operated					NEMA 4	NEMA 7 and 9
Side Push Rod			35.49 N (8 lbs)	4.81 mm (0.192 in.) Nominal	5.96 mm (0.235 in.)	5.30 mm (0.209 in.) Nominal	—	802X-CM7

Approximate Dimensions [mm (in.)]



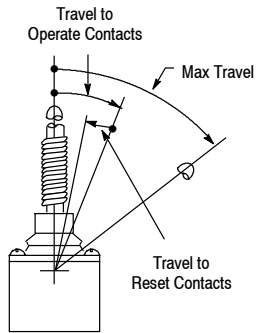
Note: For operating head and lever assembly dimensions not shown, see page 5-130. Conduit pipe opening 1/2 in. NPT.

Limit Switches

802X Push Type • Wobble Stick and Cat Whisker • Spring Return

Watertight or Hazardous Location Switches

Range of Operation



Travels are measured at rigid section of stick or whisker.



Wobble Stick



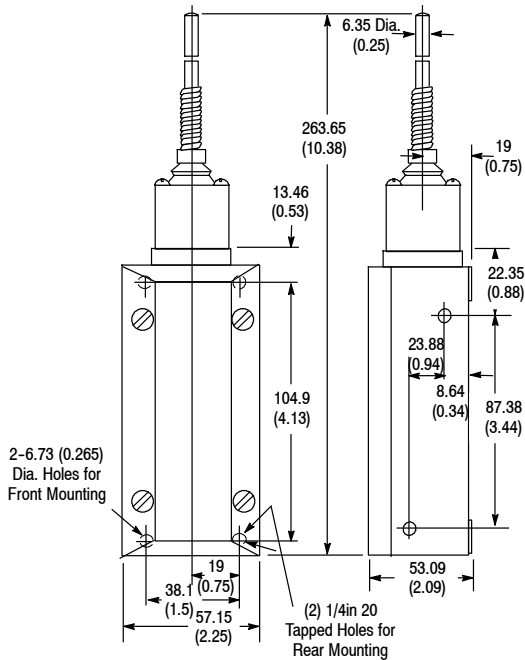
Cat Whisker

Product Selection

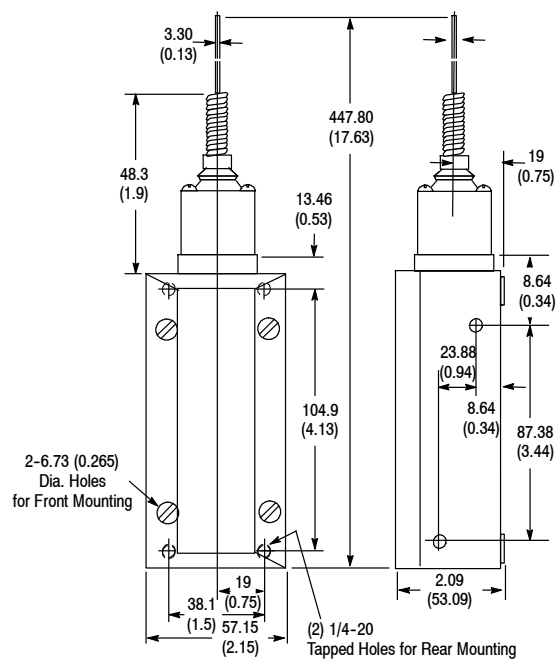
Operator Type	Contact Operation		Torque to Operate (Max)	Travel to Operate Contacts (Max)	Max Travel	Travel to Reset Contacts (Max)	Cat. No.	
	Normal	Operated					NEMA 4	NEMA 7 & 9
Nylon Wobble Stick	1 ○ ○ 2	1 ○ ○ 2	0.51N.m (4.5lb in.)	9°	10°	4°	802X-WS4	802X-WS7
Wire Cat Whisker	3 ○ ○ 4	3 ○ ○ 4					802X-WS14	802X-WS17

These switches should be mounted in such a way that the wobble stick will not be deflected beyond the "Maximum Travel" position, as this could cause undesirable repetition of contact action on rebound.

Approximate Dimensions [mm (in.)]



802X-WS4 and 802X-WS7



Bulletin 802X Wire Wobble Stick Type

Note: For operating head and lever assembly dimensions not shown, see page 5-130. Conduit pipe opening 1/2 in. NPT.