

802X

Watertight or Hazardous Location Switches



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
Approvals	UL listed, CSA certified
Ambient Temperature [Ⓢ]	Push type with spring return and all lever types except neutral position: -46°C to +121°C (-50°F to +250°F). Wobble stick and cat whisker devices: -29°C to +54°C (-20°F to +130°F). Side push maintained: -46°C to +121°C (-50°F to +250°F). Neutral position: -18°C to +121°C (0°F to +250°F).

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	

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

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 R5-32).

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.

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

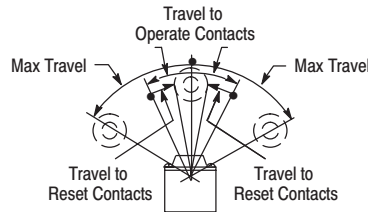
Watertight or Hazardous Location

- Lever Type • Spring Return page R5-71
Standard and Neutral Position Models
- Lever Type • page R5-72
Maintained Contact
- Push Type • Spring Return page R5-73
- Push Type • page R5-75
Maintained Contact
- Wobble Stick and page R5-76
Cat Whisker • Spring Return

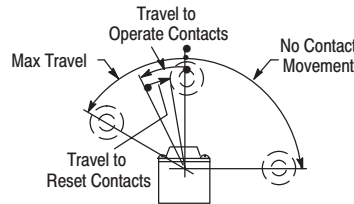
802X Lever Type • Spring Return

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



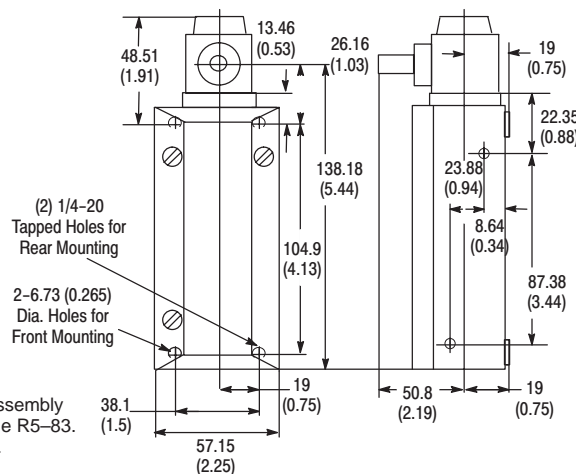
Switch Without Lever

Selection Guide—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)	Catalog Number	
					NEMA 4	NEMA 7 and 9
Clockwise or Counterclockwise 	0.34N.m (3lb in)	16.5°	43°	8°	802X-A4	802X-A7
	0.51N.m (4.5lb in)	6°	50°	3°	—	802X-H7
Clockwise 	0.34N.m (3.5lb in)	16.5°	43°	8°	802X-A14	802X-A17
	0.51N.m (4.5lb in)	6°	50°	3°	—	802X-H17
Counterclockwise 	0.34N.m (3.5lb in)	16.5°	43°	8°	802X-A24	802X-A27
	0.51N.m (4.5lb in)	6°	50°	3°	—	802X-H27
Clockwise 	0.45N.m (4lb in)	20°	91°	11°	802X-L14	802X-L17
					Counterclockwise 	802X-L24
Neutral Position Switch with Normally Open Contacts 	0.25N.m (2.25lb in)	12°	53°	6°	—	802X-NP7

Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3.

Dimensions—mm (inches)



Approximate Shipping Wt.
0.9kg (2lbs)

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.

Note: For operating head and lever assembly dimensions not shown, see page R5-83. Conduit pipe opening 1/2" NPT.

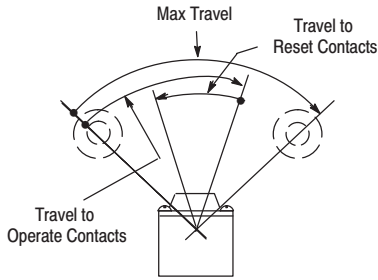
Levers—See page R5-83 for a complete listing of operating levers.

Limit Switches

802X Lever Type • Maintained Contact

Watertight or Hazardous Location Switches

Range of Operation



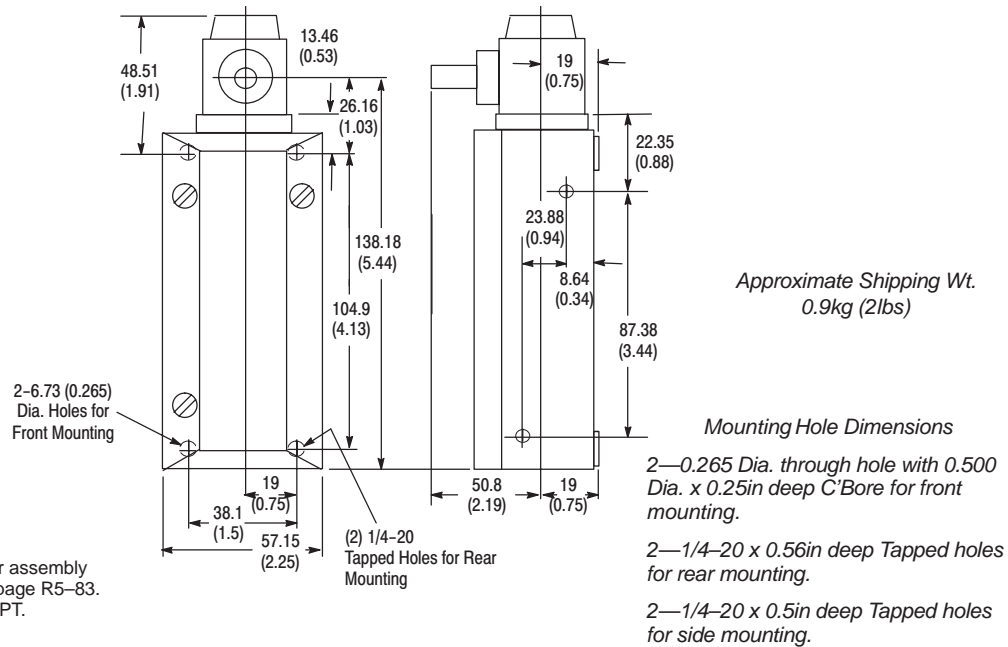
Switch Without Lever

Selection Guide

Lever Movement vs. Contact Operation	Torque to Operate (Max)	Travel to Operate Contacts (Max)	Max Travel	Travel to Reset Contacts (Max)	Catalog Number	
					NEMA 4	NEMA 7 & 9
Clockwise or Counterclockwise 	0.25N.m (2.25lb in)	70° ①	84° ①	35°	802X-AM4	802X-AM7

① From one maintained position to the other.

Dimensions—mm (inches)



Note: For operating head and lever assembly dimensions not shown, see page R5-83. Conduit pipe opening 1/2" NPT.

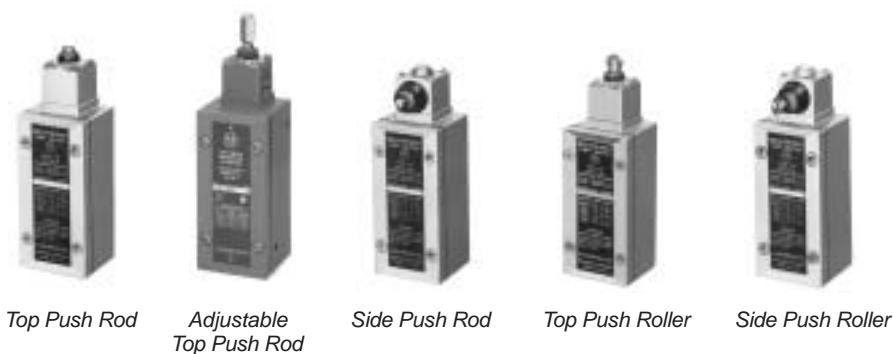
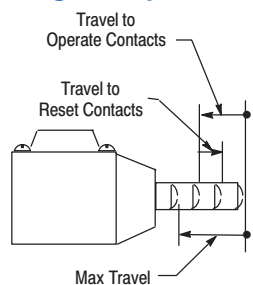
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Levers—See page R5-83 for a complete listing of operating levers.

802X Push Type • Spring Return

Watertight or Hazardous Location Switches

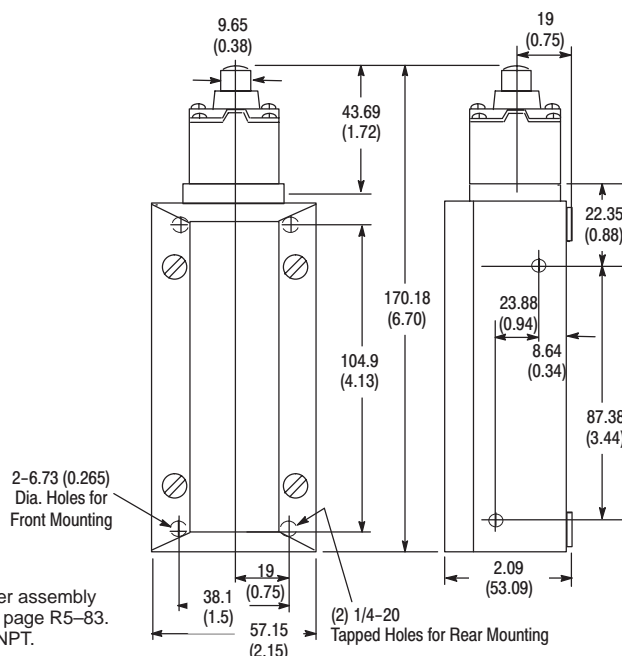
Range of Operation



Selection Guide

Operator Type	Contact Operation		Force to Operate (Max)	Travel to Operate Contacts (Max)	Max Travel	Travel to Reset Contacts (Max)	Catalog Number	
	Normal	Operated					NEMA 4	NEMA 7 and 9
Top Push Rod			15.6N (3.5lbs)	1.9mm (0.075in)	5.1mm (0.202in)	0.8mm (0.030in)	802X-B4	802X-B7
Adjustable Top Push Rod			20.0N (4.5lbs)	3.2mm (0.125in)	5.5mm (0.218in)	1.5mm (0.057in)	802X-BA4	802X-BA7
Side Push Rod			20.0N (4.5lbs)	3.2mm (0.125in)	5.5mm (0.218in)	1.5mm (0.057in)	802X-C4	802X-C7
Top Push Roller			15.6N (3.5lbs)	1.9mm (0.075in)	5.1mm (0.202in)	0.8mm (0.030in)	802X-D4	802X-D7
Side Push Vertical Roller			20.0N (4.5lbs)	3.2mm (0.125in)	5.5mm (0.218in)	1.5mm (0.057in)	802X-K4	802X-K7
Side Push Horizontal Roller			20.0N (4.5lbs)	3.2mm (0.125in)	5.5mm (0.218in)	1.5mm (0.057in)	802X-K14	802X-K17

Dimensions—mm (inches)



Approximate Shipping Wt.
0.9kg (2lbs)

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.

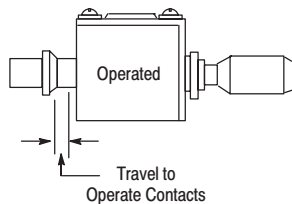
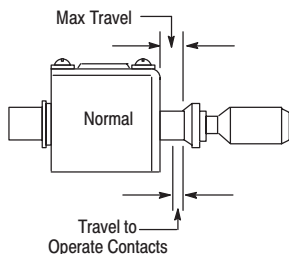
Note: For operating head and lever assembly dimensions not shown, see page R5-83. Conduit pipe opening 1/2" NPT.

Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3.

802X Push Type • Maintained Contact

Watertight or Hazardous Location Switches

Range of Operation

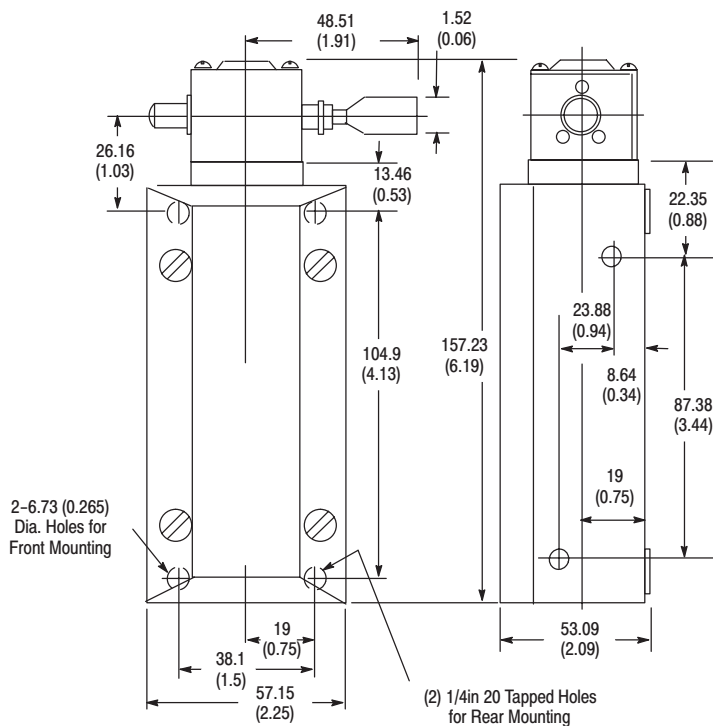


Side Push Rod

Selection Guide

Operator Type	Contact Operation		Force to Operate (Max)	Travel to Operate Contacts	Max Travel	Travel to Reset Contacts (Max)	Catalog Number	
	Normal	Operated					NEMA 4	NEMA 7 and 9
Side Push Rod			35.49N (8lbs)	4.81mm (0.192in) Nominal	5.96mm (0.235in)	5.30mm (0.209in) Nominal	—	802X-CM7

Dimensions—mm (inches)



Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3.

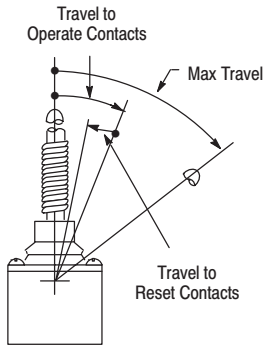
Note: For operating head and lever assembly dimensions not shown, see page R5-83. Conduit pipe opening 1/2" NPT.

Limit Switches

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

Watertight or Hazardous Location Switches

Range of Operation ①



Travels are measured at rigid section of stick or whisker.

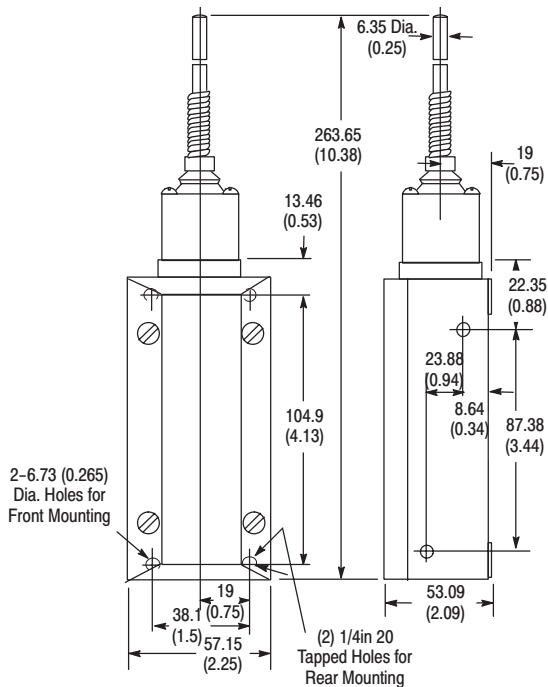


Selection Guide

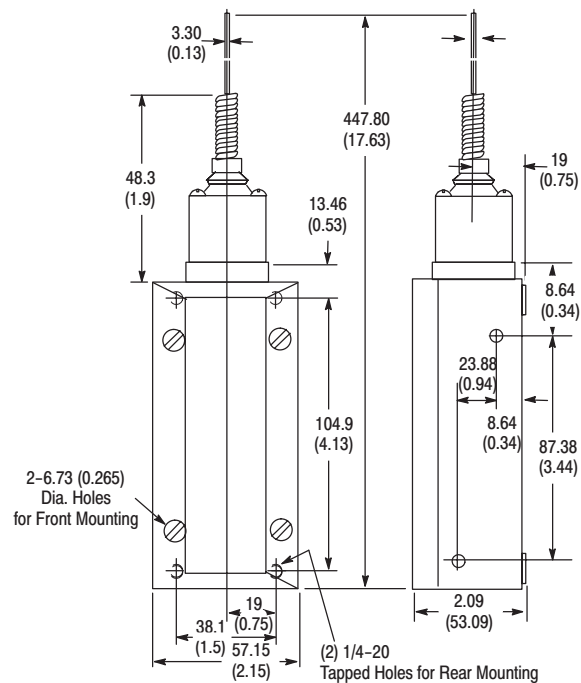
Operator Type	Contact Operation		Torque to Operate (Max)	Travel to Operate Contacts (Max)	Max Travel ①	Travel to Reset Contacts (Max)	Catalog Number	
	Normal	Operated					NEMA 4	NEMA 7 & 9
Nylon Wobble Stick	1 ○ ○ 2	1 ○ ○ 2	0.51N.m (4.5lb in)	9°	10°	4°	802X-WS4	802X-WS7
Wire Cat Whisker	3 ○ ○ 4	3 ○ ○ 4					802X-WS14	802X-WS17

① 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.

Dimensions—mm (inches)



802X-WS4 and 802X-WS7



Bulletin 802X Wire Wobble Stick Type

Note: Details regarding wiring Allen-Bradley Limit Switches to Allen-Bradley PLCs can be found in publications 802T-4.0, 4.1, 4.2, and 4.3.

Note: For operating head and lever assembly dimensions not shown, see page R5-83. Conduit pipe opening 1/2" NPT.